Waste Metal Recovery, Processing and Recycling Facility Expansion, Tattersall Road, Kings Park, Blacktown

Environmental Impact Statement

For Sell and Parker

July 2014

0226308

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Sell and Parker

30 July 2014

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Environmental Resources Management Australia Pty Ltd Quality System

0226308_EIS_rp01 Final

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FINAL REPORT

Sell and Parker Pty Ltd

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Impact Statement

July 2014

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EXECUTIVE SUMMARY

Introduction

Sell and Parker Pty Ltd (Sell and Parker) commissioned Environmental Resources Management Australia (ERM) to prepare an Environmental Impact Statement (EIS) to increase the approved capacity of the existing waste metal recovery, processing and recycling facility at 45 Tattersall Road (Lot 5 DP 7086), Kings Park, to 350,000 tpa. The increase in the processing capacity of the waste metal recovery and processing business requires the expansion of the facility to encompass the adjoining lot to the east (Lot 2 DP 550522 or 23-43 Tattersall Road). The site locality is illustrated on Figure ES1.1.

Blacktown City Council approved a metal recycling facility on the southern (rear) portion of 45 Tattersall Road in November 1996. The consent had no limits imposed as part of output, with the maximum output not able to exceed to 30,000 tonnes as required under the then provisions of Schedule 3 of the Environmental Planning and Assessment Regulations 1994. In 2001 the Land and Environment Court approved the establishment of a hammermill (also known as a fragmentiser or metal shredder) together with associated components with an approved handling capacity 60,000 tpa on the northern part of 45 Tattersall Road. The intention was that both the existing operations on the site prior to the 2001 consent, as well as the proposed 60,000 tpa operate concurrently.

The current EPL issued by the EPA for the site allows for production up to 100,000 tpa.

Proposed Development

In order to meet projected future demands in waste metal recycling it is proposed to increase annual waste metal recovery, processing and recycling at Sell and Parker's Blacktown metal recycling facility from the currently operating 90,000 tpa to 350,000 tpa. To achieve this increased capacity it is proposed that the site be reconfigured and expanded on to the adjoining lot (23-43 Tattersall Road).

The proposed expansion would enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities.

The changes to the proposed development, compared to existing operations, mainly involve the reconfiguration and expansion of the waste metal recovery and recycling facility on to the adjoining allotment to improve site safety and environmental improvements by shifting some processing indoors, improving traffic flow and reducing off-site traffic.

The additional development has a capital investment value ("CIV"), as defined in State Environmental Planning Policy (State and Regional Development) 2011 of $1.1 million.

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Figure ES1.1 - Site Locality Plan

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

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In summary, the proposed development is as follows:

- *the existing office at 45 Tattersall Road will be demolished and relocated to improve safety and improve access to the shredder. The office functions will be relocated to the existing office situated at the front of the expanded site (23-43 Tattersall Road) to isolate pedestrians and visitors from the operational activities on the site;*

- *car parking for staff and visitors will be increased and moved adjacent to the new office on the expanded site (on 23-43 Tattersall Road) and isolated from the processing area of the facility;*

- *the pre-shedder will be relocated away from the boundary to where the shear is currently located on 45 Tattersall Road and the shear will be relocated to 23-43 Tattersall Road;*

- *the existing post shredder non ferrous recovery processing will be enclosed under roof to improve efficiency and reduce noise and dust nuisance;*

- *parts of the existing building on 23-43 Tattersall Road will be demolished to allow for better circulation through the site;*

- *relocation of the floc material from adjacent to the site boundary to inside a building in the centre of the site;*

- *additional post shredder processing will be introduced to further extract remaining recyclables (metals and plastics) from floc material. This will involve conveying the floc via an enclosed conveyor after shredding to inside one of the existing buildings on the site (the Post Shredder Processing facility). The additional processing and storage of all floc will be located inside and hence reduce noise and dust nuisance;*

- *the non-ferrous shed and non-ferrous processing will be relocated from the building on the western site boundary to inside the remaining buildings on the expanded site to improve efficiency and reduce noise and dust nuisance;*

- *the existing maintenance shed will be demolished and relocated to inside the existing non ferrous shed. This will improve access to the shredder;*

- *the existing driveway entry at 23 -43 Tattersall Road will be used for retail non-ferrous customers so that they are isolated from the processing area of the facility;*

- *the current Sell and Parker entry driveway at 45 Tattersall Road will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time;*

- *the current exit driveway at 23-43 Tattersall Road will be widened and two weighbridges installed to handle truck movements;*

- *the current Sell and Parker exit driveway at No 45 Tattersall Road will be closed and excavated to provide additional finished goods storage;*

- *part of the existing sound barrier wall and some vegetation will be removed between the two lots, with the existing 4m boundary fence relocated to the eastern boundary of the site adjoining Breakfast Creek;*

- *a community education and development facility will be incorporated into the office premises which will highlight recycling and resource recovery processes and its environmental benefits and will be available to the public on an appointment basis; and*

- *a new truck wash facility will be installed within the existing building on the enlarged site.*

The site layout of the expanded facility is presented on Figure ES1.2

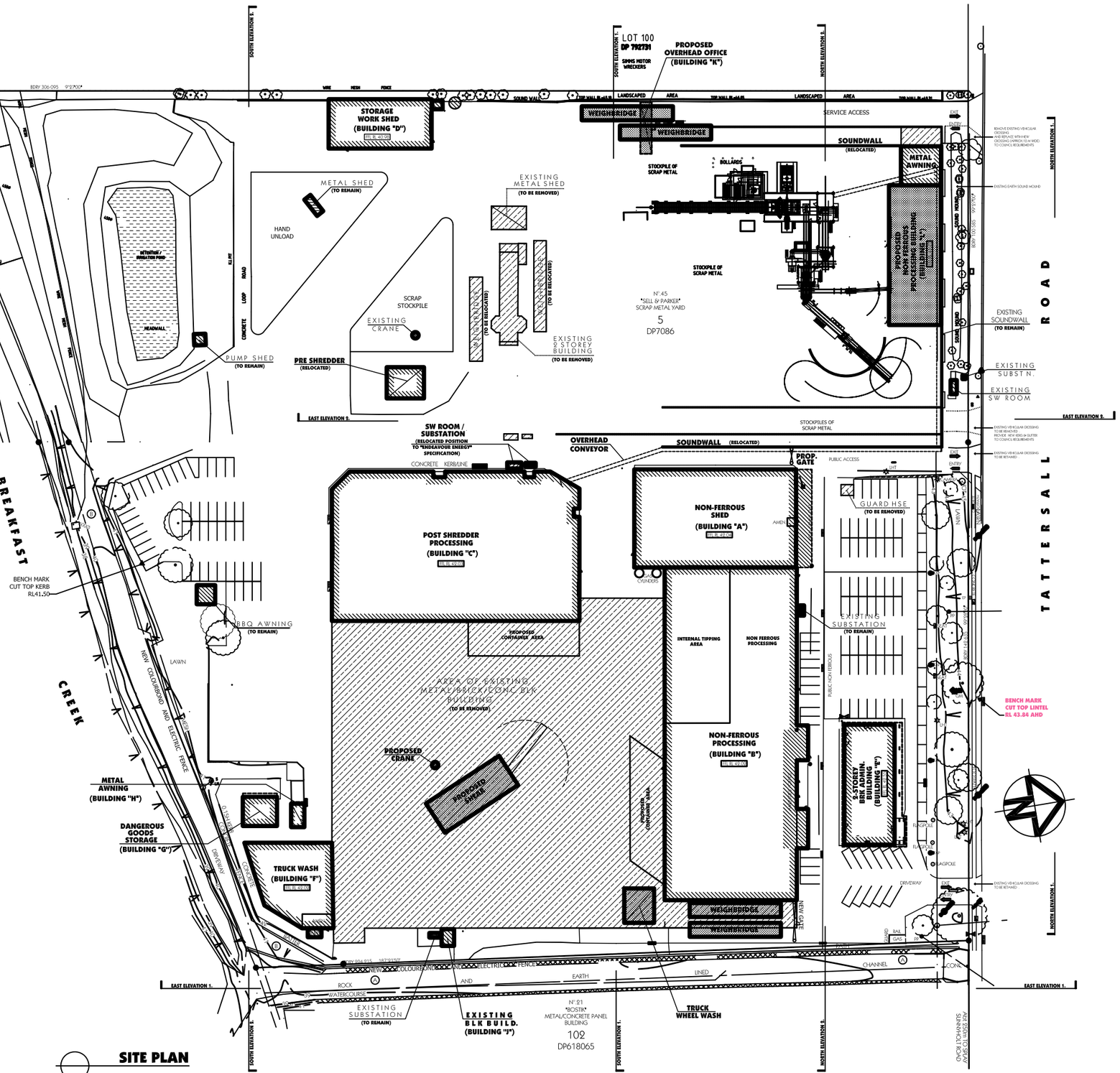
Planning Approval Pathway

Section 8(1) of State Environmental Planning Policy (SEPP) (State and Regional Development) 2011 specifies that:

> *(1) Development is declared to be State significant development for the purposes of the Act if:*
>
> > *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
> >
> > *(b) the development is specified in Schedule 1 or 2.*

Clause 23(3) of Schedule 1 in the SEPP describes development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes a year of waste. The proposed increase in waste metal recovery, processing and recycling from the existing 90,000 tpa to 350,000 tpa, is development of a kind specified in Schedule 1 of the SEPP, and is therefore a development which is declared to be SSD.

The proposal is permissible pursuant to the provisions of Blacktown Local Environmental Plan (LEP) 1988, which zones the site '4(a) General Industrial'. The Draft Blacktown LEP 2013 proposes a 'B7 Business Park' zone for the site, to which the proposed expansion would be prohibited development under the Draft LEP. Blacktown City Council held a meeting on 12 March 2014, to hear a motion regarding making further amendments to the Blacktown Draft LEP, prior to its referral to DP&I. The amendments which were adopted by Council have the effect of amending the proposed zoning of the subject site and surrounds from B7 (as proposed in the publicly exhibited Blacktown LEP) to an IN1 General Industrial zone. The motion passed by Council has the effect of making the proposed development permissible with consent under the IN 1 General Industrial zone, under draft Blacktown LEP.



DEVELOPMENT DATA		
SITE AREA	**59 475 M2 approx.**	
	FLOOR AREAS	
	W/HOUSE	**OFFICE /AMEN**
BUILD "A"	1278 M2	24 M2
BUILD "B"	3162 M2	438 M2
BUILD "C"	2981 M2	———
BUILD "D"	415 M2	———
BUILD "E"	984 M2	———
BUILD "F"	494 M2	———
BUILD "G"	81 M2	———
BUILD "H"	25 M2	———
BUILD "J"	17 M2	———
BUILD "K"	47 M2	———
BUILD "L"	593 M2	———
TOTAL	**10 077 M2**	**462 M2**

CARPARKING			
REQUIRED	TOTAL GR FLR AREA / 75	=	**10077 / 75**
		=	**134**
	TOTAL OFFICE AREA / 40	=	**462 / 40**
		=	**11**
	TOTAL	=	**145**
PROVDED		=	**145**

LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED NEW STRUCTURE
- EXISTING STRUCTURE TO BE FOR REUSE OR TO BE RELOCATED

GENERAL NOTES

1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
2) Levels shown are approximate unless accompanied by reduced levels.
3) Figured dimensions must be taken in preference to scaling.
4) All boundary clearances must be verified by the surveyor prior to the commencement of any building works.
5) Where engineering drawings are required such must take preference to this drawing.
6) Stormwater to be discharged to Councils' requirements and AS 3500.3-1990.
7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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0 10 20 30m (approx.)

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308pm_C001_R0.cdr		
Date:	04/03/2014	Drawing size: A3	
Drawn by:	AA	Reviewed by: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure No. ES1.2 - Site Layout

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Project Aims and Objectives

The primary aim of the proposed development is to provide waste metal recovery, processing and recycling services to industries in the Sydney Metropolitan area and regional areas of NSW.

The objectives of the proposed development are to:

- *better respond to increasing demands (and community expectations) for efficient and effective metal resource recovery and recycling facilities; and*
- *provide additional employment opportunities within the Blacktown City Council LGA.*

Authority Consultation

The following public authorities were provided with a letter describing the proposed development and asked to provide feedback within 21 days of the date of each letter:

- *NSW Environment Protection Authority (EPA);*
- *NSW Office of Water (NOW);*
- *Sydney Water;*
- *NSW Roads and Maritime Services (RMS); and*
- *NSW WorkCover.*

A copy of the letter sent to NSW EPA is provided in Annex E as an example of the letters sent to relevant authorities. At the time of the preparation of this EIS, ERM had not received a response from any of the above authorities.

Separately, meetings were also held with NSW EPA, NSW Department of Planning and Infrastructure (DP&I) and Blacktown City Council (BCC).

Community Consultation

A community newsletter was developed and distributed to nearby affected businesses and residents A letterbox drop of 1,000 printed copies of the Newsletter were distributed within a 500m radius of the site. A copy of the Newsletter is provided as Annex E.

A community information session was also held at a Sell and Parker office, located at 46 Tattersall Road (opposite the existing facility at 45 Tattersall Road) on 18 February 2014 between 6pm and 7pm. The session provided an overview of the proposed expansion and an opportunity for interested members of the local community to provide comments of the proposal. The session was attended by two persons, who operate a business on Tattersall Road, Kings Park. They raised no objection to the proposal, but asked a number of questions.

A summary of all consultation undertaken is provided in Chapter 5 of the EIS.

Ecological Assessment

Given the already highly disturbed nature of the site, and the fact that only landscaped trees that exist between the two current separate sites, are proposed to be removed, it is considered highly unlikely that the proposed development will have any impacts on any threatened species, populations or ecological communities and their habitats as listed under the NSW TSC Act or the Commonwealth EPBC Act.

Heritage Assessment

Aboriginal Cultural Heritage Assessment

A search of the OEH Aboriginal Heritage Information Management System (AHIMS) database identified one object or place of Aboriginal heritage significance approximately 650m to the south of the expanded site. However, given both the existing site and expanded site area are already highly disturbed (i.e. the land at both sites has previously been extensively excavated and backfilled) it is considered highly unlikely that objects or places of Aboriginal heritage significance will be impacted as a result of the proposed development.

Historical Heritage Assessment

A desktop assessment of national, state and local legislation and registers showed that two items of local heritage significance have been identified within the locality, but not within the vicinity of the proposed expanded site. Both of these sites are located on private land, sufficiently distant from the proposed development and as such will not be disturbed by the proposed expansion of the site. Given this, coupled with the existing site and expanded site area are located on previously, extensively disturbed land, it is unlikely that the proposed activity will cause any potential impacts to historic heritage.

Acoustics Assessment

Renzo Tonin and Associates prepared the a noise and vibration report in regards to the proposal expansion – Kings Park Waste Metal Recovery, Processing and Recycling Facility Noise and Vibration Assessment for EIS (Renzo Tonin and Associates, 2012) (referred to hereafter the 'the acoustics assessment').

The acoustics assessment showed noise emissions to residential premises were predicted to comply with the project-specific noise levels without noise mitigation measures. Based on the vibration measurements undertaken, vibration levels from the proposed expanded site will not cause human discomfort to the occupants of the nearest adjoining buildings. Noise and vibration emissions from site operations to neighbouring existing and proposed new industrial premises comply with the project-specific noise levels once the noise and vibration mitigation measures proposed as part of the expansion are implemented. Potential traffic noise associated with the operation of the facility and impacting nearby residential receivers is assessed as being insignificant and would comply with the RNP. In summary, noise and vibration

emissions from the construction and operation of the proposed expansion will comply with the relevant requirements of Blacktown City Council and the NSW EPA.

Air Quality Assessment

An Air Quality Assessment was undertaken by ERM (2014) to determine the air emissions associated with the expanded operation, the potential impacts on sensitive receptors and identify any required mitigation.

A Level 2 impact assessment, as described by the Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales, (DEC, 2005) was carried out to determine potential impacts from the expansion of operations using worst case input data.

The number and type of sources of emission from the site were thoroughly investigated and appropriately assessed for inclusion in the air dispersion modelling. In summary, these results indicated that:

- *the highest predicted annual average TSP concentrations at each of the receptors is below the assessment criteria;*
- *the highest annual average dust deposition at each of the receptors produced from 5 years of data is below the assessment criteria;*
- *the highest annual average PM10 concentration at the receptors at each of the receptors is below the assessment criteria;*
- *the maximum predicted 24-hour average PM10 concentration together with the maximum background concentration results in levels that exceed the assessment criteria at the sensitive receptors due to the elevated background ambient air quality concentration in this area;*
- *the peak odour concentration at the receptors is below the assessment criterion;*
- *the highest annual average and 1 hour average NO2 concentrations at the receptors are below the respective assessment criteria; and*
- *the toxic air pollutants (iron oxide fumes, manganese and compounds, copper dusts and mists) concentrations are found not to exceed the Work Safe 10-hour adjusted TWA at offsite locations within the industrial estate where the Site is located, and found not to exceed the human health assessment criteria at the nearest sensitive receptors.*

Where existing ambient air pollutant concentrations exceed the impact assessment criteria, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity:

A cumulative assessment of the maximum predicted 24-hour concentrations at the sensitive receptors together with the background concentration, that occurred on the date of the prediction, indicated that there would be no additional exceedance due to the Site activities.

A cumulative assessment of the periods of background concentration below the assessment criteria, together with the predicted concentrations as a result of site activities on those dates, indicated that there would be no additional exceedance due to the Site activities.

Greenhouse Gas Assessment

Total GHG emissions for the site are estimated to increase from 10,530 to CO2-e 31,589 t CO2-e post-upgrade.

This additional fuel and electricity usage estimated for the site post-upgrade has the potential to trip the NGERs reporting threshold. However, it is believed the growth factor of 3 is a conservative estimate of the increase in GHG emissions likely to occur from the site post-upgrade. It is advised that the site assess their GHG contributions post-upgrade for the assessment periods to ascertain if they are required to register and report their GHG emissions under the NGERs legislation.

Based on the above estimates, the annual GHG emissions associated with the upgrade would represent an increase of 0.02% and 0.006% of the NSW and on Australia's 2010/11 total. On the basis of the contribution of the emissions to the totals for NSW and the nation, the upgrade represents a negligible increase in GHG emissions.

Soil and Water Assessment

Stormwater Management

Stormwater runoff generated at the existing site currently reaches a stormwater basin in the southern portion of the site via overland flow and a network of inlets and underground pipes. This basin has a riser that acts as a discharge point that is not licensed. At the proposed expansion site (the predominant source of runoff is generated from the roof space occupying the majority of the site. This runoff is assumed to flow to the adjacent rock and earth lined stormwater drain to the east that links down gradient to Breakfast Creek. The carpark in the northern portion of the site drains to a series of inlet pits that discharge to the adjacent drainage line to the east. The carpark in the southern portion of the site is presumed to drain to Breakfast Creek in the south.

Two oil/water separators are proposed for the new drainage system within both the existing and expanded site area. Each oil/ grit separator would be a precast unit such as a Humesceptor or similar device. Based on the manufacturer's performance details removal rates of 80% for total suspended solids and 65-99% for hydrocarbons would be expected. The majority of metals would be removed with the suspended solids. Heavy metals in such run-off are generally associated with the suspended solids. Removal of a high proportion of the finer fraction of the suspended solids will also prevent heavy metals being exported from the site. The oil/grit separators will also provide for treatment of contaminated water generated during firefighting operations in the event of a fire occurring at the metal recycling facility.

To ensure that the pollutant removal performance is maintained regular cleaning of the units will be carried out. Each month a licensed contractor will remove the accumulated oils and sediment using an inductor truck. The performance of the unit will be monitored and the frequency of cleaning increased if required. The existing network of underground stormwater pipes, inlets and oil water separators will be cleaned and, if damaged, replaced during the site refurbishment activities.

A bioretention filter will be installed to receive runoff from overland flows and the underground pipe network on the expanded site area. The existing stormwater pond will be dredged and excavated to remove any contaminated sediments and lined with clay. Verification sampling will be required as will waste classification sampling to allow for the appropriate disposal of any dredged material.

Erosion Control

Erosion control will primarily be in the form of site stabilisation by sealing with concrete. Sediment control will be through the use of the existing sediment basin and additional network of inlet pits and underground pipework conveying water to a series of oil water separators and ultimately the existing stormwater basin or the bioretention filter.

Groundwater

A search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bore within approximately 1km of the site. The logs for boreholes drilled to the east of the site reported a shallow water bearing zone of silty clay between 1.5 and 6.5m below ground level (BGL). The boreholes to the northwest of the site did not report any water bearing zones or aquifer geology, though the standing water level for these wells was uniform at seven metres.

The proposed development does not require any activities such as significant excavation that would cause direct disturbance to groundwater. Adjacent groundwater wells indicated that the shallowest aquifer would be approximately two metres BGL. The site of the proposed development is already sealed with associated drainage installed such that limited infiltration rainwater occurs on the site. The Natural Resource Atlas indicated that the groundwater identified in wells adjacent to the site is saline. There are not expected to be any significant effects on regional groundwater as a result of the expanded site operations.

Current and Future Site Water Use

The estimate of current water usage based on the current processing capacity of 90,000 tpa was assumed to be 68.24kL/day based on information provided in water consumption invoices. Production at 350,000tpa is a 3.89 times greater than the existing rate so this factor has been applied to the current estimated rate to estimate a predicted increased water usage rate of 265.4kL/day. Assuming an average number of site operational days of 304 days per year (by excluding Sundays and Public Holidays) this is a water requirement of approximately 80.68 Megalitres/year for the proposed increase production rate.

From the preliminary calculations provided in the Soil and Water report it assumed that between 15% and 35% of the total water requirement on-site could potentially be supplied by the stormwater basin in dry years (10%ile rain year) and wet years (90%ile rain year) respectively with an average rainfall year potentially supplying 26% of the site water requirements. Thus the reliance on mains supplied potable water is greatly reduced.

The stormwater basin has an estimated volume of 1,440m³, a size that if the basin was empty prior to receiving rainfall would be suitable to capture a rainfall event up to 64mm.

Water for operational purposes for the proposed expansion will be sourced from mains supplied potable water and continued use of the runoff collected in the stormwater basin. The increase in water use with the proposed expansion warrants on-going use of collected runoff in the stormwater basin for operation requirements, thus reducing the requirement on mains supplied potable water, as long as the water is of a quality such that impacts to site infrastructure, the surrounding environment and the health and safety of employees is avoided.

Rainwater tanks may also be installed to utilise the runoff from roof spaces and would likely be best suited to providing water for personal use such as toilet flushing, reducing the requirement for mains supplied potable water. The option is available to use a system of rainwater tanks to capture the predicted roof rainwater, however the large size of tanks required, the likely excavations/preparatory works required to install the tanks in the space constrained site and the network of piping to distribute the water to the shredder may not be viable (compared to the more viable option of a single pipe required to distribute captured water from the stormwater basin to the shredder).

Potential Acid Sulphate Soils (PASS)

Assessment of the Australian Soil Resource Information System (CSIRO, 2006) mapping layer identified that the site has no known occurrence of Acid Sulfate Soil (ASS). Typical site operations are not expected to encounter or disturb PASS, nor lower the water table on adjacent lands to expose acid sulphate soils to oxidation.

Riparian Corridor Management

Although exempt from controlled activity approvals under the Water Management Act 2000, due to the proposed development being State Significant Development (SSD), redevelopment of the site has been designed to meet as far as practicably possible, the new rules developed by NOW (2012) regarding controlled activities within riparian corridors. Landscaped areas along the south boundary will include a range of locally endemic species to enhance the portion of the riparian corridor inside the operational boundary of the redeveloped site.

Contaminated Land

ERM (2014) completed a Phase I Environmental Site Assessment (ESA) of the two adjoining properties, planned to be redeveloped by Sell and Parker. The Phase 1 ESA was prepared under the overarching objective for Sell and Parker was to assess the suitability of each property for ongoing industrial land use.

As part of the Phase I ESA, a Conceptual Site Model (CSM) was developed for both properties, which identified a number of potential contamination source areas, pathways and sensitive receptors. The CSM assessed the 'source-pathway-receptor' (SPR) linkages as either 'unlikely', 'potential' or 'complete'. Of 29 possible SPR linkages identified in the CSM, 17 were found to be unlikely due to incomplete linkages between source area and receptor. A further 11 were assessed as a potential SPR linkage, however, given the appropriate controls (such as Environment Protection Licence requirements or other management measures) in place, these were deemed to have an insignificant likelihood of a potentially complete SPR linkage;

Only one SPR linkage was initially identified as having the potential to form a complete SPR linkage. This was in regards to the wash down sump located towards the rear of 23-43 Tattersall Road, which poses the possibility of locally impacted soils and groundwater which may be disturbed and/or come in contact with future demolition / construction workers during future expansion works. Given the limited potential contaminants of concern and the fact that the sump is concrete lined and in sound condition, it is considered unlikely that signification contamination has occurred. Appropriate management controls during redevelopment works, will therefore be sufficient to reduce the likelihood of a potentially complete SPR linkage being established to an acceptable level.

Although some potential for residual contamination remains, based on the results of this Phase I ESA and in particular the absence of potentially complete SPR linkages as presented in the CSM, along with the planned continued industrial land use at both properties, it is considered that further investigation is not required at this stage in order to facilitate the proposed redevelopment. A contingency for the appropriate management of potential unexpected contamination finds during the planned redevelopment of both properties should be incorporated in the Construction Environmental Management Plan (CEMP).

Hazards and Risks

A Preliminary Hazard Analysis (PHA) was undertaken by Arriscar Pty Limited (Arriscar). The PHA includes a semi-quantitative analysis and assessment of off-site fatality, injury and property damage risk, in accordance with the NSW Hazardous Industry Planning Advisory Paper (HIPAP) guidelines. The PHA indicated that there was no significant offsite impact from the use of dangerous goods on site due to the small inventories involved.

The NSW criteria for injury were not reached at sensitive or residential land use zones. The potential for offsite fatality and property damage was limited to the scenario of a 45 kg LPG cylinder rupture in the dangerous goods store. The NSW criteria for offsite fatality and property damage are considered satisfied due to the rarity of LPG cylinder ruptures.

The assessment found that qualitative criteria for potentially hazardous development was satisfied, and the development is not considered a hazardous industry, as defined in State Environmental Planning Policy (SEPP) No. 33. A number of recommendations were made in regard to fire protection requirements as detailed in Section 6.8.

Fire and Incident

Floc material has been identified as a potential source of fire. This will be managed by keeping the stockpile small, so as not to consider the warehouse in which it is kept as a high hazard occupancy. Water cannons will also be provided for the various stockpiles.

Any uncontrolled leaks or spills have the potential to contaminate soils within unsealed sections of the site, or be entrained in stormwater flow to the detention basin at the rear of the site. Overflow of potentially contaminated water from the detention basin, has the potential to detrimentally impact on Breakfast Creek.

The recommendations made in regards to fire protection requirements as detailed in Section 6.8 will be implemented. Section 6.9 presents a number of measures to ensure incidents such as accidental spills and / or leakages from machinery are contained and managed appropriately. It is recommended that a Fire and Incident Response Management Plan be developed for the expanded site.

Transport Impact Assessment

A transport impact assessment (TIA) was undertaken by GTA Consultants (2014) to determine the impact of the additional volume of traffic generated by the proposed development on the surrounding road network and identify any required mitigation.

Vehicle Access and Circulation

As part of the amalgamation of the two sites, the physical barrier between the two sites will be largely removed, permitting the movement of operational vehicles between the two sites. The increase in operational area at the expanded site will permit heavy vehicles to layover on-site in between weighing events, removing the need for these vehicles to return to Tattersall Road between loading and unloading of metal. This change will significantly reduce the movement of heavy vehicles on Tattersall Road adjacent to the site, improving the movement of vehicles along Tattersall Road.

Pedestrian Access

The relocation of all administration functions to the existing administration building at 23-43 Tattersall Road will greatly improve pedestrian safety at the expanded site by separating pedestrians from the operational activities of the site. The proposed pedestrian access arrangements to the administration building will be unchanged from the existing arrangements to this building with pedestrians accessing the building from the on-site car park.

Car Parking Requirements

The proposed development is required to provide a minimum of 116 on-site car parking spaces. The proposed supply of 147 on-site car parking spaces for therefore meets the minimum car parking requirements outlined in DCP 2006 and is considered to be appropriate.

Traffic Generation

Compared to existing traffic volumes the proposed development is expected to generate an overall net decrease in daily traffic movements and could not be expected to compromise the safety or function of the surrounding road network. This includes the removal of the current requirement for double entry and exist movements of trucks. Given this, the proposed development in its own right would not warrant any upgrades to existing road infrastructure on the vicinity of the site.

Construction traffic

At this stage it is not possible to accurately quantify the traffic volumes likely to be generated during construction as a contractor is yet to be appointed. However, construction activities associated with the proposed development are anticipated to generate only a small proportion of the daily vehicle movements currently generated by the Dexion site. Given this, the construction activities would result in a net decrease in traffic generation when compared with the existing traffic generated by the operation of the two sites.

Once the contractor has been appointed, a site-specific construction traffic management plan (CTMP) should be prepared prior to works commencing on-site detailing construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.

Social and Economic Resources

In both the short and the long term, the potential impacts on social and economic resources are generally positive. The additional development has a capital investment value ("CIV") of $1.1 million. The proposed expansion of the site will provide for increase labour force, creating positive flow-on effects to the local economy. The proposed expansion of the site will also enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities.

The proposed education and training centre within the new office area at the expanded site will be used to promote recycling initiatives and to explain the nature of resource recovery. Where possible, the centre will provide support and seek to participate with the education programme in schools and tertiary education facilities, thus positively contributing to the local community.

Visual Impact Assessment

There are no sensitive receptors with views to the site. The closest residence is located approximately 470m to the east of the site on Sunnyholt Road. The closest park is Headingley Reserve located approximately 460m to the east, also on Sunnyholt Road. Due to the topography and other industrial developments adjacent to the site, the site cannot be seen from either of these locations. There are no schools, parks or recreation facilities in close proximity.

Views to the site from Tattersall Road are limited as there is an existing 4m fence along the front (northern end) of number 45 Tattersall Road as well as landscape plantings. This sound wall will prevent views of the proposed new non-ferrous processing building from Tattersall Road. Small modifications are proposed to the sound wall, including the extension of the dust screen on the western end of the wall, however these changes are only very minor. In addition, the second driveway on the western side of 45 Tattersall Road will be removed, providing an improvement to the Tattersall Road streetscape

It is therefore concluded that the proposed development will not result in significant visual impacts in the vicinity of the site or neighbouring areas. Notwithstanding a concept landscape plan has been developed (refer Annex M), which will provide for plantings of native tree, shrub and grass species along site boundaries, particularly the frontage with Tattersall Road, which will complement and enhance existing landscaped vegetation.

Waste Management

The construction and operational phases for the proposal will produce several specific waste streams that will require management. Opportunities for waste reduction and the beneficial reuse of materials will be identified in accordance with the proponent's obligations under the Waste Avoidance and Resource Recovery Act 2001. This will also include the appropriate segregation of materials for processing.

All wastes will be classified (where required), stored and disposed in accordance with the Waste Classification Guidelines, Part 1: Classifying Waste (OEH, 2008). The requirements of the Protection of the Environment Operations Act 1997 (POEO ACT) will also be met during the construction works and operation of the facility.

Cumulative Impacts

There is potential for short term minor adverse effects on properties close to the proposed development from the combination of construction noise, air quality, minor visual intrusion, traffic and general amenity effects arising from site activity, plant operation and traffic movements.

These effects are not predicted to be significant and will be limited to temporary periods during construction.

With the implementation of the proposed mitigation measures, the environmental impact assessment has identified no long term adverse impacts to nearby receptors as a result of expanded operation at the site. In addition, as the proposed development is within an existing industrial estate it will not result in reducing available land for beneficial community uses.

The expansion of the site is predicted to have a number of positive impacts including:

- *capital investment value ("CIV") of $1.1 million;*
- *increased labour force, creating positive flow-on effects to the local economy, off setting the loss of jobs in response to the Dexion operations being closed and relocating offshore;*
- *ability to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities; and*
- *establishment of and education and training centre to promote recycling initiatives and to explain the nature of resource recovery to school groups and tertiary education facilities.*

No significant cumulative effects with other project development proposals have been identified.

Environmental Risk Assessment

An Environmental Risk Assessment (ERA) was undertaken to provide an analysis of the environmental risks that have been identified as part of this EIS. The ERA categorised levels of risk for a given event based on the significant effects (consequences) and manageability of those effects (likelihood).

The ERA indicated that certain risk associated with potential to uncover residual contamination, risk of fire and increase in water demand remain on-site but risk to environment has been reduced through proposed mitigation measures. Impact assessment for a number of other environmental risks, including air quality, noise and traffic has shown risks to the environment to be negligible.

In addition to these risks, the proposed development will create a number of beneficial effects, including a number of positive social and economic benefits to the local area, including considerable capital investment, creation of additional jobs and associated flow on effects to the local economy and the establishment of an education and training facility. Post-upgrade the site will have additional capacity to recover ferrous and non-ferrous materials from the recycling processes, thus decreasing the need for end users to source raw materials from the extraction industries, reducing metal waste going to landfill and thus positively impacting on reducing greenhouse gas emissions.

Justification of the Development

This EIS has assessed the potential environmental impacts associated with the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility proposal. The proposal will enable an increase in the handling capacity of waste metal recycling which will assist in meeting the current and expected future demand, particularly that from landfill operators, which are beginning to mine their sites to extract metal for recycling. .

The EIS was prepared having regard to biophysical, economic and social considerations and the principles of ESD. There were no significant environmental impacts identified during the preparation of the EIS that cannot be mitigated by appropriate mitigation measures and management strategies.

The environmental assessment process has been used to drive the development of the site and ensure operations will be sustainable and create minimal disruption to the local community. Metal recovery, processing and recycling operations have been designed to ensure sustainable water use and management, minimise traffic impact on local roads, ensure acceptable noise and dust emissions, effective management of waste and to minimise visibility of the operations. All mitigation measures and management practices identified in the EIS form part of the summary mitigation measure for the proposal and will be incorporated into the updated environmental management plans for construction and operations.

The expanded facility will provide a viable metal recycling service for the surrounding region. The proposal can be implemented with minimal adverse environmental impacts as demonstrated throughout this assessment and is justified in terms of the overall economic benefits to both the local, state and national economies. The waste metal recycling service at the Tattersall Road facility will better meet demand and assist in meeting community expectations for efficient and effective metal resource recovery and recycling facilities. The Tattersall Road facility is based in the Blacktown Industrial Estate therefore providing an important employment role, not only at the facility itself, but also in related industries such as suppliers of equipment, landfills and construction and demolition firms.

The proposed development involves the expansion of an existing metal recovery, processing and recycling facility which is already equipped with modern equipment able to meet the proposed increase in handling capacity. The development will allow important components for waste metal recycling to be undertaken at a site that is already highly disturbed. The service provided by the facility will help achieve the reduction of solid waste going to landfills in Sydney, while the recycled metal products provide an alternative to raw materials used to make metal products. The proposal will have positive flow on effects throughout the local economy through the creation of jobs in associated industries.

All of the potential environmental impacts of the proposed development have been considered and mitigation measures developed to minimise any impacts as detailed elsewhere in this EIS report.

As noise, soil and water, dust and waste are the main impacts associated with the metal recovery, processing and recycling facility, controls are placed on the facility operators in the Environmental Protection Licence (EPL) issued by the OEH.

1 INTRODUCTION

This Chapter describes the background to the proposed development, a description of the site and existing operations, the approach to the study and the Environmental Impact Statement (EIS) structure.

1.1 BACKGROUND

Sell and Parker Pty Ltd (Sell and Parker) commissioned Environmental Resources Management Australia (ERM) to prepare an EIS to increase the approved capacity of the existing waste metal recovery, processing and recycling facility at 45 Tattersall Road (Lot 5 DP 7086), Kings Park,) to 350,000 tonnes per annum (tpa). The increase in the processing capacity of the waste metal recovery and processing business requires the expansion of the facility to encompass the adjoining lot to the east (Lot 2 DP 550522 or 23-43 Tattersall Road). Both Lot 5 DP 7086 and Lot 2 DP 550522 are collectively referred to as 'the site' within this EIS. The site locality is illustrated on *Figure 1.1.*

Blacktown City Council approved a metal recycling facility on the southern (rear) portion of 45 Tattersall Road in November 1996 (a copy of the consent is provided in *Annex B*). The consent had no limits imposed as part of output, with the maximum output not able to exceed to 30,000 tonnes as required under the then provisions of Schedule 3 of the *Environmental Planning and Assessment Regulations 1994*. In 2001 the Land and Environment Court approved the establishment of a hammermill (also known as a fragmentiser or metal shredder) together with associated components with an approved handling capacity 60,000 tpa on the northern part of 45 Tattersall Road (a copy of the consent is provided in *Annex B*). The intention was that both the existing operations on the site prior to the 2001 consent, as well as the proposed 60,000 tpa operate concurrently.

The current EPL issued by the EPA for the site allows for production up to 100,000 tpa.

Further discussion on the approval history of the facility is provided in *Section 1.2.*

45 Tattersall Road is currently used by Sell and Parker as a waste metal resource recovery, processing and recycling facility involving the shearing, fragmenting and shredding of industrial scrap metal, demolition material and car bodies. 23-43 Tattersall Road is currently owned by Sell and Parker and leased to Dexion, a manufacturer of pallet racking, industrial and office storage equipment. This site contains a factory warehouse building with associated office, parking and landscaping areas. Dexion have announced that they are closing down this facility at the end of 2014 and relocating their manufacturing facility to south east Asia.

In order to meet projected future demands, approval is now being sought to expand the waste metal recovery and processing facility on to 23-43 Tattersall Road and increase the handling capacity of the facility from the currently operating 90,000to 350,000 tpa and bring the operation under one modern consent, with the surrender of redundant or contradictory consents.

This EIS will accompany a development application (DA), which will be for a State significant development (SSD) pursuant to *State Environmental Planning Policy (State and Regional Development) 2011*.Section 8(1) of the SEPP specifies that:

> *(1) Development is declared to be State significant development for the purposes of the Act if:*
>
> > *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
> >
> > *(b) the development is specified in Schedule 1 or 2.*

Clause 23(3) of Schedule 1 in the SEPP describes development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes a year of waste.

The proposed increase in waste metal recovery, processing and recycling from approved 90,000 tpa to 350,000 tpa, is development of a kind specified in Schedule 1 of the SEPP, and is therefore a development which is declared to be SSD.

The proposal is permissible pursuant to the provisions of *Blacktown Local Environmental Plan (LEP) 1988*, which zones the site *'4(a) General Industrial'*. The *Draft Blacktown LEP 2013* proposes a *'B7 Business Park'* zone for the site, to which the proposed expansion would be prohibited development under the Draft LEP. Blacktown City Council held a meeting on 12 March 2014, to hear a motion regarding making further amendments to the Blacktown Draft LEP, prior to its referral to DP&I. The amendments which were adopted by Council have the effect of amending the proposed zoning of the subject site and surrounds from B7 (as proposed in the publicly exhibited Blacktown LEP) to an IN1 General Industrial zone. The motion passed by Council has the effect of making the proposed development permissible with consent under the IN 1 General Industrial zone, under draft Blacktown LEP. An assessment of the proposal with reference to the legislative planning framework is provided in *Chapter 4*.

The development has a capital investment value ("CIV"), as defined in *State Environmental Planning Policy (State and Regional Development) 2011* of $1.1m. This amount does not include the relocation and installation of machinery which would see the investment closer to $10M. The existing plant and equipment used on the existing Sell and Parker site at 45 Tattersall Road, will be retained and used on part of the proposed expanded Project, with the most significant component of the CIV being the civil and building modification works.

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_EIS_GIS01_V1.mxd		
Date:	13/03/2014	Drawing Size: A4	
Drawn By:	AA	Reviewed By: AC	

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Figure 1.1 - Site Locality Plan

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

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Clause 23(3) of Schedule 1 in the SEPP describes development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes a year of waste.

The proposed increase in waste metal recovery, processing and recycling to 350,000 tpa, is development of a kind specified in Schedule 1 of the SEPP, and is therefore a development which is declared to be SSD.

The proposal is permissible pursuant to the provisions of *Blacktown Local Environmental Plan (LEP) 1988*, which zones the site *'4(a) General Industrial'*. The *Draft Blacktown LEP 2013* proposes a *'B7 Business Park'* zone for the site, to which the proposed expansion would be prohibited development under the Draft LEP. Blacktown City Council held a meeting on 12 March 2014, to hear a motion regarding making further amendments to the Blacktown Draft LEP, prior to its referral to DP&I. The amendments which were adopted by Council have the effect of amending the proposed zoning of the subject site and surrounds from B7 (as proposed in the publicly exhibited Blacktown LEP) to an IN1 General Industrial zone. The motion passed by Council has the effect of making the proposed development permissible with consent under the IN 1 General Industrial zone, under draft Blacktown LEP. An assessment of the proposal with reference to the legislative planning framework is provided in *Chapter 4*.

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1.2 APPROVAL HISTORY

It is understood that the existing waste metal recovery, processing and recycling facility currently operates within the bounds of dual consents, as presented in *Table 1.1*.

Table 1.1 Summary of Existing Approvals

DA Reference	Approval Date	Consent Authority	Description of Development Approved
DA-96-305 (Determination No. 14664)	27 November 1996	Blacktown City Council	Metal recycling facility on the southern (rear) portion of 45 Tattersall Road.
10204 of 2000	11 May 2001	Land and Environment Court	Establishment of a hammermill) together with associated components and an approved handling capacity 60,000 tpa on the northern part of 45 Tattersall Road

In regards to DA-69-305, approved by Blacktown City Council in 1996, the consent does not specifically refer to a processing quantity, but Condition 22 states the operation of the facility be undertaken generally in accordance with the Statement of Environmental Effects (SEE) prepared by Axis Environmental (1996). The 1996 SEE indicates that the facility would not exceed a processing capacity of 20,000 tpa, although refers to the upper threshold limit of 30,000 tpa, in accordance with Schedule 3 of the former provisions of the Environmental Planning and Assessment Regulations 1994.

The 2001 Land and Environment Court decision (10204 of 2000) approved the establishment of a hammermill (also known as a fragmentiser or metal shredder) together with associated components and an approved handling capacity of 60,000 tpa on the northern portion of 45 Tattersall Road. The designated development approved by the Land and Environment Court was the subject of an EIS prepared in December 1999 by ERM.

Both consents contain detailed conditions which govern the operation of the facility (refer to *Annex B* for a copy of each consent).

The intention of the 2001 Land and Environment Court decision was to cater for the operation of the hammermill (northern portion of the site), in addition to the existing operations in the southern portion of the site approved by BCC in 1996. As such Sell and Parker have been operating under the premise that they had approval for metal recycling activities of up to 30,000 tpa in the southern portion of the site, in addition to 60,000 tpa, processed through the hammermill in the northern portion of the site. The EPA licence no. 11555 (EPL) has a limitation of up to 100,000 tpa for scrap metal processing.

Sell and Parker now wish to increase the total processing capacity of the facility to 350,000 tpa. In doing this they would surrender all existing consents and bring operations under a single, modern development consent governing all operations at the expanded the facility.

1.3 SITE DESCRIPTION AND EXISTING OPERATIONS

The existing waste metal recovery, processing and recycling facility is located at 45 Tattersall Road (Lot 5 DP 7086), Kings Park, within Blacktown Industrial Area, Blacktown, NSW. Number 23-43 Tattersall Road (Lot 2 DP 550522) immediately adjoins 45 Tattersall Road to the east (refer *Figure 1.1*). Access to both sites is gained from Tattersall Road, which is primarily serviced by Vardys Road to the north and Sunnyholt Road to the east.

1.3.1 45 Tattersall Road

Sell and Parker currently operate a waste metal recovery, processing and recycling Facility at 45 Tattersall Road. Existing operations at the facility include shearing, fragmenting and shredding of industrial scrap metal, demolition material and car bodies.

45 Tattersall Road has a frontage of approximately 100 metres (m) to Tattersall Road, a depth of about 260m, with a rear boundary adjacent to Breakfast Creek to the south. It has an area of approximately 2.86 hectares.

45 Tattersall Road is cleared and developed. The key components of this site include:

- administration buildings;
- maintenance facilities;
- a stormwater detention dam;
- employee and visitor car parking;
- raw material stockpiles;
- metal recycling equipment (including a pre-shredder, shredder and shear);
- a waste enclosure;
- a product stockpile; and
- a rubber tyre loader.

A 4m high boundary wall surrounds the northern, eastern and western boundaries. The front wall is set back 8m from the front property boundary and provides a visual screen to the processing facility, whereby a landscaped mound has been planted.

1.3.2 23-43 Tattersall Road

23-43 Tattersall Road is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment.

23-43 Tattersall Road has a frontage to Tattersall Road of approximately 146m and a variable depth ranging from 200m to 270m. The site has an area of approximately 3.24ha.

Development at this lot comprises a factory warehouse building with associated office, parking and landscaping areas and is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment.

1.3.3 Surrounding Environment

Figure 1.2 shows the site in the context of the surrounding environment, which is comprised of the following:

- North – Tattersall Road is located immediately adjacent to the north, with further industrial premises beyond. Residential properties are located approximately 650m to the north. To the immediate east is a formed stormwater drain with industrial development beyond. Sunnyholt Road is located approximately 260m east, with residential properties further east;
- South - Breakfast Creek is located immediately adjacent to the south, with recycling premises' further south.
- West – an auto parts industrial/recycling complex is located immediately adjacent to the west, with further industrial development further west. The Richmond railway line is located approximately 900m to the west with residential properties west of the railway line.

With the implementation of mitigation measures, it is not expected that the proposed development would result in any conflicts with existing development or land uses within the area.

Client:	Sell and Parker Pty Ltd	
Drawing No:	0226308_EIS_GIS02_V1.mxd	
Date:	10/03/2014	Drawing Size: A4
Drawn By:	TH	Reviewed By: AC

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Figure 1.2 - Site and Surrounding Environment

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

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1.4 APPROACH TO THE STUDY

1.4.1 Development Classification

The development is classified as SSD pursuant to State Environmental Planning Policy (SEPP) (State and Regional Development) 2011.

The proposal is permissible pursuant to the provisions of Blacktown Local Environmental Plan 1988, which zones the site "4(a) General Industrial". The Draft Blacktown Local Environmental Plan (LEP) proposes a B7 zone for the site, which would have the effect of prohibiting the expansion of the Project.

An assessment of the proposal with reference to the legislative planning framework is provided in *Chapter 4*.

1.4.2 EIS Structure

This EIS has been undertaken to assess the significance of the potential environmental impacts associated with the expansion and operation of the Blacktown Metal Recovery, Processing and Recycling Facility. The EIS has been undertaken in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the EP&A Regulations.

The format of this EIS has been based on the Director General's Requirements (DGRs) drafted by the Department of Planning and Infrastructure (DoPI) in conjunction with a range of other government agencies. DGRs for the project were issued on 23 December 2013, which were updated from previous DGR's granted in December 2011. *Table 1.2* below includes the DGRs and identifies where each requirement is addressed within this EIS report. A copy of the DGRs is provided as *Annex C*.

Table 1.2 Director Generals Requirements

	Issue	Where addressed within the EIS report
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*	Entire EIS
	In addition, the EIS must include a:	
	• detailed description of the development, including:	*Chapter 2*
	• need for the proposed development;	*Chapter 2*
	• justification for the proposed development;	*Chapter 2 and 11*
	• likely staging of the development - including construction, and operational stages;	*Chapter 2*

	Issue	Where addressed within the EIS report
	• likely interactions between the development and existing, approved and proposed operations in the vicinity of the site	*Chapter 1*
	• plans of any proposed building works;	*Chapter 4, Annex A*
	• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments;	*Chapter 4*
	• risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment;	*Chapter 7*
	• detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes:	*Chapter 6*
	• a description of the existing environment, using sufficient baseline data;	*Chapter 6*
	• an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and	*Chapter 6*
	• a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.	*Chapter 6 and 9*
	• consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	*Chapter 9*
	The EIS must also be accompanied by a report from a qualified quantity surveyor providing:	*Annex O*
	• a detailed calculation of the capital investment value (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived;	*Annex O*
	• a close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and	*Annex O*
	• certification that the information provided is accurate at the date of preparation.	*Annex O*
Key Issues	**Waste Management**, including:	*Section 6.13*
	• a detailed description of the likely waste streams that would be handled/stored/disposed of at the facility;	
	• details of how this waste would be stored and handled on site, and transported to and from the site;	
	• details of the location and size of stockpiles of unprocessed and processed recycled waste on the site;	
	• the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2007*;	
	• a description of the technology and timeframes for processing waste and the quality control measures that would be implemented; and	

	Issue	Where addressed within the EIS report
	• details of the potential impacts associated with treating, storing, using and disposing of this waste and waste products.	
	Air Quality and Odour, including: • a quantitative assessment of the potential air quality and odour impacts of the development on surrounding landowners; • a description of how the handling, transporting, production and storage of waste materials would be managed to control dust generation; and • details of all proposed mitigation, management and monitoring measures.	*Section 6.4*
	Noise and Vibration, including: • construction, operation and traffic noise; • impacts from explosions; and • details of all proposed mitigation, management and monitoring measures.	*Section 6.3*
	Transport, Access and Parking, including: • predictions of the traffic volumes likely to be generated during construction and operation; • an assessment of the impacts of this traffic on the safety, capacity and efficiency of the surrounding road network; • modelling of key intersections (including any nearby existing or proposed developments) and details of truck routes; • an assessment of the need for upgrading or road improvement works; • details of the availability of non-car travel modes and measures to encourage greater use of these travel modes; and • access and parking.	*Section 6.10*
	Soil and Water, including: • a detailed water balance for the development, outlining the measures to minimise water use and any potential for a sustainable water supply; • wastewater predictions, and the measures that would be implemented to treat, reuse and/or dispose of this water; • the proposed erosion and sediment controls during construction of the post fragmentation processing structure and any other proposed structures; • the proposed stormwater management system; and • consideration of the potential salinity, contamination, flooding and acid sulfate soil impacts of the development.	*Section 6.6*
	Hazards and Risks, including an assessment of the hazards and risks on the site to people and the environment (and the potential for off-site impacts).	*Section 6.8*
	Fire and incident management, including technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire management and containment measures.	*Section 6.8 and Chapter 5*
	Greenhouse Gas, including: • a quantitative assessment of the potential scope 1 and 2 greenhouse gas emissions of the development, and a	*Section 6.5*

	Issue	Where addressed within the EIS report
	qualitative assessment of the potential impacts of these emissions on the environment; and • a detailed description of the measure that would be implemented on site to ensure that the development is energy efficient.	
	Visual, including: • an assessment of the potential visual impacts of the development on the amenity of the surrounding area; and • a detailed description of the measures that would be implemented to minimise the visual impacts of the development, including the design features, landscaping and measures to minimise the lighting and signage impacts of the development.	*Section 6.10*
	Design, including details of building design and fit-out for the post fragmentation processing structure and any other proposed structures to be used for the handling of chemicals (e.g. bunding and tanker loading/unloading areas).	*Section 6.6, Section 6.8, Section 6.13, Annex A*
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*. These documents should be included as part of the EIS rather than as separate documents.	*Annex A*
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: • Blacktown City Council; • NSW Environment Protection Authority; • NSW Office of Water; • NSW Roads and Maritime Services; • Sydney Water; and • WorkCover NSW. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	*Chapter 5*
Further consultation after 2 years	If you do not lodge an EIS for the development within 2 years of the issue date of these DGRs, you must consult with the Director General in relation to the requirements for lodgement.	*N/A.*
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development	*Entire EIS Reference List*

1.4.3 Technical Investigations

The preparation of the EIS has involved input from a range of disciplines including acoustics, traffic, air quality, soil and water management, waste management, hazard and risks and greenhouse gas assessment.

A number of supporting technical reports are submitted as part of this EIS. These reports investigate the environmental implications of the project and provide mitigation and management measures and are provided as *Annexures* to the EIS. The reports are:

- *Noise and Vibration Impact Assessment (Annex H);*
- *Air Quality Impact Assessment (Annex I);*
- *Soil and Water Management Assessment (Annex J);*
- *Phase I Environmental Site Assessment (Annex K);*
- *Preliminary Hazard Analysis (Annex L); and*
- *Transport Impact Assessment (Annex M).*

2 THE PROPOSAL

This Chapter describes all aspects of the proposed development for which the development approval is being sought.

2.1 OUTLINE OF THE PROPOSAL

In order to meet projected future demands in waste metal recycling it is proposed to increase annual waste metal recovery, processing and recycling at Sell and Parkers Blacktown metal recycling facility to 350,000 tpa. To achieve the increased capacity it is proposed that the site be reconfigured and expanded on to the adjoining lot (23-43 Tattersall Road).

The proposed expansion would enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities.

The additional development has a capital investment value ("CIV"), as defined in *State Environmental Planning Policy (State and Regional Development) 2011* of $1.1 million.

2.1.1 Changes from Exiting Development

The changes to the proposed development, compared to existing operations, mainly involve the reconfiguration and expansion of the waste metal recovery and recycling facility on to the adjoining allotment to improve site safety and environmental improvements by shifting some processing indoors, improving traffic flow and reducing off-site traffic.

2.1.2 Proposed Development

In summary, the proposed development is as follows:

- the existing office at 45 Tattersall Road will be demolished and relocated to improve safety and improve access to the shredder. The office functions will be relocated to the existing office situated at the front of the expanded site (23-43 Tattersall Road) to isolate pedestrians and visitors from the operational activities on the site;

- car parking for staff and visitors will be increased and moved adjacent to the new office on the expanded site (on 23-43 Tattersall Road) and isolated from the processing area of the facility;

- the pre-shedder will be relocated away from the boundary to where the shear is currently located on 45 Tattersall Road and the shear will be relocated to 23-43 Tattersall Road;

- the existing post shredder non ferrous recovery processing will be enclosed under roof to improve efficiency and reduce noise and dust nuisance;

- parts of the existing building on 23-43 Tattersall Road will be demolished to allow for better circulation through the site;

- relocation of the floc material from adjacent to the site boundary to inside a building in the centre of the site;

- additional post shredder processing will be introduced to further extract remaining recyclables (metals and plastics) from floc material. This will involve conveying the floc via an enclosed conveyor after shredding to inside one of the existing buildings on the site (the Post Shredder Processing facility). The additional processing and storage of all floc will be located inside and hence reduce noise and dust nuisance;

- the non-ferrous shed and non-ferrous processing will be relocated from the building on the western site boundary to inside the remaining buildings on the expanded site to improve efficiency and reduce noise and dust nuisance;

- the existing maintenance shed will be demolished and relocated to inside the existing non ferrous shed. This will improve access to the shredder;

- the existing driveway entry at 23 -43 Tattersall Road will be used for retail non-ferrous customers so that they are isolated from the processing area of the facility;

- the current Sell and Parker entry driveway at 45 Tattersall Road will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time;

- the current exit driveway at 23-43 Tattersall Road will be widened and two weighbridges installed to handle truck movements;

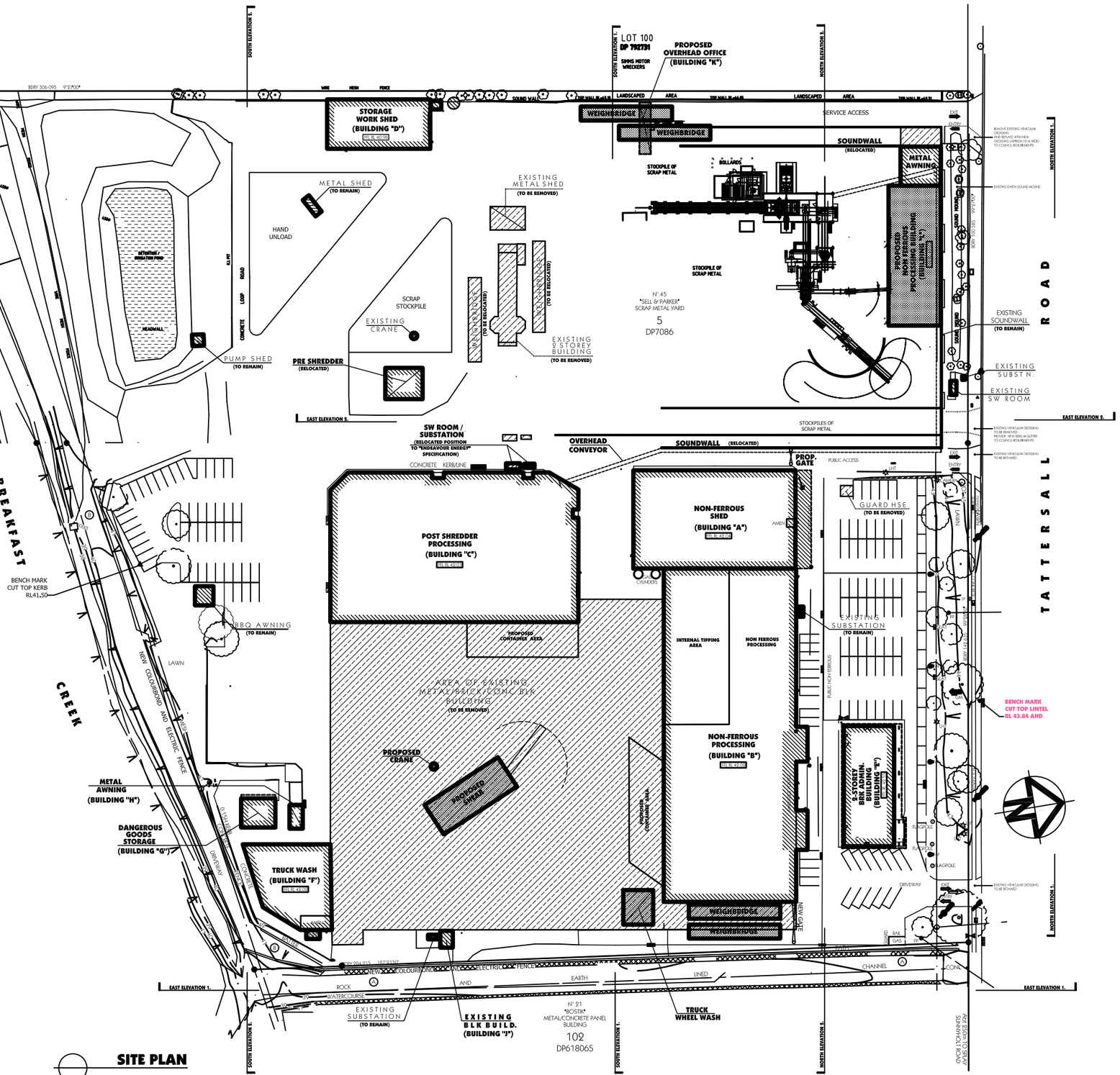
- the current Sell and Parker exit driveway at No 45 Tattersall Road will be closed and excavated to provide additional finished goods storage;

- part of the existing sound barrier wall and some vegetation will be removed between the two lots, with the existing 4m boundary fence relocated to the eastern boundary of the site adjoining Breakfast Creek;

- a community education and development facility will be incorporated into the office premises which will highlight recycling and resource recovery processes and its environmental benefits and will be available to the public on an appointment basis; and

- a new truck wash facility will be installed within the existing building on the enlarged site.

A site layout plan for the proposed development is shown in *Figure 2.1*. Additional plans accompanying this EIS are presented in *Annex A*.



DEVELOPMENT DATA		
SITE AREA	**59 475 M2 approx.**	
	FLOOR AREAS	
	W/HOUSE	**OFFICE /AMEN**
BUILD "A"	1278 M2	24 M2
BUILD "B"	3162 M2	438 M2
BUILD "C"	2981 M2	———
BUILD "D"	415 M2	———
BUILD "E"	984 M2	———
BUILD "F"	494 M2	———
BUILD "G"	81 M2	———
BUILD "H"	25 M2	———
BUILD "J"	17 M2	———
BUILD "K"	47 M2	———
BUILD "L"	593 M2	———
TOTAL	**10 077 M2**	**462 M2**

CARPARKING			
REQUIRED	TOTAL GR FLR AREA / 75	=	**10077 / 75**
		=	**134**
	TOTAL OFFICE AREA / 40	=	**462 / 40**
		=	**11**
	TOTAL	=	**145**
PROVDED		=	**145**

LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED NEW STRUCTURE
- EXISTING STRUCTURE TO BE FOR REUSE OR TO BE RELOCATED

GENERAL NOTES

1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
2) Levels shown are approximate unless accompanied by reduced levels.
3) Figured dimensions must be taken in preference to scaling.
4) All boundary clearances must be verified by the surveyor prior to the commencement of any building works.
5) Where engineering drawings are required such must take preference to this drawing.
6) Stormwater to be discharged to Councils' requirements and AS 3500.3-1990.
7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308pm_C001_R0.cdr		
Date:	04/03/2014	Drawing size: A3	
Drawn by:	AA	Reviewed by: AC	

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Figure No. 2.1 - Site Layout

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

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2.2 LAND USE AND TENURE

2.2.1 45 Tattersall Road

This site is largely cleared and used for the existing waste metal recovery, processing and recycling facility. The site contains administration buildings, maintenance facilities, a stormwater detention dam, employee and visitor car parking, raw material stockpiles, metal recycling equipment (including a pre-shredder, shredder and shear), a waste enclosure, a product stockpile and a mobile material handling plant.

2.2.2 23-43 Tattersall Road

23-43 Tattersall Road is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment. Dexion has announced the closure of this site at the end of 2014 with manufacturing operations being relocated offshore.

2.2.3 Land Tenure

The existing facility at 45 Tattersall Road comprises Lot 5 in DP 7086 and is owned by Sell and Parker. Immediately adjacent and to the east of the existing facility, 23-43 Tattersall Road, comprises Lot 2 in DP 550522. This separate property is also owned by Sell and Parker, which was purchased in 2007 to cater for the future expansion requirements for the recycling operations.

2.3 PRODUCT DESCRIPTION

2.3.1 Materials and Products

It is proposed the facility will process 350,000 tonnes of raw material per year, sourced within NSW.

The re-saleable products from this process are ferrous metals, aluminium and small quantities of other metals such as copper.

2.3.2 Demand

At the time of Sell and Parker commencing the operation of the hammermill, there were three metal recycling plants in Sydney. One of these (One Steel) has subsequently relocated to Hexham, near Newcastle. This has increased the demand on the two remaining operators in Sydney (Sell and Parker at Kings Park and Simms Metal at St Marys) to process waste metal.

In February 2014, Alcoa announced the closure of their Yennora Aluminium recycling facility in Sydney. This site processed up to 55,000 tpa of aluminium, which now needs further processing and packaging prior to export. Sell & Parker will be able to handle such volumes in the expanded site.

Additionally, there is now a levy of $107.80 per tonne of waste to landfill. This is anticipated to increase to $150.00 per tonne in the near future. This levy increases the demand for recycling. Furthermore, landfill operators are mining their sites to extract metal for recycling at the two remaining plants in Sydney. Landfill operators are now one of the major suppliers of scrap metal to the metal recycling industry.

2.4 WASTE METAL RECOVERY, PROCESSING AND RECYCLING OPERATIONS

2.4.1 The Process

Pre-Shredding / Shredding Petrol tanks will be emptied and liquefied petroleum gas (LPG) cylinders will be removed from cars before they are fed through the facility. LPG cylinders will be stored in a quarantined area before being removed offsite for decommissioning and disposal. Petrol and oil will be drained from tanks and collected in above ground storage tanks and removed offsite for processing. Manual inspection of the items will confirm petrol and oil has been removed before proceeding to the next step.

Cars and scrap metal are lifted onto a heavy-duty feed conveyor (Cl) by an electric scrap handler. The operator of the mobile material handler will also check the feed material while loading it onto the conveyor. The materials will pass the control cabin, where an operator will also check incoming materials. The control cabin is an enclosed structure with sound proofing and air conditioning for operator comfort and health and safety requirements.

The feed conveyor transports raw material into the hammer mill which shreds the metal into fist-sized pieces.

The fragmented raw material is carried upwards by an incline conveyor and will then be dropped into a 'cascade' chute, hitting against its corners and therefore loosening any dirt and dust. Air from the cascade will be extracted by an induced draft fan and passed into the cascade cyclone, which will drop out particulates. Cleaned air will then pass through a wet scrubber to remove fine dust.

The cleaned fragmented material will then pass under drum magnets, which will pick up ferrous metals and drop them onto the picking conveyor (C2), where operators will remove remaining non-ferrous materials. The ferrous metals will continue up a conveyor (C3) which offloads the ferrous product into the product stockpile, that is contained in a designated area.

Shear

The shear is used to break up bulky items (ie large metals beams, bulk railway) into smaller pieces for on-selling. As such, this process is quite separate from the material recovery for all other items onsite, which go through the pre-shredding/shredding process outlined above and where relevant the non-ferrous collection process outlined below.

Non-Ferrous Collection / Processing

The non-ferrous materials will drop beneath the drum magnets to a conveyor which runs perpendicular to the ferrous product. This conveyor carries non-ferrous metals and wastes such as plastic and glass. The material is conveyed beneath another magnet, which picks up any small remaining quantities of ferrous metals and drops them into a skip for collection. Non-ferrous materials will continue through a pan feeder and trommel which will separate the materials into appropriate size streams for sorting.

The streams pass through an eddy-current separator, which collects aluminium, copper and brass into a skip. The streams then join and pass beneath a final eddy-current separator to win any remaining aluminium.

After passing through these stages, the remaining materials are waste products, which will be conveyed to an enclosed building.

The new post shredder processing will involve a confidential proprietary arrangement of sizing, screening, eddy currents and induction sorters.

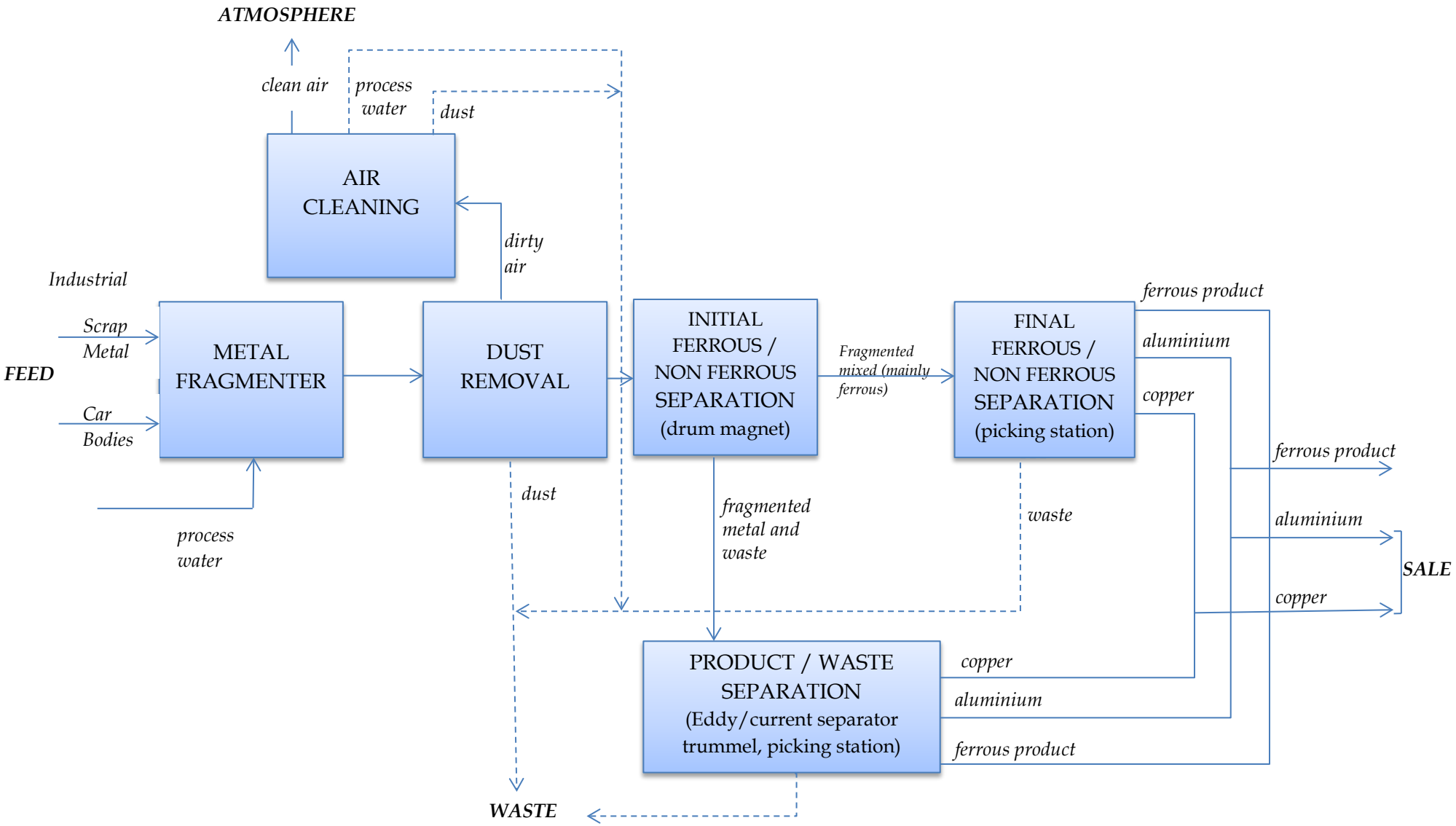
A simplified process diagram showing the proposed metal recycling process is provided in *Figure 2.2.*

2.4.2 *Waste Generation*

Waste from the process will consist of materials such as mixed plastics, particulates, glass and foam from car upholstery and building materials. Most waste will emerge from the end of the non-ferrous metals sorting conveyor, and will be conveyed to an enclosed building. Up to 6,000 tonnes of waste will be generated per month.

Additional solid waste will be generated from the air quality controls. This will consist of mud, which is added to the main waste stream at the end of the non-ferrous metals sorting conveyor, and thus joins other waste in the enclosed building.

Figure 2.2 Process Diagram



2.4.3 Product Handling and Transport

The re-saleable products from this process are ferrous metals, aluminium and small quantities of other metals such as copper. The ferrous metal is by far the largest product stream and will be stored in a contained designated area. This area will be contained by the northern and eastern retaining walls, and a concrete wall four metres in height adjacent to the conveyor. Access to the product will be from the open sides. This area is expected to hold approximately 3,000 tonnes, being six metres high, 30 metres long and 15 metres wide.

A rubber tyred loader will lift the ferrous metal onto semi-trailers for transport to customers such as the One Steel mini mill at Rooty Hill and Newcastle and BHP at Port Kembla. The semi-trailers have a 25 tonne load capacity and approximately 32 are expected to leave the site each day. The peak number of semi-trailers leaving the site will be four per hour.

Aluminium product will be collected in skips next to the eddy-current Separators. Copper and other metals, will be collected in skips near the sorting areas. All nonferrous metals will then be loaded directly into closed 20 foot shipping containers and exported to end users in Asia. Twenty shipping containers will leave the site per week on average, with a peak of six per day.

2.4.4 Plant and Equipment

General plant and equipment during the site establishment and construction works for the Project would include;

- excavators;
- levelling machinery;
- concrete trucks and boom pumps;
- cranes; and
- trucks.

2.4.5 Water Management

Drainage from polluted catchments on the site is to be directed to the stormwater detention dam. The current landform of the main site (45 Tattersall Road) conveys runoff towards the dam in the southern portion of the site. The retention dam forms the primary means for controlling entrained sediment and contaminants during typical operations on the site.

Water Management is discussed is greater detail in *Section 6.6* and *Annex J* of this EIS.

2.4.6 Access, Road Haulage and Traffic

Vehicle access to/from the expanded facility will be via upgraded, separate entry and exit driveways off Tattersall Road. The existing driveway entry at No 23 -43 Tattersall Road will be used for smaller retail non-ferrous customers so that they are kept isolated from the processing area of the facility. The current entry driveway at No. 45 Tattersall Road will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time. The current exit driveway at No 23-43 Tattersall Road will be widened and two weighbridges installed to handle increased traffic volume. The current exit driveway at No 45 Tattersall Road will be closed and excavated to provide additional finished goods storage.

2.4.7 Facilities and Services

The site contains an existing office building with amenities. Reticulated water and sewer is supplied to the site. The site is connected to mains electricity and landline telephone and internet services.

2.4.8 Education and Training Centre

Sell and Parker are proposing to include an education and training centre within the new office area at the expanded site. The objective of the centre will be to promote recycling initiatives and to explain the nature of resource recovery. Although available to the general public, the centre will be primarily aimed at school children to foster the need for recycling and resource recovery. Where possible, the centre will provide support and seek to participate with the education programmes in schools and tertiary education facilities.

Sell & Parker already hosts annual tours of their sites for school and community groups, and the new facility will allow them to expand this program.

2.4.9 Operating Hours and Work Force

The approved operating hours for the existing facility are Monday to Friday, 7.00am to 5.00pm and Saturday, 7.00am to 3.00pm. No activities on-site are to be conducted on Sundays and public holidays.

The proposed hours of operation for the expanded facility (the Project) are Monday to Friday, 6.00am to 9.00pm and Saturday, 7.00am to 5.00pm. No activities are proposed on Sundays and public holidays.

Sell and Parker employs approximately 64 people within the main facility, including truck drivers. It is expected that this number will increase to over 80 at the expanded site.

2.5 *PROJECT TIMING*

Dexion have announced the closure of their manufacturing operation for 2014. The expansion of the Sell and Parker facility will commence immediately upon approval in order to ensure demands for waste metal recycling in the local area are met. The site works are expected to take six months, with the expanded site being operable from quarter 3 in 2015.

2.6 *ENVIRONMENTAL MANAGEMENT*

The main site operates under an existing Environmental Management Plan (EMP). The existing EMP:

- sets out the environmental management system for the site;
- identifies environmental management strategies for stormwater management, dust, noise, waste, fuels/oils/chemicals, etc; and
- establishes monitoring, performance evaluation and reporting procedures.

The existing EMP will be updated to include mitigation measures for the potential social and environmental impacts addressed throughout this EIS. The strategy will detail the following:

- environmental issues;
- management objectives;
- performance indicators;
- mitigation measures;
- monitoring requirements;
- responsibilities and timing;
- incident management; and
- reviewing and reporting.

2.7 *REHABILITATION AND FINAL LAND USE*

It is intended the site will continue operations as a waste metal recovery, processing and recycling facility for the foreseeable future. The expanded site proposal will utilise existing buildings where appropriate and if the site was to close, it is likely it would be utilised for another industrial purpose and redeveloped accordingly. The proposed project does not hinder future use of the land, or result in any ongoing environmental liability.

3 AIMS, OBJECTIVES AND CONSIDERATIONS OF ALTERNATIVES

This chapter outlines the aims and objectives of the proposal as well as alternatives reviewed and assessed in relation to the expansion of the site.

3.1 AIM

The primary aim of the proposed development is to provide waste metal recovery, processing and recycling services to industries in the Sydney Metropolitan area and regional areas of NSW.

3.2 OBJECTIVES

The objectives of the proposed development are to:

- better respond to increasing demands (and community expectations) for efficient and effective metal resource recovery and recycling facilities; and
- provide additional employment opportunities within the Blacktown City Council LGA.

3.3 CONSIDERATIONS OF ALTERNATIVES

3.3.1 Option 1 – Undertaking the Proposal

Undertaking the proposed expansion will allow for increased handling capacity for waste metal recovery, processing and recycling, to better service both existing demand and project future demand, particular that from landfill operators, which are beginning to mine their sites to extract metal for recycling. The existing site, being one of two facilities in Sydney, is strategically positioned within the Blacktown Industrial Area, being in close proximity to existing industries, key transport corridors such as the M7 and M4 motorways and landfill operations. The existing site is commercially successful. Expansion of the existing facility into the site adjacent will mean that much of the existing infrastructure can remain on-site and will not require mobilisation to an alternative site, resulting in relatively minor disturbance to the existing neighbouring industrial lots and reduced demand on additional infrastructure. This option is therefore the preferred option.

3.3.2 Option 2 – Expansion to 58 Tattersall Road

An alternative option considered was expansion of the existing facility to 58 Tattersall Road, to be primarily used for equipment storage and employee parking associated with the main facility. 58 Tattersall Road is located opposite the existing facility (ie on the other side of Tattersall Road).

While this site could be used for related equipment storage and employee parking, the site was considered too small to undertake the proposed expansion as described. The location on the opposite side of Tattersall Road poses operational constraints and health and safety risks, as it would mean that employees and visitors would have to cross this road to get to the main site, posing traffic conflicts, pedestrian safety issues and less efficiencies from an operational perspective. This option was therefore not considered further.

3.3.3 Option 3 – Relocation of Expanded Facility to New Site

A further alternative considered was to relocate this facility to a new site, possibly outside of Sydney. While this option is possible it is not considered viable due to the considerable cost of mining scrap metal from its source (population in Sydney) to a processor and back again to the users of the scrap. It would also require considerable time and resources to acquire and gain approval to operate such a facility at a new site. This option would also see the loss of positive flow on effects to jobs and local support industries in Blacktown and further detrimentally impact on the capacity of the Sydney Metropolitan area to cater for the increasing demand for metal recycling. This option was therefore not considered further.

3.3.4 Option 4 – No Expansion

One alternative considered was to not undertake an expansion. This option would result in no additional adverse environmental impacts, however, the potential for increase in handling capacity and subsequent positive flow on effects to jobs and local support industries would be lost. This option would likely require an alternative site being chosen to service projected demands in the Sydney Metropolitan area, as described above. This would require a duplicate site being established to take advantage of growth opportunities, and would be financially and environmentally inefficient and as such has not been considered further.

4 PLANNING CONSIDERATIONS

4.1 COMMONWEALTH LEGISLATION

4.2 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) relates to the protection of the environment and the conservation of biodiversity. The EPBC Act incorporates an assessment and approvals system for:

- actions that have a significant impact on matters of national environmental significance (NES);
- actions that have a significant impact on the environment of Commonwealth land; and
- actions carried out by the Commonwealth Government.

Matters of National Environmental Significance

A search using the Department of the Environment Protected Matters Search Tool was undertaken on 15 January 2014. The results of the search are summarised in *Table 4.1* below.

Table 4.1 Relationship of the Project to Matters of National Environmental Significance

Matter of National Environmental Significance	Application to the Project	Relevant Section
World Heritage Areas	Not relevant to this project	-
Wetlands protected by international treaty (the Ramsar Convention)	Not relevant to this project	-
Nationally listed threatened species and ecological communities	Yes – four threatened ecological communities and 45 threatened species have the potential to occur at the site.	See *Section 6.1* and *Annex F* of this report.
Nationally listed migratory species	Yes – 12 nationally listed migratory species have the potential to occur at the site.	See *Section 6.1* and *Annex F* of this report.
All nuclear actions	Not relevant to this project	Not Applicable
The environment of Commonwealth Marine Areas	There are no Commonwealth Marine areas in close proximity to the site.	Not Applicable

Implications for the Project

Given the site does not lie within MNES specified protected areas, does not contain ecological habitat for nationally listed threatened species, habitats or migratory species, and that the project does not involve nuclear actions, it is not expected to impact on any matter of NES and therefore does not require Commonwealth approval under the provisions of the EPBC Act.

4.3 STATE LEGISLATION

4.3.1 Environmental Planning and Assessment Act 1979

The relevant State planning legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act institutes a system of environmental planning and assessment within New South Wales and is administered by the Department of Planning and Infrastructure (DP&I).

The proposed increase in the handling capacity of the metal recycling facility is classified as a State Significant Development (SSD) (refer to *Section 1.1*) and is therefore assessed under *Part 4* of the EP&A Act.

The EP&A Act is supplemented by the *Environmental Planning and Assessment Regulation 2000* (EP&A Regs), as well as a suite of environmental planning instruments (EPI's), namely Local Environmental Plans (LEP's) and State Environmental Planning Policies (SEPP's) {Regional Environmental Plans (REP's) are now deemed SEPP's}. The EPI's implemented under the EP&A Act that are considered relevant to the proposal are:

- *State Environmental Planning Policy 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Infrastructure);*
- *State Environmental Planning Policy 55 – Remediation of land; and*
- *Blacktown Local Environmental Plan 1988.*

EP&A Act (other approvals)

Section 89J of the EP&A Act identifies approval requirements under other Acts and/or relevant sections of those Acts (other than EP&A Act) which do not apply to SSD projects. Essentially SSD turns off these 'other' approval requirements for SSD approved projects, which comprise the following:

- water use approval under section 89, a water management work approval under section 90 or an activity approval (except for aquifer interference) under Section 91 of the *Water Management Act 2000*;

- concurrence under Part 3 of the *Coastal Protection Act 1979*;
- an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977*;
- an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974;*
- a bush fire safety authority under section 100B of the *Rural Fires Act 1997*; and
- a permit under section 201, 205 or 219 of the *Fisheries Management Act 1994.*

Section 89K of the EP&A Act states that approvals under the following Acts or relevant section of those Acts must be applied consistently and cannot be refused when undertaking SSD project. In other words, the relevant agency responsible for administering the approval under another Act, must have regard to the terms of the consent issued for a SSD and any 'other' approval requirements should be consistent with the purpose and intent of the original consent. Relevant Acts or sections of Acts referred to in section 89K of the EP&A Act, which are relevant to this Project, comprise the following:

- an environment protection licence under Chapter 3 of the *Protection of the Environment Operations Act 1997*
- a consent under 138 of the *Roads Act 1993*; and
- a licence under the *Pipelines Act 1967*.

The requirements of other legislation which are applicable to the Project are discussed in further details below.

4.3.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) establishes the NSW environmental regulatory framework and includes a licensing requirement for certain activities identified in *Schedule 1* of the Act. Scrap metal processing facilities with the capacity to process more than 150 tonnes of scrap metal per day or 30,000 tonnes per year (if not carried out wholly indoors) or 50,000 tonnes per year (if carried out wholly indoors) are a scheduled activity under the Act.

Environment Protection Licence (EPL) 11555 applies to existing operations at the site; The EPL will require updating for the expanded site.

Section 89K of the EP&A Act outlines approvals that are still required in relation to SSD Projects, it states:

> *An authorisation of the following kind cannot be refused if it is necessary for carrying out an approved project and is to be substantially consistent with the approval under Division 4.1 (SSD):*

- *Protection of the Environment Operations Act 1997* - an environment protection licence under Chapter 3 of the Act; and

- *Roads Act 1993* - a permit under s138 to impact on public roads.

Therefore despite a number of the integrated development provisions and post licencing requirements not being required for SSD project, this development will require an amendment to the existing EPL for the site.

4.3.3 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) provides a waste hierarchy and ensures that resource management options are considered against the following priorities:

- avoidance - including action to reduce the amount of waste generated by households, industry and all levels of government;

- resource recovery - including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources; and

- disposal - including management of all disposal options in the most environmentally responsible manner.

The WARR Act aims to achieve a reduction in waste generation and encourages turning waste into recoverable resources. The *NSW Waste Avoidance and Resource Recovery Strategy* (the 'Waste Strategy') was introduced in 2003 (updated in 2007) to provide a framework for reducing waste and making better use of resources.

The proposed development is in accordance with the aims and intent of the WARR Act as it provides a vital resource recovery facility. The facility is one of only two such facilities in the Sydney metropolitan area. The proposed development will allow better and more efficient management of waste metal within the site and will also ensure the facility can continue to manage with the predicted increase in demand for metal resource recovery services into the future.

4.3.4 Water Management Act 2000

The *Water Management Act 2000* (WM Act) incorporates the provisions of various Acts relating to the management of surface and groundwater in NSW, and provides a single statute for the regulation of water use and works that affect surface and groundwater, both marine and fresh. The WM Act is administered by the NSW Office of Water (NOW).

Areas of the State where water sharing plans have commenced and apply are subject to the WM Act. Where water sharing plans have not commenced or do not specifically apply, the provisions of the *Water Act 1912* continue to apply.

The *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011* applies to the site and therefore the provisions of the WM Act apply. The proposed development does not involve works that require a water supply work approval, water use approval or controlled activity approval and therefore no further consideration of the WM Act is necessary.

4.3.5 Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act) lists threatened species, populations and ecological communities under Schedules 1 and 2 of the Act, that are priorities for conservation within NSW. Projects determined by a statutory authority of the NSW Government are required to be assessed in accordance with the EP&A Act, as amended by the TSC Act.

The site is already significantly disturbed and the proposed increase in the handling capacity of the site will not result in any changes to the current approved development footprint. Therefore it is unlikely the proposed development will impact on any threatened species, ecological communities or their habitats.

4.3.6 National Parks and Wildlife Act 1994

The *National Parks and Wildlife Act 1974* (NPW Act) guides the management of conservation areas as well as the protection of native vegetation, native fauna and Aboriginal objects across the State. Under the NP&W Act it is illegal to move, damage, deface or destroy a relic without written permission from the Office of Environment and Heritage (OEH).

There are no National Parks or Nature Reserves in the vicinity of the site. Further, given the site is highly disturbed it is unlikely the proposal will result in disturbance to any items of Aboriginal heritage significance. Therefore no further consideration of the NPW Act is necessary.

4.3.7 Rural Fires Act 1997

The main objectives of the *Rural Fires Act 1997* are to:

- prevent, mitigate and suppress bush and other fires in NSW;
- co-ordinate bushfire fighting and bushfire prevention throughout the State;
- protect people from injury or death and property from damage and as a result of bushfires; and
- protect the environment.

The proposed development would not impede the protection of any nearby buildings or infrastructure from bushfire. No subdivision is proposed and therefore there is no requirement for a bush fire safety authorisation from the Commissioner of the NSW Rural Fire Service in accordance with Section 100B(1) of the *Rural Fires Act 1997*.

4.3.8 Building Code of Australia (BCA)

A preliminary BCA assessment (refer *Annex N*) has been undertaken by M.J. Harvey to determine the level of fire safety required to meet current building standards. The M.J. Harvey report recommends that a performance based approach to meeting the deemed to satisfy provisions of the BCA will be required for the project, based primarily on the size/volume of the buildings on the site. Furthermore, the report recommends that fire safety measures on the site will be required to be upgraded as part of the Project.

If the Project is approved by the DP&I, compliance with the BCA would be verified by an independent Accredited Certifier who would check all the drawings as part of the approval process, undertake further consultation with the NSW Fire Service, prior to construction and operation of the facility. Given that a 'performance based' approach to complying with the BCA is proposed, Sell and Parker will be required to engage a level one Accredited Certifier. Prior to construction works commencing a Construction Certificate will be required to be issued by the Accredited Certifier, a copy of which will be provided to Blacktown City Council and DP&I.

4.4 STATE ENVIRONMENTAL PLANNING POLICIES

4.4.1 State Environmental Planning Policy (State and Regional Development) 2011

Clause 8 of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP State and Regional Development) relates to the identification of State Significant Development (SSD), it states:

> *(1) Development is declared to be State significant development for the purposes of the Act if:*

(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and

(b) the development is specified in Schedule 1 or 2.

Clause 23, Schedule 1 of SEPP State and Regional Development identifies types and capacities of waste and resource management developments that are considered to be SSD. Clause 23(3) states:

(3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.

As it is proposed that the handling capacity of the metal recycling facility be increased to 350,000 tonnes of waste per year, the proposal is SSD.

4.4.2 State Environmental Planning Policy 33 – Hazardous and Offensive Development

The primary aims of *State Environmental Planning Policy 33 – Hazardous and Offensive Development* (SEPP 33) relate to:

- the provision of standard definitions of offensive and hazardous industries for inclusion in environmental planning instruments;
- ensuring that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimize any adverse impacts; and
- ensuring that in deciding whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account.

Potentially Hazardous Industry

Part 1 Section 3 of SEPP 33 defines a 'potentially hazardous industry', it states:

'Potentially hazardous industry' means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:

(a) to human health, life or property, or

(b) to the biophysical environment,

and includes a hazardous industry and a hazardous storage establishment.

The metal recycling facility is considered to be a 'potentially hazardous industry' and therefore a Preliminary Hazard Analysis (PHA) was undertaken by Arriscar Pty Limited (refer to *Section 6.8* and Annex K). The PHA includes a semi-quantitative analysis and assessment of off-site fatality, injury and property damage risk, in accordance with the NSW Hazardous Industry Planning Advisory Paper (HIPAP) guidelines. The assessment found that qualitative criteria for potentially hazardous development was satisfied, and the development is not considered a hazardous industry, as defined in SEPP 33. This finding is consistent with previous ruling in the Land& Environment Court case held in 2000 between Blacktown City Council and Sell & Parker Pty Ltd.

Potentially offensive Industry

Part 1 Section 3 of SEPP 33 defines a 'potentially offensive industry', it states:

> *'Potentially offensive industry' means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.*

An Environment Protection Licence (EPL) No. 11555, issued under the *Protection of Environment and Operations Act 1997,* applies to the current operations at the site. The EPL is for a *Scheduled Activity* (scrap metal processing facility) with the capacity to process more than 150 tonnes of scrap metal per day or 30,000 tonnes per year. In most cases, compliance with the NSW OEH licence requirements should be sufficient to demonstrate that an industry is not offensive (NSW DoPI, 2011).

It is likely that the proponent will be required to apply for a variation to their EPL to take into account the proposed expansion and increase in processing capacity. However, given there will be no significant changes to the types of emissions to air, water, waste or noise resulting from the proposed development, it is considered that site operations can be undertaken within the requirements of a revised EPL and therefore not likely to be considered an offensive development.

4.4.3 SEPP (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure across the State by the following:

(a) improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services,

(b) providing greater flexibility in the location of infrastructure and service facilities,

(c) allowing for the efficient development, redevelopment or disposal of surplus government owned land,

(d) identifying the environmental assessment category into which different types of infrastructure and services development fall (including identifying certain development of minimal environmental impact as exempt development),

(e) identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development,

(f) providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing.

Specifically the ISEPP required new or expansion to existing development to be referred to the Roads and Maritime Services (RMS) if it involves "Landfill, recycling facilities, waste transfer station". On the basis of the development including recycling and waste transfer components, then a referral to Regional Traffic Development Committee of RMS will be required in accordance with the ISEPP.

The remaining provisions of the ISEPP are of limited relevance.

4.4.4 State Environmental Planning Policy 55 – Remediation of land

SEPP 55 aims to provide a state wide planning approach to the remediation of contaminated land and in particular promotes the remediation of contaminated land for the purpose of reducing risk of harm to human health and any other aspect of the environment.

Clause 7 of SEPP 55 requires a consent authority to consider whether the land to which a development application relates is contaminated and if the land is contaminated to be satisfied that the land is suitable in its contaminated state, or will be suitable after remediation, prior to granting consent.

The proposed expansion of the Project onto the adjoining site does not result in a change in the classification or land use of the site. There are no known contamination risks identified by the expanded site.

The building works are largely contained to retention and making good existing buildings and the sealing of any exposed areas of the site (except for proposed landscape areas), therefore minimising contamination risks.

On this basis the project is consistent with the provisions of SEPP 55.

4.5 LOCAL PLANNING PROVISIONS

4.5.1 Blacktown Local Environmental Plan 1988

The site is zoned 4(a) Industrial - General under the Blacktown Local Environmental Plan 1988 (Blacktown LEP). *Figure 4.1* includes a zoning extract from Blacktown LEP 1988.

The zone of objective of the 4(a) Industrial Zone – General, include:

"*(a) to provide areas for accommodating both traditional and modern forms of industrial, warehousing and like development outside areas used or zoned for residential or business purposes and so encourage economic and employment growth in Blacktown,*

(b) to encourage the establishment of new industry and other compatible, large-scale activity in appropriate locations,

(c) to accommodate large industrial, warehousing and like developments such as auction rooms, plant and equipment hire establishments, timber yards and the like, but to prohibit offensive or hazardous industries,

(d) to enable development for the purposes of retailing only where it is associated with, and ancillary to, manufacturing purposes on the same land or where it serves the daily convenience needs of the local workforce,

(e) to enable development for the purposes of commercial offices only where it is associated with, and ancillary to, industrial, warehousing or like purposes on the same land or where it serves the daily convenience needs of the local workforce,

(f) to ensure permitted development creates areas which are pleasant to work in and are safe and efficient in terms of transportation and land utilisation,

(g) to enhance and improve the physical environment of the City of Blacktown by minimising disturbances caused by air pollutants, water pollutants, other pollutants and noise pollution, and

(h) to enable development for the purposes of community facilities such as child care facilities either in association with or independent of other permitted development to serve the needs of the workforce of the area."

Having regard to the above aims of the 4(a) Industrial – General zone, which generally relate to locating industrial development, and development associated with industrial development (such as offices, car parking), in appropriate locations away from residential and business areas, and also to minimise environmental pollution.

Blacktown Local Environmental Plan 1988

- Land Zone 1(a) Rural
- Land Zone 2(a) Residential
- Land Zone 2(b) Residential
- Land Zone 2(c) Residential
- Land Zone 3(a) General Business
- Land Zone 3(b) Special Business
- Land Zone 4(a) General Industrial
- Land Zone 4(b) Light Industrial
- Land Zone 4(c) Special Industrial
- Land Zone 4(d) Huntingwood Industrial
- Land Zone 5(a) General Special Uses
- Land Zone 5(b) Arterial Road
- Land Zone 5(c) Local Road
- Land Zone 6(a) Public Recreation
- Land Zone 6(b) Private Recreation
- Land Zone 6(c) County Open Space

Study Area

4(a)

4(b)

6(a)

5(b)

5(a)

TATTERSALL ROAD

ROMFORD ROAD

WARDYS ROAD

ANTHONY STREET

REDWOOD ST

CHARLES STREET

FORGE STREET

GATE ROAD

CARNEGIE PLACE

HOLT ROAD

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308pm_C002_LEP_R0.cdr		
Date:	04/03/2014	Drawing size:	A3
Drawn by:	TH	Reviewed by:	AC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure No. 4.1 - Land Use Zoning

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park,

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

The land use is permitted within the 4(a) Industrial – General zone and the site is located within an existing industrial area, on an already developed site where waste recycling operations already occur. Environmental controls will be adhered with to minimise the likelihood of environmental impacts resulting from the operations at the site. It is therefore considered the proposal meets the aims of the 4(a) Industrial – General zone.

The LEP and zoning table for the 4(A) General Industrial zone is structured so that any item not identified as being prohibited development is permissible with consent.

The prohibited land uses under the 4(a) General Industrial zone are:

"Amusement centres; boarding houses; bulky goods retail establishments; caravan parks; commercial premises (other than those ancillary to and used in conjunction with a purpose permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); dual occupancy or dwelling-houses (other than those ancillary to and used in conjunction with a purpose permissible in the zone); exhibition homes; exhibition villages; group homes; hardware stores; hazardous industries; hazardous storage establishments; home activities; hospitals, housing for aged or disabled persons; institutions; integrated housing; intensive lot feeding of livestock; manufactured home estates; medium density housing; methadone dispensaries; mineral sand mines; mines; mixed businesses; motels; offensive industries; offensive storage establishments; professional consulting rooms; professional offices; recreation establishments; residential flat buildings; roadside stalls; rural industries; rural workers' dwellings; shops (other than those ancillary to and used in conjunction with manufacturing purposes permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); tourist facilities."

The proposed use of the site for waste metal recovery, processing and recycling facility falls within the definition of '*industry*' under Blacktown LEP 1988. The Blacktown LEP relies upon the land use definitions within the 'Model Provisions', which in the case for 'Industry' includes:

***"Industry** means:*

(a) any manufacturing process within the meaning of the Factories, Shops and Industries Act 1962, or

(b) the breaking up or dismantling of any goods or any article for trade or sale or gain or as ancillary to any business,

but does not include an extractive industry. "

Elements of the waste metal recovery, processing and recycling facility also meet the 'junkyard' definition contained within the Model Provisions, which relevantly includes:

***"Junk yard** means land used for the collection, storage, abandonment or sale of scrap metals, waste paper, rags, bottles or other scrap materials or goods used for the collecting, dismantling, storage, salvaging or abandonment of automobiles or other vehicles or machinery or for the sale of parts thereof."*

Irrespective both '*industry*' and '*junkyard*' activities are permissible with consent within the 4(a) General Industrial zone.

Flooding

Breakfast Creek flows along the southern boundary of the site. As a result, the site is partially affected by flooding. Clause 20 of the Blacktown LEP relates to development in areas affected by the 1 in 100 year flood level, it states:

> *(2) Despite any other provision of this plan, the council may refuse consent to the carrying out of any development on land affected by the 1% annual exceedance probability flood where, in its opinion, the development may:*
>
> > *(a) adversely affect the efficiency, or unduly restrict the capacity, of the floodway or where the safety of the development would be affected in time of flood,*
> >
> > *(b) affect the flood peak at any point upstream or downstream of the development,*
> >
> > *(c) affect, to a substantial degree, the flow of floodwater on adjoining lands,*
> >
> > *(d) cause avoidable erosion, siltation or unnecessary destruction of riverbank vegetation in the area,*
> >
> > *(e) affect the water table on any adjoining land,*
> >
> > *(f) adversely affect riverbank stability, or*
> >
> > *(g) create a hazard to life or property in time of flood.*

The proposal does not include the construction of any buildings or installation of any equipment or machinery on land affected by the 1% annual exceedance probability flood level. The proposed expansion will result in the removal of buildings from within the 1 in 100 year flood zone. The only new building proposed is located at the northern end of the site, outside the flood prone section of the site. Blacktown City Council have also carried out remediation works on Breakfast Creek, which have the potential to reduce flooding impacts. As such, it is considered unlikely that the proposed development will impact on flood levels or flood flow at the site.

4.5.2 Blacktown Development Control Plan 2006

Tree Preservation

Section 3.3 of the *Blacktown Development Control Plan 2006* (Blacktown DCP) relates to the preservation of trees. The DCP requires that development be designed to retain existing vegetation where possible, in particular significant trees.

As a result of the proposed development the trees that are currently along the boundary between Lot 5 DP 7086 and Lot 2 DP 550522 will be removed to allow for the movement of vehicles, plant and waste between the two sections of the site (refer Site Plans, *Annex A and* Concept Landscape Plan, *Annex M*). The existing trees are sparse and immature and therefore their removal will not result in ecological impacts or impacts to the scenic character of the locality. Notwithstanding that, replacement tree planting utilising endemic species will be undertaken throughout the site, mainly on the eastern side of the site, within the rear area adjoining Breakfast Creek and supplementary planting within the front landscaped setback.

Pollution Control

Potential pollution at the site will be managed in accordance with the requirements of the POEO Act and EPL 11555 for the site.

Noise Reduction

A noise and vibration impact assessment was undertaken by Renzo Tonin & Associates (2014) for the proposed expansion of the Tattersall Road Waste Metal Recovery, Processing, and Recycling Facility. A summary of this report is provided in *Section 6.3* with the complete report provided as *Annex H*.

In summary, noise and vibration emissions from the construction and operation of the proposed expansion will comply with the relevant requirements of Blacktown City Council and the NSW EPA.

Vehicle Access and Car Parking

Section 5 of the Blacktown DCP outlines Council requirements in relation to car parking to be provided on site. In regards to Industrial development, Table 5.1 of the Blacktown DCP states the following is required for Factory, Warehouse and Bulk Storage developments:

> *Buildings 7500m^2 or less – 1 space per 75m^2 GFA.*
>
> *Buildings greater than 7500m^2 GFA – 1 space per 200m^2 of GFA only for the area in excess of 7500m^2 where there is a specific end user which would not demand a higher rate and where employee parking is adequately catered for.*
>
> *Commercial/ Office Component – 1 space per 40m^2 GFA*

GFA (Gross Floor Area) is defined with the Blacktown DCP as:

The sum pf the areas of each floor of a building where the area of each floor is taken to be the area within the outer face of the external enclosing walls as measured at a height of 1400 millimetres above each floor level excluding:

1. *columns, fin walls, sun control devices and any elements, projections or works outside the general lines of the outer face of the external wall;*

2. *lift towers, cooling towers, machinery and plant rooms, ancillary storage space and vertical air conditioning ducts;*

3. *car parking needed to meet any requirements of Council and any internal access thereto; and*

4. *space for the loading and unloading of goods.*

Table 4.2 Car Parking Requirements

Development Area	DCP 2006 Car Parking Rate	DCP 2006 Car Parking Requirements
10,539m²	Once space per 75m² GFA for area< 7,500m²	100
	One space per 200m² GFA only for the area in excess of 7,500m²	16
	Total	**116**

The proposed development is required to provide a minimum of 116 on-site car parking spaces. The proposed supply of 147 on-site car parking spaces for therefore meets the minimum car parking requirements outlined in DCP 2006 and is considered to be appropriate.

The layout and dimensions of all car parking spaces, manoeuvring areas and aisles complies with the Blacktown DCP. Three disabled spaces will be provided which also complies with the DCP

Services

All required services including water, sewerage, electricity, telephone, gas and postal services are provided to the site. No additional services will be required as a result of the proposed increase in production.

Building Height

The site is not in close proximity to Schofields Aerodrome and therefore no specific height limitations are provided in the Blacktown DCP.

Traffic Generating Development

A transport impact assessment was undertaken by GTA Consultants (2014) to determine the impact of the additional volume of traffic generated by the proposed development on the surrounding road network and identify any required mitigation. The transport impact assessment is summarised in *Section 6.10* and provided in full in *Annex L*.

The traffic assessment has been prepared in accordance with the Roads and Maritime Services (RMS) *Guide to Traffic Generating Developments (RTA 2002)* and makes reference to appropriate Council's Codes and relevant Australian Standards.

Compared against the existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is negligible and could not be expected to compromise the safety or function of the surrounding road network. Given this, the proposed development in its own right would not warrant any upgrades to existing road infrastructure on the vicinity of the site.

Once the contractor has been appointed, a site-specific construction traffic management plan (CTMP) should be prepared prior to works commencing on-site detailing construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.

Development on Flood Prone Land

Chapter 8 of the Blacktown DCP provides controls and requirements for development on flood prone land.

The southern section of the site is bound by Breakfast Creek and as a result is partially flood prone. The proposed development includes the removal of some structures within the 1 in 100 year flood prone sections of the site which will not negatively affect flood flows in the locality. A building is proposed in the northern section of Lot 5 DP 7086 however, this part of the site is outside the 1 in 100 year flood level.

Development in the Industrial Zones

Part E of the Blacktown DCP relates to development within the industrial zones in the LGA. Specific development controls relevant to the proposal are outlined below.

<u>Setbacks</u>

The Blacktown DCP requires that buildings in this area of the industrial zone be setback 7.5m from the street alignment.

A new non-ferrous processing building is proposed in the north western portion of the site (on Lot 5 DP 7086) (refer to Plan A101 in *Annex A*). This building is setback approximately 8m from the street alignment and is compliant with the DCP. The proposed location of the non-ferrous processing building within the site will assist in the efficient processing and management of deliveries of metal waste to the facility.

Landscaping

Council's DCP requires that every effort should be made to retain existing vegetation on site. As stated above, much of the landscaping at the site will not be impacted as a result of the proposal. Existing trees along the boundary between Lot 2 DP 550522 and Lot 2 DP 7086 will have to be removed to allow movement between the two lots, however, these trees are sparse and immature and their removal will not result in negative environmental or visual impacts.

The Blacktown DCP also requires landscaping to be provided within the setback area of industrial sites. There is existing landscaping within the setback area along Tattersall Road, which is proposed to be enhanced as part of the Project. A Landscape concept plan has been prepared as part of the DA and will provide additional replacement tree planting for any removal of trees, as well as providing an overall improvement to the streetscape.

Building Design and Construction

The proposed building will be constructed of painted concrete panels with a colorbond roof, which is consistent with existing form of development on the site. The building has been designed to fit in with the industrial area and other existing buildings on the site. The building has been designed to comply with the *Building Code of Australia*.

Open Storage Areas

The proposed development includes four open scrap metal storage areas located on Lot 5 DP 7086 that already exist as well as one proposed additional metal storage area on Lot 2 DP 550522 (immediately to the west of the truck wash). These are identified on Plan A101 in *Annex A*.

None of the material stored in these storage areas will be visible from any streets, open space area or residential area. All material will be stored in a manner which will minimise dust generation.

4.6 DRAFT PLANNING INSTRUMENTS

4.6.1 Draft Blacktown Local Environmental Plan 2013

Updated Council motion on Draft Blacktown LEP - March 2014

Blacktown City Council held a meeting on 12 March 2014, to hear a motion regarding making further amendments to the Blacktown Draft LEP, prior to its referral to DP&I. The amendments which were adopted by Council have the effect of amending the originally proposed zoning of the subject site and surrounds from B7 (as proposed in the publicly exhibited Blacktown LEP) to an IN1 General Industrial zone. Specifically the proposed amendments include the land bounded by Sunnyholt Road to the east, Vardys Road to the north, Breakfast Creek to the south and Harvey Road (adjoining the railway line) to the west. The motion passed by Council has the effect of making the proposed development permissible with consent under the IN 1 General Industrial zone, under draft Blacktown LEP.

The next stage is for the draft LEP, supporting maps and other documentation to be forwarded to DP&I for gazettal. Sell and Parker maintain their position that the site and surrounds should maintain a general industrial zoning, noting that the Council resolution of 12 March 2014 achieves this objective and would allow a waste and resource recovery facility to be permitted with consent under the relevant Environmental Planning Instrument.

The following section identifies Sell and Parker's response to the Draft Blacktown LEP, as publicly exhibited.

Originally drafted Blacktown LEP

Blacktown City Council has prepared a new Draft Local Environmental Plan 2013 ('Draft LEP 2013'). The Draft LEP 2013 was publicly exhibited in March and April 2013. Urbis Pty Ltd (Urbis) prepared a submission to Blacktown Council on behalf of Sell and Parker in regards to the proposed rezoning of the Sell and Parker owned sites on Tattersall Road at Kings Park. A copy of the Urbis submission is provided as *Annex D*.

The publicly exhibited Draft LEP 2013 for the Blacktown Industrial Area (within which the site is located) proposed to change the zoning from general industrial to a 'business park'. As a result, the proposed zoning as publicly exhibited for the site, and almost all of the existing 181ha industrial area, is 'B7 Business Park' in Draft LEP 2013. Industrial land uses are prohibited within the proposed 'B7 Business Park' zone. As a result, if the Draft LEP 2013 as publicly exhibited is adopted, the majority of existing land uses/businesses within the industrial area will immediately be prohibited, and while protected by existing use rights, would be severely constrained in terms of potential for business expansion and growth.

The Blacktown Draft LEP, which is based on the Standard Instrument LEP template, the proposed waste metal recovery, processing and recycling facility would most appropriately be defined as a "waste or resource management facilities", which is proposed to be a prohibited land use within the B7 zone under the draft LEP. A waste management facility is defined as

Waste or resource management facility means any of the following:

5. *A resource recovery facility,*
6. *A waste disposal facility,*
7. *A waste or resource transfer station,*
8. *A building or place that is a combination of any of the things referred to in paragraphs (a) – (c).*

The proposed waste metal recovery, processing and recycling facility falls within the resource recovery facility definition, which is further defined in the draft Blacktown LEP as follows:

resource recovery facility *means a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration.*

The proposed development also partly meets the definition of a waste or resource transfer station, given that some material are brought, stored, sorted, compacted, etc. prior to transfer elsewhere for further processing. The definition under draft Blacktown LEP of a waste or resource transfer station comprises:

waste or resource transfer station means a building or place used for the collection and transfer of waste material or resources, including the receipt, sorting, compacting, temporary storage and distribution of waste or resources and the loading or unloading of waste or resources onto or from road or rail transport.

In summary under draft Blacktown LEP, the proposed development falls within the group definition of waste or resource management facility, specifically item (d) of the group definition where the activity includes a combination of land use activities under the definition, being both resource recovery and waste/resource transfer.

Merits of the exhibited draft Blacktown LEP

The Sell and Parker waste metal recovery and recycling facility on Tattersall Road is one of only two such facilities with a hammermill/ metal shredder in the Sydney Metropolitan area.

The demand for these types of facilities is anticipated to significantly increase in the future as a result of Federal and State governments introduction of mechanisms to encourage a reduction in materials going to landfill. This is demonstrated in NSW through the introduction of the *Waste Avoidance and Resource Recovery Act 2001* and the associated *NSW Waste Avoidance and Resource Recovery Strategy 2007*.

The proposal is for the expansion of an existing metal recovery and recycling facility onto an adjacent site to allow for the projected increase in demand for waste metal recycling in the Sydney area into the future. The site already exists and is located within an existing industrial area and therefore the proposed expansion will result in relatively limited environmental impacts (refer to *Chapter 6*). The majority of the plant, equipment and infrastructure for this type of facility are already in place at the Tattersall Road site.

If the proposed expansion was refused due to changes in planning controls, in the medium to long term, it may result in the relocation of the facility outside of the Blacktown LGA or the closure of the facility as no alternative industrial areas are proposed within Draft LEP 2013. It is estimated that the relocation of the entire facility to another location would cost in excess of $60 million, and would therefore be financially prohibitive (Urbis, 2013). The closure of the facility would result in the loss of up to 64 direct jobs on-site as well as another 150 associated supply chain positions (Urbis, 2013).

The intention of Sell and Parker to expand the current site operations are evident in that they have owned the adjoining Dexion site (23-43 Tattersall Road) for in excess of 8 years, whilst originally DGRs were issued for an expanded facility at Tattersall Road in 2011. They have continued to communicate their strategic business approach to meeting the Sydney resource recovery market to both Blacktown City Council and the Department of Planning and Infrastructure. The benefits of this Project and the continued operation of this important waste and resource recovery facility within an already established industrial area, is of strategic and regional importance to Sydney.

As a result, Sell and Parker do not support the intent of Draft LEP 2013, as publicly exhibited to rezone the Tattersall Road site from its existing '*4(a) General Industrial' zone to the proposed 'B7 Business Park zone*'.

5 CONSULTATION

This chapter describes the development approval process used to involve the community and relevant government authorities in the proposed production increase.

5.1 GOVERNMENT AUTHORITY CONSULTATION

The following public authorities were provided with a letter describing the proposed development and asked to provide feedback within 21 days of the date of each letter:

- NSW Environment Protection Authority (EPA);
- NSW Office of Water (NOW);
- Sydney Water;
- NSW Roads and Maritime Services (RMS); and
- NSW WorkCover.

A copy of the letter sent to NSW EPA is provided in *Annex E* as an example of the letters sent to relevant authorities.

At the time of the preparation of this EIS, ERM had not received a response from any of the above authorities.

Separately, meetings were also held with NSW EPA, NSW Department of Planning and Infrastructure (DP&I) and Blacktown City Council (BCC). The key issues raised in these meetings are provided in *Table 5.1*.

5.2 COMMUNITY CONSULTATION

5.2.1 Newsletter

A community newsletter was developed and distributed to nearby affected businesses and residents A letterbox drop of 1,000 printed copies of the Newsletter were distributed within a 500m radius of the site. A copy of the Newsletter is provided as *Annex E*. Surrounding businesses and residents will also be advised of the availability of the EIS for public comment during the exhibition period via the local newsprint media.

5.2.2 Community Information Session

A community information session was held at a Sell and Parker office, located at 46 Tattersall Road (opposite the existing facility at 45 Tattersall Road) on 18 February 2014 between 6pm and 7pm.

The session provided an overview of the proposed expansion and an opportunity for interested members of the local community to provide comments of the proposal. The session was attended by two persons, who operate a business on Tattersall Road, Kings Park. They raised no objection to the proposal, but asked a number of questions, as summarised in *Table 5.1*. below.

5.3 SUMMARY OF CONSULTATION

A summary of all consultation undertaken, including responses received and the relevant section of the EIS in which the comments are addressed is provided in *Table 5.1.*

Table 5.1 Summary of Consultation Undertaken

Audience Consulted	Method of Consultation	Date of Consultation	Summary of Response	Method of Response	Date of Response	Response Provided or Section in EIS Addressed
BCC	Face to face meeting	18 February 2014	• street elevation – no concern with processing shed located behind the shredder within the front building set (on the basis that it could not be viewed from the street). Additional landscaping to be provided where applicable in front setback and other areas within the site; • noise – acoustic report needs to address sleep disturbance criteria. Council had advised that residences adjoining Sunnyholt Road had raised general noise concerns previously (not necessarily Sell and Parker); • drainage plan – will be required to concept plan level and will need to address run-off and pollution protection, with shut off valve or similar devices; • traffic - positive feedback was provide in respect to the removal of the need for trucks to have to enter the site twice. Need to identify impact of project on intersection performance and RMS guide to Traffic Generating Developments; • building - detail compliance with BCA and fire safety; and • planning – draft Blacktown LEP 2013 would prohibit the proposed activities, therefore project justification needs to be provided.	Verbal feedback at meeting	18 February 2014	Street elevation – refer *Section 6.12* Noise – refer *Section 6.3.* Drainage – refer *Section 6.6.* Traffic – refer *Section 6.10* Building – refer *Sections 4.3.8 and 4.5.2* and *Annex N* Planning – refer *Chapter 4.* Justification – refer Chapter 11
DP&I	Face to face meeting	4 February 2014.	• demonstrate improvements to traffic and reducing number of driveways • demonstrate improved environmental performance of the site through sealing of hard stand areas and containment of post shredding activity within industrial building; • provide strategic justification for the project and need for expanded facility, particularly in light of the Draft Blacktown LEP; • DP&I advised that Sell and Parker, (with DP&I) will need to address surrender of development consents as part of the Response to Submissions Report; and • provide details on approach to community consultation, including the proposed newsletter and information meeting.	Verbal feedback at meeting	4 February 2014	Traffic – refer *Section 6.10* Environmental Performance – *Chapter 6 and 7.* Justification – refer *Chapters 3, 4 and 11.* Consultation – refer *Chapter 5.*

Audience Consulted	Method of Consultation	Date of Consultation	Summary of Response	Method of Response	Date of Response	Response Provided or Section in EIS Addressed
EPA	On-site meeting and letter outlining proposed activity.	8 January 2014 (Site meeting)	Sell and Parker and ERM outlined to the EPA the proposed expansion of the existing facility and the proposed improvements to the site, via increasing hardstand areas, moving pre-shredder, improve traffic circulation, containment of post shredder activities within enclosed areas and larger site area to accommodate activities. EPA inspected the site and were shown the areas where expansion were generally occurring. The EPA advised that they were generally supportive of the approach put forward by Sell and Parker and the proposed environmental controls	Verbal feedback at meeting	8 January 2014.	Refer *Chapters 6, 7 and 8*
NOW	Letter outlining proposed activity		No response received as yet.			
RMS	Letter outlining proposed activity		No response received as yet.			
Sydney Water	Letter outlining proposed activity		No response received as yet.			
Workcover	Letter outlining proposed activity		No response received as yet.			

Audience Consulted	Method of Consultation	Date of Consultation	Summary of Response	Method of Response	Date of Response	Response Provided or Section in EIS Addressed
Community	Letterbox drop and information session	11 February (letterbox drop) 18 February 2014 (information session	• traffic - will there be additional traffic movements with the expanded site? • Driveways - will there be an addition or reduction in driveways on the site? • Parking - where will employee car parking be provided?	Verbally at information session	18 February 2014	A Traffic Impact Assessment will model traffic impacts, however the information to date suggests that there will be a net decrease in traffic by 92 vehicle movements per day which incorporates the reduction of the current requirement for trucks that are required to enter and exit the site twice. The proposed traffic arrangements allow for safer truck movements and avoids double trips. The current number of driveways on the overall project area would be reduced from four to three, given that the existing exit driveway on the Sell and Parker site would be removed. There will be additional on-site parking to be provided within the Dexion part of the proposed site operations, which is an improvement to the current arrangement where the majority of employees park on the street. Refer *Sections 4.5.2 and 6.10.*

6 ENVIRONMENTAL IMPACT ASSESSMENT

6.1 ECOLOGICAL ASSESSMENT

6.1.1 Background

ERM undertook a desktop ecological assessment to determine whether the proposed development was likely to impact on any threatened species, populations or ecological communities and their habitats as listed under the *Threatened Species Conservation Act 1995* (NSW) (TSC Act) or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

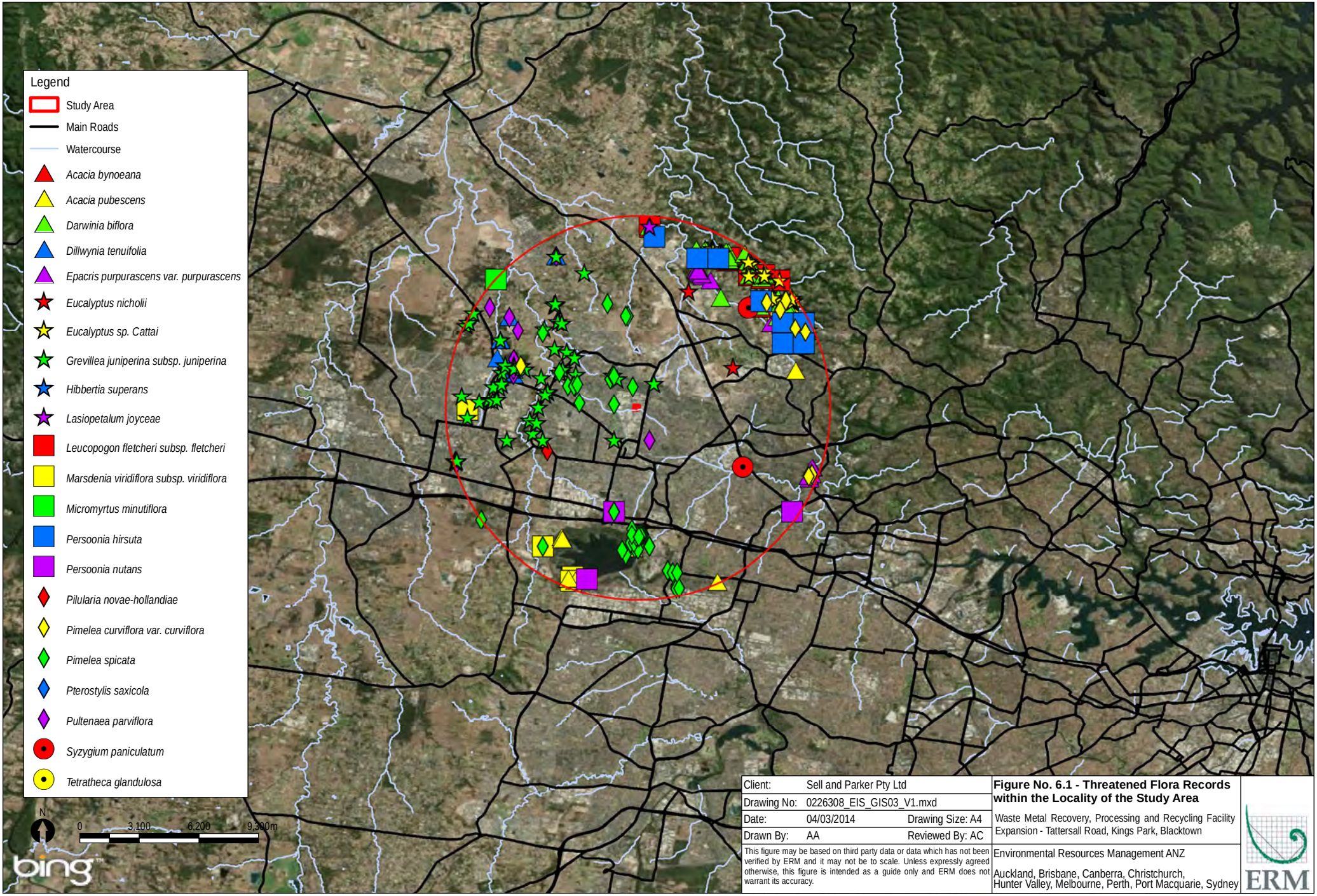
A search for matters of National Environmental Significance (NES) listed under the EPBC Act occurring (or with potential to occur) within the locality (within a 10km radius of the site) was undertaken using the EPBC Protected Matters Search Tool on 3 March 2013.

A search of the NSW National Parks and Wildlife Service Atlas of NSW Wildlife was undertaken on 23 January 2013. Threatened species records were provided by the Wildlife Data Unit which were then incorporated into ERM's GIS program and presented as *Figure 6.1* and *Figure 6.2*.

6.1.2 Existing Environment

Matters of National Environmental Significance

The EPBC Protected Matters Search reported that four threatened ecological communities, 45 threatened species and 12 migratory species listed under the EPBC Act are known to occur or have the potential to occur within 10km of the site (refer *Annex F*). There are no World Heritage Properties, National Heritage Places, Wetlands of International Significance or Commonwealth Marine Areas in the vicinity of the site.



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Date:	04/03/2014	Drawing Size: A4	
Drawn By:	AA	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

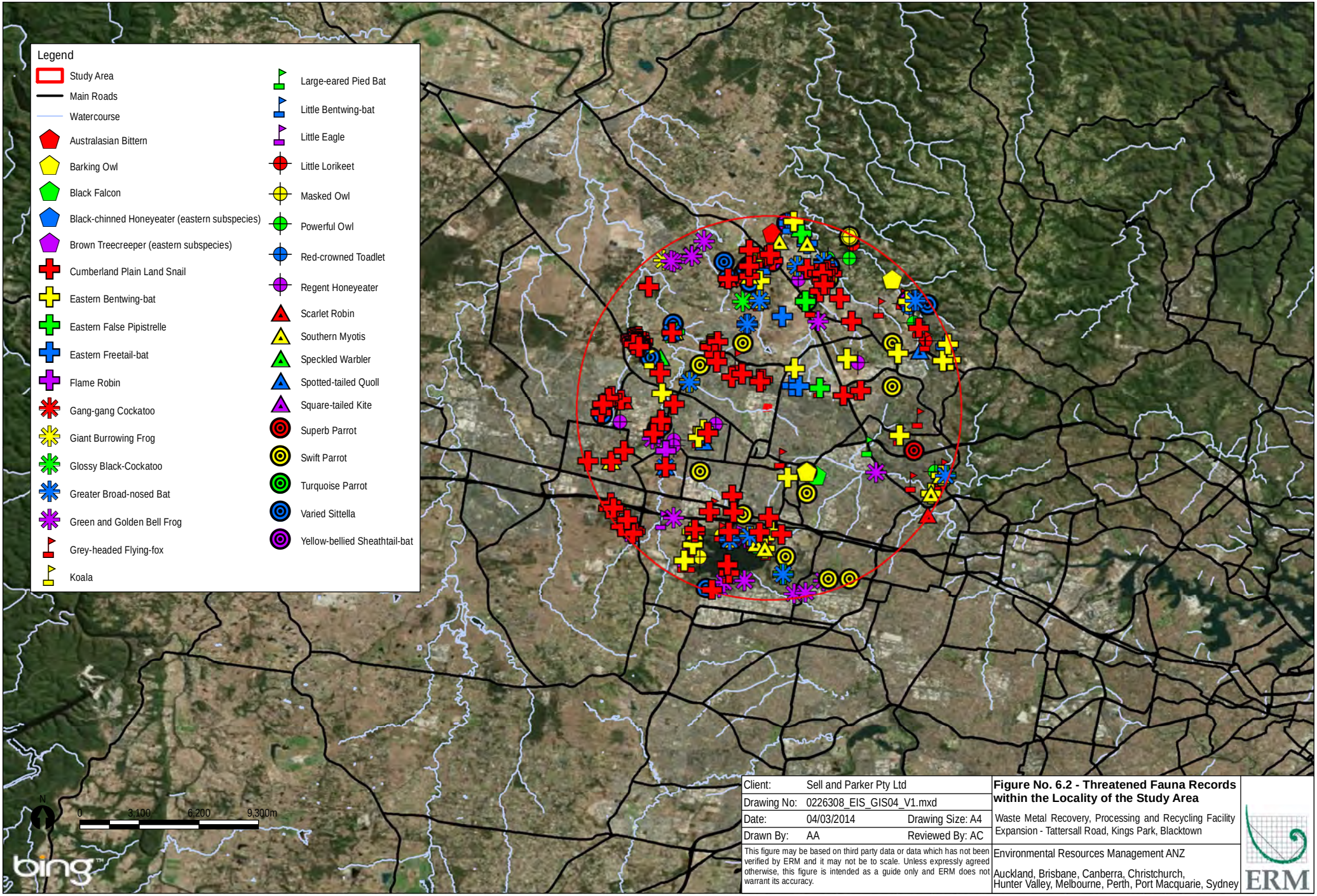
Figure No. 6.1 - Threatened Flora Records within the Locality of the Study Area

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM



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Date:	04/03/2014	Drawing Size: A4
Drawn By:	AA	Reviewed By: AC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure No. 6.2 - Threatened Fauna Records within the Locality of the Study Area

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Matters of State Significance

The NSW Atlas of Wildlife search reported that 22 threatened flora species and 35 threatened fauna species listed under the NSW TSC Act have been recorded within 10km of the site (refer *Annex F*).

Threatened Ecological Communities

The EPBC Protected Matters Search reported that the following threatened ecological communities are known, or have the potential, to occur within 10km of the site:

- *Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest* (also listed as Endangered under the TSC Act as *Cumberland Plain Woodland in the Sydney Basin Bioregion* and *Shale Gravel Transition Forest in the Sydney Basin Bioregion*);

- *Shale/Sandstone Transition Forest* (also listed as Endangered under the TSC Act);

- *Turpentine-Ironbark Forest in the Sydney Basin Bioregion* (also listed as Endangered under the TSC Act as *Sydney Turpentine-Ironbark Forest* and *Blue Mountains Shale Cap Forest*; and

- *Western Sydney Dry Rainforest and Moist Woodland on Shale* (also listed as Endangered under the TSC Act as *Moist Shale Woodland in the Sydney Basin Bioregion* and *Western Sydney Dry Rainforest in the Sydney Basin Bioregion*).

According to vegetation mapping for the Cumberland Plain (NSW NPWS 2002) these communities do not occur within the site.

Threatened Species

Threatened flora and fauna species identified during database searches as known or having the potential to occur within 10km of the site are listed in *Annex F*.

Migratory Species

The EPBC Protected Matters Search reported a number of migratory species as known, or with the potential, to occur within 10km of the site (refer *Annex F*).

On-site Vegetation

A number of mixed *Eucalypt species* are present in landscape areas along the northern boundary of both properties with Tattersall Road.

A row of mature *Casuarina species*, are present along the boundary of 45 Tattersall Road and the auto parts industrial/recycling complex to the west and the current shared boundary between 45 and 23-43 Tattersall Road. These trees were planted as a landscape screen between properties.

Isolated, mature and possibly remnant *Eucalypt species* remain in the south western corner of 45 Tattersall Road (inside the current rear fence line). A number of mixed *Eucalypt species* exist in a landscaped area in the south western corner of 23-43 Tattersall Road, with some immature *Casuarina species* also present along the rear fence line. The riparian zone beyond the rear fence line of both properties adjoining Breakfast Creek is highly disturbed and dominated by weed species. Breakfast Creek is currently subject to reformation (channel realignment and bank reinforcement) works being undertaken by BCC.

6.1.3 Impact Assessment

The proposed development of the site will not result in the removal the mature Eucalypt species along the front and rear fence lines. The proposed redevelopment works will not extend beyond the current rear fence line and so will not impact on future riparian vegetation adjoining Breakfast Creek outside the operational boundary. Further discussion of the riparian corridor and its management is provided in *Section 6.6*.

Given the already highly disturbed nature of the site, and the fact that only landscaped trees, that exist between the two current separate sites, are proposed to be removed, it is considered highly unlikely that the proposed development will have any impacts on any threatened species, populations or ecological communities and their habitats as listed under the TSC Act or the EPBC Act.

6.1.4 Mitigation Measures

The ecological assessment determined that the proposal is unlikely to impact on threatened species, populations or ecological communities and their habitats. The following recommendations aim to minimise the impacts of the proposed works:

- sediment control barriers should be installed at the site during construction and while earthworks are undertaken to reduce the likelihood of silted runoff into adjacent Breakfast Creek in the event of high rainfall;
- all vehicles are to keep to the existing and proposed access roads on-site at all times; and
- all work should be undertaken to prevent the spread of pests and noxious weeds in accordance with the *Noxious Weeds Act 1993* and the *Noxious and environmental weed control handbook - A guide to weed control in non-crop, aquatic and bushland situations* (NSW Government, 2011).

6.2 HERITAGE ASSESSMENT

6.2.1 Aboriginal Heritage Assessment

Background

A desktop Aboriginal heritage assessment was undertaken in regards to the proposed development in accordance with:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010); and
- *Aboriginal cultural heritage consultation requirements for proponents 2010 (*DECCW, 2010*).*

As the proposed development will disturb the ground surface a basic search of the NSW OEH Aboriginal Heritage Information Management System (AHIMS) database was undertaken.

Existing Environment

The AHMIS basic search did not identify any objects or places of Aboriginal heritage significance within the proposed expanded site, however, one object or place of Aboriginal heritage significance was identified approximately 650m to the south (refer *Figure 6.3*).

As such, an AHIMS extensive search was undertaken. *Table 6.1* presents a summary of the AHIMS extensive search results, while a full copy of all AHIMS search results are provided in *Annex G.*

Table 6.1 Summary AHIMS Extensive Search Results

Site ID	Site Name	Context	Site Status	Site Features
45-5-4111	ASHLAR 2	Open site	Valid	Artefact : 1

Potential Impacts

One object or place of Aboriginal heritage significance was identified approximately 650m to the south of the expanded site. However, given both the existing site and expanded site area already highly disturbed (i.e. the land at both sites has previously been extensively excavated and backfilled) it is considered highly unlikely that objects or places of Aboriginal heritage significance will be impacted as a result of the proposed development. Notwithstanding the following mitigation measures will be implemented to ensure any potential Aboriginal heritage impacts are minimised and managed appropriately.

Mitigation Measures

In accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW NSW, 2010) a conservative approach will be adopted at the site. The following mitigation measures will be implemented:

- all staff, contractors and others involved in the construction works would be made aware of the statutory legislation protecting sites and places of heritage significance; and

- all works would cease in the immediate area should any indigenous artefacts or relics be uncovered and the Cultural Heritage Division of the NSW National Parks and Wildlife Service (OEH) contacted.

Notes: The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.

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Drawn By:	AA	Reviewed By: AC

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Figure No. 6.3 - Aboriginal Site Records within the Locality of the Study Area

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

6.2.2 Historical Heritage Assessment

Background

ERM undertook a desktop historical heritage assessment in regards to the proposed development. The desktop assessment involved:

- a search using the EPBC Protected Matters Search Tool for heritage items or places of National significance listed under the EPBC Act (Commonwealth heritage);
- a search of the NSW State Heritage Inventory; and
- review of the *Blacktown LEP 1988* and *Draft Blacktown LEP 2013* for locally listed heritage items.

Existing environment

The EPBC Protected Matters Search Tool indicated that there are no World Heritage Properties or National Heritage Places within 2km on the site. There are no items in close proximity to the site listed on the NSW Heritage Inventory. A search of the *Blacktown LEP 1988* indicated one item of local heritage significance within the vicinity of the site, St Anthony's, Church, located approximately 800m to the north west of the expanded site on Bowmans Road. A search of the *Draft Blacktown LEP 2013* indicated an additional item of local heritage significance, "Headingly", a remaining building from the original Sunnyholt estate, located approximately 365m to the east of the expanded site in a residential area.

Further information on each historical heritage site is outlined in *Table 6.2*, while their location relative to the expanded site is displayed visually in *Figure 6.4*.

Table 6.2 Historical Heritage Items in the Locality of the Study Area

Suburb	Item Name	Address	Property Description	Significance	Item No.
Kings Park	Church – St Anthony's	14 Bowmans Road[1,2]	Lot 120, DP 1039119	Local	I31
Blacktown	"Headingly"	7 Redwood Place[2]	Lot 24, DP 204269	Local	I12

1. Listed on Blacktown LEP 1988
2. Listed on Draft Blacktown LEP 2013

Potential Impacts

Two items of local heritage significance have been identified within the locality, but not within the vicinity of the proposed expanded site. Both of these sites are located on private land, sufficiently distant from the proposed development and as such will not be disturbed by the proposed expansion of the site. Given this, coupled with the fact the existing site at 45 Tattersall Road and adjoining site at 23-43 Tattersall Road are located on previously, extensively disturbed land, it is unlikely that the proposed activity will cause any potential impacts to historic heritage. Notwithstanding the following mitigation measures will be implemented to ensure any potential Aboriginal heritage impacts are minimised and managed appropriately.

Mitigation Measures

Although no items of historical heritage significance were identified within the expanded site, the following mitigation measures are recommended to ensure that if any historical heritage artefacts are encountered appropriate measures are implemented:

- all staff, contractors and others involved in the works would be made aware of the statutory legislation protecting sites and places of heritage significance prior to works commencing; and

- in the event that a site or artefact (as defined by the *National Parks and Wildlife Act 1974* or *Heritage Act 1977*) is identified during construction works, works shall cease at the location. The find shall be immediately reported to the regulator in accordance with legislation. No work shall commence in the vicinity of the find until any required approvals have been given by the regulator.

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Date:	04/03/2014	Drawing Size: A4	
Drawn By:	AA	Reviewed By: AC	

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Figure No. 6.4 - Historical Heritage Site Records within the Locality of the Study

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

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6.3 ACOUSTICS ASSESSMENT

6.3.1 Background

A noise and vibration impact assessment was undertaken by Renzo Tonin & Associates (2014) for the proposed expansion of the Tattersall Road Waste Metal Recovery, Processing, and Recycling Facility. The purpose of the assessment is to provide and environmental noise and vibration impact assessment of the expanded development affecting neighbouring residential and industrial premises. The noise and vibration impact assessment is summarised in this section and provided in full in *Annex H.*

The noise and vibration assessment was prepared with due regard to and in accordance with the following guidelines:

- NSW Environment Protection Authority – NSW *Environmental Noise Management – Industrial Noise Policy* (INP), January 2000 and relevant application notes; and
- NSW Department of Environment, Climate Change and Water – NSW *Road Noise Policy* (RNP), March 2011.

Criteria for the assessment of operational noise are usually derived from the existing noise environment of an area, excluding noise from the subject development. The INP outlines two methods for determining the background noise level of an area, being 'B1 – Long-term background noise method' and 'B2 – Shortterm background noise method'. This assessment has used a combination of long-term and short-term noise monitoring.

As the noise environment of an area almost always varies over time, background and ambient noise levels need to be determined for the operational times of the proposed development. For example, in a suburban or urban area the noise environment is typically at its minimum at 3am in the morning and at its maximum during the morning and afternoon traffic peak hours. The INP outlines the following standard time periods over which the background and ambient noise levels are to be determined:

- day: 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
- evening: 18:00-22:00 Monday to Sunday & Public Holidays
- night: 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays

6.3.2 *Existing Environment*

Noise Sensitive Receivers (NSR)

An inspection of the site and the surrounding area identified the closest and/or potentially most affected nose sensitive receivers (NSR) (refer *Table 6.3*). These receiver locations include a number of residential and commercial /industrial receivers in the vicinity of the site.

Table 6.3 Noise Sensitive Receivers

NSR	Type	Site / Description	Estimated Distance and Direction from Site
R1	Residential	*189 Sunnyholt Road* Considered representative of the nearest affected receivers along Sunnyholt Road.	315m east
R2	Residential	*17 Camorta Close* Considered representative of the nearest affected receivers along Camorta Close.	650m north
R3	Residential	*3 Railway Road* Considered representative of the nearest affected receivers along Railway Road.	830m west
R4	Commercial / Industrial	*38 Tattersall Road* Receiver to the north of the expanded facility across from Tattersall Road.	Immediately adjacent to north of Tattersall Road
R5	Commercial / Industrial	*57-69 Tattersall Road* Receiver to the west of the expanded facility sharing a common site boundary.	Immediately adjacent to west
R6	Commercial / Industrial	*21 Tattersall Road* Receiver to the east of the expanded facility sharing a common site boundary.	Immediately adjacent to east
R7	Commercial / Industrial	*38 Forge Street* Receiver to the south of the expanded facility across from the Breakfast Creek.	Immediately adjacent to north of Breakfast Creek

Ambient and Background Noise

A key element in assessing environmental noise impacts is to understand the existing ambient and background noise levels in the vicinity of the closest and/or potentially most affected receivers in proximity to the site.

To quantify representative daily and overall ambient and background noise level values (in accordance with the INP) short-term operator attended noise measurements and long-term unattended noise logging was conducted in the area.

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Drawing No:	0226308_EIS_GIS07_V1.mxd		
Date:	10/03/2014	Drawing Size: A4	
Drawn By:	AA	Reviewed By: AC	

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Figure No. 6.5 - Noise Sensitive Receptors and Monitoring Locations

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

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Noise Measurement Locations

The long-term and short-term measurement locations are outlined in *Table 6.4* and shown in *Figure 6.5.*

Table 6.4 Noise Monitoring Locations

ID	Location	Description
Long-term noise monitoring locations		
L1	1/50 Charles Street	The noise monitor was located in the 'free-field'. The noise monitoring location is considered representative of residential receiver locations along Sunnyholt Road.
L2	2 Anthony Street	The noise monitor was located in the 'free-field'. The noise monitoring location was supplementary for residential receiver locations along Sunnyholt Road.
Short-term noise monitoring locations		
S1	50 Charles Street - Kerb side	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation with the long term noise monitoring at Location L1.
S2	6 Railway Road - Kerb side	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation between the long term noise monitoring at Location L1 to the residential receivers along Railway Road.
S3	17 Camorta Close (southern side of southern site boundary)	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation between the long term noise monitoring at Location L1 to residential receivers along Camorta Close.

Noise Measurement Results

Long-term unattended noise monitoring was previously carried out from Tuesday 17 December 2013 to Tuesday 24 December 2013. The results of the long term monitoring were analysed and noise level-vs-time graphs of the data were developed and are included in the Noise and Vibration Impact Assessment (*Annex H*).

Table 6.5 presents the overall single Rating Background Levels (RBL) and representative ambient L_{eq} noise levels for each assessment period, determined in accordance with the INP.

Table 6.5 Long Term Noise Monitoring Results, dB(A)

Monitoring Location	L_{A90} Rating Background Noise Level (RBL)				L_{Aeq} Ambient Noise Levels			
	Shoulder[1]	Day[2]	Evening[3]	Night[4]	Shoulder[1]	Day[2]	Evening[3]	Night[4]
L1 - 1/50 Charles Street	43	41	45	40	49	58	55	48
L2 - 2 Anthony Street	45	44	44	35	52	52	50	48

1. Shoulder 06:00-07:00 Monday to Saturday
2. Day: 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
3. Evening: 18:00-22:00 Monday to Sunday & Public Holidays
4. Night: 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays
5. The external ambient noise levels presented are free-field noise levels (ie. no façade reflection)

Short-term noise measurements were undertaken during the daytime of 6 February 2014, in order to supplement the long-term noise monitoring and provide greater detail of the surrounding noise environment.

A summary of the short-term measurement results are presented in *Table 6.6.*

Table 6.6 Short-Term Noise Monitoring Results

Location	Time	Measured Noise Level, dB(A)		Comments on Measured Noise Levels
		L_{Aeq}	L_{A90}	
S1 – 50 Charles Street	2:34pm - 2:49pm	57	43	Dominant noise source at this location was traffic noise from Sunnyholt Road.
S2 – 6 Railway Road		60	46	Dominant noise source at this location was traffic noise along Railway Road, rail movements along adjacent railway line and some industrial noise from the Blacktown industrial area.
S1 – 50 Charles Street	2:59pm - 3:14pm	57	42	Dominant noise source at this location was traffic noise from Sunnyholt Road.
S3 – 17 Carmota Close		47	45	Dominant noise source at this location was distant traffic noise and some industrial noise from the Blacktown industrial area.

The correlated Rating Background Noise Level results for Railway Road and Camorta Close are presented in *Table 6.7.*

Table 6.7 Correlated Noise Monitoring Results

Monitoring Location	LA90 Rating Background Noise Level (RBL)			
	Shoulder[1]	Day[2]	Evening[3]	Night[4]
S2 – 6 Railway Road	46	44	48	43
S3 – 17 Carmota Close	46	44	48	43

1. Shoulder 06:00-07:00 Monday to Saturday
2. Day: 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
3. Evening: 18:00-22:00 Monday to Sunday & Public Holidays
4. Night: 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays
5. As required by the INP, the external ambient noise levels presented are free-field noise levels. [ie. no façade reflection]

6.3.3 Assessment Criteria and Noise Goals

The operation of the proposed expansion of the site is assessed against the INP. The INP has two components:

- controlling intrusive noise impacts in the short term for residences; and

- maintaining noise level amenity for particular land uses for residences and other land uses.

Intrusive Noise Impacts

According to the INP, the intrusiveness of a noise source may generally be considered acceptable if the equivalent continuous (energy-average) A-weighted level of noise from the source (represented by the L_{Aeq} descriptor) does not exceed the background noise level measured in the absence of the source by more than 5dB(A). The intrusiveness criterion is summarised as follows:

- $L_{Aeq,15minute} \leq$ Rating Background Level (RBL) plus 5dB(A).

Protecting Noise Amenity

The Amenity Criteria are determined in accordance with Chapter 2 of the NSW INP. The INP recommends base acceptable noise levels for various receivers, including residential, commercial, industrial receivers and sensitive receivers such as schools, hospitals, churches and parks. These base noise criteria are then lowered by up to 10dB depending on the extent of existing industrial noise impact upon the receiver. Higher levels of existing industrial noise therefore result in stricter Amenity Criteria applied to any new industrial development. In this way the cumulative impacts of existing and known future industrial noise sources are minimised.

Project Noise Goals

In accordance with the INP, noise impact should be assessed in terms of both intrusiveness and amenity. Based on the background and ambient noise monitoring carried out at the nearest affected residential locations, the applicable noise criteria is presented in *Table 6.8*.

Table 6.8 INP Criteria for the Proposed Development

Receiver Location	Intrusiveness Criteria, $L_{Aeq,15min}$, dB(A)			Amenity Criteria, $L_{Aeq,period}$, dB(A)		
	Shoulder	Day	Evening	Shoulder	Day	Evening
R1 – Sunnyholt Road	46	46	46	55	55	45
R2 – Camorta Close[1]	49	49	49	55	55	45
R3 - Railway Road[1]	49	49	49	55	55	45
R4 - 38 Tattersalls Rd[2]	-	-	-	65	65	65
R5 - 57-69 Tattersalls Rd[2]	-	-	-	65	65	65
R6 - 21 Tattersalls Rd[2]	-	-	-	65	65	65
R7 - 38 Forge St[2]	-	-	-	65	65	65

1. Intrusiveness criteria determined based on correlation of short term measurements at receiver Locations R2 and R3 with short term measurements at receiver Location R1.
2. As there is a mix of commercial and/or industrial premises in the Blacktown industrial area, the more stringent commercial criteria has been adopted for adjacent non-residential receivers.

Road Traffic Noise Criteria

The Road Noise Policy (RNP) is used to assess the potential traffic noise impact generated from the site's operations. Table 3 – 'Road traffic noise assessment criteria for residential land uses' divides land use developments into different categories and lists the respective criteria for each case.

Based on functionality, Sunnyholt Road is categorised as an 'arterial' road. The potentially affected residential premises are located in the vicinity of Sunnyholt Road, and all have an acoustic environment which is dominated by traffic noise from Sunnyholt Road. Therefore, the appropriate traffic noise criterion for these residences is the 'arterial' road noise criteria presented in *Table 6.9*.

Table 6.9 RNP Criteria, dB(A)

Road Category	Type of project/land use	Assessment Criteria, dB(A)	
		Day 7am – 10pm	Night 10pm – 7am
Freeway / arterial / Sub-arterial roads	3. Existing residences affected by additional traffic on existing freeways / arterial / sub-arterial roads generated by land use developments	$L_{Aeq(15hr)}$ 60 (external)	$L_{Aeq(9hr)}$ 55 (external)

According to the guidelines, for existing residences affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level should be limited to 2dB above that of the corresponding 'no build option'. In all cases, traffic arising from the development should not lead to an increase in existing noise levels of more than 2dB(A).

Vibration Criteria

Vibration levels during the operation of the site will be insignificant at each residential receiver due to the large separation distances between plant and receivers. As such, this report only assesses vibration levels to adjacent industrial premises.

The effects of ground vibration on buildings resulting from construction may be segregated into the following three categories:

- disturbance to building occupants - vibration in which the occupants or users of the building are inconvenienced or possibly disturbed;
- effects on building contents - vibration where the building contents may be affected; and
- effects on building structures - vibration in which the integrity of the building or structure itself may be prejudiced.

In general, vibration criteria for human disturbance (1) are more stringent than vibration criteria for effects on building contents (2) and building structural damage (3). Hence, compliance with the more stringent limits dictated by Category 1, would ensure that compliance is also achieved for the other two categories.

Assessment of potential disturbance from vibration on human occupants of buildings is in accordance with '*Assessing Vibration; a technical guideline'* (EPA, 2006). The guideline provides criteria which are based on the *British Standard BS 6472-1992 'Evaluation of human exposure to vibration in buildings (1-80Hz)'*. Sources of vibration are defined as either 'Continuous', 'Impulsive' or 'Intermittent' (refer *Annex H* for further information)

The preferred and maximum values for continuous and impulsive vibration impacting on the adjacent industrial premises are shown in *Table 6.10*.

Table 6.10 Preferred and Maximum Levels for Human Comfort

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous vibration (Weighted RMS Acceleration, m/s², 1-80Hz)					
Workshops	Day- or night-time	0.04	0.029	0.08	0.058
Impulsive vibration (Weighted RMS Acceleration, m/s², 1-80Hz)					
Workshops	Day- or night-time	0.64	0.46	1.28	0.92
Intermittent vibration (Vibration Dose Values, VDV, m/s1.75, 1-80Hz)					
Workshops	Day- or night-time	0.8		1.60	

1. Daytime is 7:00am to 10:00pm and night-time is 10:00pm to 7:00am

6.3.4 Potential Impacts

Predicted Noise Levels

Noise emissions were predicted by modelling the noise sources, receiver locations, topographical features of the intervening area, and possible noise control treatments using CadnaA (version 4.2) noise modelling computer program. The program calculates the contribution of each noise source at each specified receptor point and allows for the prediction of the total noise from a site.

The noise prediction models takes into account:

- location of noise sources and receiver locations;
- height of sources and receivers;
- separation distances between sources and receivers;
- ground type between sources and receivers (soft); and
- attenuation from barriers (natural and purpose built).

The predicted noise levels for the proposed development are summarised in *Table 6.11* below.

Table 6.11 Predicted Noise Level Emission from Site Operations, dB(A)

Source	Intrusive Assessment, $L_{eq,15min}$			Amenity Assessment, $L_{eq,period}$		
	Shoulder	Day	Evening	Shoulder	Day	Evening
Receiver R1 – Residential Premises to the east - Sunnyholt Road						
Criteria	46	46	46	55	55	45
Cumulative (neutral condition)	41	41	41	41	41	41
Cumulative (prevailing wind condition)	44	44	44	44	44	44
Receiver R2 – Residential Premises to the north - Camorta Close						
Criteria	49	49	49	55	55	45
Cumulative (neutral condition)	31	31	31	31	31	31
Cumulative (prevailing wind condition)	34	34	34	34	34	34
Receiver R3 – Residential Premises to the north - Railway Road						
Criteria	49	49	49	55	55	45
Cumulative (neutral condition)	27	27	27	27	27	27
Cumulative (prevailing wind condition)	30	30	30	30	30	30
Receiver R4 – Neighbouring Commercial/Industrial Premises to the north - 38 Tattersall Road						
Criteria				65	65	65
Cumulative (neutral condition)				60	60	60
Cumulative (prevailing wind condition)				60	60	60
Receiver R5 – Neighbouring Commercial/Industrial Premises to the west - 57-69 Tattersall Road						
Criteria				65	65	65
Cumulative (neutral condition)				61	61	61
Cumulative (prevailing wind condition)				61	61	61
Receiver R6 – Neighbouring Commercial/Industrial Premises to the east- 21 Tattersall Road						
Criteria				65	65	65
Cumulative (neutral condition)				63	63	63
Cumulative (prevailing wind condition)				63	63	63
Receiver R7 – Neighbouring Commercial/Industrial Premises to the south - 38 Forge Street						
Criteria				65	65	65
Cumulative (neutral condition)				64	64	64
Cumulative (prevailing wind condition)				65	65	65

Renzo Tonin & Associates noted that based on recent noise measurements undertaken at the site and other previously similar metal recycling facilities, and after accounting for acoustic shielding provided by intervening structures between the site and both residential and industrial receptors, noise emission from the site is not anticipated to be tonal, impulsive or of low frequency character at the nominated receiver locations. Therefore, modifying factors are not applied to correct for the character of the noise emanating from the site.

The results provided in *Table 6.11* indicate that noise emission levels to the residential receivers (Receivers R1, R2 and R3) comply with the project-specific noise levels without any additional noise mitigation measures. Furthermore, noise emission levels to the neighbouring existing and proposed new industrial receivers (Receivers R4, R5, R6 and R7) comply with the project-specific noise levels.

Road Traffic Noise Assessment

Exiting annual average daily traffic (AADT) volumes along Sunnyholt Road have been obtained from traffic counting undertaken by the Roads and Maritime Services' (RMS) at a permanent traffic counting station (station no. 69.046) located on Sunnyholt Road at Kings Park, north of Forge Street. The AADT volume is reported to be 40,257 vehicles at the traffic counting station. It is noted that vehicle movements from the subject site would be insignificant in comparison to the AADT along Sunnyholt Road and therefore, the increase in road traffic noise due to traffic generated by the subject site would be insignificant for residential properties currently experiencing noise from Sunnyholt Road.

Furthermore, the additional traffic on Sunnyholt Road as a result of the subject site would not contribute to the existing traffic noise levels from Sunnyholt Road to the affected residences and would be significantly less than the allowable 2dB(A) increase to existing traffic noise levels.

Vibration Assessment

In order to quantify the vibration levels from the highest vibration producing plant, Renzo Tonin & Associates (2014) undertook attended vibration measurements for the following plant items:

- hammer mill – vibration measurements conducted on Friday 9th May 2014, between 10.30am and 11.30am. The measurement location was approximately 10m from the plant item; and

- metal shear – vibration measurements conducted on Tuesday 3rd June 2014, between 2.00pm and 3.00pm. The measurement location was approximately 10m from the plant item.

Each plant item was operating under normal conditions during the vibration measurements.

Vibration levels were measured in three orthogonal axes (x, y and z) using a Soundbook precision sound and vibration analyser, incorporating three PCB Type 393B12 Accelerometers. The PCB Type 393B12 accelerometers were calibrated before and after the measurements using a Bruel & Kjaer Type 4294 calibration exciter. No significant drift in calibration was observed

The results of the measurements are provided in *Table 6.12* below.

Table 6.12 Measured Vibration Levels for Hammer Mill and Metal Shear

Measurement No.	Measured weighted rms acceleration, m/s²		
	x-axis	y-axis	z-axis
Hammer Mill (9 May 2014)			
1	0.019	0.014	0.042
2	0.022	0.020	0.041
3	0.016	0.011	0.035
4	0.019	0.014	0.033
5	0.015	0.011	0.030
6	0.012	0.010	0.019
Metal Shear 3 June 2014			
1	0.006	0.002	0.013
2	0.006	0.002	0.009
3	0.007	0.003	0.012
4	0.006	0.002	0.009
5	0.006	0.002	0.009
6	0.007	0.003	0.009

From the above table, it is shown that vibration levels from the hammer mill in the x and y axes are up to 0.022m/s2 and in the z axis up to 0.042m/s2 when at 10m from the plant. When assessed against the established vibration criteria presented in *Table 6.10* above, the measured vibration levels comply with the preferred limits for the assessment of impulsive vibration in all axes and comply with the preferred limits for continuous vibration in the x and y axis.

The measured vibration levels in the z axis marginally exceeded the preferred limits but are well within the maximum limits for continuous vibration. Given that the measured vibration levels were measured at approximately 10m from the hammer mill and the nearest industrial receiver is in excess of 30m from the hammer mill, it is not expected that vibration levels in the z axis will exceed the preferred and/or maximum limits for continuous vibration at the nearest receivers. Therefore, vibration levels from the operation of the hammer mill will comply with the applicable vibration criteria at nearby receivers.

For the metal shear it can be seen from the above table that vibration levels in the x and y axes are up to 0.007m/s2 and in the z axis up to 0.013m/s2 when at 10m from the plant. When assessed against the established vibration criteria presented in *Table 8.2*, the measured vibration levels comply with the preferred limits for the assessment of both impulsive vibration and continuous vibration in all axes.

It is noted that the relocation of the metal shear within the proposed expanded site will be constructed to the same specifications as that currently operating at the existing site and will be in excess of 50m from the nearest adjoining premises. Therefore, vibration levels from the operation of the metal shear will comply with the applicable vibration criteria at future nearby receivers.

Based on the vibration measurements undertaken, vibration levels from the proposed expanded site will not cause human discomfort to the occupants of the nearest adjoining buildings.

Summary of Noise and Vibration Impacts

Noise emissions to residential premises were predicted to comply with the project-specific noise levels without noise mitigation measures.

Noise and vibration emissions from site operations to neighbouring existing and proposed new industrial premises also comply with the project-specific noise levels once the noise and vibration mitigation measures proposed as part of the expansion are implemented (refer *Section 6.3.5*).

Potential traffic noise associated with the operation of the facility and impacting nearby residential receivers is assessed as being insignificant and would comply with the RNP.

In summary, noise and vibration emissions from the construction and operation of the proposed expansion will comply with the relevant requirements of Blacktown City Council and the NSW EPA.

6.3.5 Mitigation Measures

The following acoustic screen fencing is proposed to mitigate noise emissions from site operations to neighbouring existing and proposed new industrial premises:

- retain the existing acoustic screen fencing at a height of 4m, which is currently erected around the existing site northern and western boundary and along existing driveways as shown on the site drawings; and
- proposed new metal/colorbond and electric fence along the new eastern boundary shall be an acoustic screen fencing of 4m height

The construction of acoustic screens will be from any durable material with sufficient mass to prevent direct noise transmission, such as, masonry, concrete, steel, aluminium, fibrous-cement, timber, or any combination of such materials, provided they withstand the weather elements. A natural barrier of trees or shrubs is not an effective noise screen.

In addition to the above, the noise screen will be designed with regard to the following:

- the extent of noise reduction required of the noise screen as a whole as perceived from any potentially affected receiver sites;
- any penetrations through the fabric of the noise screen will be sealed air tight;

- all joints between noise screen panels will be sealed air tight; and
- noise screens will have no clearance gaps underneath them.

6.4 AIR QUALITY ASSESSMENT

6.4.1 Background

An Air Quality Impact Assessment (AQIA), including an odour nuisance assessment was undertaken by ERM (2014a) to determine the air and odour emissions associated with the expansion of site operations, the potential impacts on sensitive receptors and identify any required mitigation. The AQIA is summarized in this section and provided in full in *Annex I*.

6.4.2 Existing Environment

This section provides a description of the environmental setting of the Site in the context of air quality.

Climate

The Site is located in a temperate environment, with the local climate generally mild. Overall, the local area is characterised by:

- annual average rainfall of 760.6 mm;
- average maximum daytime temperature of 29.8°C in January;
- average minimum daytime temperature of 5.9°C in July;
- average maximum humidity of 81% in March; and
- average minimum humidity of 42% in both August and September.

Typical Wind Conditions

Wind roses showing the frequency of strength and direction of winds for the past five years (2008-2012 inclusive) at Horsley Park, NSW indicate that:

- strong (5.4 – 8.5 m/s) south-easterly winds predominant in the summer and spring months
- south-westerly winds predominant (15%) in autumn and winter
- annually, south-west is the predominant wind direction however the strongest winds originate from the south-east.

Atmospheric Stability

Atmospheric stability is one of the key parameters that effects dispersion and dilution of emissions away from source. In essence it describes the degree of thermal and mechanical mixing of the atmosphere that occurs due to wind and thermal heating.

Higher stability of the atmosphere typically results in poor dispersion conditions and higher ground level concentrations, whilst unstable atmospheres typically have the opposite impact.

Atmospheric stability is described by the Pasquil-Gifford classification which is described further in *Annex I*. Predicted frequency of stability categories at the Site indicate a prevalence of relative neutral day time conditions followed by clear and calm (stable) night time conditions.

Further details of the climatic extremes as recorded by the Bureau of Meteorology between the years 1965 – 2014 is provided in the AQIA in *Annex I.*

Existing Ambient Air Quality

Existing ambient air quality provides the basis on to which emissions from the project are projected. It is the cumulative concentration, resulting from existing air quality plus project contribution, which forms the prediction that is tested against the adopted assessment criteria.

PM_{10} Background

The nearest measurements of ambient air quality are undertaken by the NSW OEH at William Lawson Park, Myrtle Street, Prospect, 5 km south to south-east of the Site. The maximum 24-hour average and the annual average per year for PM_{10} are presented in *Table 6.13*.

Table 6.13 Ambient Background Air Quality PM_{10} Concentrations

Ambient Background Air Quality Concentration ($\mu g/m^3$)	2008	2009	2010	2011	2012
24-hour average	41.8	1680.3	40.1	41.5	38.7
Annual Average	17.8	25.9	15.4	15.8	17.2

TSP Background

Ambient air quality monitoring does not exist for TSP in the local environment, however it is commonly found in the ambient atmosphere. No measurements of existing ambient air quality exist for TSP within the surrounding area. This assessment has taken an average of the 5 years of annual average PM_{10} background concentrations of 18.4 $\mu g/m^3$ and multiplied

by two (2). It is commonly assumed that the particle size distribution ratio between PM_{10} and TSP is 0.5. This provides a typical annual average background concentration for TSP of 36.8 µg/m^3.

$PM_{2.5}$ Background

$PM_{2.5}$ concentrations are not measured at the Prospect monitoring station. The closest monitoring station to the Site that measures $PM_{2.5}$ is located at the University of Western Sydney in Richmond. Richmond is approximately 26 km north-west of Blacktown and provides and indicative background concentrations for the local area. *Table 6.14* shows the background concentrations for this measurement location

Table 6.14 Ambient Background Air Quality $PM_{2.5}$ Concentrations

Ambient Background Air Quality Concentration (µg/m^3)	2008	2009	2010	2011	2012
24-hour average	17.7	148.9	20.8	42.9	116.7
Annual Average	7.3	5.7	4.2	4.7	5.3

6.4.3 Nitrogen Dioxide (NO_2) Background

The nearest measurements of NO_2 are undertaken at the Prospect monitoring site by the OEH, 5 km south to south-east of the site. The maximum annual average per year for NO_2 are presented in *Table 6.15*. Hourly averages are not available on the DEH website; as a result, daily averages were converted to an hourly average using the conversion factor of 1/0.59 (Environment Agency of England and Wales, 2011).

Table 6.15 Ambient Background Air Quality NO_2 Concentrations

Ambient Background Air Quality Concentration (µg/m^3)	2008	2009	2010	2011	2012
1-hour average	35.6	39.4	40.4	36.3	36.1
Annual Average	-	22.7	24.5	20.7	20.7

Additional Source of Emissions

Additional sources of emitted species within the modelled area include emissions from vehicular traffic and possible sources from other industry in the immediate vicinity of the site. These sources are implicitly included through the use of ambient monitoring to supply background air quality concentrations.

Sensitive Receptors

Sensitive receptors are locations where the general population is likely to be exposed to the resultant ground level concentrations from the atmospheric emissions.

A review of the modelled area identified the sensitive receptors identified in *Figure 6.6*. It should be noted that the ten (10) selected sensitive receptors are in residential areas and have been selected on the basis of proximity to site. These sensitive receptors are intended to be representative of the general residential area. The modelled grid will provide assessment for all other residential addresses not specifically included in the dispersion model.

Client:	Sell and Parker Pty Ltd	
Drawing No:	0226308_EIS_GIS08_V1.mxd	
Date:	10/03/2014	Drawing Size: A4
Drawn By:	AA	Reviewed By: AC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure No. 6.6 - Air Quality Sensitive Receptors

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

6.4.4 Assessment Criteria and Methodology

Criteria

Part 4: Emission of Air Impurities from Activities and Plant in the Regulation refers to the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* ('Approved Methods') (Department of Environment and Conservation, 2005). The Approved Methods lists the statutory methods for modelling and assessing emissions of air pollutants from stationary sources in the state. Industry has an obligation to ensure compliance with the requirements specified in the Regulation.

The NSW EPA prescribes impact assessment criteria, which are outlined in the Approved Methods (Department of Environment and Conservation, 2005). The impact assessment criteria refer to the total pollutant load in the environment and impacts from new sources of these pollutants must be added to existing background levels for assessment of compliance. In accordance with the guidance document, ERM has adopted the assessment criteria shown in *Table 6.16* for particulate matter, nitrogen dioxide (NO2) and individual toxic air pollutants (metals).

In addition to health impacts, airborne dust also has the potential to cause nuisance impacts by depositing on surfaces. *Table 6.16* also shows the maximum acceptable increase in dust deposition over the existing dust levels (2 g/m^2/month) and the maximum total deposited dust level (4 g/m^2/month). Given that there are no ambient dust deposition levels for the local area, this assessment will be compared to the maximum increase in deposited dust level. These criteria for dust deposition levels are set to protect against nuisance impacts.

Odour nuisance impact has been included in the impact assessment. The impact assessment criteria for complex mixtures of odours have been designed to take into account the range of sensitivity to odours within the community and to provide additional protection for individuals with a heightened response to odours. This is achieved by using a statistical approach, dependent upon population size.

The assessment criteria for particulate matter and NO_2 were applied, in accordance with the requirements of the Approved Methods, as follows:

- At the nearest existing or likely future off-site sensitive receptor;
- The incremental impact (predicted impacts from the site alone) for each pollutant must be reported;
- Background concentrations must be included; and
- Total impact (incremental impact plus background) must be reported as the 100th percentile and compared with the relevant impact assessment criteria.

The assessment criteria for individual toxic air pollutants were applied, in accordance with the requirements of the Approved Methods, as follows:

- at and beyond the boundary of the facility;
- the incremental impact (predicted impacts from the site alone) for each pollutant must be reported in concentration units consistent with the criteria (mg/m^3 or ppm), for an averaging period of 1 hour and as the:
  - 100th percentile of dispersion model predictions for Level 1 (screening-level dispersion modelling technique using worst-case input data) impact assessments; and
  - 99.9th percentile of dispersion model predictions for Level 2 (refined dispersion modelling technique using site-specific input data) impact assessments.

However, the assessment criteria for toxic air pollutants within the Approved Methods are taken from the Victorian State Environment Protection Policy for Air Quality Management (SEPP (AQM)) (Government of Victoria, 2001). In developing the design criteria contained within the SEPP (AQM), exposure was considered to occur to sensitive populations 24 hours a day, 365 days a year for an entire life time. The Site is, however, located within an industrial estate; thus the working population surrounding the site are not exposed 24 hours a day, 365 days a year for an entire lifetime, typically they will be exposed eight to ten hours a day, five to six days a week for a working life time. It is therefore considered that the application of the toxic air pollutant criterion in an industrial setting is unduly restrictive. Rather, it is considered that a more appropriate criteria within the industrial setting is the Safe Work Australia Time-Weighted Average[1] should apply at or beyond the site boundary rather than the human health impact assessment criterion in *Table 6.16*.

Consequently, the human health criterion for individual toxic air pollutants (as shown in *Table 6.16*) applies where there are sensitive receptors (residential) with potential to be exposed to such pollutants from metals cutting on a long-term basis, although it is noted that these pollutants are only emitted up to 8 – 10 hours when metals cutting at the Site takes place. The Safe Work Australia Time-Weighted Average (adjusted to 10 hours to account for maximum metals cutting duration and for 100th percentile) has been used for assessment within the industrial area, and is presented in *Table 6.16*.

[1] Time weighted average can be found on http://hsis.safeworkaustralia.gov.au

The assessment criteria for complex mixtures of odorous air pollutants were applied, in accordance with the requirements of the Approved Methods, as follows:

- At the nearest existing or likely future off-site sensitive receptor;
- The incremental impact (predicted impacts from the site alone) must be reported in units consistent with the impact assessment criteria (odour unit (OU)), as peak concentrations (i.e. approximately 1 second average) in accordance with the requirements of Section 6 of the Approved Methods and as the:
  - 100th percentile of dispersion model predictions for Level 1 impact assessments; and
  - 99th percentile of dispersion model predictions for Level 2 impact assessments.

Table 6.16 Adopted Assessment Criteria

Species	Averaging Period	Criteria	Units
Particulate matter and nitrogen dioxide			
Total suspended particulate matter (TSP)	Annual mean[1,4]	90	µg/m^3
Particulate matter <10 µg in diameter (PM_{10})	Annual mean[2,4]	30	µg/m^3
	24-hour maximum[3,4]	50	µg/m^3
Nitrogen dioxide (NO_2)	1 hour[3,4]	246	µg/m^3
	Annual mean[3,4]	62	µg/m^3
Individual toxic air pollutants			
Iron oxide fumes	1 hour[5]	0.09	mg/m^3
Manganese and compounds	1 hour[5]	0.018	mg/m^3
Copper dusts and mists	1 hour[5]	0.018	mg/m^3
Safe Work Australia TWA (adjusted to 10 hours)			
Iron oxide fumes	10 hours	4	mg/m^3
Manganese and compounds	10 hours	0.8	mg/m^3
Copper dusts and mists	10 hours	0.8	mg/m^3
Dust deposition			
Maximum increase in deposited dust level	Annual[4]	2	g/m^2/month
Maximum total deposited dust level	Annual[4]	4	g/m^2/month

Species	Averaging Period	Criteria	Units
Odorous air pollutants (complex mixtures)[4,6]			
Population of affected community		**Impact assessment criteria for complex mixtures of odorous air pollutants (OU) (nose-response-time average, 99th percentile)**	
Urban (≥~2000) and/or schools and hospitals		2.0	
~500		3.0	
~125		4.0	
~30		5.0	
~10		6.0	
Single rural residence (≤~2)		7.0	

1. National Health and Medical Research Council (National Health and Medical Research Council, 1996)
2. Environment Protection Authority (NSW Environment Protection Authority, 1998)
3. National Environment Protection Council (National Environment Protection Council, 1998)
4. Department of Environment and Conservation (Department of Environment and Conservation, 2005)
5. State Environment Protection Policy (Air Quality Management) (Government of Victoria, 2001)
6. Environment Protection Authority ((NSW Environment Protection Authority, 2001)

Methodology

In order to determine the predicted ground level concentrations that result from the project, the following approach was adopted:

- dispersion model selection;
- emission estimation;
- meteorological modelling;
- dispersion modelling;
- post processing; and
- assessment.

Further details on the assessment methodology adopted for this project is provided in the AQIA (*Annex I)*.

6.4.5 Impact Assessment

The assessment of impacts has considered the predicted concentrations of TSP, deposited dust, $PM_{2.5}$ and PM_{10} at the sensitive receptors, with and without background air quality concentrations.

Total Suspended Particulate Matter

The predicted annual average TSP concentrations at the receptors were produced from the model. The highest annual average TSP concentrations at each receptor over a 5 year period are presented in *Table 6.17*. Whilst ambient TSP is not measured at Prospect, typically PM_{10} is considered to be half of the

ambient TSP value. Taking the annual average PM_{10} value of 18.4 μg/m^3 this indicates and annual average background TSP value of 36.8 μg/m^3.

When this indicative background is added to the maximum modelled annual mean TSP concentration at a sensitive receptor (0.89 μg/m$^{3)}$ this provides a cumulative concentration of approximately 37.7 μg/m^3. When compared to the assessment criteria of 90 μg/m^3, the highest annual average TSP concentrations at each of the receptors is therefore below the assessment criteria.

Table 6.17 Highest Annual Average TSP Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average TSP Concentration (Increment) [1] (μg/m^3)	Impact Assessment Criteria (μg/m^3)
1	306993	6263656	0.89	90
2	306975	6263528	0.75	
3	306963	6263414	0.53	
4	305627	6263452	0.34	
5	305527	6263624	0.26	
6	305475	6263762	0.23	
7	305584	6264114	0.20	
8	306081	6264458	0.30	
9	306603	6264395	0.28	
10	307080	6264227	0.22	

1. Maximum at each of the receptors over 5 years.

Dust Deposition

With an unknown background, the maximum allowable increase in deposited dust is 2 g/m^2/month. When compared against the highest annual average dust deposition at each of the receptors produced from 5 years of data (refer *Table 6.18*), the predicted concentrations at each of the sensitive receptors are below the assessment criteria.

Table 6.18 Highest Annual Average Dust Deposition at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average Dust Deposition (Increment) [1] (g/m^2/month)	Impact Assessment Criteria (g/m^2/month)
1	306993	6263656	0.11	2
2	306975	6263528	0.09	
3	306963	6263414	0.06	
4	305627	6263452	0.03	
5	305527	6263624	0.03	
6	305475	6263762	0.02	
7	305584	6264114	0.02	

Sensitive Receptor	X	Y	Annual Average Dust Deposition (Increment) [1] (g/m^2/month)	Impact Assessment Criteria (g/m^2/month)
8	306081	6264458	0.04	
9	306603	6264395	0.04	
10	307080	6264227	0.03	

1. Maximum at each of the receptors over 5 years.

$PM_{2.5}$

While there is no appropriate assessment criterion for $PM_{2.5}$ concentrations, the highest maximum 24-hour average concentrations at each of the receptors over a 5 year time period are provided at *Table 6.19*.

Table 6.19 Maximum predicted contribution to 24-hour Average $PM_{2.5}$ concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Year	Maximum $PM_{2.5}$ background[1] concentration ($\mu g/m^3$)	Maximum $PM_{2.5}$ Concentration (Increment) [2] ($\mu g/m^3$)	Increment plus background ($\mu g/m^3$)
1	306993	6263656	2010	20.8	4.15	25.0
2	306975	6263528	2010	20.8	4.05	24.9
3	306963	6263414	2010	20.8	2.79	23.6
4	305627	6263452	2009	148.9	1.88	150.8
5	305527	6263624	2009	148.9	1.62	150.5
6	305475	6263762	2009	148.9	1.04	149.9
7	305584	6264114	2009	148.9	1.04	149.9
8	306081	6264458	2009	148.9	1.54	150.4
9	306603	6264395	2008	17.7	1.24	18.9
10	307080	6264227	2010	20.8	0.87	21.7

1. Data from Richmond
2. Maximum at each of the receptors over 5 years.

PM_{10} Annual Mean

The highest annual average PM_{10} concentrations at each receptor are presented in *Table 6.20*. The corresponding background concentration for the year in which the maximum concentration was predicted is also presented. The addition of the background concentration and the maximum increment results concentrations below the annual mean criteria for PM_{10} (*Table 6.20*).

Table 6.20 Maximum Annual Average PM_{10} Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average PM_{10} Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	0.57	2009	25.9	26.5	30
2	306975	6263528	0.49	2009	25.9	26.4	
3	306963	6263414	0.36	2009	25.9	26.3	
4	305627	6263452	0.22	2012	17.2	17.4	
5	305527	6263624	0.18	2012	17.2	17.4	
6	305475	6263762	0.15	2012	17.2	17.4	
7	305584	6264114	0.14	2012	17.2	17.3	
8	306081	6264458	0.2	2011	15.8	16.0	
9	306603	6264395	0.19	2012	17.2	17.4	
10	307080	6264227	0.15	2012	17.2	17.4	

PM10 24-Hour Mean

As shown in *Table 6.13*, the maximum 24-hour average PM_{10} concentration for 2009 exceeds the respective assessment criteria. The highest 24-hour average PM_{10} concentrations at each receptor are presented in *Table 6.21*, together with the maximum 24-hour average background concentration for the relevant year in which the prediction occurred.

While the highest maximum 24-hour average PM_{10} concentrations at each of the receptors (i.e. the increment) over 5 years are below the assessment criteria, the increment plus background exceeds the assessment criteria at receptors 1, 2, 4, 5, 6, 7 and 8 (*Table 6.21*). The exceedances of the background are the result of elevated backgrounds that are either close to or above the assessment criteria.

Level 2 Contemporaneous Assessment

The guidance document for the modelling and assessment of air pollutants in NSW (Department of Environment and Conservation, 2005) states that, where existing ambient air pollutant concentrations exceed the impact assessment criteria, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity.

The guidance indicates that the maximum predicted concentrations at the receptors as a result of site activities must be matched with the corresponding 24-hour average in the background ambient air quality data. This approach also needs to be applied vice versa, in that the maximum concentrations in the ambient air quality data, with the corresponding predicted 24-hour average at the receptors.

To facilitate this analysis, the highest maximum 24-hour average PM_{10} concentrations at each of the receptors for 5 years were extracted from the model data. These maximum concentrations at the receptors were matched with the corresponding 24-hour background concentration and added together to provide the increment plus background, when the concentrations at the receptors are at their highest over 5 years (*Table 6.22*).

The maximum Site contribution was determined to be 12.4 $\mu g/m^3$ at receptor 1. To determine whether there is potential for the site to result in additional exceedances of the criteria, the maximum 24-hour background concentrations below the criteria were extracted from the EPA measurements to a level equal to or below 37.6 $\mu g/m^3$. *Table 6.23* shows the maximum, non-exceedance background concentrations, together with the date on which they occurred, the predicted site contribution at the sensitive receptors and the cumulative impact of background plus site contribution.

Table 6.21 Maximum 24-hour Average PM_{10} Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Maximum 24-hour Average PM_{10} Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	12.35	2010	40.1	52.5	50
2	306975	6263528	11.91	2010	40.1	52.0	
3	306963	6263414	8.05	2010	40.1	48.2	
4	305627	6263452	4.37	2009	1,680.3	1,684.4	
5	305527	6263624	3.72	2009	1,680.3	1,684.0	
6	305475	6263762	2.84	2009	1,680.3	1,683.1	
7	305584	6264114	2.84	2009	1,680.3	1,683.1	
8	306081	6264458	3.98	2009	1,680.3	1,684.3	
9	306603	6264395	3.84	2008	41.8	45.6	
10	307080	6264227	2.59	2010	41.5	44.1	

1. Maximum at each of the receptors over 5 years.

The results presented in *Table 6.22* and *Table 6.23* indicate that there would be no additional exceedances as a result of the site activities. This takes into consideration situations when dust is transported from Site to receptor and the background concentrations are low, and when background concentrations are elevated, but below criteria.

Table 6.22 Maximum 24-hour average Site contribution to PM_{10} Concentrations at the Receptors plus background

Date	Background[1] (µg/m³)	PM_{10} Maximum Predicted 24-hour average Site contribution (µg/m³)										Increment plus Background (µg/m3)									
		Sensitive Receptors										Sensitive Receptors									
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
05/02/2008	6.3									3.84										10	
03/06/2009	21.3				4.37	3.72									26	25					
21/06/2009	11.6						2.84	2.84	3.98								14	14	16		
17/07/2010	18.1										2.59										21
13/11/2010	18.4	12.35	11.91	8.05								30	31	26							

1. Sourced from the Prospect ambient monitoring station

Table 6.23 24-hour average Site contribution to PM_{10} concentrations at the sensitive receptors at the time of the highest non-exceeding background concentrations

Date	Background[1] PM_{10} 24-hour average (ug/m^3)	24 -hour average at the Sensitive Receptors (ug/m^3)										Increment plus background									
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
27/11/2009	48.5	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	48.6	49.2	48.5	48.5	48.5	48.5	48.5	48.5	48.5
20/11/2009	48.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.2	0.1	48.1	48.1	48.1	48.2	48.2	48.2	48.4	48.2	48.3	48.2
25/02/2009	44.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	44.7	44.7	44.7	44.7	44.7	44.7	44.9	45.2	44.7	44.7
02/10/2009	42.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	43.4	42.6
06/12/2008	41.8	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.1	42.6	42.6	42.3	41.8	41.8	41.8	41.8	41.8	42.3	41.9
16/09/2008	41.5	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.7	42.4	41.8	41.6	41.5	41.5	41.5	41.5	41.5	41.6	42.2
20/09/2011	41.5	0.4	0.3	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	41.9	41.8	41.7	41.5	41.5	41.5	41.8	41.5	41.5	41.5
25/08/2009	40.9	1.6	1.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	42.6	42.0	40.9	40.9	40.9	40.9	40.9	40.9	40.9
01/07/2008	40.1	1.6	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	42.1	40.4	40.1	40.1	40.1	40.1	40.1	40.1	40.1
27/03/2010	40.1	0.2	1.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.3	41.7	41.9	40.1	40.1	40.1	40.1	40.1	40.1	40.1
26/03/2009	39.7	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.0	39.7	39.7	39.7	39.7	39.7	39.8	40.0	39.9	39.9	39.7
15/09/2008	39.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2	39.2	39.3	39.2	39.2	39.2	39.2	39.2	39.2	39.2
14/10/2009	38.8	2.5	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	39.7	39.0	38.8	38.8	38.8	38.8	38.8	38.8	38.8
23/09/2011	38.7	0.0	0.0	0.0	0.3	1.1	1.0	0.5	0.1	0.3	0.0	38.7	38.7	38.7	39.0	39.8	39.7	39.2	38.8	39.0	38.7
26/10/2012	38.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	38.7	38.7	38.7	38.8	38.7	38.7	38.7	38.7	38.7	38.7
12/09/2009	38.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	38.1	38.2	38.1	38.1	38.1	38.1	38.1	38.1	38.1
25/01/2011	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.0	37.5	37.5	37.5	37.5	37.5	37.5	37.8	37.7	37.7	37.5

1- Sourced from Prospect monitoring station

Odour

The evaluation of odour impacts requires the estimation of short or peak concentrations on the time scale of less than one second. The peak odour impacts are estimated from the 1-hour odour modelling results by multiplying with the appropriate factor from Table 6.1 of the Approved Methods. The selection of the appropriate factor is based on the wet scrubber vent of the hammer mill, which is the biggest source of odour (refer *Annex I*) .i.e. the value of 2.3 for a wake-affected point (the 3 m height of the wet scrubber is within the building wake zone).

In *Table 6.24*, the incremental odour results are reported for the nearest sensitive receptors (99th percentile for mixed odorants for a Level 2 assessment), as required by the Approved Methods. In addition, the maximum incremental offsite odour impact (99th percentile) has also been reported, as requested by the EPA. No odour background concentrations are available for this assessment.

Table 6.24 Maximum predicted peak odour concentrations at Receptors and maximum offsite odour concentrations over 5 years

Sensitive Receptor	X	Y	Year	Maximum peak odour concentration[1] (OU)
1	306993	6263656	2010	0.23
2	306975	6263528	2010	0.17
3	306963	6263414	2010	0.16
4	305627	6263452	2009	0.07
5	305527	6263624	2009	0.05
6	305475	6263762	2009	0.04
7	305584	6264114	2009	0.05
8	306081	6264458	2009	0.06
9	306603	6264395	2008	0.08
10	307080	6264227	2010	0.07
Maximum offsite location				1.03

1. Maximum at each of the receptors over 5 years.

Based on an impact assessment criterion of 2 OU (for urban population of >2000 people) as presented in *Table 6.16*, it can be seen that odour impacts from the Site at the sensitive receptors are below the assessment criterion.

NO2 Annual Mean

Nitrogen oxide (NO_X) is emitted by the metals cutting process (refer *Annex I*); however, it is NO_2 that pertains to human health impact. NO_X consists of nitrogen oxide (NO) and NO_2, but NO will undergo oxidation in the atmosphere to become NO_2. The Approved Methods recommend that 100% conversion of NO to NO_2, as a worst-case assessment, and this has been adopted in this impact assessment for conservative purposes. The results of

mean NO_2 concentrations for an annual averaging period is reported for the nearest sensitive receptors.

With an annual mean assessment criterion of 62 µg/m^3, it can be seen from the results in *Table 6.25* that the NO_2 impacts at the sensitive receptors on an annual basis are below the assessment criterion.

Table 6.25 Maximum Hourly Average NO_2 Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	99.9th Percentile Hourly Average NO_2 Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Maximum Measured Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	52	2010	40.4	92.0	246
2	306975	6263528	67	2010	40.4	107.4	
3	306963	6263414	79	2011	36.3	115.0	
4	305627	6263452	33	2009	39.4	72.1	
5	305527	6263624	34	2009	39.4	73.2	
6	305475	6263762	18	2012	36.1	54.5	
7	305584	6264114	14	2011	36.3	50.3	
8	306081	6264458	36	2009	39.4	75.6	
9	306603	6264395	30	2009	39.4	69.4	
10	307080	6264227	16	2011	36.3	52.5	

1. Maximum at each of the receptors over 5 years.

Iron Oxide Fumes 1-Hour Mean

Table 6.26 presents the 99.9th percentile hourly iron oxide fume concentrations predicted by the modelling at the sensitive receptors. *Table 6.26* presents the 99.9th percentile predicted 1-hour mean iron oxide fume concentrations at Receptors and for the 10-hour adjusted maximum concentration (100th percentile) at any offsite location within the industrial estate.

Table 6.26 99.9th percentile predicted 1-hour mean iron oxide fume concentrations at Receptors and 10-hour maximum offsite iron oxide fume concentrations over 5 years

Sensitive Receptor	X	Y	Year	Hourly average incremental iron oxide fumes concentration[1] (mg/m³)
1	306993	6263656	2010	0.078
2	306975	6263528	2010	0.085
3	306963	6263414	2010	0.077
4	305627	6263452	2009	0.048
5	305527	6263624	2009	0.039
6	305475	6263762	2009	0.028
7	305584	6264114	2009	0.027
8	306081	6264458	2009	0.026
9	306603	6264395	2008	0.027
10	307080	6264227	2010	0.024
Maximum offsite location (10 hours)				2.01

1. Maximum at each of the receptors over 5 years.

Based on the toxic air pollutants criterion of 0.09 mg/m³, it can be seen that at the sensitive receptors where this criterion applies, the predicted 1 hour concentrations at 99.9th percentile are below the assessment criterion.

At the maximum offsite location, using 10 hours of metals cutting and the adjusted TWA of 4 mg/m³, the predicted iron oxide fume concentration of 2.01 mg/m³ does not exceed the Safe Work Australia criterion.

Manganese and Compounds 1-Hour Mean

In keeping with the iron oxide fume impact assessment, the Approved Methods toxic air pollutant criterion does not apply at the industrial estate where the site is located.

Consequently, the sensitive receptors have been assessed against a 1-hour criterion of 0.018 mg/m³ as per *Table 6.16*, whilst the 10-hour TWA for manganese and compounds of 0.8 mg/m³has been used within the industrial area as per *Table 6.16*.

Table 6.27 shows that ambient manganese concentrations are below the adopted assessment criteria in the relevant locations.

Table 6.27 ***99.9th percentile predicted 1-hour mean manganese and compounds concentrations at Receptors and 10-hour maximum offsite manganese and compounds concentrations over 5 years***

Sensitive Receptor	X	Y	Year	Hourly average incremental manganese and compounds concentration[1] (mg/m³)
1	306993	6263656	2010	0.0082
2	306975	6263528	2010	0.0089
3	306963	6263414	2010	0.0080
4	305627	6263452	2009	0.0050
5	305527	6263624	2009	0.0041
6	305475	6263762	2009	0.0029
7	305584	6264114	2009	0.0028
8	306081	6264458	2009	0.0028
9	306603	6264395	2008	0.0028
10	307080	6264227	2010	0.0025
Maximum offsite location (10 hours)				0.21

1. Maximum at each of the receptors over 5 years.

Copper Dusts and Mists 1-Hour Mean

In keeping with the iron oxide fume impact assessment, the Approved Methods toxic air pollutant criterion does not apply at the industrial estate where the Site is located.

Consequently, the sensitive receptors have been assigned a 1-hour assessment criterion for copper dusts and mists of 0.018 mg/m³ as per *Table 6.26*, whilst the 10-hour TWA for copper dusts and mists of 0.8 mg/m³ has been used within the industrial area as per *Table 6.16*. *Table 6.28* shows that ambient concentrations of copper dusts and mists are below the adopted assessment criteria in the relevant locations.

Table 6.28 ***99.9th percentile predicted 1-hour mean copper dusts and mists concentrations at Receptors and 10-hour maximum offsite copper dusts and mist concentrations over 5 years***

Sensitive Receptor	X	Y	Year	Hourly average incremental copper dusts and mists concentration[1] (mg/m³)
1	306993	6263656	2010	0.0011
2	306975	6263528	2010	0.0012
3	306963	6263414	2010	0.0011
4	305627	6263452	2009	0.0007
5	305527	6263624	2009	0.0005
6	305475	6263762	2009	0.0004
7	305584	6264114	2009	0.0004
8	306081	6264458	2009	0.0004
9	306603	6264395	2008	0.0004
10	307080	6264227	2010	0.0003
Maximum offsite location (10 hours)				0.0081

1. Maximum at each of the receptors over 5 years.

Impact Summary

The number and type of sources of emission from the site were thoroughly investigated and appropriately assessed for inclusion in the air dispersion modelling. A comprehensive explanation of the air dispersion modelling results is provided at *Annex I.* In summary, these results indicated that:

- the highest predicted annual average TSP concentrations at each of the receptors is below the assessment criteria;
- the highest annual average dust deposition at each of the receptors produced from 5 years of data is below the assessment criteria;
- the highest annual average PM_{10} concentration at the receptors at each of the receptors is below the assessment criteria;
- the maximum predicted 24-hour average PM_{10} concentration together with the maximum background concentration results in levels that exceed the assessment criteria at the sensitive receptors due to the elevated background ambient air quality concentration in this area;
- the peak odour concentration at the receptors is below the assessment criterion;
- the highest annual average and 1 hour average NO2 concentrations at the receptors are below the respective assessment criteria; and

- the toxic air pollutants (iron oxide fumes, manganese and compounds, copper dusts and mists) concentrations are found not to exceed the Work Safe 10-hour adjusted TWA at offsite locations within the industrial estate where the Site is located, and found not to exceed the human health assessment criteria at the nearest sensitive receptors.

Where existing ambient air pollutant concentrations exceed the impact assessment criteria, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity:

A cumulative assessment of the maximum predicted 24-hour concentrations at the sensitive receptors together with the background concentration, that occurred on the date of the prediction, indicated that there would be no additional exceedance due to the Site activities.

A cumulative assessment of the periods of background concentration below the assessment criteria, together with the predicted concentrations as a result of site activities on those dates, indicated that there would be no additional exceedance due to the Site activities.

6.4.6 Mitigation Measures

Notwithstanding the above, the following mitigation measures will be employed to minimise impacts to local air quality:

- vehicles and equipment shall be maintained in accordance with the manufacturer's specifications;
- additional site fencing located on the eastern boundary of the site, should include appropriate dust screen to minimise airborne dust movements; and
- all surplus soils from excavations during construction, not reused on-site, shall be removed from site by covered trucks and disposed of at an appropriately licensed facility.

6.5 GREENHOUSE GAS ASSESSMENT

6.5.1 Background

This section quantifies greenhouse gas (GHG) emissions estimations from the Project in accordance with the requirements of the Director General. Where appropriate, management and mitigation measures have been identified. In addition, this section considers the Project in the context of the existing legislative framework under the national greenhouse and energy reporting system, namely, the *National Greenhouse and Energy Reporting Act 2007*.

6.5.2 *Introduction*

A GHG is defined as a gas in the atmosphere that absorbs and emits radiation within the thermal infrared range. These gases trap heat re-radiated from the earth keeping the surface of the planet warmer than it would otherwise be. An excess of GHG is the atmosphere results in additional warming of the surface. Six main GHGs are covered under the Kyoto Protocol's reporting, namely:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs) and
- Sulphur hexafluoride (SF_6).

The Project's GHG emissions, pertaining to CO2, CH4 and N2O, have been quantified and the impact on the national GHG inventory has been assessed. No emissions of HFCs, PFCs or SF6 are likely from activities on site, and no quantities of these chemicals have currently been identified as in use on site or are proposed to be used on site following the upgrade.

The following sections provide an overview of:

- GHG policy;
- Methodology for the development of the GHG inventory;
- GHG inventory.

6.5.3 *GHG Policy Framework*

The federally legislated *National Greenhouse and Energy Reporting Act 2007* (the Act), the *National Greenhouse and Energy Reporting Regulations 2008* (the Regulations) under that Act and the *National Greenhouse and Energy Reporting (Measurement) Determination 2008* (NGERs) establish the legislative framework for a national greenhouse and energy reporting system.

NGERs has two objectives which are set out in the Act:

- the first set of objectives comprises of:
  - informing government policy formulation and the Australian public;
  - meeting Australia's international reporting obligations;

- assisting Commonwealth, State and Territory government programs and activities; and

- avoiding the duplication of similar reporting requirements in the States and Territories.

- the second objective of the NGERS is to underpin the *Clean Energy Act 2011* by imposing various registration, reporting and record keeping requirements.

The Act provides methods, and criteria for methods, for the measurement of the following:

- greenhouse gas emissions arising from the operation of facilities;

- the production of energy arising from the operation of facilities;

- the consumption of energy arising from the operation of facilities; and

- potential greenhouse gas emissions embodied in an amount of natural gas.

NGERS was designed to facilitate the integration of corporate and facility level data with international data standards on greenhouse emissions estimates.

6.5.4 Director General's Requirements for Assessment

The Department of Planning and Infrastructure have reviewed and re-issued the Director-General's requirements for the site on the basis of the proposed upgrades.

The Director General has stipulated that the greenhouse gas assessment must include:

- a quantitative assessment of the potential scope 1 and 2 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment; and

- a detailed description of the measures that would be implemented on site to ensure that the development is energy efficient.

6.5.5 Methodology

The overall methodology used to develop the GHG inventory for the Project was based on the following:

- development of the Project's site activities – assigning elements of the Project to be assessed for GHG emissions;

- identification of emission sources, fuel types and conditions for combustion or release, including separation of emission sources into Scope 1 and Scope 2 where:
    - scope 1 is the release of GHG into the atmosphere as a direct result of an activity or series of activities (including ancillary activities) that constitute the facility;
    - scope 2 is the release of GHG as a result of one or more activities that generate electricity, heating, cooling or steam that is consumed by a facility but do not form part of that facility;
- use of nationally published emission factors from NGERs; and
- data collection and calculation of potential emissions from key project activities during operation.

Only scope 1 and scope 2 emissions have been taken into consideration when undertaking the GHG assessment. Scope 3 emissions (all other indirect emissions not covered by Scope 2 and not within the control of the Project) were outside the Director General's requirements of this assessment and were therefore not estimated.

This assessment presents emissions of GHG from on-site sources and as a result of the Project's activities. *Table 6.29* provides a list of the main GHG producing activities for the Project together with the relevant Scope 1 and 2 emission sources.

Table 6.29 GHG Producing Activities

Site Activity	Emission Sources	Fuel Use	Scope
Front end loaders and mobile material handling equipment activity on-site	Vehicle movements including: - Front end loaders - Mobile material handling vehicles - Trucks transporting raw material on-site and transporting waste and product off-site	Diesel	Scope 1 emissions
Electricity consumption on-site	All sources of equipment/ lights/ heating etc. powered by electricity, including the shear.	NA	Scope 2 emissions

The on-site vehicle operation involves the use of front end loaders (FEL) and mobile material handlers to move raw material and processed product around the site. The operators of the site also receive raw material and transport product and waste off-site in trucks. Both the operation of FELs and mobile material handlers, and truck movement are considered to contribute to scope 1 emissions of greenhouse gases (GHG).

The consumption of electricity from on-site activities is allocated to scope 2 emissions of GHG according to the NGERS guidelines.

The existing facility currently operates at a level of 90,000 tonnes per annum, the expansion would see this level increase to 350,000 tonnes per annum. This relates to a 3.89 fold increase in production levels at the approved maximum. It is anticipated however that fuel and electricity use will not increase by the same degree as the production levels due to efficiencies to be gained from the new site layout. A conservative growth factor of three has therefore been used from current fuel and electricity use to estimate future GHG emissions.

Scope 1 Emissions

As discussed, Scope 1 relates to the direct emissions of GHG from on-site activities.

Method Selection

Four methods are described in the NGERs Technical Guidelines to estimate scope 1 emissions:

- Method 1: the National Greenhouse Accounts default method;
- Method 2: generally a facility-specific method using industry sampling and Australian or international standards or equivalent for analysis of fuels and raw materials to provide more accurate estimates of emissions at facility level;
- Method 3: generally a facility-specific method using Australian or international standards or equivalent standards for both sampling and analysis of fuels and raw materials; and
- Method 4: direct monitoring of emission systems, either on a continuous or periodic basis.

For emissions from the Project, scope 1 emissions were determined using Method 1. Method 1 details estimation procedures derived directly from the methodologies used by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education for the preparation of the National Greenhouse Accounts. The use of methodologies from the National Greenhouse Accounts also anchors Method 1 within the international guidelines adopted by the UNFCCC for the estimation of greenhouse emissions.

As shown in Table 6.23, on-site activities associated with scope 1 GHG emissions are directly related to fuel use in transport sources. In accordance with method 1 of the NGERs Technical Guidelines (Section 2.41), scope 1 emissions from these sources were estimated using *Equation 6.1.*

Equation 6.1 Method 1 for Scope 1 emissions of CO_2, CH_4 and N_2O

$$Eij = \frac{(Qi\ x\ ECi\ x\ EFijoxec)}{1000}$$

Where:

Eij is the emissions of gas type (j), CO, CH4 or N2O;

Qi is the quantity of fuel type (i) (kilolitres or gigajoules) combusted for transport energy purposes;

ECi is the energy content factor of fuel type (i) (gigajoules per kilometre or per cubic metre) used for transport energy purposes;

EFijoxec is the emission factor for each gas type (j) (which includes the effect of an oxidation factor) for fuel type (i) (kilograms CO2-e per gigajoule) used for transport energy purposes.

The emission factor and energy content of the fuel type (diesel oil) used for the mobile sources of GHG emissions (i.e. FELs, trucks) is shown in *Table 6.30*

Table 6.30 Emission Factor and Energy Content (adapted from NGERS Technical Guidelines Table 2.4.2B)

Fuel	Energy Content (GJ/kL)	Emission Factors (kg CO_2-e/GJ)			Source[1]
		CO_2	CH_4	N_2O	
Diesel Oil – Transport sources	38.6	69.2	0.2	0.5	Table 2.4.2B, NGERS Technical Guidelines

1. (Department of Industry, Innovation, Climate Change, Science Research and Tertiary Education, 2013)

The total current fuel consumption for all on-site vehicles involved in materials handling activities is listed in *Table 6.31*. The maximum anticipated diesel volume consumed by the proposed activities occurring on site post-upgrade is expected to increase in accordance with an increase in activity on site. A conservative growth factor of 3 (*Section 6.5.5*) has been applied to the current volumes to account for the increase in diesel consumption.

Table 6.31 Fuel Use for On-Site Vehicles

All On-site Vehicles	Diesel Cost[1] ($)	Current Diesel Volume[2] (L)	Anticipated Diesel Volume[3] (L)
- FELs - mobile material handlers	662,666	430,023.4	1,290,070

1. For the time period Jan2013-Dec2013
2. Diesel volume has been calculated from the average diesel price in NSW of 154.10c/L during the 2013 calendar year (Australian Institute of Petroleum, 2014)
3. Anticipated diesel volume has been calculated by applying a conservative growth factor of 3 (Section *6.5.5*) to diesel volumes estimated for Jan-Dec2013.

Table 6.32 lists the diesel volume used by the different types of trucks used to transport raw material to the site and to transport end product and waste off-site.

Table 6.32 Fuel Use for Transport Vehicles

Vehicle	Activity	Km/annum	Current Diesel Volume (L)	Anticipated Diesel Volume[4] (L)
Iveco semi (BN05GC)[1]	Transport 50/60 m^3 bins	90,000	47,368	142,105
International semi (BH97BH) [1]	Transport 50/60 m^3 bins	90,000	47,368	142,105
Mitsubishi 8x4 hook lift (AL86EZ)[2]	Transport 15/25 m^3 bins	78,000	37,143	111,429
Volvo 8x4 hook lift (BV86FL) [2]	Transport 15/25 m^3 bins	88,400	185,640	556,920
Mack 8x4 hook lift (BW68WL)[2]	Transport 15/25 m^3 bins	75,000	35,714	107,143
Mitsubishi MWB 6X4 (BJ21VO)[3]	Transport 9/12 m^3 skip bins	80,100	34,826	104,478
Mitsubishi MWB 6X4 (BL80RT) [3]	Transport 9/12 m^3 skip bins	86,400	37,565	112,696
International semi (SP696) [1]	Transport flock to landfill	70,584	37,149	111,448
Total Diesel			462,775	1,388,324

1. Truck designated as large, to which a fuel consumption rate of 1.9 km/L per comms Phillip Baxter (21/02/2014)
2. Truck designated as medium, to which a fuel consumption rate of 2.1 km/L was calculated as the average between that described by the large and small trucks
3. Truck designated as small, to which a fuel consumption rate of 2.3 km/L per comms Phillip Baxter (21/02/2014)
4. Anticipated diesel volume has been calculated by applying a conservative growth factor of 3 (Section *6.5.5*) to current estimated diesel volumes

Scope 2 Emissions

Method Selection

Scope 2 emissions are a form of indirect emission and, for the Project, include electricity generation consumed on-site. Two methods are listed under NGERS to estimate scope 2 emissions, they are defined as:

- Method 1 — purchase of electricity from main electricity grid in a State or Territory; and
- Method 2 — purchase of electricity from other sources

Method 1 is used for estimating scope 2 emissions released from electricity purchased from the main electricity grid in a State or Territory and consumed from the operation of a facility during a year (*Equation 6.2*). Scope 2 emission factors for the consumption of purchased electricity from Australia's major electricity grids are updated annually to reflect the latest data on the mix of electricity generation sources, which is a major determinant of the factors. Method 2 is not applicable for this site as electricity is not purchased from any other sources.

Equation 6.2 Method 1 for calculating Scope 2 Emissions

$$Y = Q\ x\ \frac{EF}{1000}$$

Where:

Y is the scope 2 emissions measured in CO2-e tonnes

Q is the quantity of electricity purchased form the electricity grid during the year and consumed from the operation of the facility measured in kilowatt hours

EF is the scope 2 emission factor in kilograms of CO2-e emissions per kilowatt hour of the State of Territory in which the consumption occurs

The scope 2 emission factors are state-based emission factors from on-grid electricity generation calculated systematically from the physical characteristics of the electricity grid. The state-based emission factor calculates an average emission factor for all electricity consumed from the grid in a given state, territory or electricity grid *(Table 6.33*).

Table 6.33 Scope 2 Emission Factor from Consumption of Purchased Electricity

State	Emissions Factor[1]
	kg CO_2-e/kWh
New South Wales	0.87

1. (Department of Industry, Innovation, Climate Change, Science Research and Tertiary Education, 2013)

6.5.6 Emission Estimates

Using the methodologies, fuel usage, and electricity usage, emissions for the proposed operation have been estimated.

Scope 1 Emissions

The quantity of fuel currently used per annum from *Table 6.31* and *Table 6.32* have been utilised in *Equation 6.1* along with the energy content of the fuel and emission factors listed in *Table 6.24* to calculate the total scope 1 emissions of GHG from the site activities (*Table 6.34*).

Table 6.34 Calculation of Scope 1 Emissions

	Current Quantity of Diesel (kL)	Anticipated Quantity of Diesel[1] (kL)	Emissions of CO_2 (t CO_2-e)	Emissions of CH_4 (t CO_2-e)	Emissions of N_2O (t CO_2-e)	Anticipated Total Emissions (t CO_2-e)
On-site Vehicles	430.0	1,290	3,446	10.0	24.9	3,481
Transport Vehicles	462.8	1,388	3,708	10.7	26.8	3,746
Total Scope 1 GHG Emissions	892.8	2,678	7,154	20.7	51.7	7,227

1. Anticipated total emissions have been calculated by applying a conservative growth factor of 3 (Section *6.5.5*) to current estimated diesel volumes and applying them in *Equation 6.1.*

Scope 2 Emissions

The quantity of electricity consumed per annum has been utilised, with the emission factor described in *Table 6.33,* in *Equation 6.2* to calculate the total GHG emissions for scope 2 (*Table 6.35*). It should be noted, that no new machinery will be used on-site for the proposed expansion and the operating hours will increase. Consequently, it is not expected that electricity usage will increase from that currently used.

Table 6.35 Calculation of Scope 2 Emissions

	Electricity Consumption[1] (kWh)	Anticipated Electricity Consumption[2] (kWh)	Total Anticipated GHG Emissions (t CO_2-e)
Scope 2 emissions	9,334,127	28,002,380	24,362

1. Taken from electricity bills provided by Sell and Parker (January – December 2013).
2. Anticipated electricity consumption has been calculated by applying a conservative growth factor of 3 (Section *6.5.5*) to current electricity usage.

6.5.7 Total Site Emissions

The total GHG emissions for the site can be calculated by the addition of the scope 1 and scope 2 emissions totals from *Table 6.34* and *Table 6.35*. The total current contribution to GHG emissions from the site is therefore estimated to be 10,530 t CO_2-e. This contribution is estimated to increase to 31,589 t CO_2-e post-upgrade of the site.

This additional fuel and electricity usage estimated for the site post-upgrade has the potential to trip the NGERs reporting threshold. As defined in section 13 of the Act, a corporation may trip either a facility or corporate group threshold. Both the facility and corporate thresholds have three components:

- a greenhouse gas emissions threshold;
- an energy production threshold, and
- an energy consumption threshold.

If the site meets or exceeds one or more of these thresholds for a reporting year, the site must register and report for the first year the threshold is reached. Post-upgrade, the site has the potential to reach the facility threshold of 25,000 t CO_2-e or more of GHG emissions. However, it is believed the growth factor of 3 is a conservative estimate of the increase in GHG emissions likely to occur from the site post-upgrade.

It is advised that the site assess their GHG contributions post-upgrade for the assessment periods to ascertain if they are required to register and report their GHG emissions under the NGERs legislation.

6.5.8 Potential Impacts

Based on the above estimates, the annual GHG emissions associated with the upgrade would represent an increase of 0.006% on Australia's national GHG emissions in 2010/11 of 563.1 Mt CO_2-e (Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, 2013).

The annual greenhouse emissions for NSW in 2010/11 were 159.0 Mt (Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, 2013). The scope 1 and scope 2 emissions from the upgrade represent an approximate increase of 0.02% of the NSW 2010/11 total. On the basis of the contribution of the emissions to the totals for NSW and the nation, the upgrade represents a negligible increase in GHG emissions. This potential increase in GHG emissions is unlikely to cause an impact to the environment.

6.5.9 Mitigation Measures

The upgrade to the site to allow additional throughput of raw materials to 350,000 tpa has been designed to increase efficiency and reduce impact on the environment where possible. The site is equipped with state of the art technology associated with the metals shredder, including a cyclone and wet scrubber for reduction in particulate matter. Efficiencies on site that directly impact the emission of GHG include:

- the site will be sealed, which will reduce the emission of GHGs from the mobile materials handling equipment due to a more consistent driving surface and the ability to select more direct routes across the site;
- the new site design no longer requires trucks to enter the site twice but allows for one main entrance and exit point, reducing the kilometres travelled by trucks;
- the increased throughput allows for efficiencies due to the economy of scale;
- additional equipment purchased for the upgrade will conform to the standards of the latest technology including installation of conveyors to move material after processing rather than by FEL or truck;
- post-upgrade the site has an additional capacity to recover ferrous and non-ferrous materials from the recycling processes, decreasing the need for end users to source raw materials from the extraction industries; and
- where possible, the site will strive to continually improve the energy efficiency of its process and operations by implementing electricity and cost saving measures.

6.6 SOIL AND WATER MANAGEMENT ASSESSMENT

6.6.1 Background

A soil and water management assessment was undertaken by ERM (2014b) to ensure that runoff with the potential to impact on the beneficial uses of surface water offsite are retained and/or treated before directed offsite and that clean stormwater, such as rainfall on roof surfaces, are directed offsite with minimal treatment. The Soil and Water Assessment is summarized in this section and provided in full in *Annex J*.

6.6.2 Existing Environment

Temperature

Temperature data from the Seven Hills (Collins Street) AWS reveals that for the period of collected data, on average:

- December is the warmest month of the year, with a mean temperature of 28.4 Degrees Celsius (°C); and
- the coolest months are June and July, with a mean temperature of 17.4°C (*See Table 6.36*).

Table 6.36 Monthly Temperature Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Temperature	28.3	27.7	27.0	24.1	20.0	17.4	17.4	18.6	21.4	23.8	26.3	28.4	23.4

1. Data sourced from Seven Hills (Collins Street) AWS (67026).

Rainfall

Rainfall data from the Quakers Hill Treatment Works AWS reveals that for the period of collected data, on average:

- mean annual rainfall for the area surrounding the site is 921.5 millimetres (mm);
- September is typically the driest month with an average of 42.1mm; and
- February is typically the wettest month with an average of 113.3mm (See *Table 6.37*).

Table 6.37 Monthly Precipitation Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Rainfall	104.0	113.3	94.2	66.5	71.2	80.3	42.1	52.9	38.0	65.7	85.6	70.1	921.5

1. Data sourced from Quakers Hill Treatment Works AWS (67076)

Landform and Elevation

Lot 5 DP 7086 is a relatively flat site that drains to the south. The site runoff travels via overland flow and a network of pipe and inlet structures to the stormwater basin constructed in the southern portion of the site. The lot has been excavated into the landscape to allow for it to be sunk behind a noise wall in comparison to the elevation at street level. The site ranges from 41.7mAHD to 40.2mAHD before the dam excavation while the street level of Tattersalls Road is approximately 45mAHD. A sound mound is constructed at street level to approximately 45-47mAHD in height.

Lot 2 DP 550522 is also a relatively flat site that drains to the southwest of the site. The highest elevation is approximately 42mAHD in the northern carpark area of the site to the lowest point of around 40mAHD in the south western portion of the site (also a carpark). Tattersalls Road sits slightly higher than the site.

At present a vegetated mound travelling north-south separates the two lots. This will have to be removed to allow for the proposed expansion. Existing site contours and proposed contours are shown in the site drainage plans.

Ultimately runoff from both lots flows to Breakfast Creek to the south of the two lots. Breakfast Creek is a tributary to Eastern Creek which then merges with South Creek, flowing to the Windsor Reach of the Hawkesbury River. The Hawkesbury River flows to the South Pacific Ocean.

Soil Landscape

The Blacktown soil landscape group usually occurs on gently undulating rises over Wianamatta Group shales. The ground slopes are usually less than 5%. The soils range from shallow to moderately deep (less than 1m thick) and are hard setting, mottled textured clay soils. The soils are typically poorly drained with low fertility, localised high plasticity and expansive subsoils.

Potential Acid Sulphate Soils

Assessment of the Australian Soil Resource Information System (CSIRO, 2006) mapping layer identified that the site has no known occurrence of Acid Sulfate Soil (ASS).

Surface Water Hydrology

Runoff from the site flows to Breakfast Creek to the south. Breakfast Creek is heavily disturbed ephemeral stream that flows through the industrial estate. The Creek is currently being reinstituted by local Council, involving realignment and lining with rock.

Stormwater runoff generated at Lot 5 DP 7086 (the existing site) currently reaches a stormwater basin in the southern portion of the site via overland flow and a network of inlets and underground pipes. This basin has a riser that acts a discharge point that is not licensed. The outlet for the riser is currently closed with a shut-off valve, with all captured stormwater to remain on-site.

At the proposed expansion site (Lot 2 DP 550522) the predominant source of runoff is generated from the roof space occupying the majority of the site. This runoff is assumed to flow to the adjacent rock and earth lined stormwater drain to the east that links down gradient to Breakfast Creek. The carpark in the northern portion of the site drains to a series of inlet pits that discharge to the adjacent drainage line to the east. The carpark in the southern portion of the site is presumed to drain to Breakfast Creek in the south.

Groundwater

No groundwater investigations have been completed on the site, with ERM undertaking a desktop assessment of the NSW Office of Water (NOW) registered groundwater bores. The search identified 11 licensed bore within approximately 1km of the site

The logs for boreholes drilled to the east of the site reported a shallow water bearing zone of silty clay between 1.5 and 6.5m below ground level (BGL). The boreholes to the northwest of the site did not report any water bearing zones or aquifer geology, though the standing water level for these wells was uniform at seven metres.

Current Site Water Use

The main activities using water on the site include:

- cooling within the shredder (the majority of which is expelled from the process as steam);
- washing of scrap metal in the raw material stockpile area;
- dust suppression within the conveyor;
- washdown of areas required for pedestrian and truck movements and work areas outside of stockpile locations;
- typical domestic water uses, such as flushing toilets, showering and hand washing facilities; and
- minimal volume for dust suppression on the site.

Operational water supply for the site will be provided by:

- mains supplied town water;
- drawing water from the stormwater basin; and
- potentially rain water captured form the rooves of the manufacturing sheds.

No groundwater will be extracted for the operation.

Existing Environment Protection Licence

The site has an Environment Protection Licence (EPL) 11555 for the undertaking of the scheduled activity of scrap metal processing (0-100,000 tonnes processed).

Currently no surface water monitoring locations or discharge points are applicable to the site under EPL 11555.

Riparian Corridor

The NSW Office of Water (NOW) (2012) defines a riparian corridor (RC) as a transition zone between the land, also known as the terrestrial environment, and the river or watercourse or aquatic environment. Controlled activities carried out in, on or under waterfront land are regulated by the *Water Management Act 2000* (WM Act). Waterfront land includes the bed and bank of any river, lake or estuary and all land within 40 metres of the highest bank of the river, lake or estuary.

The rear (southern) boundary of each lot extends to the centre of Breakfast Creek, while the operational southern boundary of each lot is defined by a wire mesh fence, which varies in distances from the top of creek bank between approximately 32m in the south western corner of 45 Tattersall Road to less than 5m at the south eastern corner of 23-43 Tattersall Road. The rear portions of each property are therefore within waterfront land and in riparian corridors as defined by the WM Act. This usually means that a controlled activity approval must be obtained from the NOW before commencing the controlled activity. However, Section 89J of the EP&A Act turns off the controlled activity approval requirement, due to this project being a SSD (refer *Section 4.3.1)*.

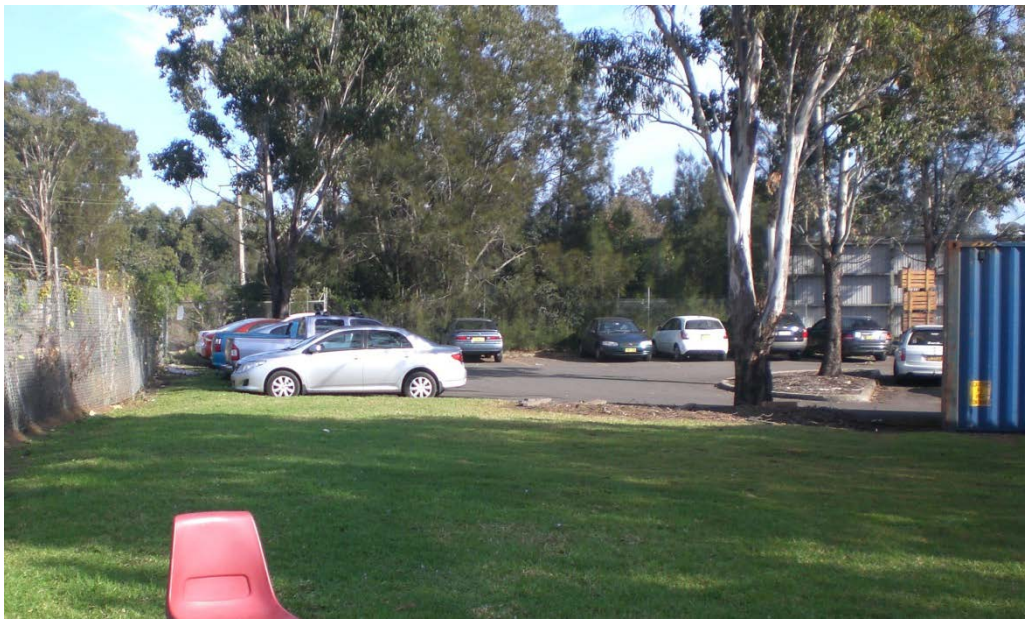
The existing riparian vegetation within the operational boundary is sparse. Isolated, mature and possibly remnant *Eucalypt species* remain in the south western corner of 45 Tattersall Road (inside the current rear fence line). A number of mixed Eucalypt species exist in a landscaped area in the south western corner of 23-43 Tattersall Road, with some immature Casuarina species also present along the rear fence line. A surveyed plan showing

distances of wire mesh fence, 40m buffer from top of creek bank and other structures such as the existing detention basin is provided in *Annex A*.

The riparian corridor beyond the rear fence line of both properties adjoining Breakfast Creek is highly disturbed and dominated by weed species. This area has recently been cleared of most vegetation and is subject to earthworks in association with creek reformation (channel realignment and bank reinforcement) works being undertaken by BCC.

The following photographs illustrate the existing riparian corridor both within and outside the operational boundary of the proposed development.

Photograph 6.1 Existing landscaped areas in vicinity of detention basin at 45 Tattersall Road with riparian corridor, showing mixed native and weed species.



Photograph 6.2 Existing landscaped areas at 23-43 Tattersall Road with riparian corridor, showing mature Eucalypt Species.

Photograph 6.3 View of recently reformed Breakfast Creek and riparian corridor outside operation boundary fence of 45 Tattersall Road facing east along creek.

Photograph 6.4 View of recently reformed Breakfast Creek and riparian corridor outside operation boundary fence of 23-43 Tattersall Road facing east along creek.

6.6.3 Impacts

Potential Contaminants

The activities on-site have the potential to generate the following contaminants:

- sediment (mud tracking, contaminated imported material);
- oil, gasoline and diesel fuel;

- transmission fluid, power steering fluid and brake fluid;
- machinery lubricants and grease;
- battery acid and solvents;
- mercury;
- lead;
- CFCs and other refrigerants;
- asbestos from brake shoes and clutches;
- tyres;
- PCB from foam rubber, carpets and plastic components;
- metals, including aluminium, cadmium, copper, iron and zinc;
- plastics; and
- transmission and oil filters.

Wastewater will arise from the following sources:

- petrol and diesel removed from cars prior to processing;
- oily water from storm water runoff; and
- sewage from amenities.

Key Earthworks

Key earthworks associated with expansion include installation of services, excavation of the bioretention filter, and refurbishment of the existing stormwater basin. The stockpiles of excavated material will require management throughout the earthworks. The primary method of managing erosion and sediment is to schedule the works for periods outside of inclement weather, and implementing the measure outlined below. Further references for activity specific control measures are provided in the Soil and Water Management report (*Annex J*).

Water Balance

The estimate of current water usage based on the current processing capacity of 90,000tpa was assumed to be 68.24kL/day based on information provided in water consumption invoices. Production at 350,000tpa is a 3.89 times greater than the existing rate so this factor has been applied to the current estimated rate to estimate a predicted increased water usage rate of

265.4kL/day. Assuming an average number of site operational days of 304 days per year (by excluding Sundays and Public Holidays) this is a water requirement of approximately 80.68 Megalitres/year for the proposed increase production rate.

The volume of runoff likely to be harvested from the roof space of the sheds and hardstand areas was calculated to understand the yield available for potential reuse.

The calculations were based on the assumption that a runoff coefficient of 0.9 (that is 90% of rainfall will produce runoff) for the roof space shown on client provided plans and hard stand area catchments.

The rainfall percentages for the different percentile years were applied to give an estimation of volumes available to be captured by the existing stormwater pond during dry, median and wet years (refer *Table 6.38)*.

Table 6.38 Catchment Yield for Stormwater Basin

Stormwater Basin Catchment Area		2.49ha
Percentile Rainfall Year	**Annual Rainfall**	**Catchment Yields (ML/annum)**
10%ile rain year	559.2	12.5
50%ile rain year	923.7	20.7
90%ile rain year	1268.2	28.4

Volumes available for capture for rainwater tanks determined from available roof space are shown on *Table 6.39*.

Table 6.39 Catchment Yield from Roof Space from Lot 2 DP550522

Roof Space Catchment Area		0.91ha
Percentile Rainfall Year	**Annual Rainfall**	**Catchment Yields (ML/annum)**
10%ile rain year	559.2	4.6
50%ile rain year	923.7	7.6
90%ile rain year	1268.2	10.4

Given the significant volume of water likely to be required for the expanded operations of approximately 80.68ML/year, the beneficial reuse of water collected in the basin, as is current practice at the site, should continue as long as water is of a quality sufficient to minimise impacts to the processing infrastructure, the surrounding environment and the health and safety of employees.

Groundwater

The proposed development does not require any activities such as significant excavation that would cause direct disturbance to groundwater. Adjacent groundwater wells indicated that the shallowest aquifer would be approximately two metres BGL. The site of the proposed development is already sealed with associated drainage installed such that limited infiltration rainwater occurs on the site. The Natural Resource Atlas indicated that the groundwater identified in wells adjacent to the site is saline. There are not expected to be any significant effects on regional groundwater as a result of the expanded site operations.

Riparian Corridor

The rear portions of each site are within waterfront land and in riparian corridors as defined by the WM Act. This usually means that a controlled activity approval must be obtained from the NOW before commencing the controlled activity. However, Section 89J of the EP&A Act turns off the controlled activity approval requirement, due to this project being a SSD (refer *Section 4.3.1)*.

Notwithstanding the above, the redevelopment of the site has been designed to meet as far as practicably possible, the new rules developed by NOW (2012) regarding controlled activities within riparian corridors. In these new rules, the NOW recommends a vegetated riparian zone (VRZ) width based on watercourse order, classified under the Strahler System of ordering watercourses and using current 1:25 000 topographic maps. The recommended RC widths under the new rules are presented in *Table 6.40*.

Table 6.40 NOW Recommended Riparian Corridor (RC) Widths

Watercourse Type	VRZ Width[1] (each side of watercourse)	Total RC Width
1st order	10 metres	20 m + channel width
2nd order	20 metres	40 m + channel width
3rd order	30 metres	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width

1. The width of the VRZ should be measured from the top of the highest bank on both sides of the watercourse.

In addition to the above distances, the Office of Water also allows for a range of works and activities on waterfront land and in riparian corridors to better meet the needs of the community, so long as they cause minimal harm outlined in the riparian corridor matrix (NOW, 2012). Among other works and activities, the riparian corridor matrix indicates that stormwater outlet structures and detention basins (only within 50% outer VRZ) can occur on waterfront land and in riparian corridors.

Breakfast Creek is a 1st order stream according to the Strahler System and as such the applicable VRZ width for the proposed development is 10m from the top of creek bank. Although the rear (southern) boundary of each lot extends to the centre of Breakfast Creek, the operational southern boundary of each lot is defined by a wire mesh fence. The distance of the wire mesh fence form the top of bank of Breakfast Creek varies, from approximately 32m in the south western corner of 45 Tattersall Road to less than 5m at the south eastern corner of 23-43 Tattersall Road. No change to this southern operational boundary is proposed as part of the redevelopment of the site. The detention basin at 45 Tattersall Road is between 25-40 m from top of creek bank, while the proposed bioretention filter at 23-43 Tattersall Road is at least 10m from top of creek bank. A surveyed plan showing distances of wire mesh fence, 40m buffer from top of creek bank and other structures such as the existing detention basin is provided in *Annex A*.

Although exempt from the requirements of the controlled activity approval, the above analysis indicates that the proposed development also generally meets the requirements of NOW (2012) new rules relating to controlled activities within riparian corridors. The operational boundary in the south eastern corner of 23-43 Tattersall Road marginally encroaches into the 10m VRZ, However, the distance to the closest proposed building (new truck wash), as shown on the Concept Landscape Plan is greater than 10m from top of creek bank. In addition to this, the area in between the proposed truck wash and operational boundary will be landscaped and planted with locally endemic species (refer *Annex N*). It is therefore considered that the requirements relating to controlled activities within riparian corridors under the new rules have been met to the greatest extent possible.

It is noted that the VRZ outside the southern operational boundary has been recently disturbed by BCC when undertaking reformation works within Breakfast Creek (refer *Section 6.6.2*). As such, it is expected that BCC will undertake riparian revegetation works in the VRZ outside the operational boundary of the proposed development.

6.6.4 Mitigation Measures

Stormwater Management

Two oil/water separators are proposed for the new drainage system within Lot 2 DP550522 and one on Lot 5 DP7086. Each oil/ grit separator would be a precast unit such as a Humesceptor or similar device. Based on the manufacturer's performance details removal rates of 80% for total suspended solids and 65-99% for hydrocarbons would be expected. The majority of metals would be removed with the suspended solids. Heavy metals in such run-off are generally associated with the suspended solids. Removal of a high proportion of the finer fraction of the suspended solids will also prevent heavy metals being exported from the site. The oil/grit separators will also

provide for treatment of contaminated water generated during firefighting operations in the event of a fire occurring at the metal recycling facility.

To ensure that the pollutant removal performance is maintained regular cleaning of the units will be carried out. Each month a licensed contractor will remove the accumulated oils and sediment using an inductor truck. The performance of the unit will be monitored and the frequency of cleaning increased if required. The existing network of underground stormwater pipes, inlets and oil water separators will be cleaned and, if damaged, replaced during the site refurbishment activities.

A bioretention filter will be installed to receive runoff from overland flows and the underground pipe network on Lot 2 DP550522. The existing stormwater pond will be dredged and excavated to remove any contaminated sediments and lined with clay. Verification sampling will be required as will waste classification sampling to allow for the appropriate disposal of any dredged material.

Erosion Control

Erosion control will primarily be in the form of site stabilisation by sealing with concrete. Sediment control will be through the use of the existing sediment basin and additional network of inlet pits and underground pipework conveying water to a series of oil water separators and ultimately the existing stormwater basin or the bioretention filter. The general principles to be applied to soil and water management for the disturbed site include:

- plan for erosion and sediment control and assess site constraints during the design phase and before any earthworks begin;
- minimise the area of soil disturbed and exposed to erosion;
- control water flows from the top of and through the project area – divert up-slope 'clean' water away from disturbed areas and ensure concentrated flows are below erosive levels;
- rehabilitate disturbed lands quickly; and
- maintain erosion and control measures for the duration of the project and until the site is successfully rehabilitated.

Sediment Control

Key sediment controls include:

- protecting stormwater inlets;
- constructing a wheel wash;

- creating stabilised site access points;
- managing stockpiles; and
- utilising sediment traps such as sediment fence during construction.

The location and design characteristics for these controls are provided in the Soil and Water management report and the Sediment Control Plan.

Pollution Control

Pollution control methods will include:

- storage of chemicals within impervious bund of more than 110% of the largest container within the bund;
- Material Safety Data Sheets (MSDS) for all chemicals stored on-site and made available to site personnel;
- refuelling to occur away from drainage points, with drip trays used and spill kits available; and
- trade waste receptacles will be provided for the storage and disposal of all wastes generated on-site.

Potential Future Discharges from the Stormwater Basin to Breakfast Creek

Sell and Parker would require an alteration to the existing EPL to allow for discharges to Breakfast Creek from the stormwater basin on Lot 5 DP 7086. Such an alteration would require the allocation of a licensed discharge point (that is the existing riser outlet would have to be registered with the EPA). To allow discharge surface water quality parameters would need to be authorised by the EPA for Sell and Parker to meet prior to each proposed discharge. A licensed discharge point would require Sell and Parker to undertake water quality monitoring involving field and laboratory testing to ensure that discharge criteria are met prior to releasing the basin.

Suggested analytes and concentrations that may be used in a licence variation Sell and Parker would have to submit to the EPA are provided in *Table 6.41*.

Table 6.41 Suggested Discharge Criteria for EPL Licence Variation to allow discharges to Breakfast Creek

Pollutant	Units of Measure	Maximum Concentration Limit	Frequency of Testing	Sampling Method
pH	pH units	6.5 to 8.5	Daily during any discharge	Grab
Oil and grease	Observation	No visible presence	Daily during any discharge	Grab
Total Suspended Solids (TSS)	mg/L	50	Daily during any discharge	Grab

The potential for the site to meet these criteria will be improved upon refurbishment of:

- the site;
- the infrastructure leading to the pond; and
- the pond itself (removing current water, dredging and lining with clay).

Testing will verify if the water quality within the pond meets the criteria following the refilling of the pond after refurbishment.

Water Balance

From the preliminary calculations provided in Soil and Water report it assumed that between 15% and 35% of the total water requirement on-site could potentially be supplied by the stormwater basin in dry years (10%ile rain year) and wet years (90%ile rain year) respectively with an average rainfall year potentially supplying 26% of the site water requirements. Thus the reliance on mains supplied potable water is greatly reduced.

The stormwater basin has an estimated volume of 1,440m^3, a size that if the basin was empty prior to receiving rainfall would be suitable to capture a rainfall event up to 64mm.

Water for operational purposes for the proposed expansion will be sourced from mains supplied potable water and continued use of the runoff collected in the stormwater basin. The increase in water use with the proposed expansion warrants on-going use of collected runoff in the stormwater basin for operation requirements, thus reducing the requirement on mains supplied potable water, as long as the water is of a quality such that impacts to site infrastructure, the surrounding environment and the health and safety of employees is avoided.

Rainwater tanks may also be installed to utilise the runoff from roof spaces and would likely be best suited to providing water for personal use such as toilet flushing, reducing the requirement for mains supplied potable water. The option is available to use a system of rainwater tanks to capture the predicted roof rainwater, however the large size of tanks required, the likely excavations/preparatory works required to install the tanks in the space constrained site and the network of piping to distribute the water to the shredder may not be viable (compared to the more viable option of a single pipe required to distribute captured water from the stormwater basin to the shredder).

Riparian Corridor Management

Although exempt from controlled activity approvals, redevelopment of the site has been designed to meet as far as practicably possible, the new rules developed by NOW (2012) regarding controlled activities within riparian corridors. Landscaped areas along the south boundary will include a range of locally endemic species to enhance the portion of the riparian corridor inside the operational boundary of the redeveloped site.

6.7 CONTAMINATED LAND

6.7.1 Background

ERM (2014c) completed a Phase I Environmental Site Assessment (ESA) of the two adjoining properties, planned to be redeveloped by Sell and Parker. The Phase 1 ESA was prepared under the overarching objective for Sell and Parker to assess the suitability of each property for ongoing industrial land use. The key findings of the Phase I ESA is summarized in this section and provided in full in *Annex K*.

6.7.2 Existing Conditions

Based on data obtained during the Phase 1 ESA, ERM concludes the following:

- historical titles and aerial photographs indicate that both properties were originally farm land and were progressively developed into commercial and industrial properties from the 1950's onwards;
- both properties are zoned "4A – Industrial – General", pursuant to *Blacktown Local Environmental Plan 1988* and "IN1 – General Industrial" under the *Draft Blacktown Local Environmental Plan 2013*;
- a search of WorkCover's Dangerous Goods records indicate that a number of dangerous goods are currently stored, at each property. Goods are all stored above ground and no dangerous goods are currently stored in underground tanks;

- the historical Dangerous Goods records indicate that at least two former underground storage tanks (USTs) were previously located on-site at 45 Tattersall Road, however, redevelopment works are not likely to disturb these areas;

- previous environmental investigations indicate that three historic USTs were removed in 1995, with validation results obtained during the removal showing that all concentrations of TPH , BTEX and lead were either below detection limits or applicable guideline criteria at the time. Review of the laboratory results for metals from the ADI Reports presented in the 1999 EIS (ERM, 1999) indicate that all soil samples reported concentrations below the current ASC NEPM 2013 Health Investigation Levels (HILs) for Commercial / Industrial Use;

- both properties operate in accordance with an Environment Protection Licence (EPL);

- an annotated survey plan provided by Sell and Parker shows three surveyed cells, in the northern portion of 45 Tattersall Road, shaded yellow and marked "A" for the restriction on the use of land at this property. Anecdotal information provided by Sell and Parker's Property General Manager, Mr Nigel Fox, indicated that these areas had been capped with a clay based fill and are now covered by concrete hardstand. Redevelopment works are not likely to disturb these areas. The location of these cells are not in an area that is proposed to be disturbed by redevelopment works and as such are not considered to pose significant risk of harm. The Conceptual Site Model (CSM) showed that there is not a complete source-pathway-receptor (SPR) linkage in relation to these cells;

- 45 Tattersall Road is relatively flat and drains to the south. The lot has been excavated into the landscape to allow for it to be sunk behind a noise wall in comparison to the elevation at street level. 23-43 Tattersall Road is also relatively flat and drains to the southwest of the property.

- review of the regional geology indicates the lithology of both properties comprises shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff;

- review of the soil landscapes indicates both properties are located on the Blacktown soil landscape group, comprising Wianamatta Group shales;

- runoff from the both properties generally flows to Breakfast Creek to the south;

- a search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bore within approximately 1km of both properties, all of which are registered as monitoring bores; and

- the groundwater bore records indicate a shallow water bearing zone in silty clay between 1.5 and 6.5m below ground level (BGL) in the immediate vicinity of both properties.

6.7.3 Potential Impacts

Conceptual Site Model

Fundamental to the risk assessment process is the development of a Conceptual Site Model (CSM), which is the qualitative description of plausible mechanisms by which receptors may be exposed to contamination. For exposure to the identified receptors to be considered possible, a mechanism ('pathway') must exist by which contamination from a given source can reach a given receptor. A complete 'source-pathway-receptor' exposure mechanism is referred to as a 'SPR linkage'.

The potential SPR linkages are evaluated for completeness based on the existence of the following:

- a source of chemical contamination;
- a mechanism for release of contaminants from identified sources (e.g. volatilisation into air or dissolution into groundwater);
- a contaminant retention or transport medium (e.g. soil, air, groundwater etc.);
- potential receptors of contamination (e.g. groundwater, surface water, people); and
- a mechanism for chemical intake by the receptors at the point of exposure (ingestion, dermal contact, inhalation or a combination thereof).

Whenever one or more of these elements are missing, the SPR linkage is incomplete and the potential risk to the identified receptor is considered unlikely.

A CSM was developed for both properties, which identified a number of potential contamination source areas, pathways and sensitive receptors (refer *Annex K*). The CSM assessed the 'source-pathway-receptor' (SPR) linkages as either 'unlikely', 'potential' or 'complete'. Of 29 possible SPR linkages identified in the CSM, 17 were found to be unlikely due to incomplete linkages between source area and receptor. A further 11 were assessed as a potential SPR linkage, however, given the appropriate controls (such as Environment Protection Licence requirements or other management measures) in place, these were deemed to have an insignificant likelihood of a potentially complete SPR linkage;

Only one SPR linkage was initially identified as having the potential to form a complete SPR linkage. This was in regards to the wash down sump located towards the rear of 23-43 Tattersall Road, which poses the possibility of locally impacted soils and groundwater which may be disturbed and/or come in contact with future demolition / construction workers during future expansion works. Given the limited potential contaminants of concern and the fact that the sump is concrete lined and in sound condition, it is considered unlikely that signification contamination has occurred. Appropriate management controls during redevelopment works, will therefore be sufficient to reduce the likelihood of a potentially complete SPR linkage being established to an acceptable level.

Although some potential for residual contamination remains, based on the results of this Phase I ESA and in particular the absence of potentially complete SPR linkages as presented in the CSM, along with the planned continued industrial land use at both properties, it is considered that further investigation is not required at this stage in order to facilitate the proposed redevelopment.

6.7.4 Mitigation Measures

To ensure risks to human health and the environment resulting from potential historic contamination issues are minimised, the following mitigation measures will be employed:

- a contingency for the appropriate management of potential unexpected contamination finds should be incorporated in the Construction Environmental Management Plan (CEMP) for the planned redevelopment of both properties;

- if localised contaminated soils are encountered during construction works, they shall be segregated and assessed for waste classification and appropriately disposed of or re-used onsite, subject to the results of testing;

- if significant contamination is encountered during construction works, further investigation in the form of a Phase 2 Environmental Site Investigation (ESA) may be required;

- any imported fill must be certified at source location (e.g. quarry or property owner) as Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM) in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act) and the *Protection of the Environment (Waste) Regulation 2005* (POEO Waste Regulation);

- all pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act); and

- a Hazardous Materials Register and respective Safety Data Sheets (SDSs) shall be kept on site at all times and regularly maintained.

6.8 HAZARDS AND RISKS

6.8.1 Background

A Preliminary Hazard Analysis (PHA) was undertaken by Arriscar Pty Limited (Arriscar). The PHA includes a semi-quantitative analysis and assessment of off-site fatality, injury and property damage risk, in accordance with the NSW Hazardous Industry Planning Advisory Paper (HIPAP) guidelines. The PHA does not include an assessment of the following risks:

- environmental risks on-site;
- risk of property damage on-site; and
- fatality or injury risks for personnel on-site.

The PHA is summarized in this section and provided in full in *Annex L*.

6.8.2 Existing Environment

Hazardous Materials

Small quantities of dangerous goods are stored on site (*Table 6.42*). These are mostly required for maintenance or utility purposes. Some dangerous goods are removed from the metal before processing, stored and disposed through waste contractors.

Table 6.42 List of Dangerous Goods and Quantities

Material	Quantity (L/Kg)	DG Class	UN No	Type of Store
Oxygen	3,000 L	2.2, sub5.1	1072	6 man-packs (15 bottles)
LPG - LP Gas	540 L	2.1	1075	12 x 45 L Cylinders
Argonshield - Argon	135 L	2.2	1956	3 x 45 L Cylinders
Petrol - Petroleum	2,000 L	3	1075	Tank
Diesel - Diesel	1,000 L	3	1202	Tank
Batteries - Sulphuric acid, spent	30,000 kg	8	1832	
Hydraulic oil – hydraulic fluid	2,000 L	9	3082	Tank
Engine oil & Gear oil – crude oil	6,000 L	3	1267	Tank
Grease	160 L	N/A	N/A	
Degreaser - Kerosene	100 L	3	1223	Packaged goods

In addition to the materials listed, some metal for recycling may be contaminated with dangerous goods. This has been considered in the hazard identification process.

6.8.3 Hazard Identification

Methodology

A structured 'What-If' session was used to identify hazard associated with the planned expansion. The site was split into processing areas, and prompts used to assist brainstorming potential hazardous scenarios. Once a hazardous scenario was identified, causes and the uncontrolled consequence(s) of the scenario were explored and documented. Existing safeguards, and ones that have been incorporated into the expansion plans were identified and documented.

Following the identification of the scenario, the team qualitatively assessed the risk of each scenario using the Sell & Parker risk management system. The severity of each consequence was determined (*Table 6.43*), and the frequency with which the consequence could occur with the existing and proposed controls estimated (*Table 6.44*). The result was assessed using the Sell & Parker risk matrix (*Table 6.45*).

Table 6.43 Sell & Parker Consequence Categories

Level of Effect	Example of each level
Insignificant/Acceptable	No effect – or so minor that effect is acceptable
Minor	First aid treatment only; spillage contained at site.
Moderate	Medical treatment; spillage contained but with outside help.
Major	Extensive injuries; loss of production
Catastrophic	Death; toxic release of chemicals

Table 6.44 Sell & Parker Frequency Categories

Criteria	Description	
Almost certain	Expected in most circumstances	Effect is a common result
Likely	Will probably occur in most circumstances	Effect is known to have occurred at this site or it has happened
Possible	Might occur at some time	Effect could occur at this site or I've heard of it happening

Criteria	Description	
Unlikely	Could occur at some time	Effect is not likely to occur at the site or I have not heard of it happening
Rare	May occur in exceptional circumstances	Effect is practically impossible

Table 6.45 Sell & Parker Risk Matrix

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	3 High	3 High	4 Acute	4 Acute	4 Acute
Likely	2 Medium	3 High	3 High	4 Acute	4 Acute
Possible	1 Low	2 Medium	3 High	4 Acute	4 Acute
Unlikely	1 Low	1 Low	2 Medium	3 High	4 Acute
Rare	1 Low	1 Low	2 Medium	3 High	3 High

Meeting

The hazard identification session took place from 9:00am to 11:00am on 31 January 2014 in offices at the Sell & Parker site, 45 Tattersall Road, Kings Park, NSW. The attendees are presented in *Table 6.46*.

Table 6.46 Hazard Identification Participants

Name	Title	Company	Role
Joel Leonard	Principal Consultant	Arriscar Pty Limited	Facilitator
Nigel Fox	General Manager, Property & Development	Sell & Parker	Attendee
Allen Floyd	Operations	Sell & Parker	Attendee
Ian Mace	Blacktown Manager	Sell & Parker	Attendee
Luke Parker	CEO	Sell & Parker	Attendee

Minutes of the hazard identification are presented in the PHA (*Annex K*).

6.8.4 Impact Assessment

The PHA indicated that there was no significant offsite impact from the use of dangerous goods on site due to the small inventories involved. The NSW criteria for injury were not reached at sensitive or residential land use zones.

The potential for offsite fatality and property damage was limited to the scenario of a 45 kg LPG cylinder rupture in the dangerous goods store. The NSW criteria for offsite fatality and property damage are considered satisfied due to the rarity of LPG cylinder ruptures.

The assessment found that qualitative criteria for potentially hazardous development was satisfied, and the development is not considered a hazardous industry, as defined in State Environmental Planning Policy (SEPP) No. 33.

A number of recommendations were made in regard to fire protection requirements as detailed below.

6.8.5 Mitigation Measures

- at least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage (AS 4332-2004, Table 7.2). This is based upon the 3,000 L of oxygen in the store.

- provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers.

- maintain the height of the floc stockpile to less than 4 m, or the total volume to less than 1000 m^3. This ensures the warehouse in which the floc is stored will not be a high hazard occupancy.

- continue with the practice of providing water cannons to provide reach to feed and processed stockpiles in the event of a fire in any stockpile.

These recommendations are in addition to fire-fighting requirements contained in the "deemed to comply" provisions of the Building code of Australia.

6.9 FIRE AND INCIDENT

6.9.1 Existing Environment

The current fire protection systems consist of:

- fire hydrant systems;

- sprinkler systems; and

- first aid fire-fighting measures (fire extinguishers).

The hydrant systems servicing both sites will be maintained as separate systems. This consists of six hydrants at 45 Tattersall Road and eight hydrants at 23 – 43 Tattersall Road. The building at the northeast corner of 23 – 43 Tattersall Road has an existing sprinkler system. This building will be used for non-ferrous activities.

The current incident management procedures include responding to any spill or leakages promptly when they occur. Fuel, lubricants and waste oil stored in the workshop area were either within a sealed shipping container or in 205L drums placed on drum bunds (spill pallets).

6.9.2 Potential Impacts

Floc material has been identified as a potential source of fire. This will be managed by keeping the stockpile small, so as not to consider the warehouse in which it is kept as a high hazard occupancy. Water cannons will also be provided for the various stockpiles.

Any uncontrolled leaks or spills have the potential to contaminate soils within unsealed sections of the site, or be entrained in stormwater flow to the detention basin at the rear of the site. Overflow of potentially contaminated water from the detention basin, has the potential to detrimentally impact on Breakfast Creek.

6.9.3 Mitigation Measures

The recommendations made in regards to fire protection requirements as detailed in *Section 6.8.5* will be implemented

To ensure incidents such as accidental spills and / or leakages from machinery are contained and managed appropriately, the following measures will be implemented.

- The site will be kerbed to retain spillages or stormwater run-off, which outflow via a detention basin. The detention basin has a capacity of 1440 m^3. This basin will be required to be managed in accordance with the measures identified in *Section 6.6*).
- Spill kits will be available on-site and be deployed to manage and contain minor spills.
- All pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with POEO Act.

It is recommended that a Fire and Incident Response Management Plan, including but not limited to the mitigation measures above, be developed for the expanded site. Sell and Parker have an existing Emergency Response Plan, this may be updated to include the aforementioned information.

6.10 TRANSPORT IMPACT ASSESSMENT

6.10.1 Background

A transport impact assessment (TIA) was undertaken by GTA Consultants (2014) to determine the impact of the additional volume of traffic generated by the proposed development on the surrounding road network and identify any required mitigation. The TIA assessment is summarised in this section and provided in full in *Annex L*.

The TIA has been prepared in accordance with the Roads and Maritime Service's (RMS) Guide to Traffic Generating Developments (RTA 2002) and makes reference to appropriate Council's Codes and relevant Australian Standards.

6.10.2 Existing Environment

Tattersall Road

Tattersall Road is a Local Road aligned in an east-west direction. It is a two-way, 12.8 metre wide road configured with one lane in each direction set within an approximate 26 metre wide road reserve. Unrestricted kerbside parking is permitted on both sides of Tattersall Road.

Tattersall Road carries approximately 6,000 vehicles per day (GTA Consultants 2014).

Sunnyholt Road

Sunnyholt Road is a State Road (MR642) aligned in a north-south direction. It is a two-way, 20 metre wide, dual carriageway configured with two lanes in each direction, set within an approximate 40 metre wide road reserve. Kerbside parking is not permitted on Sunnyholt Road.

Sunnyholt Road functions as a key connection between Blacktown and the Westlink M7 Motorway.

The Sunnyholt Road Motorway Interchange is located 1.2km north of Tattersall Road. A two-way, bus priority T-Way is located along the eastern side of Sunnyholt Road adjacent to Tattersall Road. The T-Way extends for approximately 6.5 kilometres from Old Windsor Road to Blacktown town centre.

Sunnyholt Road carries approximately 36,000 vehicles per day (GTA Consultants 2014).

Vardys Road

Vardys Road is a classified Regional Road (RR 7152) aligned in an east-west direction. It is a twoway, 22 metre wide, dual carriageway configured with two lanes in each direction, set within a 55 metre wide road reserve (approx). Kerbside parking is not permitted on Vardys Road.

Vardys Road carries approximately 18,000 vehicles per day (GTA Consultants 2014).

Nearby Intersections

The following intersections currently exist in the vicinity of the site:

- Tattersall Road/ Sunnyholt Road (signalised);
- Tattersall Road/ Vardys Road (unsignalised); and
- Sunnyholt Road/ Vardys Road (signalised).

Vehicle Access and Circulation

Currently there is a one-way entry and exit access at the existing facility (45 Tattersall Road) and a two way entry and exit access at the expanded part of the site (23-43 Tattersall Road). There is currently limited space available within the existing Sell and Parker site for trucks to layover between unloading unprocessed material and loading processed material. The existing access/ circulation of heavy vehicles at 45 Tattersall Road was observed by GTA Consultants during a site inspection and confirmed by the operator to be as follows:

- laden vehicles enter the site via driveway 1, are weighed at the weighbridge and unload metal for processing;
- unladen vehicles exit the site via driveway 2 and return to Tattersall Road;
- unladen vehicles re-enter the site via driveway 1 and are weighed at the weighbridge;
- unladen vehicles exit the site via driveway 2.

The process for loading vehicles is:

- unladen vehicles enter and are weighed at weighbridge and are loaded with processed metals;
- laden vehicles leave via driveway 2 and return to Tattersalls Road; and
- laden vehicles re-enter the site via driveway 1 get weighed at the weighbridge then leave the site via driveway 2.

Consequently each heavy vehicle that loads and unloads at the site effectively undertakes two entry and exit movements at the site accesses.

Truck routes

Heavy vehicles travelling to and from the two sites currently access Tattersall Road via the Sunnyholt Road signalised intersection. The vast majority of heavy vehicles accessing the two sites travel via the M7 Motorway, 1.5 kilometres north of Tattersall Road.

Traffic Volumes

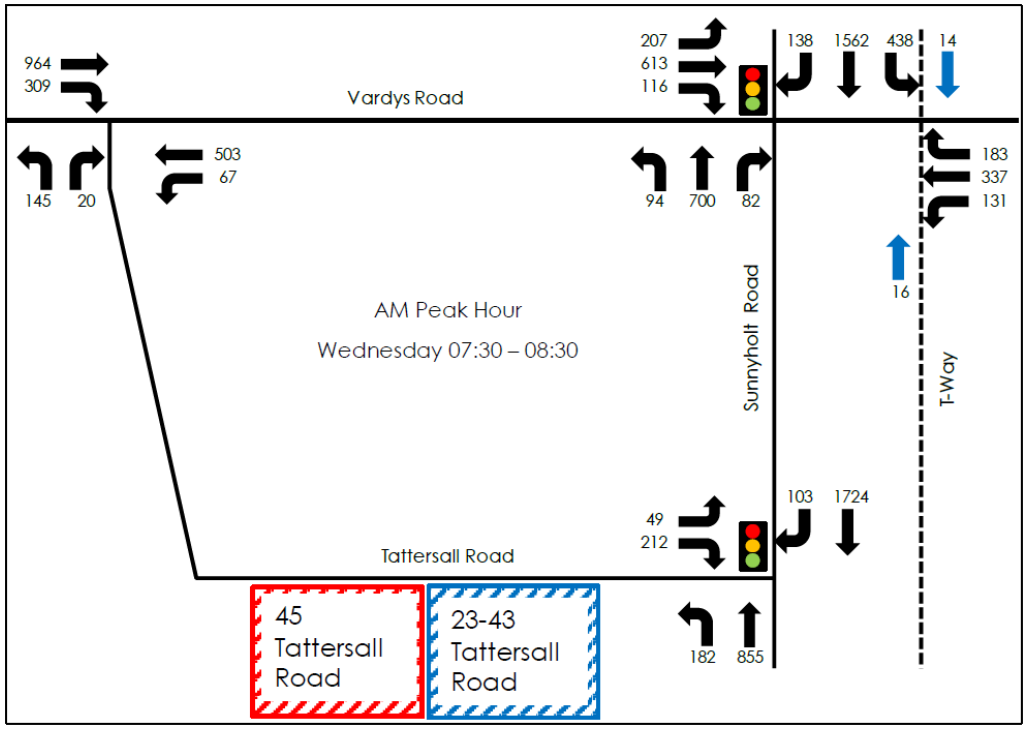
Surrounding Intersections

GTA Consultants commissioned 7 day, 24 hour traffic movement counts at key intersections in the vicinity of the site for the week commencing 16 December 2013 during the following peak periods:

- 7:00am and 10:00am
- 4:00pm and 6:00pm.

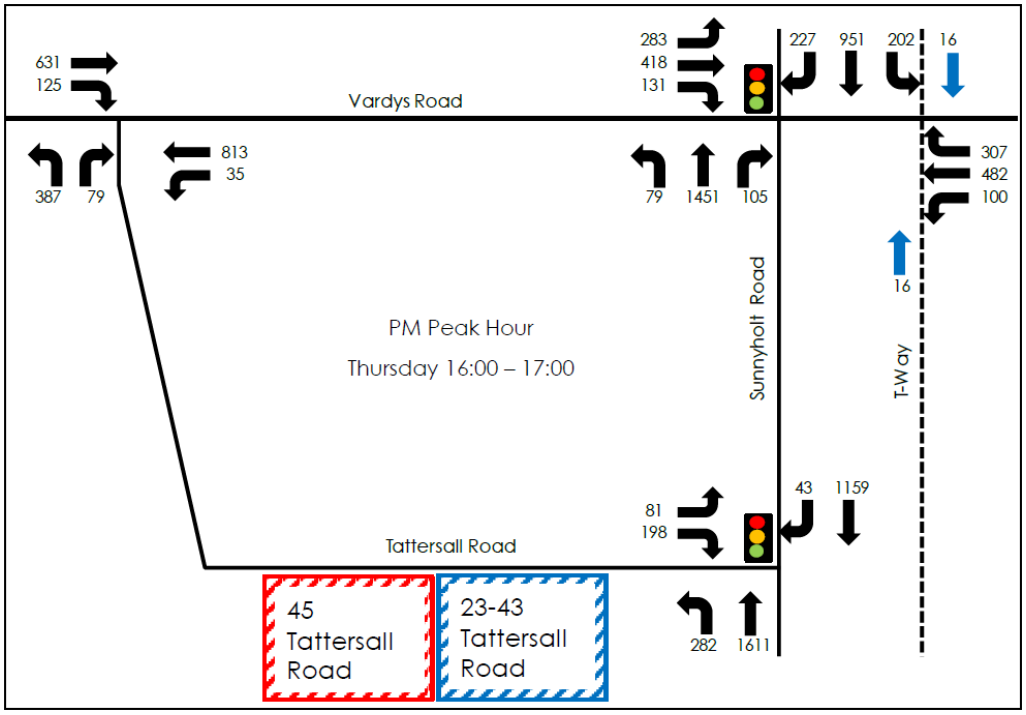
The AM and PM peak hour traffic volumes are summarised in *Figure 6.7* and *Figure 6.8*, with full results contained in the TIA (*Annex L*).

Figure 6.7 Existing AM Peak Hour Traffic Volumes



Source: GTA Consultants (2014)

Figure 6.8 Existing PM Peak Hour Traffic Volumes



Source: GTA Consultants (2014)

Site Traffic

Sell and Parker has a fleet of eight heavy vehicles, along with customer owned vehicles delivering and collecting scrap used for the transportation of metal to and from the site, the largest of which is a 19 metre semi-trailer. The site is also served by non-fleet heavy vehicles.

GTA Consultants commissioned 7 day, 24 hour vehicle volume counts using automatic tube counts at the four vehicle accesses to the two sites sfor the week commencing 14 December 2013. The tubes at driveways 1 and 2 (entry and exit to 45 Tattersall Road) were damaged during the course of the week and as a result did not yield reliable data. Following this, video camera surveys of these accesses was attempted, however the video cameras were vandalised and the associated data loggers were stolen. As a result no data was able to be obtained from the video surveys. Following this, manual traffic volume counts of driveways 1 and 2 were undertaken on 29 January 2014 from 5:00am to 5:00pm.

Based on the recorded traffic volume counts undertaken in December 2013 and January 2014, and the circulation of heavy vehicles at the site can be summarised as follows:

- 45 Tattersall road generates a total 204 vehicle movements (two-way) per day (including 165 heavy vehicle movements)

- the neighbouring site at 23-43 Tattersall Road generates 694 vehicle movements (two-way) per day (including 49 heavy vehicle movements)

- the two sites have a combined total traffic generation of 898 vehicle movements (two-way) per day.

Full results of the traffic surveys are contained in TIA (*Annex L*).

Peak Hour Site Traffic Generation

The two sites currently generate a total of 131 vehicle movements (two-way) in the road network AM peak hour and 71 vehicle movements (two-way) during the road network PM peak hour.

On the basis of the traffic movement counts undertaken at the Sell and Parker site on 29 January 2014 and the existing processing capacity of the Sell and Parker site (90,000 tonnes per annum), the AM peak hour traffic generation rate of the metal handling/ processing facility is as follows:

- 1.7 vehicle movements in the AM peak hour per 1,000 tonnes of metal processed per annum.

Intersection Operation

GTA Consultants assessed the operation of the key intersections within the study area using SIDRA INTERSECTION3, a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

The key outcomes of SIDRA INTERSECTION analysis is as follows:

- the Tattersall Road/ Sunnyholt Road intersection currently operates well with minimal queues and delays on all approaches.

- the Tattersall Road/ Vardys Road intersection currently operates well with minimal queues and delays on all approaches.

- the Sunnyholt Road/ Vardys Road intersection is currently operating close to capacity with moderate queuing occurring for the through movements on the northern approach in the AM peak hour and on the southern approach in the PM peak hour. Minor delays are currently experienced by the right turn movements on all approaches during both the AM and PM peak hours.

Car Parking

Off-Street

The existing Sell and Parker site at 45 Tattersall Road provides very limited on-site car parking for staff or customers at 46 Tattersall Road, Kings Park. The neighbouring site at 23-43 Tattersall Road currently provides a total of 82 on-site car parking spaces for staff and customers at the northern end of the site.

On-street

There are approximately 35 publicly available unrestricted car parking spaces on Tattersall Road immediately adjacent to the frontages of the subject sites. Car parking demand spot-check surveys undertaken by GTA Consultants on Wednesday 15 January 2014 between 9:00am and 10:00am found there was ample spare on-street parking capacity in the vicinity of the subject sites.

Public Transport

The site is serviced by public buses with six stops located within 600 metres of the site. Six bus routes operate on the Sunnyholt Road T-Way and provide high frequency services to Blacktown Town Centre and Blacktown Railway Station (approximately 3 kilometres south of the site).

Vardys T-Way stop is located on the eastern side of Sunnyholt Road, 50 metres north of Tattersall Road (400 metres from the site). In addition to this the route 743 bus utilises Vardy's Road.

As well as regular connections via bus to Blacktown Railway Station, the site is located approximately 1.2km east of Marayong Railway Station.

Blacktown and Marayong Railway Stations are located on the T1 North Shore, Northern and Western Line, T5 Cumberland Line and the Blue Mountains Line of the Sydney Trains network and are served by high frequency rail services to Penrith, Richmond Parramatta and Sydney CBD.

Pedestrian Infrastructure

Off-Site

The pedestrian network in the vicinity of the sites is well established with a pedestrian path located on the northern side of Tattersall Road, adjacent to the sites. This path connects with Sunnyholt Road where pedestrian paths are located on both sides of the road. A pedestrian path is also located on the southern side of Tattersall Road along the frontage of 23-43 Tattersall Road.

On-Site

There is currently no dedicated pedestrian access to the existing Sell and Parker site at 45 Tattersall Road. All pedestrian access to the site is via the separate vehicle entry and exit driveways located at the eastern and western extremities of the site.

Cycle Infrastructure

The nearest dedicated bicycle facility is a 3.0 metre wide shared pedestrian and bicycle path located on the eastern side of Sunnyholt Road. This path is located approx. 300 metres from the development site and provides a critical north-south connection between Blacktown and the M7 Motorway shared path.

The M7 shared path is a high quality bicycle facility which consists of 40 kilometres of uninterrupted shared path from Baulkham Hills in the north to Dean Park in the west and south to Prestons. There with 60 entry/exit points to the path, the nearest of which to the site is located 1.5 kilometres north of Tattersall Road at the Sunnyholt Road Interchange of the M7 Motorway.

6.10.3 Potential Impacts

Vehicle Access and Circulation

Part E of Blacktown Council Development Control Plan (DCP) 2006 sets out the vehicle access and circulation requirements for developments in industrial zones. Part E, Section 4.6 of DCP 2006 requires all internal roadways to be a minimum of 7 metres wide. The existing vehicle accesses to the two sites are all wider than 7 metres.

As part of the amalgamation of the two sites, the physical barrier between the two sites will be largely removed, permitting the movement of operational vehicles between the two sites. The increase in operational area at the expanded site will permit heavy vehicles to layover on-site in between weighing events, removing the need for these vehicles to return to Tattersall Road between loading and unloading of metal. This change will significantly reduce the movement of heavy vehicles on Tattersall Road adjacent to the site, improving the movement of vehicles along Tattersall Road.

Pedestrian Access

The relocation of all administration functions to the existing administration building at 23-43 Tattersall Road will greatly improve pedestrian safety at the expanded site by separating pedestrians from the operational activities of the site. The proposed pedestrian access arrangements to the administration building will be unchanged from the existing arrangements to this building with pedestrians accessing the building from the on-site car park.

Car Parking Requirements

The car parking provision requirements for industrial developments are set out in Part E of Blacktown City Council's DCP 2006.

The total area of the development is 10, 539m^2. Based on this, the proposed development is required to provide a minimum of 116 on-site car parking spaces. The proposed supply of 147 on-site car parking spaces for therefore meets the minimum car parking requirements outlined in DCP 2006 and is considered to be appropriate.

Estimated Traffic Generation

The following key assumptions have been made in estimating the future traffic generated by the proposed development:

- light vehicle movements are based on the 147 car parking spaces to be provided onsite and assuming 100% occupancy and 100% turnover of on-site car parking

- heavy vehicle movements are assumed to increase by 389% in line with the proposed increase in on-site processing capacity (90,000 tonnes per annum to 350,000 tonnes per annum).

On this basis, *Table 6.47* has been prepared to compare the existing and future daily traffic generation of the development.

Table 6.47 Existing and Future Daily Traffic Generation

Site / Address	Existing Daily Traffic Generation			Estimated Daily Future Traffic Generation		
	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles
45 Tattersall Road	39	165	204	164 (20%)	642 (80%)	806
23-43 Tattersall Road	645	49	694			
TOTAL	684 (76%)	214 (24%)	898			

As shown in *Table 6.47*, the expanded facility is estimated to generate a total of 806 vehicle movements (two-way) on a typical weekday. The amalgamation of the two sites will therefore result in a net decrease of 92 vehicle movements per day from the existing use of the sites. There is however expected to be an increase in overall traffic movements during AM and PM peak hours (explained further below).

The following key assumptions have been made with respect to calculating future traffic generated by the development in a typical weekday peak hour:

- 50% of daily light vehicle movements will occur in a typical peak hour (this is considered to be conservative, ie in excess of what could reasonably be expected to occur).

- 8% of daily heavy vehicle movements will occur in a typical AM peak hour with 4% of daily heavy vehicle movements will occur in a typical PM peak hour. This is based on the recorded peak to daily ratio recorded at the site (Section 2.3.2) and is considered to be reasonable given the proposed extension of operating hours associated with the development.

On the basis of the above, *Table 6.48* has been prepared to summarise the net increase in peak hour traffic generation associated with the development.

Table 6.48 Net Increase in Peak Hour Traffic Generation

Weekday Peak Hour	Existing Traffic Generation			Estimated Future Traffic Generation			Net Increase		
	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles
AM	73	32	105	82	52	134	9	20	29
PM	43	15	58	82	26	108	39	11	50

As shown in *Table 6.48*, it is estimated that the development will generate a total 134 vehicle movements (two-way) in a typical weekday AM peak hour and 108 vehicle movements (two-way) in a typical weekday PM peak hour.

Based on the existing peak hour traffic generation of the two sites, this represents a net increase of 29 vehicle movements (two-way) in the AM peak hour and 50 vehicle movements (two-way) in a typical weekday PM peak hour. However, compared to existing traffic volumes the proposed development is expected to generate an overall net decrease in daily traffic movements, including the removal of the current requirement for double entry and exist movements of trucks.

Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

- configuration of the arterial road network in the immediate vicinity of the site;

- existing operation of intersections providing access between the local and arterial road network;

- likely distribution of employee's residences in relation to the site; and

- configuration of access points to the site.

Having consideration to the above, for the purposes of estimating vehicle movements, the following directional distributions have been assumed:

- Sunnyholt Road (north) 60%;
- Sunnyholt Road (south) 20%; and
- Vardys Road (west) 20%.

In addition, the assumptions made with respect to the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) in the AM peak period is as follows:

- light vehicles – 80% inbound, 20% outbound
- heavy vehicles – 60% inbound, 40% outbound.

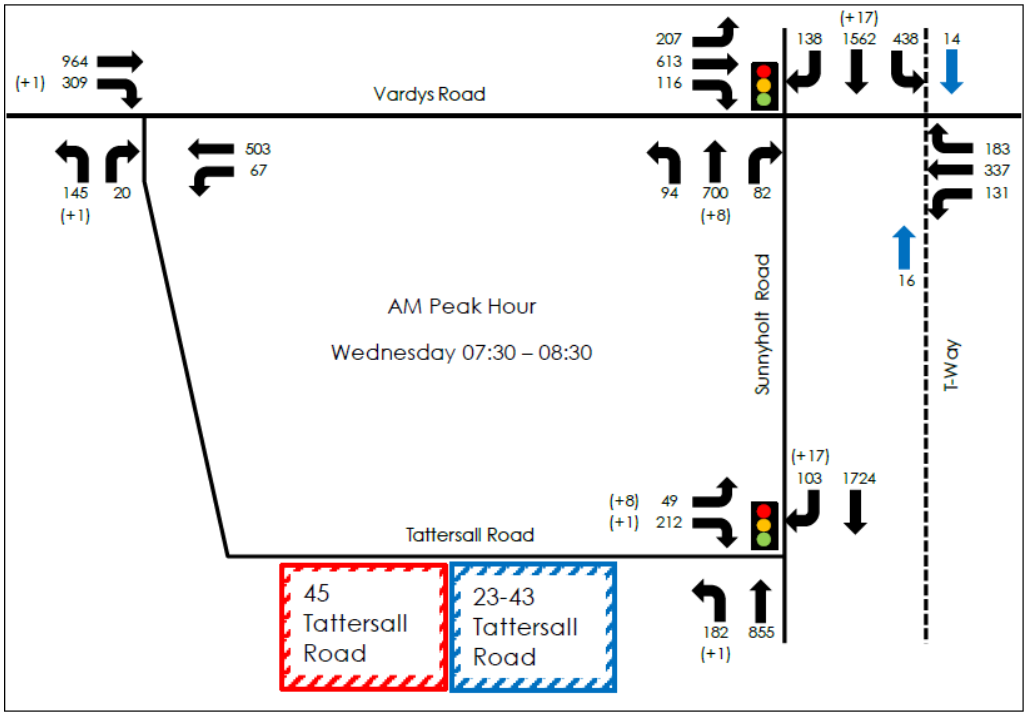
A corresponding reversal of the AM peak period directional split has been assumed for the PM peak period. This results in a directional split during the AM and PM peak periods as shown in *Table 6.49*.

Table 6.49 Net Increase in Peak Traffic Generation

Weekday Peak Hour	Vehicle Type	Inbound	Outbound
AM	Light	80% (7 vehicles)	20% (2 vehicles)
	Heavy	60% (12 vehicles)	40% (8 vehicles)
	Total	19 vehicles	10 vehicles
PM	Light	20% (8 vehicles)	80% (31 vehicles)
	Heavy	40% (4 vehicles)	60% (7 vehicles)
	Total	12 vehicles	38 vehicles

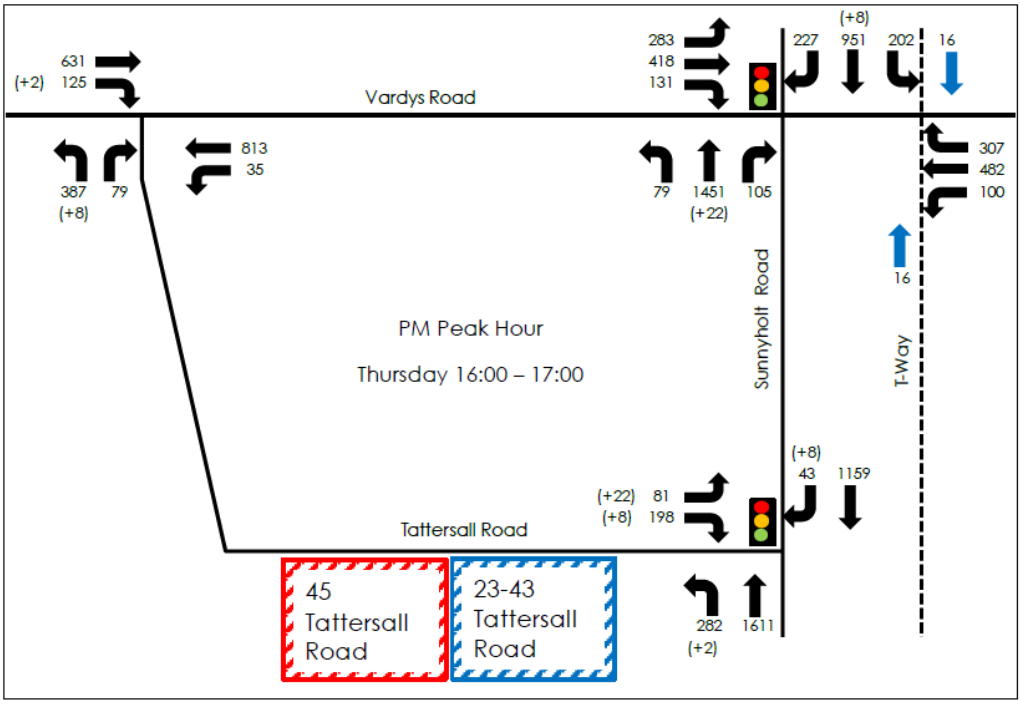
Based on the above, *Figure 6.9* and *Figure 6.10* have been prepared to show the estimate marginal increase in turning movements in the vicinity of the site following full site development, together with the existing traffic volumes in the vicinity of the site. The increases in traffic over the existing situation are shown in brackets. However, it is noted that compared to existing traffic volumes the proposed development is expected to generate an overall net decrease in daily traffic movements.

Figure 6.9 *Existing Weekday AM Peak Hour Traffic plus Development Traffic*



Source: GTA Consultants (2014)

Figure 6.10 *Existing Weekday PM Peak Hour Traffic plus Development Traffic*



Source: GTA Consultants (2014)

Operational Traffic Impact Assessment

An assessment of the impacts that the anticipated development traffic would have on the surrounding road network can be made by comparing intersection performance prior to and following full site development.

The proposed development is anticipated to generate an additional 29 vehicle movements (two-way) in a typical weekday AM peak hour and 50 vehicle movements (two-way) in a typical weekday PM peak hour. In comparison to the existing traffic flows on the road network surrounding the site, this represents a negligible increase in traffic volumes.

In addition, the impact of this additional traffic on the intersections in the vicinity of the site has been assessed using SIDRA INTERSECTION. Table 6.50 presents a summary of the anticipated future operation of the intersections following the full development of the site, with full results included in the TIA (*Annex L*).

Table 6.50 Future Operating Conditions

Intersection	Peak	Degree of Saturation	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Tattersall Road / Sunnyholt Road	AM	0.809	11.9	103	A
	PM	0.868	11.2	171	A
Tattersall Road / Vardys Road	AM	0.405	4.2	15	N/A
	PM	0.999	15.7	148	N/A
Sunnyholt Road / Vardys Road	AM	0.930	42.4	310	C
	PM	0.890	46.3	308	D

A comparison of the existing and future operating conditions of the key intersections surrounding the site shows that the impact of traffic generated by the development is negligible. Furthermore the comparison shows no change in Level of Service is required at the three intersections during either the AM or PM peak hours.

Construction Traffic Impact Assessment

Construction activities associated with the proposed development are anticipated to primarily involve demolition of existing buildings and modifying the remaining existing buildings. There will be minimal excavation, but there will be a need to remove demolition material and bring in construction materials, fittings and equipment. The construction activities are anticipated to involve the following:

- demolition of the existing office and maintenance shed at 45 Tattersall Road;
- demolition of some of the existing storage and processing sheds at 23-43 Tattersall Road;
- modifying and fit-out of the remaining buildings, storage and processing sheds at 23-43 Tattersall Road;
- relocation of the shear from 45 Tattersall Road to 23-43 Tattersall Road;

- relocation of the pre-shredder within 45 Tattersall Road;
- construction of an enclosed conveyor; and
- construction of a truck wash facility.

All construction activities associated with the proposed development will be undertaken following the ceasing of manufacturing operations at the Dexion Australia Pty Ltd site at 23-43 Tattersall Road. Manufacturing operations are anticipated to cease at this site in December 2014 which is estimated to result in a reduction of 694 vehicle movements per day on the road network.

At this stage it is not possible to accurately quantify the traffic volumes likely to be generated during construction as a contractor is yet to be appointed. However, construction activities associated with the proposed development are anticipated to generate only a small proportion of the daily vehicle movements currently generated by the Dexion site. Given this, the construction activities would result in a net decrease in traffic generation when compared with the existing traffic generated by the operation of the two sites. Thus construction traffic is not expected to compromise the safety and function of the road network surrounding the site.

It is anticipated that trucks associated with construction will access the site via the same routes as operational vehicles, ie via the Tattersall Road/ Sunnyholt Road signalised intersection with the vast majority of these travelling on the M7 Motorway, 1.5 kilometres north of the site.

6.10.4 Mitigation Measures

Compared to existing traffic volumes the proposed development is expected to generate an overall net decrease in daily traffic movements and could not be expected to compromise the safety or function of the surrounding road network. This includes the removal of the current requirement for double entry and exist movements of trucks. Given this, the proposed development in its own right would not warrant any upgrades to existing road infrastructure on the vicinity of the site.

Once the contractor has been appointed, a site-specific construction traffic management plan (CTMP) should be prepared prior to works commencing on-site detailing construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.

6.11 SOCIAL AND ECONOMIC RESOURCES

6.11.1 Existing Environment

The current estimated resident population (ERP) of Blacktown City Council (BCC) Local Government Area (LGA) is 317,598 as of the 30th June 2012. BCC LGA is the largest local government area, by population, for the Western Sydney area and New South Wales. Blacktown City is at the heart of the Western Sydney region, which is anticipated to deliver 60% of Sydney's population growth over the next 30 years of which almost a quarter will be located in Blacktown. The city is well serviced by employment land, public transport and road access and supported by core infrastructure in health, education, recreation, culture and leisure (Blacktown City Council, 2012).

Cultural Diversity

BCC LGA has the largest urban Aboriginal and Torres Strait Islander population in NSW with 8,195 people making up 2.7% of the population (compared to 1.2% in Greater Sydney and 2.5% NSW). Other than English, the most common languages spoken in households across the BCC LGA are Filipino/Tagalog, Hindi, Arabic, Punjabi and Samoan (Blacktown City Council, 2013a).

Education and Training

Blacktown City Cuncil (2013a) report that in 2011, 41.9% of the Blacktown City population aged 15 years and over, held post school educational qualifications compared to 48.3% for Greater Sydney and 45.8% for New South Wales. At the same time, 57,120 people reported having achieved a tertiary qualification.

From 2006-2011, the major changes in the qualifications of the population of Blacktown City were for residents with Bachelor or Higher Degrees (+12,701 persons), vocational qualifications (+5,282 persons) and Advanced Diplomas or Diplomas (+4,620 persons). However, at the same time there was an increase in the number of people with no formal qualifications (+5,157).

In the Mt Druitt Precinct, 32.9% of the population aged 15 years and over held educational qualifications compared to 42.8% for the Blacktown Precinct and 51.7% for the North West Precinct, highlighting that there are distinct variations in the levels of advantage and disadvantage within the City.

Economy

The primary sectors that make up the City's economy are in the areas of manufacturing, wholesale trade, and transport and logistics. Combined they represent 35.1% of the total Gross Regional Product (GRP). Other significant sectors include education and training, retail, services and finance/insurance services.

The manufacturing sector is a strength of the City. It makes up 18% of the City's total GRP. This is significantly above the NSW State average of 10.6%. Over the past year, the growth in manufacturing, professional, and the technical services sectors (as a percentage of the total economy) has only increased marginally. However, this is still a significant achievement considering other parts of Sydney where growth in these sectors has declined.

The City's economy is diversifying. Some sectors are showing considerable growth over the last 12 months. Those sectors that experienced high levels of annual growth in the City include Construction, an increase of 8.7%, Arts & Recreation Services, an increase of 4.3%, and Information Media & Telecommunications, an increase of 3.8% (Blacktown City Council, 2013b).

Employment

Blacktown City Council (2013a) reported that in 2011, 92.8% of the eligible labour force (144,098) of Blacktown City were employed with 91,619 engaged in full time work and 38,510 employed part time. The City's unemployment rate (7.2%) was higher than in Greater Sydney (5.7%) and NSW (5.9%).

6.11.2 Potential Impacts

In both the short and the long term, the potential impacts on social and economic resources are generally positive. The additional development has a capital investment value ("CIV") of $1.1 million. The proposed expansion of the site will provide for increase labour force, creating positive flow-on effects to the local economy. The proposed expansion of the site will also enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities. Average Sell and Parker wage for employees, excluding management at Blacktown in 2013 was over $80,000 per annum.

The proposed education and training centre within the new office area at the expanded site will be used to promote recycling initiatives and to explain the nature of resource recovery. Where possible, the centre will provide support and seek to participate with the education programme in schools and tertiary education facilities, thus positively contributing to the local community.

In the short term, construction works may have a minor negative impact on surrounding business with regards to amenity, noise, and air, however with implementation of mitigation measures these impacts can be appropriately managed. Environmental impact assessment has shown that in the longer term, operational activities, with implementation of proposed mitigation measures, will not negatively impact on the surrounding environment. In addition, as the proposed development is within an existing industrial estate it will not result in reducing available land for beneficial community uses.

6.11.3 Mitigation Measures

The following measures should be implemented to ensure positive socio-economic impacts of the proposed developed are maximised:

- seek to utilise local available labour force when recruiting for additional employees, including where possible those that have been affected by job losses at the Dexion site;
- where possible, investigate opportunities for offering apprenticeships for new work force and offer additional training to current workforce;
- communicate to local business and community the expected start date of construction; and
- any complaints received relating to site operations are to be recorded and attended to promptly.

6.12 VISUAL IMPACT ASSESSMENT

The site is already disturbed and is located within a heavily developed existing industrial area. The proposed increase in capacity at the metal recycling facility will not result in any negative visual impacts to the surrounding visual landscape.

There are no sensitive receptors with views to the site. The closest residence is located approximately 470m to the east of the site on Sunnyholt Road. The closest park is Headingley Reserve located approximately 460m to the east, also on Sunnyholt Road. Due to the topography and other industrial developments adjacent to the site, the site cannot be seen from either of these locations. There are no schools, parks or recreation facilities in close proximity.

Views to the site from Tattersall Road are limited as there is an existing 4m fence along the front (northern end) of number 45 Tattersall Road (refer to *Photograph 6.5*) as well as landscape plantings. This sound wall will prevent views of the proposed new non-ferrous processing building from Tattersall Road. Small modifications are proposed to the sound wall, including the extension of the dust screen on the western end of the wall, however these changes are only very minor. In addition, the second driveway on the western side of 45 Tattersall Road will be removed, providing an improvement to the Tattersall Road streetscape.

At number 23-43 Tattersall Road existing landscaping and buildings (refer to *Photograph 6.6*) will remain which will also screen the activities at the rear of this site from Tattersall Road.

It is therefore concluded that the proposed development will not result in significant visual impacts in the vicinity of the site or neighbouring areas.

Notwithstanding a concept landscape plan has been developed (refer *Annex M*), which will provide for plantings of native tree, shrub and grass species along site boundaries, particularly the frontage with Tattersall Road, which will complement and enhance existing landscaped vegetation.

Photograph 6.5 View looking south across Tattersall Road to front boundary of existing facility (45 Tattersall Road)

Photograph 6.6 View looking west along Tattersall Road to front boundary of current Dexion site (23-43 Tattersall Road)

6.13 WASTE MANAGEMENT

6.13.1 Background

This section investigates the waste materials that are recovered, processed and recycled as well as the waste streams that are produced, along with overall waste management strategies to be implemented as part of the Project.

The NSW EPA is the state government agency responsible for initiating waste avoidance and resource recovery strategies as a method of ensuring ecological sustainability. A summary of the legislative and policy framework for waste in NSW is provided below.

6.13.2 Legislative and Policy Framework

The regulatory requirements in NSW for waste management are provided within the *Waste Avoidance and Resource Recovery (WARR) Act 2001, Protection of the Environment Operations (POEO) Act 1997, Protection of the Environment Operations (Waste) Regulation 2005* and the Environmental Guidelines: Assessment, Classification & Management of Liquid and Non-Liquid Wastes.

Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act establishes the waste hierarchy to ensure management options are considered for the effective management of resources against the following criteria:

- avoidance of unnecessary resource consumption;
- resource recovery Including reuse, reprocessing, recycling and energy recovery; and
- disposal- to assess how waste will be effectively disposed to minimise any adverse impacts on the environment.

The NSW Waste Avoidance and Resource Recovery Strategy 2007 outlines significance areas and actions for waste avoidance and resource recovery. The four key target areas outlined in the strategy include:

- preventing and avoiding waste;
- increasing recovery and use of secondary materials;
- reducing toxicity in products and materials; and
- reducing litter and illegal dumping.

Furthermore, the strategy outlines the following recycling targets, which are applicable to the proposed Project;

- increase recycling of commercial and industrial waste by 35% in 2014; and
- increase recycling of construction and waste generated from site decommissioning by 11% in 2014.

Protection of the Environment and Operations Act 1997

All material received, handled and processed including the classification of waste material generated as such is to be undertaken in accordance with the requirements of the POEO Act 1997. Key guiding requirements include:

- ensuring waste is classified appropriately and in accordance with relevant guidelines;
- waste materials are disposed of at appropriate licenced facilities; and
- waste materials are removed and transported to licenced facilities lawfully.

Protection of the Environment Operation (Waste) Regulation 2005

The regulation provides the framework for the transportation, storage and disposal of waste material in NSW. In addition, the licencing requirements of waste activities are also provided. Part 3 of this Regulation details the requirements associated with tracking waste. Certain types of waste (listed in Schedule 1 of this legislation) which have the potential to be harmful to the environment are required to be tracked from the source to waste disposal facility. There would be quantities of waste oil that require tracking under this legislation as a result of the development. All other waste generated during the Project will be stored, transported and disposed in accordance with the regulation.

NSW Environmental Protection Authority - Waste Classification Guidelines

Part 1 of the NSW EPA Waste Classification Guidelines provides the framework for classifying waste for the purpose of storing, transporting and disposing of waste in NSW.

Under these guidelines, waste streams are classified into groups, which pose similar risks to the environment and human health and therefore require similar management and disposal procedures. The six waste categories are outlined in *Table 6.51* below.

Table 6.51 NSW Pre-Classified Waste Classification

Waste Category	Description
Special waste	Waste including clinical and related waste (e.g. pharmaceuticals and sharps), asbestos and waste tyres.
Liquid waste	Waste that is generally not capable of being picked up by spade or shovel such as waste oil.
Hazardous waste	Pre-classified hazardous waste includes: • containers having previously contained a substance of Class 1,3,4,5 or 8 or substances to which Division 6.1 of the Transport of Dangerous Goods Code applies; • coal or coal tar pitch waste; • lead acid or nickel cadmium batteries; and • lead paint waste.
Restricted waste	Currently no waste have been pre-classified by the EPA. Restricted waste is classified by chemical assessment and then compared against trigger values for various contaminants to determine its waste classification.
General solid waste (putrescible)	Pre-classified general solid waste (putrescible) generally includes: • household waste that contains putrescible organics; • waste from litter bins collected by or on behalf of local councils; • manure and night soil; and • food waste.
General solid waste (non-putrescible).	Pre-classified general sold waste (non-putrescible) generally includes: • glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal; • paper or cardboard; • building and demolition waste; and • garden waste including branches, grass, plants and tree trunks.

Source: Department of Environment, Climate Change and Water NSW (2009)

6.13.3 Waste Identification and Classification

In the case of the proposed development, the "feed-in materials" (ie cast iron scrap, wrought iron, and scrap car bodies) for re-processing can already be considered as a "waste" material under the Waste Classification Guidelines. However, the recovery, processing and recycling activities undertaken on-site would then produce recovered material that would be the facility's "end product". By-products produced by the recovery, processing and recycling activities would be the facility's "waste". As such for the purposes of this waste assessment, the materials handled on-site have been categorised as feed-in materials, end products, or waste, with the following definitions applying:

Feed-in Materials – A material that is used in the manufacturing process to create a new product. Feed-in materials of the facility would include cast iron scrap, wrought iron, and scrap car bodies.

End Product – The resulting material from the manufacturing process that is sold to consumers. End products of the process include ferrous and non-ferrous material.

Waste – Any other unwanted material or by-product generated from the process that needs to be discarded or recycled and is not sold for an intended purpose. Waste from the process includes automotive shredder residue or "floc", tyres, wastewater general cleaning and maintenance waste, office waste and oils and lubricants from maintenance of company vehicles.

The site establishment and construction phase would also generate waste from the demolition of existing buildings, establishment of ground levels, landscaping and construction of new buildings and associated infrastructure.

6.13.4 Anticipated Waste Materials

Site Preparation and Construction

Site preparation works would generate temporary waste streams including construction waste, soil and some minor quantities of vegetation waste.

Vegetation removed prior to excavation would be transported to an appropriately licenced waste management facility accepting green waste.

Construction waste material would include waste off-cuts including plasterboards and metals, as well as general rubbish.

Site Operations

The production process would generate waste products at several stages. Feed-in materials including cast iron scrap, wrought iron, pressed and sheared material and scrap car bodies would be delivered in bulk and therefore no packaging waste would be generated. These feed-in materials would be stored on the uncovered hardstand area provided. Site stormwater generated in the raw material storage area would need to be captured and treated prior to release as in *Section 6.6*.

Petrol tanks are emptied and liquefied petroleum gas (LPG) cylinders will be removed from cars and stored in a quarantined area before being removed offsite for decommissioning. Petrol and oil will be drained from tanks and collected in an above ground storage tanks and removed offsite for processing.

Feed-in materials would then pass through the shredder and separation system where the components would be separated into non-ferrous and ferrous materials. Automotive shredder residue (ASR) or "floc" would be generated at various stages throughout the process.

Waste from the process will consist of materials such as mixed plastics, particulates, glass and foam from car upholstery and building materials. Most waste will emerge from the end of the non-ferrous metals sorting conveyor, and will be conveyed to a bunker in an enclosed building. Up to 7,000 tonnes of waste will be generated per month.

Additional solid waste will be generated from the air quality controls. This will consist of mud, which is sprayed onto the main waste stream at the end of the non-ferrous metals sorting conveyor, and thus joins other waste in the bunker.

Oils and lubricants generated following the maintenance of company vehicles and mobile equipment and machinery would be stored in a bunded area in the workshop.

There would also be minor quantities of office waste generated disposed of in designated general waste bins that are collected regularly.

The types of waste anticipated to be generated and handled during the Project are defined in *Table 6.52*.

Table 6.52 Waste Inventory

Waste Type	Description	Classification	Estimated volume / mass
Construction and Demolition Phase			
Vegetation	Vegetation/timber mulch from removal of landscape trees.	General Solid Waste (non putrescible)	20 tonnes
Excavated soil (overburden)	ENM (Excavated Natural Material).	If to be reused offsite, must meet the requirements of relevant sampling and testing requirements of The excavated natural material exemption 2012.	20 tonnes
	Potentially contaminated soils.	Classification based on soil tests in accordance with the DECCW document Waste Classification Guidelines: Parts 1 and 2 (DECC 2009)	5 tonnes
Building and construction waste	Estimates of construction and demolition waste include: building materials; steel reinforcing; conduits and pipes; concrete (solids) and asphalt; packaging materials, including wood, plastic, cardboard and metals; empty oil and other drums; spill clean ups, paints and other chemicals; and metals and bulk electrical cabling and equipment.	General Solid Waste (non putrescible)	40 tonnes
Operational Phase			
Floc material	Floc material is anticipated to include: mixed plastics; particulates; glass and foam from car upholstery; building materials; and loose dirt, mud and fines.	General Solid Waste (non putrescible)	240 tonnes per day
Waste fuel	Waste fuel drained from car bodies prior to processing.	Hazardous Waste	10,000 litres per annum
Office waste	Includes: paper and cardboard; ink cartridges; glass, plastic and rubber; and	General Solid Waste (non putrescible)	20 tonnes per annum
	food scraps.	General Solid Waste (putrescible)	1 tonne per annum
Oils and lubricants	Oils and lubricants collected from on-site plant, equipment and machinery during regular maintenance activities.	Liquid	1,000 litres per annum

6.13.5 Potential Impacts

The Project will involve the generation of various types of waste streams, which if not managed appropriately have the potential to impact the receiving environment as follows:

- excessive waste being directed to landfill;
- various types of waste being generated and stored onsite, with the potential for misclassification;
- contaminated waste not being correctly stored or disposed;
- off-site impacts to soil and/or water and/or groundwater.

To minimise the potential for environmental impacts the measures outlined in the following sections will be implemented.

6.13.6 Waste Minimisation – Application of the Waste Hierarchy

To minimise waste generated during both the construction / demolition and operational phases, the anticipated waste materials outlined in *Table 6.52* will be managed under the waste hierarchy criteria established under the WARR Act.

As outlined in *Section 6.13.2*, the waste hierarchy consists of:

- avoidance of unnecessary resource consumption;
- resource recovery including reuse, reprocessing, recycling and energy recovery; and
- disposal to assess how waste will be effectively disposed to minimise any adverse impacts on the environment.

The nature of the proposed development promotes ecological sustainable development and follows the hierarchy of waste management. The proposed development will reduce waste to landfill and the scrap materials would be recovered as ferrous and non-ferrous material to be sold as valuable resources to be used in other industrial applications.

Table 6.53 outlines how the application of the waste hierarchy will be applied to this project.

Table 6.53 Application of the Waste Hierarchy

Waste Type	Application of the Waste Hierarchy		
	Avoidance	**Resource Recovery**	**Disposal**
Construction and Demolition Phase			
Vegetation	Removal of vegetation will be minimised as far as practicable during the establishment of the site.	Where applicable, vegetation removed during site establishment will be reused as mulch in on-site gardens and landscaping or sent to an appropriately licenced green waste facility	All remaining green waste will be classified as "General Solid Waste (non-putrescible)" is to be disposed at an approved licenced facility.
Excavated soil (overburden)	Generation of excess excavated soil material will be avoided where possible during construction.	Material excavated and classified as ENM, will be reused on site where possible during construction.	Any material classified as ENM that cannot be reused on site will be classified as "General Solid Waste (non-putrescible)" and be disposed at an approved licenced facility. Any potentially contaminated soil will be classified based on soil tests in accordance with the DECCW document *Waste Classification Guidelines: Parts 1 and 2* (DECC 2009) and disposed at an approved licenced facility.
Building and construction waste	Building and construction generated during the construction and demolition phase is to be minimised as far as practicable.	Where applicable all efforts to be made to reuse/recycle the following materials on-site or an alternative approved facility: • metal waste • brick material; and • timber.	All remaining building and construction waste will be classified as "General Solid Waste (non-putrescible)" is to be disposed of in accordance with the guidelines outlined in DECCW (2009) and disposed at an approved licenced facility.
Operational Phase			
Floc Material	No opportunities exist to avoid the creation of floc material during processing.	Limited options for reuse. Potential reuse options to be investigated further.	Floc material classified as "General Solid Waste (non-putrescible)" is to be disposed at an approved licenced facility.
Waste fuel from car bodies	Sell and Parker to request fuels be drained from car bodies prior to delivery to site.	Limited options for reuse. Potential recycling options to be investigated further.	Waste fuel to be collected in above ground tanks, classified as hazardous waste and disposed of at an approved licenced facility.

Waste Type	Application of the Waste Hierarchy		
	Avoidance	**Resource Recovery**	**Disposal**
Office waste	Generation of office waste such as paper from unnecessary printing is to be avoided as far as practicable.	Paper, cardboard, glass, metals and plastics will be sorted and sent to Council collected recycling services. E-waste, including computers, printers and ink cartridges will be collected and sent for recycling.	All remaining office waste classified as "General Solid Waste (non-putrescible)" and as "General Solid Waste (putrescible)" is to be disposed of in accordance with the guidelines in DECCW (2009) and disposed at an approved licenced facility.
Oils and lubricants from site plant and machinery	Sell and Parker to maintain plant and equipment to ensure it runs efficiently and produces limited amounts of waste oil and lubricants.	Limited options for reuse. Potential recycling options to be investigated further	Waste oil and lubricants to be collected in 205L drums in bunded area classified as liquid waste and disposed of at an approved licenced facility.

6.13.7 Waste Receipt, Handling, Storage and Disposal

Receipt of Feed-in Materials

The quality of incoming feed-in materials would be controlled through management procedures. Manual checks would be conducted for truck loads prior to receipt on site to ensure the material is not contaminated with other waste items. In addition, regular independent audits would be undertaken to ensure compliance with permitted materials accepted on site.

The current set of reception procedures will be reviewed and updated prior to operation to standardise protocols for accepting scrap materials at the facility. These procedures would include record keeping for all incoming and outgoing material movements.

Handling and Storage

Approximately 1,500 tonnes of recyclable waste material, consisting of cast iron scrap, wrought iron, and scrap car bodies will arrive at the site each day. Approximately 50 tonnes of this material is separated out into non-ferrous material. The remaining material will be sorted and stockpiled in three separate stockpiles associated with the Pre-Shredder, Shredder and Shear (refer *Section 2.3.1* and *Figure 2.1).* Heavy ferrous material (approximately 400 tonnes), will go straight to shear. The remaining 1050 tonnes will be fed to the shredder, of which 300 tonnes will be first fed to the pre-shredder.. Most waste (floc) material will emerge from the end of the non-ferrous metals sorting conveyor, and will be conveyed to an enclosed building. Up to 240 tonnes of floc material will be generated per day.

The re-saleable products from the recovery, processing and recycling are ferrous metals, aluminium and small quantities of other metals such as copper. The ferrous metal is by far the largest product stream and will be stored in a contained designated area. This area is expected to hold approximately 3,000 tonnes, being four metres high, 20 metres long and 10 metres wide.

Aluminium product will be collected in skips next to the eddy-current Separators. Copper and other metals will be collected in skips near the sorting areas. All nonferrous metals will then be loaded directly into closed 20 foot shipping containers and exported to end users in Asia.

Disposal

All waste materials which meet the specification to be reused/ recycled will be processed on-site or be taken to an approved facility, capable of accepting those materials.

All other waste is to be disposed in accordance with the classification of the waste material at an approved licenced facility.

6.13.8 Waste Transport

All waste transported to and removed from the site should be done so in accordance with road and transportation legislation. In all cases, appropriately licenced transport contractors are to be engaged to transport waste material to and from the site. The contractors appointed to transport waste are to ensure they:

- are licenced to transport the type of waste they receive;
- transport the waste to a licenced facility capable of receiving the type of waste and quantity they are carrying; and
- waste is adequately covered during transport.

The contractor transporting the waste is to ensure that completed waste data forms are provided to the waste facility upon arrival.

6.13.9 Waste Reporting and Auditing

The designated site manager or an appointed responsible delegate should prepare monthly reports clearly documenting the waste that has been received and generated. These should be prepared using waste receipts that have been retained and should include:

- waste classification data to assess compliance with the DECCW *Waste Classification Guidelines (*2009);

- a review of licences held by the facilities where waste has been disposed to assess/ ensure their ability to accept the waste in accordance with relevant legislation; and

- include any incident reports relating to waste (i.e. spills) which have occurred over that month. Any corrective actions undertaken should also be included.

6.13.10 Waste Management and Mitigation Measures

Table 6.54 summarises the waste management and mitigation procedures to be applied on-site for each type of waste.

Table 6.54 Summary of Waste Management and Mitigation Procedures

Waste Type	Description	Waste Classification	Storage	Transport	Disposal
Construction and Demolition Phase					
Vegetation	Vegetation/timber mulch from removal of landscape trees.	General Solid Waste (non putrescible)	Stockpiled within the site compound or fenced off area prior to transport and disposal.	By an approved and licenced contractor.	At an approved, licenced facility.
Excavated soil (overburden)	ENM (Excavated Natural Material).	If to be reused offsite, must meet the requirements of relevant sampling and testing requirements of The excavated natural material exemption 2012.	All excavated material should be stockpiled and dampened and/or covered to avoid dust emissions. Any stockpiling to be undertaken within the fenced area.	By an approved and licenced contractor	At an approved, licenced facility.
	Potentially contaminated soils.	Classification based on soil tests in accordance with the DECCW document Waste Classification Guidelines: Parts 1 and 2 (DECC 2009)	Any potentially contaminated excavated material must be stored in a manner that contains any runoff until the material is appropriately classified and disposed of.	By an approved and licenced contractor	At an approved, licenced facility.
Building and construction waste	Potentially contaminated soils Estimates of construction and demolition waste include: • building materials; • steel reinforcing; • conduits and pipes; • concrete (solids) and asphalt; • packaging materials, including wood, plastic, cardboard and metals; • empty oil and other drums; • spill clean ups, paints and other chemicals; and • metals and bulk electrical cabling and equipment.	General Solid Waste (non putrescible)	All waste to be stored/ stockpiled within the fenced boundary of the site. Excess spoil from establishing the site should be dampened and/ or sealed to minimise dust emissions.	By an approved and licenced contractor	At an approved, licenced facility. Where applicable all efforts to be made to reuse/recycle the following materials on-site or at an approved facility: • metal waste; • brick material; • timber; and • fencing.
Operational Phase					
Floc material	Floc material is anticipated to include: • mixed plastics; • particulates; • glass and foam from car upholstery; • building materials; and • loose dirt, mud and fines.	General Solid Waste (non putrescible)	Conveyed to a bunker in an enclosed building, prior to removal by contractor.	By an approved and licenced contractor	At an approved, licenced facility.
Waste fuel	Waste fuel drained from car bodies prior to processing.	Hazardous Waste	Stored in above ground storage tanks prior to collection for recycling by contractor.	By an approved and licenced contractor	At an approved, licenced facility.
Office waste	Includes: • paper and cardboard; • ink cartridges; • glass, plastic and rubber; and	General Solid Waste (non putrescible)	Waste stored in office bins and transferred to Council collection bins and skip bins where required.	By an approved and licenced contractor	At an approved, licenced facility.
	• food scraps	General Solid Waste (putrescible)	Stored in Council collection bins.	By an approved and licenced contractor	At an approved, licenced facility.
Oils and lubricants	Oils and lubricants collected from on-site plant, equipment and machinery during regular maintenance	Liquid	Stored in 205L drums in bunded area until sufficient quantity is available to be collected by contractor and sent for recycling.	By an approved and licenced contractor	At an approved, licenced facility.

6.14 *CUMULATIVE IMPACT ASSESSMENT*

For a cumulative effect to occur, two impacts are required to impact on the same receptor. The key receptors in the local area include the local business community of Kings Park industrial estate, the residential areas which adjoin the industrial estate and the key environmental receptor, Breakfast Creek.

The proposed development has the potential to cause a number of environmental impacts. These impacts have been grouped, assessed and discussed as separate environmental aspects in the preceding sections of this Chapter. For the majority of these environmental aspects, there are expected to be no significant residual impacts during construction or operation on any of the identified receptors. As such, the majority do not require a cumulative impact assessment. Some minor impacts with the potential to create a cumulative impact are discussed below.

There is potential for short term minor adverse effects on properties close to the proposed development from the combination of construction noise, air quality, minor visual intrusion, traffic and general amenity effects arising from site activity, plant operation and traffic movements. These effects are not predicted to be significant and will be limited to temporary periods during construction.

With the implementation of the proposed mitigation measures, the environmental impact assessment has identified no long term adverse impacts to nearby receptors as a result of expanded operation at the site. In addition, as the proposed development is within an existing industrial estate it will not result in reducing available land for beneficial community uses.

The expansion of the site is predicted to have a number of positive impacts including:

- capital investment value ("CIV") of $1.1 million;
- increased labour force, creating positive flow-on effects to the local economy, offsetting the loss of jobs in response to the Dexion operations being closed and relocating offshore;
- ability to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities; and
- establishment of and education and training centre to promote recycling initiatives and to explain the nature of resource recovery to school groups and tertiary education facilities.

No significant cumulative effects with other project development proposals have been identified.

7 ENVIRONMENTAL RISK ASSESSMENT

This chapter presents the results of the Environmental Risk Assessment undertaken for the proposed development.

7.1 INTRODUCTION

The following Environmental Risk Assessment (ERA) provides an analysis of the environmental risks that have been identified as part of this EIS.

The environmental impact assessment (*Chapter 6*) has identified the potential environmental impacts associated with the proposed development, described mitigation measures for those proposed impacts and identified any significant residual environmental impacts which still exist after the application of the proposed mitigation measures.

This ERA has been based upon the methodology outlined in Standards Australia's *HB 203:2006 Environmental Risk Management – Principles and Process, Australian Standard AS/NZ 4360:2004 Risk Management,* and *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.*

The analysis categorised levels of risk for a given event based on the significant effects (consequences) and manageability of those effects (likelihood). The measures of likelihood categories and the measures of consequences categories as well as the risk ranking matrix are detailed in *Table* 7.1, *Table 7.2* and *Table 7.3* below.

Table 7.1 Measures of Probability Categories for ERA

Rank	Probability	Description
A	Almost Certain	Happens often and is expected to occur
B	Likely	Could easily happen and would probably occur
C	Possible	Could happen and has occurred elsewhere
D	Unlikely	Unlikely to happen but may occur
E	Rare	Could happen, but only in extreme circumstances

Table 7.2 Measures of Consequence Categories for ERA

Rank	Consequence	Description
Negative Consequences		
1	Extreme	Permanent and catastrophic impacts on the environment; large impact area: reportable incident to external agency; large fines and prosecution; operational constraints; substantial community concern.
2	Major	Permanent and detrimental impacts on the environment; large impact area: reportable incident to external agency; may result in large fines and prosecution; operational constraints; high level of community concern.

Rank	Consequence	Description
3	Moderate	Substantial temporary or minor long term detrimental impacts on the environment; moderate impact area; reportable incident to external agency; action required by reportable agency; community interested.
4	Minor	Minor detrimental impacts on the environment; small impact area; not reportable incident; no operational constraints; uncontroversial project; no community interest
5	Low	Nil or temporary impacts to the environment, small or isolated impact area; not reportable incident; no operational constraints; uncontroversial project; no community interest
Positive Consequences		
1	Extreme	Permanent and extremely beneficial impacts on the environment or population; large impact area.
2	Major	Permanent and beneficial impacts on the environment or population; large impact area.
3	Moderate	Substantial temporary or minor long term beneficial impacts on the environment or population; moderate impact area.
4	Minor	Mino beneficial impacts on the environment or population; small impact area
5	Low	Nil or temporary beneficial impacts on the environment or population; small or isolated impact

Table 7.3 ***Risk Matrix for ERA***

Likelihood	Consequences				
	1. Extreme	**2. Major**	**3. Moderate**	**4. Minor**	**5. Low**
A. Almost certain	VH	VH	H	H	M
B. Likely	VH	H	H	M	M
C. Possible	H	H	M	M	L
D. Unlikely	H	M	M	L	L
E. Rare	H	M	L	L	L

Considering the project scope, mitigation measures and cumulative impacts described in Chapter 6, *Table 7.4* provides an assessment of the mitigated risks associated with the Project, or the residual risk analysis. This has been completed for each potential environmental impact identified in *Table 7.4* based on the likelihood of occurrence and potential environmental consequence.

Note that where a positive impact has been identified, a shading of blue has been used in *Table 7.4.*

Table 7.4 Environmental Risk Analysis

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
Ecology	Impact / disturbance to downstream ecosystems from discharges from site	C	3	M	Sediment control barriers installed at the site during construction and while earthworks are undertaken. All vehicles are to keep to the existing and proposed access roads on-site.	E	5	L
	Minor, localised alteration to vegetation on-site. Potential to spread noxious weeds	C	3	M	All undertaken in accordance with the *Noxious Weeds Act 1993* and the *Noxious and environmental weed control handbook - A guide to weed control in non-crop, aquatic and bushland situations*	E	4	L
Heritage	Unexpected heritage item uncovered during construction.	C	2	H	All staff, contractors and others involved in the construction works made aware of the statutory legislation protecting sites and places of heritage significance. In the event that a site or artefact (as defined by the *National Parks and Wildlife Act 1974* or *Heritage Act 1977* is identified during construction works, works shall cease at the location. The find shall be immediately reported to the regulator in accordance with legislation. No work shall commence until any required approvals have been given.	E	5	L

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
Acoustics	Noise and vibration Impact assessment has indicated that noise emissions to residential premises were predicted to comply with the project-specific noise levels without noise mitigation measures.	E	5	L	No additional mitigation measures required.	E	5	L
	Minor noise and vibration emissions from site operations to neighbouring existing and proposed new industrial premises	C	3	M	The following acoustic screen fencing is proposed to mitigate noise emissions from site operations to neighbouring existing and proposed new industrial premises: • retain the existing acoustic screen fencing at a height of 4m, which is currently erected around the existing site northern and western boundary and along existing driveways as shown on the site drawings; and • proposed new colorbond and electric fence along the new eastern boundary shall be an acoustic screen fencing of 4m height	E	5	L

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Noise and vibration impact assessment has shown potential traffic noise associated with the operation of the facility and impacting nearby residential receivers is assessed as being insignificant and would comply with the RNP.	E	5	L	No additional mitigation measures required.	E	5	L
Air Quality	Air quality impact assessment has shown no additional exceedance of criteria due to the proposed development.	E	5	L	Although no additional exceedance are expected, a number of mitigation measures will be employed, including dust suppression where required and maintenance of vehicles and equipment in accordance with manufacturer's specifications.	E	5	L
Greenhouse Gas	The contribution of the emissions to the totals for NSW and the nation, the upgrade represents a negligible increase in GHG emissions.	B	4	M	The upgrade of the site will result in a number of efficiency improvements which will reduce the emission of GHGs from the mobile materials handling equipment kilometres travelled by trucks. The increased throughput will also allow for efficiencies due to the economy of scale;	E	4	L

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Post-upgrade the site has an additional capacity to recover ferrous and non-ferrous materials from the recycling processes, decreasing the need for end users to source raw materials from the extraction industries	A	4		Improvement - no mitigation measure required.	A	4	
Soil and Water	Expansion of site operations will create increased demand for water supply.	B	3	H	From the preliminary calculations provided in the soil and water assessment it assumed that between 15% and 35% of the total water requirement on-site could potentially be supplied by the stormwater basin in dry years (10%ile rain year) and wet years (90%ile rain year) respectively with an average rainfall year potentially supplying 26% of the site water requirements. Rainwater tanks would likely be best suited to providing water for personal use such as toilet flushing, reducing the requirement for mains supplied potable water.	B	4	M

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Potential for disturbance to site soils during construction, with minor potential to impact upon stormwater runoff.	C	3	M	With the limited site disturbance required to establish the site the erosion and sediment controls suggested within this report, along with the key management strategy of planning ground disturbance works for outside of forecast inclement weather periods are considered sufficient to limit the potential for possible stormwater impacts.	D	4	L
	Typical site operations are not expected to encounter or disturb acid sulphate soils, nor lower the water table on adjacent lands to expose acid sulphate soils to oxidation.	E	5	L	No additional mitigation measures required.	E	5	L
	As the site will not be excavating material or extracting groundwater, it is not expected that the site operations will impact the regional groundwater quality or quantity. As such it is not proposed to undertake a groundwater monitoring program on the site.	E	5	L	No additional mitigation measures required.	E	5	L

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Potential impact on the Breakfast Creek riparian corridor.	C	3	M	Although exempt from controlled activity approval under the WM Act, redevelopment of the site has been designed to meet as far as practicably possible, the new rules developed by NOW (2012) regarding controlled activities within riparian corridors.	D	4	L
Contaminated Land	Although some potential for residual contamination remains, based on the results of this Phase I ESA and in particular the absence of potentially complete SPR linkages as presented in the CSM, along with the planned continued industrial land use at both properties, it is considered that further investigation is not required at this stage in order to facilitate the proposed redevelopment.	C	2	H	A contingency for the appropriate management of potential unexpected contamination finds should be incorporated in the Construction Environmental Management Plan (CEMP) for the planned redevelopment of both properties. If localised contaminated soils are encountered during construction works, they shall be segregated and assessed for waste classification and appropriately disposed of or re-used onsite, subject to the results of testing. If significant contamination is encountered during construction works, further investigation in the form of a Phase 2 Environmental Site Investigation (ESA) may be required. All pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act); and A Hazardous Materials Register and	C	4	M

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
					respective Safety Data Sheets (SDSs) shall be kept on site at all times and regularly maintained.			
Hazard and Risks	The PHA indicated that there was no significant offsite impact from the use of dangerous goods on site due to the small inventories involved.	E	5	L	No additional mitigation measures required.	E	5	L
	The NSW criteria for injury were not reached at sensitive or residential land use zones.	E	5	L	No additional mitigation measures required.	E	5	L
	The potential for offsite fatality and property damage was limited to the scenario of a 45 kg LPG cylinder rupture in the dangerous goods store. The NSW criteria for offsite fatality and property damage are considered satisfied due to the rarity of LPG cylinder ruptures	E	1	H	At least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage. Provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers.	E	3	L
Fire and Incident	Floc material has been identified as a potential source of fire.	C	1	H	Floc material will be managed by keeping the stockpile small, so as not to consider the warehouse in which it is kept as a high hazard occupancy. Water cannons will also be provided for the various stockpiles.	D	2	M

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Any uncontrolled leaks or spills have the potential to contaminate soils within unsealed sections of the site, or be entrained in stormwater flow to the detention basin at the rear of the site. Overflow of potentially contaminated water from the detention basin, has the potential to detrimentally impact on Breakfast Creek.	C	2	H	The site will be kerbed to retain spillages or stormwater run-off, which outflow via a detention basin. Spill kits will be available on-site and be deployed to manage and contain minor spills. All pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with POEO Act. A Fire and Incident Response Management Plan will be developed for the expanded site.	D	4	L
Transport	Traffic impact assessment has indicated that compared against the existing operational traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is negligible and could not be expected to compromise the safety or function of the surrounding road network.	E	5	L	No additional mitigation measures required.	E	5	L

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	Possible minor impacts associated with construction traffic	D	3	M	Once the contractor has been appointed, a site-specific construction traffic management plan (CTMP) should be prepared prior to works commencing on-site detailing construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.	E	5	L
Social and Economic	The proposed expansion of the site will provide for increase labour force, creating positive flow-on effects to the local economy. The proposed expansion of the site will also enable Sell and Parker to utilise the available plant capacity in order to better respond to community expectations for efficient an effective metal resource recovery and recycling facilities.	A	4		Improvement - no mitigation measure required.	A	4	
	The proposed education and training centre will promote recycling initiatives and to explain the nature of resource recovery. The centre will provide support and seek to participate with the	A	4		Improvement - no mitigation measure required.			

Environmental Issue	Unmitigated Potential Impacts / Inherent Risk	Probability	Consequence	Potential Risk Prior to Mitigation	Actions / Proposed Mitigation Measures	Residual Probability	Residual Consequence	Potential Residual Risk Post Mitigation
	education programme in schools and tertiary education facilities, thus positively contributing to the local community.							
	In the short term, construction works may have a minor negative impact on surrounding business with regards to amenity, noise, air and traffic	C	4	M	These impacts can be appropriately managed with implementation of mitigation measures stated through EIS	D	5	L
Visual	The proposed development will not result in significant visual impacts in the vicinity of the site or neighbouring areas.	E	5	L	No additional mitigation measures required.	E	5	L
Waste	The proposed development will involve the generation of various types of waste streams, which if not managed appropriately have the potential to impact on the receiving environment	C	2	H	A number of mitigation measures have been proposed to manage waste in accordance with the Waste Hierarchy and ensure appropriate receipt, handling and disposal of waste	D	4	L

7.2 SUMMARY OF ERA

The environmental risk assessment presented in *Table 7.4* indicates how the assessments and mitigation measures contained in *Chapter 6* have assisted in understanding the proposed development and reduced the environmental risk associated with it. Certain risk associated with potential to uncover residual contamination, risk of fire and increase in water demand remain on-site but risk to environment has been reduced through proposed mitigation measures. Impact assessment for a number of other environmental risks, including air quality, noise and traffic has shown risks to the environment to be negligible.

In addition to these risks, the proposed development will create a number of beneficial effects, including a number of positive social and economic benefits to the local area, including considerable capital investment, creation of additional jobs and associated flow on effects to the local economy and the establishment of an education and training facility. Post-upgrade the site will have additional capacity to recover ferrous and non-ferrous materials from the recycling processes, thus decreasing the need for end users to source raw materials from the extraction industries and thus positively impacting on reducing greenhouse gas emissions.

8 SECTION 79(C) CONSIDERATIONS

When undertaking an assessment of a development application, a consent authority is required, pursuant to Section 79C of the EP&A Act, to take into consideration a range of matters. It requires that both the natural and built environments and the social and economic impacts in the locality are considered. Each of these matters is listed below in italics with relevant comments provided.

(1) Matters for consideration – general

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

(i) any environmental planning instrument, and

The provisions of relevant EPIs relating to the proposed development are summarised in *Chapter 4 – Planning Considerations* of this Report, and include relevant SEPPs and local planning controls contained within Blacktown LEP 1988.

The proposed development is consistent with the relevant EPIs, and is a permissible development under Blacktown LEP 1988.

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

Blacktown City Council has prepared a new *Draft Local Environmental Plan 2013* ('Draft LEP 2013'). The Draft LEP 2013 was publicly exhibited in March and April 2013. The exhibited Blacktown draft LEP 2013 proposes that the Blacktown Industrial Area (within which the site is located) be changed from an industrial area to a 'business park'. As a result, the proposed zoning for the site, and almost all of the existing 181ha industrial area, is *'B7 Business Park'* in Draft LEP 2013. Industrial land uses, including waste and resource management facilities are prohibited within the proposed *'B7 Business Park'* zone.

Notwithstanding the above, Blacktown City Council held a meeting on 12 March 2014, to hear a motion regarding making further amendments to the Blacktown Draft LEP, prior to its referral to DP&I.

The amendments which were adopted by Council have the effect of amending the originally proposed zoning of the subject site and surrounds from B7 (as proposed in the publicly exhibited Blacktown LEP) to an IN1 General Industrial zone. Specifically the proposed amendments include the land bounded by Sunnyholt Road to the east, Vardys Road to the north, Breakfast Creek to the south and Harvey Road (adjoining the railway line) to the west. The motion passed by Council has the effect of making the proposed development permissible with consent under the IN 1 General Industrial zone, under draft Blacktown LEP.

Sell and Parker maintain their position that the site and surrounds should maintain a general industrial zoning, noting that the Council resolution of 12 March 2014 achieves this objective and would allow a waste and resource recovery facility to be permitted with consent under the relevant Environmental Planning Instrument.

In accordance with Section 79C (a)(ii) of the EP&A Act, the provisions of draft EPI's such as the Blacktown Draft LEP 2013 should be considered and given relevant weight. Whilst some weight should be given to the draft LEP, given it has been placed on public exhibition and endorsed by Blacktown City Council, it is our understanding that the draft LEP has not been referred to DP&I for gazettal. The review and LEP gazettal process which is to be undertaken by DP&I, is expected to take up to six months and may lead to further changes to the draft LEP, which may affect land zonings and permissibility. The recent Council motion of 12 March 2014 should be validly considered in respect to weight, as it precedes the exhibited version of Blacktown draft LEP.

Irrespective of the draft LEP, this report maintains that the state and regional benefits of the metal waste and resource recovery facility to the Sydney Region is of such significance that the project should proceed and therefore insignificant weight should be given to the draft LEP. The expansion of the existing Sell and Parker facility is consistent with the overall general industrial nature of the locality and continues to service the waste, resource and metal sectors.

Furthermore we note that the draft Blacktown LEP contains relevant "Saving and Transitional" provisions which enable any DA, such as this SSD application be able to be considered in accordance with the previous EPI (Blacktown LEP 1988), on the basis that the application was made prior to the coming into effect of the draft LEP.

(iii) any development control plan, and

Section 4.5.2 of this Report identifies the compliance of the project with Blacktown DCP 2006. This assessment found that the proposed development is consistent with the provisions of the DCP.

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and

There are no planning agreements that apply to the site.

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

The proposed waste metal recovery, processing and recycling facility is not a prescribed purposes under the Environmental Planning and Assessment Regulations 2000.

(v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,

Coastal zone management plans are not applicable to the site.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

An assessment of key issues relating to the proposed development is provided in Chapter 6 of this Report and it is considered that the likely impacts of the development, including traffic, parking and access, air and odour, stormwater quality, waste management, and risk management have been satisfactorily addressed.

Additionally proposed mitigation measures are outlined in chapter 6 and summarised within *Table 9.1*, which will ensure that the likely environmental impacts are contained and able to be effectively managed on the site.

(c) the suitability of the site for the development,

The subject site is identified as industrial land for employment-generating purposes pursuant to Blacktown LEP 1988. The existing Sell and Park facility has been successfully operating from 45 Tattersall Road for in excess of 15 years, with the proposed expansion onto the adjoining Dexion site (23-43 Tattersall Road) a continuation of its existing activities.

The proposed expansion of the project continues the industrial use of the land on both the current Sell and Parker site, and the soon to be former Dexion site. The increase in the size of the Sell and Parker site from 2.86 hectares to 6.1 hectares will significantly improve site operations, allowing additional throughput, whilst allowing for more effective environmental mitigation measures to be employed and incorporated into the overall project design.

The key site improvements associated with the expanded site operations include;

- Reducing truck having to enter and exit the site twice as part of existing operations;
- Providing physical separation of retail and wholesale customers;
- Incorporating the existing Dexion office facilities into the Project (demolishing the existing Sell and Parker office building), which eliminates customers and other visitors having to enter the site via the current entrance driveway and towards the middle of the site;
- Sealing those areas of the site that a not sealed (except landscaping) to reduce and mitigate dust impacts;
- Enclosing post shredding activities within an industrial building that is currently on the Dexion site and will be amended to suit the proposed operations;
- Relocation of pre-shredder towards the centre portion of the site, away from side boundaries;
- Improving the collection and treatment of stormwater on the site, incorporating water treatment;
- Provision of upgraded landscaping throughout the site, mainly within the eastern boundary, front setback and rear vegetated area; and
- Retention of existing 4m high site fencing, with additional dust screen to be employed, thereby minimising dust, noise and visual impacts.

The above measures form critical components of the project and will be able to be successfully incorporated into this project due to the suitability of the site, having regard to its size, configuration and current industrial land uses.

(d) any submissions made in accordance with this Act or the regulations,

As the project is SSD, the DA will undertake an exhibition period for a 28-day period. During the exhibition period relevant agencies and appropriate regulatory authorities will also be consulted. As part of its assessment, DP&I will then have regard to any submissions received and Sell and Parker should be afforded the opportunity to address and respond to submissions accordingly.

(e) the public interest.'

The proposed development is for the purpose of waste metal recovery, processing and recycling facility which provides an economic and environmental benefit to the Sydney region.

The overall facility, including the Hammermill, is one of only two such facilities in the Sydney region, and the strategic location of the site, adjacent to major transport corridors such as the M7 and M4 motorways, is such that it supports businesses within the waste and metal sector within Sydney and NSW. It will contribute to the economic growth of the region, and will offset some of the expected loss of jobs associated with the relocation of the current Dexion operations offshore.

The environmental benefits of the project are also in the public interest, given the resource recovery nature of the project. Sell and Parker recognise the social and community benefit of recycling and resource recovery and have committed as part of this project to include a community and education resource centre within the site.

9 SUMMARY OF MITIGATION MEASURES

This chapter provides a summary of the mitigation measures identified within Chapter 6.

Table 9.1 Summary of Mitigation Measures

Issue	Potential Impact	Mitigation/ Management Measure
Ecology	The overall potential ecological impacts are considered low given the highly disturbed nature of the site. Only landscape trees separating the two current separate sites require removal. Potential impacts to threatened species are considered highly unlikely.	The following recommendations aim to minimise ecological impacts of the proposed works: • sediment control barriers will be installed at the site during construction and while earthworks are undertaken to reduce the likelihood of silted runoff into adjacent Breakfast Creek in the event of high rainfall; • all vehicles are to keep to the existing and proposed access roads on-site at all times; and • all work should be undertaken to prevent the spread of pests and noxious weeds in accordance with the Noxious Weeds Act 1993 and the Noxious and environmental weed control handbook - A guide to weed control in non-crop, aquatic and bushland situations (NSW Government, 2011).
Heritage (Indigenous)	Potential impacts to previously unknown indigenous artefacts or relics during ground disturbance activities.	In accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW NSW, 2010) a conservative approach will be adopted at the site. The following mitigation measures will be implemented: • all staff, contractors and others involved in the construction works would be made aware of the statutory legislation protecting sites and places of heritage significance; and • all works would cease in the immediate area should any indigenous artefacts or relics be uncovered and the Cultural Heritage Division of the NSW National Parks and Wildlife Service (OEH) contacted.
Heritage (Historical)	Potential impacts to previously unknown items of historical significance during ground disturbance.	The following mitigation measures are recommended to ensure that if any historical heritage artefacts are encountered appropriate measures are implemented: • all staff, contractors and others involved in the works would be made aware of the statutory legislation protecting sites and places of heritage significance prior to works commencing; and • in the event that a site or artefact (as defined by the National Parks and Wildlife Act 1974 or Heritage Act 1977) is identified during construction works, works shall cease at the location. The find shall be immediately reported to the regulator in accordance with legislation. No work shall commence in the vicinity of the find until any required approvals have been given by the regulator.
Acoustics	Noise and vibration impacts to nearby commercial premises during construction and operation.	The following acoustic screen fencing is proposed to mitigate noise emissions from site operations to neighbouring existing and proposed new industrial premises: • retain the existing acoustic screen fencing at a height of 4m, which is currently erected around the existing site northern and western boundary and along existing driveways as shown on the site drawings; and • proposed new metal/colorbond and electric fence along the new eastern boundary shall be an acoustic screen fencing of 4m height In addition to the above, the noise screen will be designed with regard to the following: • the extent of noise reduction required of the noise screen as a whole as perceived from any potentially affected receiver sites;

Issue	Potential Impact	Mitigation/ Management Measure
		• any penetrations through the fabric of the noise screen will be sealed air tight; • all joints between noise screen panels will be sealed air tight; and • noise screens will have no clearance gaps underneath them.
Air Quality	Potential localised air quality impacts associated with increased concentrations of TSP at nearby commercial and residential locations.	The following mitigation measures will be implemented to manage potential localised air quality impacts during construction and operation: • vehicles and equipment shall be maintained in accordance with the manufacturer's specifications; • additional site fencing located on the eastern boundary of the site, should include appropriate dust screen to minimise airborne dust movements; and • all surplus soils from excavations during construction, not reused on-site, shall be removed from site by covered trucks and disposed of at an appropriately licensed facility.
Greenhouse Gas	Release of GHG emissions into the atmosphere. Based on the GHG assessment undertaken indicate that GHG emissions associated with the upgrade would represent an increase of 0.006% on Australia's national GHG emissions in 2010/11 of 563.1 Mt CO2-e, which is considered negligible.	Efficiency measures which will be implemented to manage GHG emissions during construction and operation include: • the site will be sealed, which will reduce the emission of GHGs from the mobile materials handling equipment due to a more consistent driving surface and the ability to select more direct routes across the site; • the new site design no longer requires trucks to enter the site twice but allows for one main entrance and exit point, reducing the kilometres travelled by trucks; • the increased throughput allows for efficiencies due to the economy of scale; • additional equipment purchased for the upgrade will conform to the standards of the latest technology including installation of conveyors to move material after processing rather than by FEL or truck; • post-upgrade the site has an additional capacity to recover ferrous and non-ferrous materials from the recycling processes, decreasing the need for end users to source raw materials from the extraction industries; and • where possible, the site will strive to continually improve the energy efficiency of its process and operations by implementing electricity and cost saving measures.

Issue	Potential Impact	Mitigation/ Management Measure
Soil and Water	Potential impacts include: • accidental release/spillage of contaminants and wastewater generated on-site; • earthworks resulting in potential erosional impacts; and • impacts to water balance as a result of the expansion	To manage and control stormwater, the following mitigation measures are proposed: • installation of two oil/water separators for the new drainage system within the existing and expanded site area; • regular cleaning of the oil/water separators should be carried out to maintain performance; • the existing network of underground stormwater pipes, inlets and oil water separators will be cleaned and, if damaged, replaced during the site refurbishment activities; • a bioretention filter will be installed to receive runoff from overland flows and the underground pipe network on the expanded site area; and • the existing stormwater pond on the existing site will be dredged and excavated to remove any contaminated sediments and lined with clay. Verification sampling will be required as will waste classification sampling to allow for the appropriate disposal of any dredged material. The general principles to be applied to erosion control for the disturbed site include: • plan for erosion and sediment control and assess site constraints during the design phase and before any earthworks begin; • minimise the area of soil disturbed and exposed to erosion; • control water flows from the top of and through the project area – divert up-slope 'clean' water away from disturbed areas and ensure concentrated flows are below erosive levels; • rehabilitate disturbed lands quickly; and • maintain erosion and control measures for the duration of the project and until the site is successfully rehabilitated. Key sediment controls include: • protecting stormwater inlets; • constructing a wheel wash; • creating stabilised site access points; • managing stockpiles; and • utilising sediment traps such as sediment fence during construction. Pollution control methods will include: • storage of chemicals within impervious bund of more than 110% of the largest container within the bund; • Material Safety Data Sheets (MSDS) for all chemicals stored on-site and made available to site personnel; • refuelling to occur away from drainage points, with drip trays used and spill kits available; and • trade waste receptacles will be provided for the storage and disposal of all wastes generated on-site. To minimise the use of potable water associated with the expansion of the site, the following measures should be implemented:

Issue	Potential Impact	Mitigation/ Management Measure
		• on-going use of collected runoff in the stormwater basin for operation requirements is recommended, as long as the water is of a quality such that impacts to site infrastructure, the surrounding environment and the health and safety of employees is avoided; • rainwater tanks may also be installed to utilise the runoff from roof spaces and would likely be best suited to providing water for personal use such as toilet flushing, reducing the requirement for mains supplied potable water.; • landscaped areas along the south boundary will include a range of locally endemic species to enhance the portion of the riparian corridor inside the operational boundary of the redeveloped site.
Contaminated Land	Potential risks to human health and the environment resulting from exposure to historical contamination during ground intrusive works.	The following management measures will be employed to manage potential exposure to contaminants during construction and operation: • a contingency for the appropriate management of potential unexpected contamination finds should be incorporated in the Construction Environmental Management Plan (CEMP) for the planned redevelopment of both properties; • if localised contaminated soils are encountered during construction works, they shall be segregated and assessed for waste classification and appropriately disposed of or re-used onsite, subject to the results of testing; • if significant contamination is encountered during construction works, further investigation in the form of a Phase 1/2 Environmental Site Investigation (ESA) may be required; • any imported fill must be certified at source location (e.g. quarry or property owner) as Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM) in accordance with the Protection of the Environment Operations Act 1997 (POEO Act) and the Protection of the Environment (Waste) Regulation 2005 (POEO Waste Regulation); • all pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with the Protection of the Environment Operations Act 1997 (POEO Act); and • a Hazardous Materials Register and respective Safety Data Sheets (SDSs) shall be kept on site at all times and regularly maintained.
Hazards and Risks	Potential off-site impacts include fatality, human injury or damage to property caused from activities undertaken at the site.	• at least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage (AS 4332-2004, Table 7.2). This is based upon the 3,000 L of oxygen in the store. • provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers. • maintain the height of the floc stockpile to less than 4 m, or the total volume to less than 1000 m3. This ensures the warehouse in which the floc is stored will not be a high hazard occupancy.

Issue	Potential Impact	Mitigation/ Management Measure
		• continue with the practice of providing water cannons to provide reach to feed and processed stockpiles in the event of a fire in any stockpile.
Fire and Incident	Floc material has been identified as a potential source of fire. Any uncontrolled leaks or spills have the potential to contaminate soils within unsealed sections of the site, or be entrained in stormwater flow to the detention basin at the rear of the site. Overflow of potentially contaminated water from the detention basin, has the potential to detrimentally impact on Breakfast Creek.	The recommendations made in regards to fire protection requirements as detailed above will be implemented To ensure incidents such as accidental spills and / or leakages from machinery are contained and managed appropriately, the following measures will be implemented. • the site will be kerbed to retain spillages or stormwater run-off, which outflow via a detention basin. The detention basin has a capacity of 1440 m3. This basin will be required to be managed in accordance with the measures identified in Section 6.6). • spill kits will be available on-site and be deployed to manage and contain minor spills; • all pollution incidents that threaten or harm the environment shall be reported immediately to relevant authorities in accordance with POEO Act. • It is recommended that a Fire and Incident Response Management Plan, including but not limited to the mitigation measures above, be developed for the expanded site. Sell and Parker have an existing Emergency Response Plan, this may be updated to include the aforementioned information.
Traffic and Transport	Compared against the existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is considered negligible and is not be expected to compromise the safety or function of the surrounding road network.	• a site-specific construction traffic management plan (CTMP) will be prepared prior to works commencing on-site. This is to outline construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.
Social and Economic Resources	The proposed development presents an overall positive impact to the local community in terms of employment opportunities and indirect contributions to the local community.	The following measures should be implemented to ensure positive socio-economic impacts of the proposed developed are maximised: • seek to utilise local available labour force when recruiting for additional employees, including where possible those that have been affected by job losses at the Dexion site; • where possible, investigate opportunities for offering apprenticeships for new work force and offer additional training to current workforce; • communicate to local business and community the expected start date of construction; and • any complaints received relating to site operations are to be recorded and attended to promptly.

Issue	Potential Impact	Mitigation/ Management Measure
Visual Amenity	The proposed development will not result in significant visual impacts in the vicinity of the site or neighbouring areas	Whilst visual amenity impacts associated with the proposed development are considered negligible the following management measure will be implemented: • native trees, shrubs and grass species will be planted along site boundaries, particularly the frontage with Tattersall Road, which will complement and enhance existing landscaped vegetation in accordance with the Landscape Concept Plan provided in Annex M.

Waste Management	Potential impacts include:
	• excessive waste being directed to landfill;
	• various types of waste being generated and stored onsite, with the potential for misclassification;
	• contaminated waste not being correctly stored or disposed;
	• off-site impacts to soil and/or water and/or groundwater.
		• all waste transported to and removed from the site should be done so in accordance with road and transportation legislation;
		• in all cases, appropriately licenced transport contractors are to be engaged to transport waste material to and from the site. The contractors appointed to transport waste are to ensure they:
		  • are licenced to transport the type of waste they receive;
		  • transport the waste to a licenced facility capable of receiving the type of waste and quantity they are carrying;
		  • waste is adequately covered during transport; and
		  • the contractor transporting the waste is to ensure that completed waste data forms are provided to the waste facility upon arrival
		• the designated site manager or an appointed responsible delegate should prepare monthly reports clearly documenting the waste that has been received and generated. These should be prepared using waste receipts that have been retained and should include:
		  • waste classification data to assess compliance with the DECCW (2009) *Waste Classification Guidelines;*
		  • a review of licences held by the facilities where waste has been disposed to assess/ ensure their ability to accept the waste in accordance with relevant legislation; and
		  • include any incident reports relating to waste (i.e. spills) which have occurred over that month. Any corrective actions undertaken should also be included.
		• all waste materials which meet the specification to be reused/ recycled will be processed on-site or be taken to an approved facility, capable of accepting those materials.
		• all other waste is to be disposed in accordance with the classification of the waste material at an approved licenced facility.

10 ENVIRONMENTAL MANAGEMENT PLAN OUTLINE

This chapter outlines a framework for an environmental management plan to be formulated before the increase in handling capacity increases.

10.1 ENVIRONMENTAL MANAGEMENT STRUCTURE

10.1.1 Environmental Management Context

Under section 75F of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the EIS must include a description of measures to "avoid, minimise, mitigate, offset, manage, and/ or monitor the impacts of the project".

These measures will be incorporated within site specific Construction and Operational Environmental Management Plans (collectively referred to as EMPs), which will provide an overall framework for the management of environmental impacts that could potentially arise from the proposed expansion of the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility. Whilst there is an existing approved EMP for the current facility, given the expansion of the site, this EMP will require updating to reflect the finding of this EIS.

All mitigation measures identified throughout this EIS and within the summary of mitigation measures table will be incorporated into the updated EMPs.

The EMPs will:

- act as an environmental operations manual for staff and contractors throughout construction and operation of the facility;
- identify potential impacts of the proposed expansion and the measures proposed to mitigate these impacts as described within this EIS;
- detail how environmental safeguards are to be implemented;
- detail the timing of the implementation of the mitigation measures;
- clearly define allocations of environmental responsibilities of all staff and contractors;
- outline monitoring and reporting requirements to demonstrate compliance with licensing and approval requirements; and
- provide procedures for review and updating of the EMPs.

Preparation of these EMPs complies with the requirements of the NSW Government Environmental Management Systems Guidelines and the proponents overall approach to environmental management. The EMPs will be prepared in accordance with the relevant environmental Acts and Regulations, principles of Ecologically Sustainable Development and good practice environmental procedures (including the "*Guideline for the Preparation of Environmental Management Plans"* NSW Department of Planning, 2004).

Adherence to the EMPs will enable environmental safeguards and mitigation measures to be effectively implemented and sustainable work practices adopted throughout the duration of the project. This will demonstrate the proponents intent to comply with relevant environmental legislation, prevent environmental pollution and minimise the impact of the proposal on the environment.

10.1.2 Approach to Environmental Management

The proponent is committed to responsible environmental practices and the management of impacts associated with the proposed increased handling capacity at the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility will be in accordance with Council's Environmental Policy.

Specifically the proponent is committed to:

- conducting its operations to minimise environmental risk and, wherever practicable, eliminate adverse environmental impacts;
- continual improvement of our environmental performance including regular review and the setting of rigorous environmental objectives and quantified targets – particularly with regards to:
    - efficient use of energy (including appropriate use of alternative fuels);
    - conservation of water;
    - minimisation and recycling of wastes;
    - prevention of pollution;
    - effective use of virgin resources and supplemental materials;
    - open, constructive dialogue with communities surrounding our operations;
    - reducing the greenhouse gas emissions from our processes and facilities;
    - complying with environmental legislation, regulations, standards and codes of practice relevant to the particular business as the absolute minimum requirement in each of the communities in which we operate;

- conducting business with suppliers and contractors who have a commitment to the values and objectives contained in the Sell and Parker environmental policy; and

- remediating its disturbed and/or contaminated sites to standards acceptable for the site purpose.

At the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility, these commitments will be supported through the proponents implementation of the EMPs.

11 JUSTIFICATION OF THE DEVELOPMENT

This chapter presents a justification for the proposal. An examination of ecologically sustainable development as related to the proposed production increase is also given.

11.1 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Australia's National Strategy for Ecologically Sustainable Development (NSESD) (1992) defines ecologically sustainable development as: 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.

The NSESD states that there are two main features which distinguish an ecologically sustainable approach to development. These features are:

- the need to consider in an integrated way the wider economic, social and environmental implications of our decisions and actions for Australia, the international community and the biosphere; and
- the need to take a long-term rather than short-term view when taking those decisions and actions.

A number of principles form the foundation of Ecologically Sustainable Development:

- Precautionary Principle – where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- Intergenerational Equity – fairness and equal access to opportunities both in our lifetimes, as well as for future generations.
- Protecting Biodiversity – to protect biological diversity and maintain essential ecological processes and life-support systems.
- Improved Valuation – improved valuation, pricing and incentive mechanisms should be promoted to ensure the full costs, including the cost to environmental and social systems, are included in the final valuation of the product or service.

The principles of ESD have been considered throughout the preparation the EIS. This section summarises what steps have been taken to achieve the principles of ESD.

11.1.1 Achieving ESD

The proposed expansion of the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility has been designed to minimise impacts and where possible improve the natural, social and economic environment of the region. This includes ensuring the protection and management of air quality, soil and surface waters as well as the appropriate disposal and management of wastes, hazardous substances and greenhouse gases. Impacts on social systems, such as noise, traffic and transport, visual and land use conflicts have been managed and improved through the proposed mitigation measures.

The increased handling capacity at the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility will result in considerable social and economic benefits at both the local and regional level. The expansion of the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility will better service both existing demand and projected future demand, particularly that from landfill operators, which are beginning to mine their sites to extract metal for recycling. The existing site is strategically positioned within the Blacktown Industrial Area, being in close proximity to existing industries and landfill operations.

11.1.2 Precautionary Approach

A precautionary approach to the identification and management of environmental issues has been taken throughout the preparation of this EIS. In some instances where information was not fully attainable for reasons outside the control of ERM, a precautionary approach was taken to ensure all appropriate measures were employed to prevent any associated environmental degradation.

11.1.3 Benefits to Current and Future Generations

The benefits to future generations include the protection and improved environmental management, increased employment opportunities, improved capabilities to respond to increasing demands (and community expectations) for efficient and effective metal resource recovery and recycling facilities and subsequent economic and social benefits which will be vital for the sustainable expansion and growth of the area.

11.1.4 Protection of Biodiversity

The proposal is to take place on already disturbed and developed land within the Bankstown Industrial Estate. Only minor clearing of planted landscape species are to be cleared for the purpose of the proposed development. Notwithstanding, background literature reviews and database searches were conducted to obtain recent data on flora and fauna species, populations, communities and habitats known to occur within the site and locality.

11.1.5 Valuation of Resources

The assessment of environmental, social and economic issues undertaken in this study has allowed for the improved valuation of these resources when considering the merits of the proposed development. The environmental and social costs associated with the proposed development have been minimised through the proposed mitigation measures, while it is expected that the proposed development will result in positive economic outcome for the region.

11.2 CONCLUSION

This EIS has assessed the potential environmental impacts associated with the Tattersall Road Waste Metal Recovery, Processing and Recycling Facility proposal. The proposal will enable an increase in the handling capacity of waste metal recycling which will assist in meeting the current and expected future demand, particularly that from landfill operators, which are beginning to mine their sites to extract metal for recycling. .

The EIS was prepared having regard to biophysical, economic and social considerations and the principles of ESD. There were no significant environmental impacts identified during the preparation of the EIS that cannot be mitigated by appropriate mitigation measures and management strategies.

The environmental assessment process has been used to drive the development of the site and ensure operations will be sustainable and create minimal disruption to the local community. Metal recovery, processing and recycling operations have been designed to ensure sustainable water use and management, minimise traffic impact on local roads, ensure acceptable noise and dust emissions, effective management of waste and to minimise visibility of the operations. All mitigation measures and management practices identified in the EIS form part of the summary mitigation measure for the proposal and will be incorporated into the updated environmental management plans for construction and operations.

The expanded facility will provide a viable metal recycling service for the surrounding region. The proposal can be implemented with minimal adverse environmental impacts as demonstrated throughout this assessment and is justified in terms of the overall economic benefits to both the local, state and national economies. The waste metal recycling service at the Tattersall Road facility will better meet demand and assist in meeting community expectations for efficient and effective metal resource recovery and recycling facilities. The Tattersall Road facility is based in the Blacktown Industrial Estate therefore providing an important employment role, not only at the facility itself, but also in related industries such as suppliers of equipment, landfills and construction and demolition firms.

The proposed development involves the expansion of an existing metal recovery, processing and recycling facility which is already equipped with modern equipment able to meet the proposed increase in handling capacity. The development will allow important components for waste metal recycling to be undertaken at a site that is already highly disturbed. The service provided by the facility will help achieve the reduction of solid waste going to landfills in Sydney, while the recycled metal products provide an alternative to raw materials used to make metal products. The proposal will have positive flow on effects throughout the local economy through the creation of jobs in associated industries.

All of the potential environmental impacts of the proposed development have been considered and mitigation measures developed to minimise any impacts as detailed elsewhere in this EIS report. As noise, soil and water, dust and waste are the main impacts associated with the metal recovery, processing and recycling facility, controls are placed on the facility operators in the Environmental Protection Licence (EPL) issued by the OEH.

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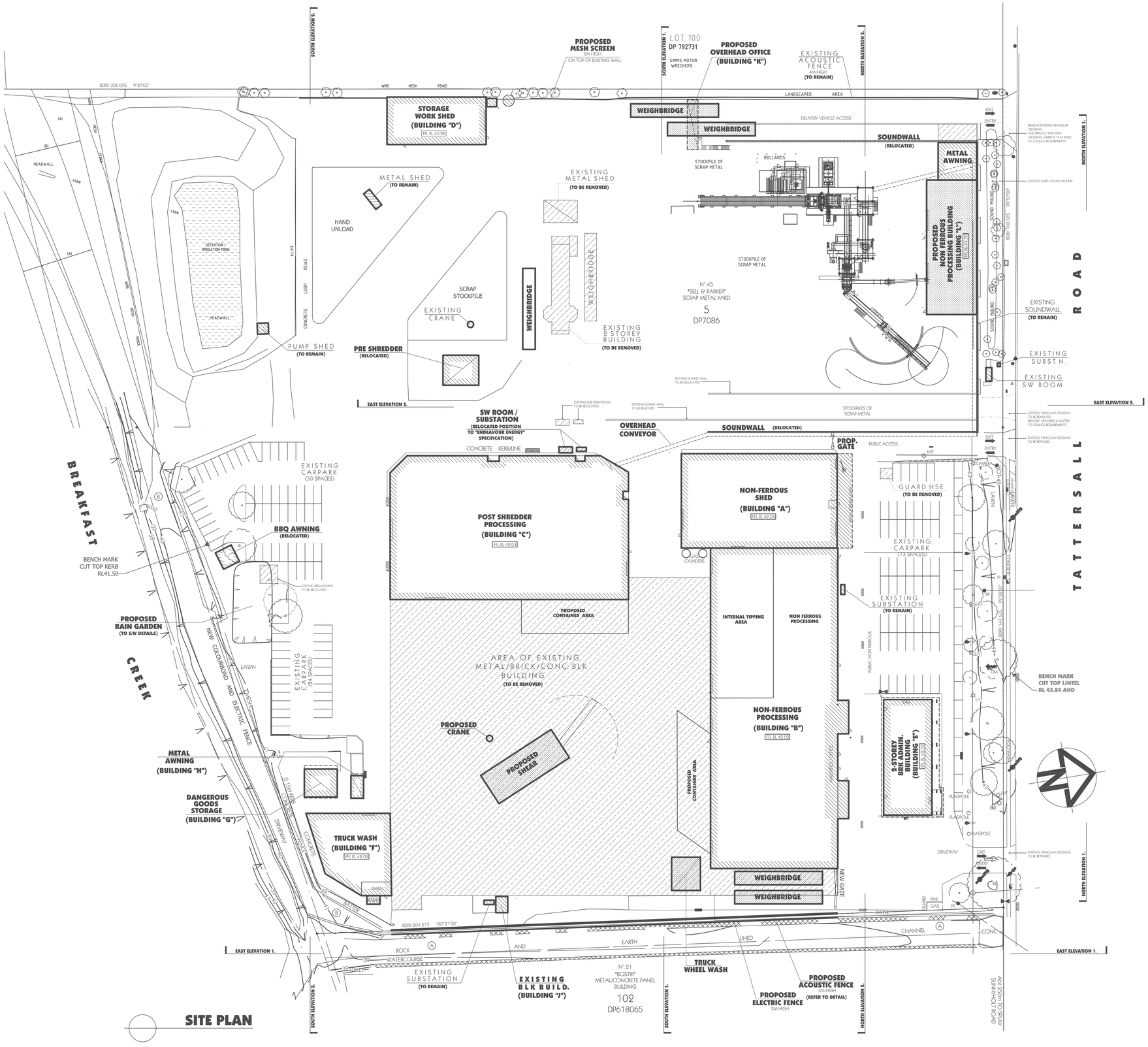
Annex A

Plans



DEVELOPMENT DATA

SITE AREA	**59 475 M2 approx.**	
	FLOOR AREAS	
	W/HOUSE	**OFFICE /AMEN**
BUILD "A"	1278 M2	24 M2
BUILD "B"	3162 M2	438 M2
BUILD "C"	2981 M2	--------
BUILD "D"	415 M2	--------
BUILD "E"	984 M2	--------
BUILD "F"	494 M2	--------
BUILD "G"	81 M2	--------
BUILD "H"	25 M2	--------
BUILD "J"	17 M2	--------
BUILD "K"	47 M2	--------
BUILD "L"	593 M2	--------
TOTAL	**10 077 M2**	**462 M2**

CARPARKING

REQUIRED

TOTAL GR FLR AREA / 75	=	**10077 / 75**	
	=		**134**
TOTAL OFFICE AREA / 40	=	**462 / 40**	
	=		**11**
TOTAL	=		**145**
PROVDED	=		**147**

LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED NEW STRUCTURE
- EXISTING STRUCTURE TO BE FOR REUSE OR TO BE RELOCATED

Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

GENERAL NOTES

1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
2) Levels shown are approximate unless accompanied by reduced levels.
3) Figured dimensions must be taken in preference to scaling.
4) All boundary clearances must be verified by the surveyor prior to the commencement of any building works.
5) Where engineering drawings are required such must take preference to this drawing.
6) Stormwater to be discharged to Councils' requirements and AS 3500.3–1990.
7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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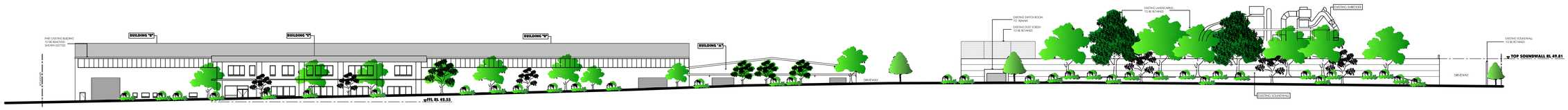
Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL — Project No.: P4144

Title: DEVELOPMENT APPLICATION
SITE PLAN

Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	A101	A

B1 SHEET



STREETVIEW ELEVATION
TATTERSALL RD

SITE ANALYSIS PLAN
NTS

Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

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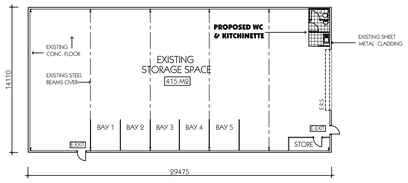
Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

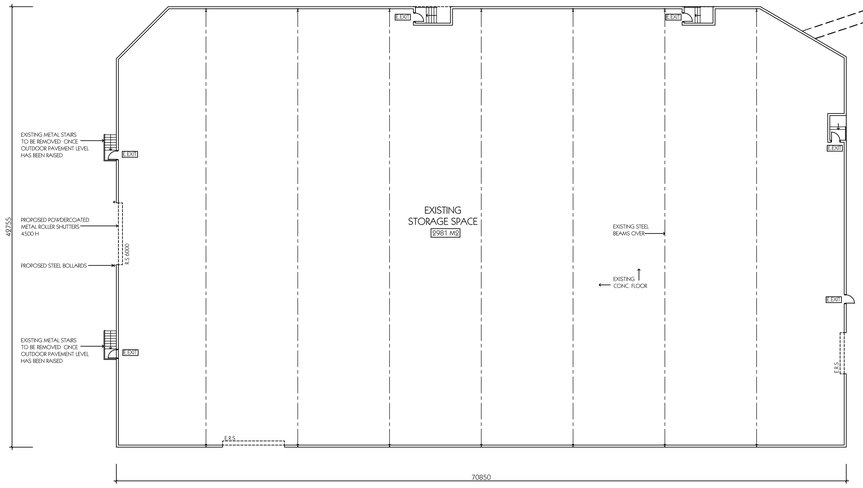
Client: SELL & PARKER METAL — Project No. P4144

Title	Activity Type:	Job No.:	Sheet No.:	Issue
DEVELOPMENT APPLICATION SITE ANALYSIS PLAN	DA	1049-13	A102	A

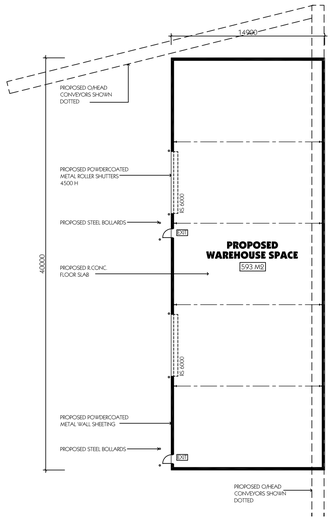
B1 SHEET



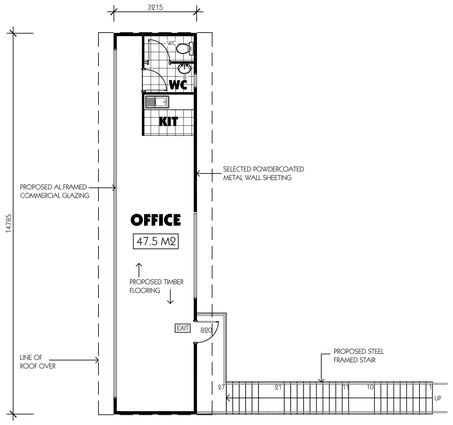
BUILDING "D" STORAGE WORK SHED



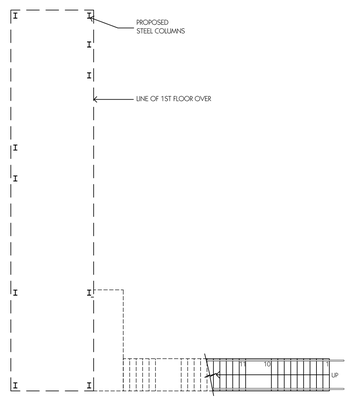
BUILDING "C" POST SHREDDER PROCESSING BUILDING



BUILDING "L" PROPOSED NON-FERROUS PROCESSING BUILDING



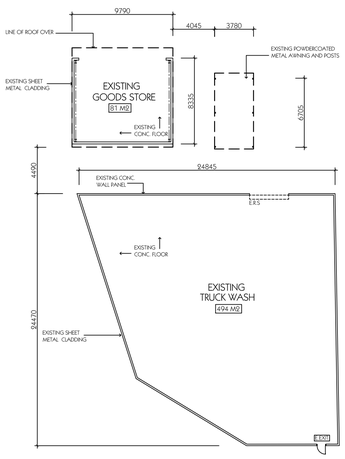
FIRST FLOOR PLAN



GROUND FLOOR PLAN

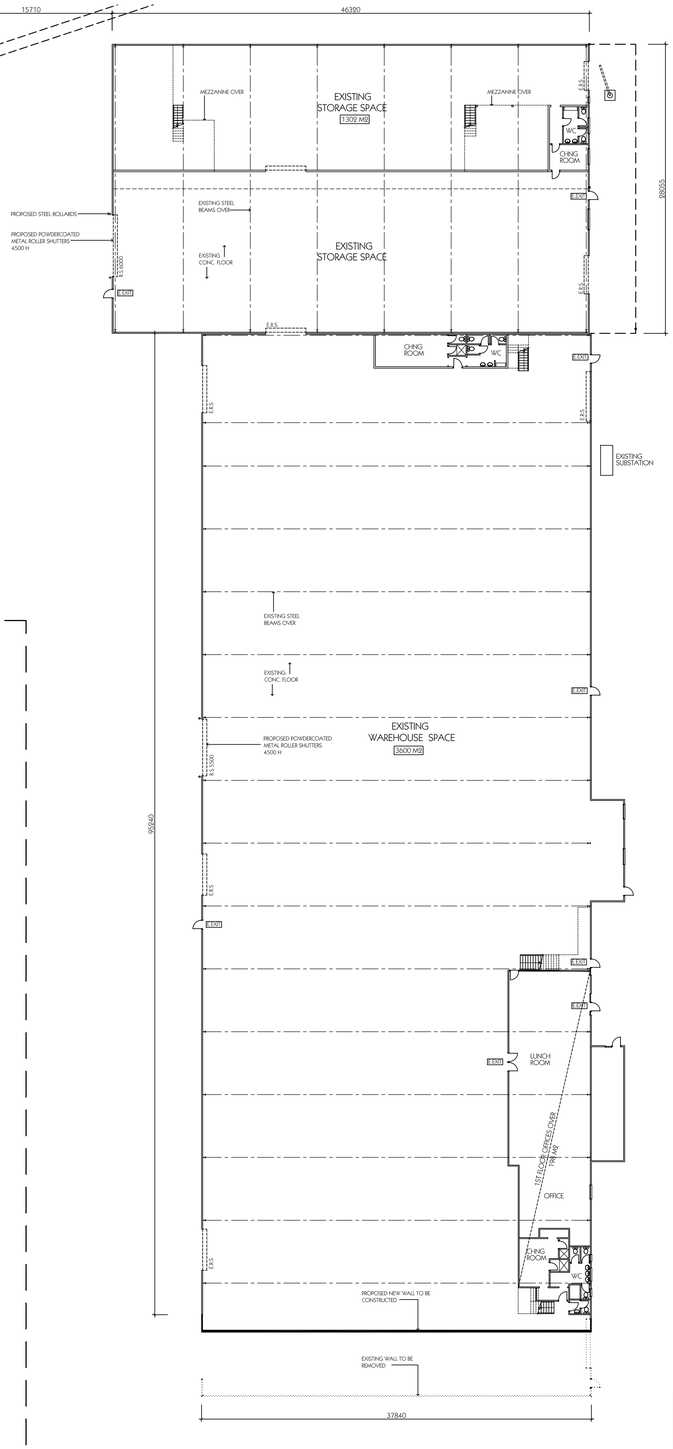
BUILDING "K" PROPOSED O/H WEIGHBRIDGE OFFICE

1:100



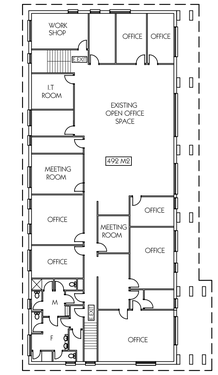
BUILDING "F" TRUCK WASH BUILDING

BUILDING "G,H" DANGEROUS GOODS STORE & AWNING

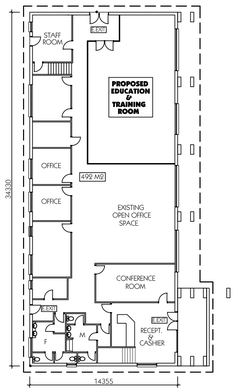


BUILDING "A" NON-FERROUS SHED

BUILDING "B" NON-FERROUS PROCESSING



FIRST FLOOR PLAN



GROUND FLOOR PLAN

BUILDING "E" ADMIN. BUILDING

LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED NEW STRUCTURE
- EXIT — PROPOSED NEW EXIT
- E.EXIT — EXISTING EXIT
- E.R.S — EXISTING ROLLER SHUTTER TO REMAIN

Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

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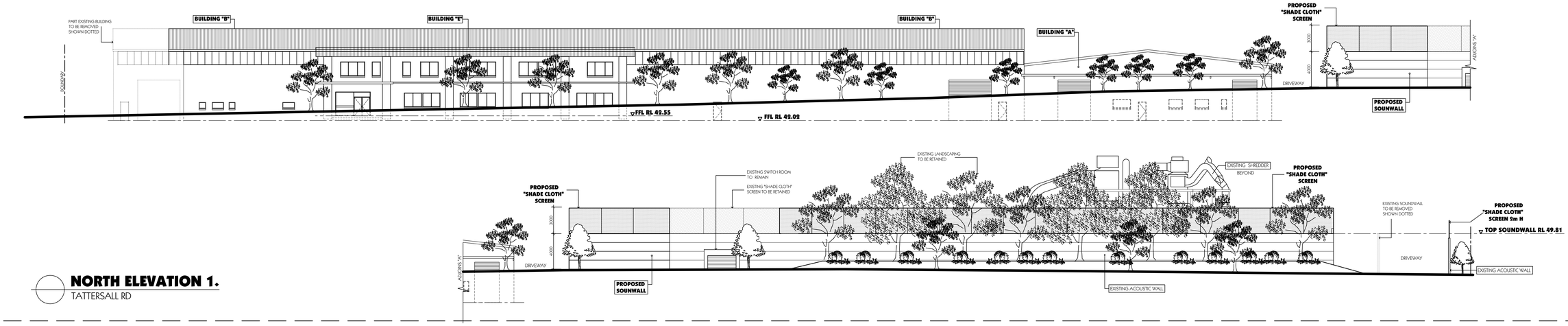
Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL — Project No.: P4144

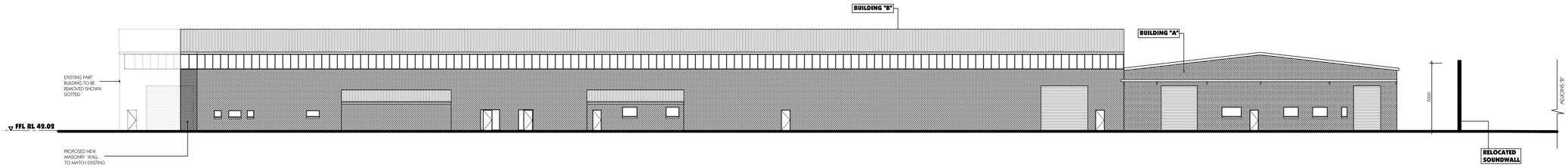
Title: DEVELOPMENT APPLICATION FLOOR PLANS

Activity Type:	Job No.:	Sheet No.:	Issue:
DA	1049-13	A201	A

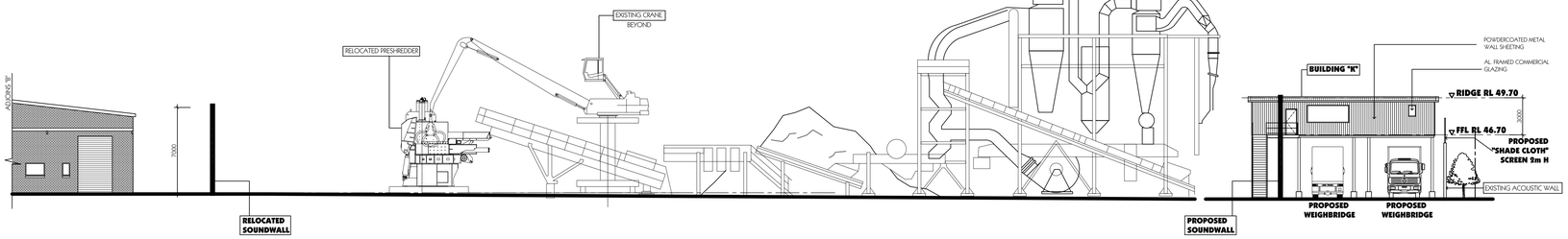
B1 SHEET

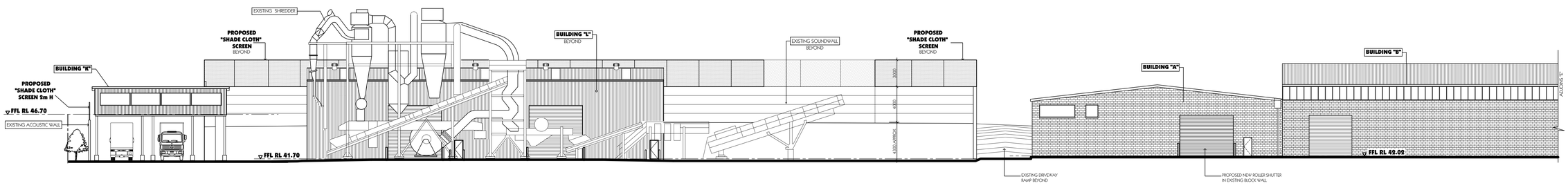


NORTH ELEVATION 1.
TATTERSALL RD

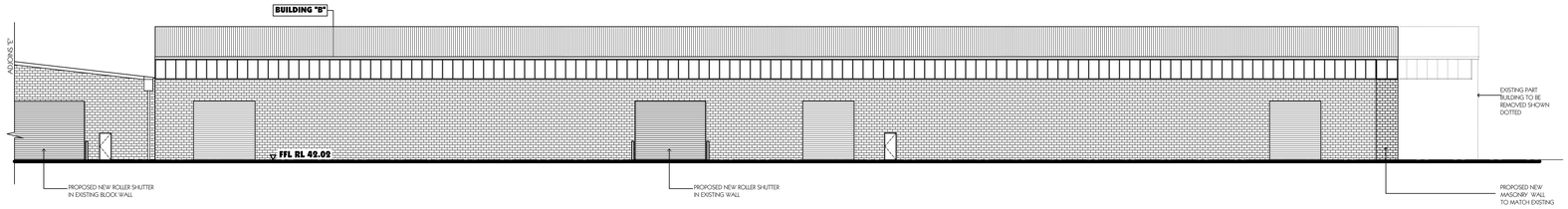


NORTH ELEVATION 2.





SOUTH ELEVATION 1



Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

GENERAL NOTES

1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
2) Levels shown are approximate unless accompanied by reduced levels.
3) Figured dimensions must be taken in preference to scaling.
4) All boundary clearances must be verified by the surveyor prior to the commencement of any building works.
5) Where engineering drawings are required such must take preference to this drawing.
6) Stormwater to be discharged to Councils' requirements and AS 3500.3–1990.
7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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Consultants

Date:	FEBRUARY 2014
Scale	1:200 UNO
Drawn	J.LARA
Checked	C.ZAPPIA
Certified	

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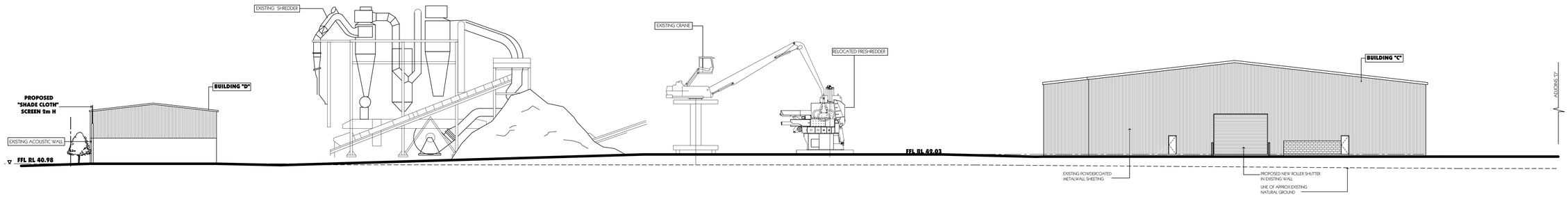
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL — Project No.: P4144

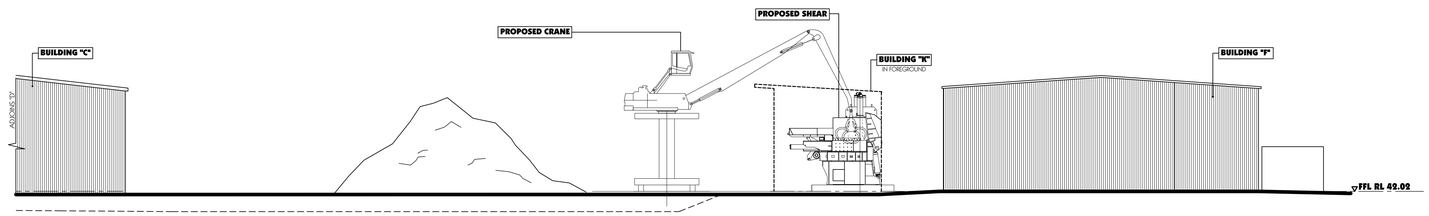
Title: DEVELOPMENT APPLICATION ELEVATIONS & SECTIONS

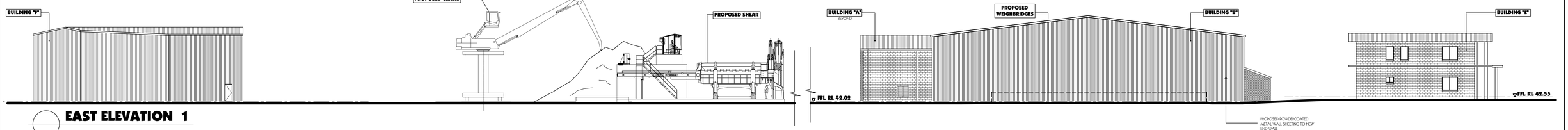
Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	A301	A

B1 SHEET

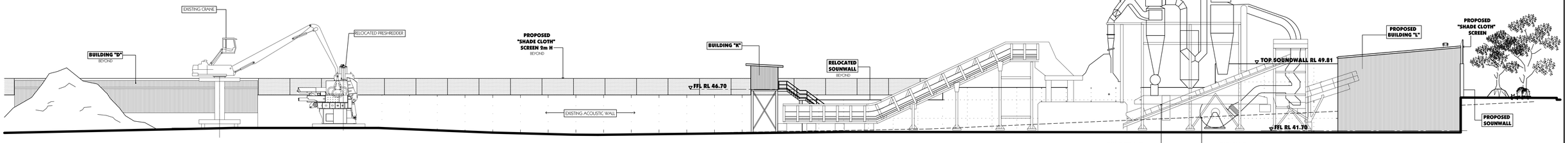


SOUTH ELEVATION 2

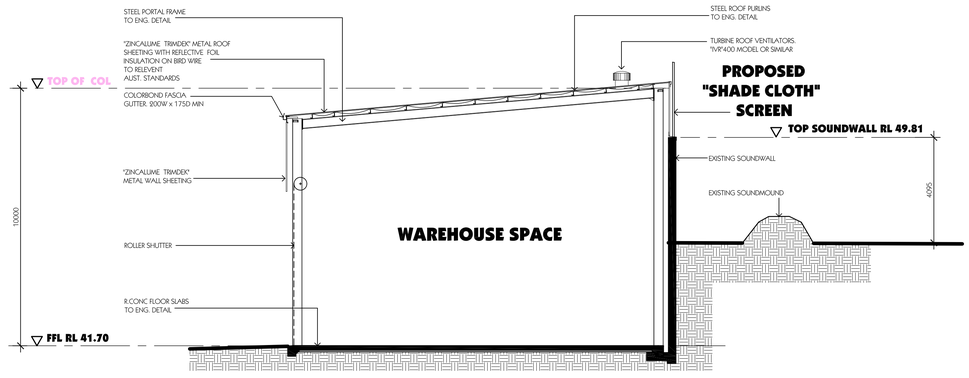




EAST ELEVATION 1



EAST ELEVATION 2



SECTION
THRU BUILDING "L"

Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

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Consultants

Date	FEBRUARY 2014
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Drawn	J.LARIA
Checked	C.ZAPPIA
Certified	

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LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title: DEVELOPMENT APPLICATION
ELEVATIONS & SECTIONS

Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	A302	A

B1 SHEET

PART -2 REFER SHEET D02

PART -1

EXST.PRESHREDDER TO REMAIN

APPROXIMATE SEWER LINE PLOTTED FROM SYDNEY WATER DIAGRAM

EXISTING RETAINING WALL TO BE REMOVED

P5 SL 41.00 IL40.19 — P4 SL41.05 IL40.37 IL40.40 — P3 SL41.30 IL40.70 IL40.73 — P2 SL41.45 IL40.92 IL40.95 — P1 SL41.70 IL41.20

Ø375 @ 1.08% — Ø300 @ 0.50% — Ø300 @ 0.74% — Ø225 @ 0.57% — Ø150 @ 0.74%

PEXT SL41.30 — PEXT SL41.40 — PEXT SL41.13 — PEXT SL41.50 — PEXT SL41.80 — PEXT SL40.90 — PEXT-2 SL40.90 — PEXT SL41.70 — PEXT SL41.74 — PEXT SL41.72 — PEXT SL41.69 — PEXT SL41.76 — PEXT SL41.70 — PEXT SL41.75 — PEXT SL42.12 — PEXT SL42.42

CLEAN & MAKE GOOD THE EXT.SW PITS & PIPES. BUILD THE EXISTING PITS TO THE DESIGN SURFACE LEVELS.

LOCATIONS & LEVELS OF THE EXISTING SERVICES TO BE CHECKED ON SITE AND CONFIRMED BEFORE COMMENCING ANY CONSTRUCTION. ANY DISCREPANCY TO BE NOTIFIED TO THE ENGINEER.

C — EXST.POST SHREDDER PROCESSING TO REMAIN (BUILDING "C") FFL RL 42.03

A — EXST.NON-FERROUS SHED TO REMAIN (BUILDING "A") FFL RL 42.04

B — EXST.NON-FERROUS SHED TO REMAIN (BUILDING "B") FFL RL 42.02

E — 2 STOREY BRICK ADMINISTRATION BUILDING TO REMAIN (BUILDING "E") FFL RL 42.55

F — EXST.METAL AWNING TO REMAIN (BUILDING "H")

G — EXST.DANGEROUS GOODS STORAGE TO REMAIN (BUILDING "G")

EXST.TRUCK WASH TO REMAIN (BUILDING "F") FFL RL 42.02

RWT-1
SL42.00
POSITION OF PROPOSED RAINWATER TANK (UNDER GROUND)
TYPE : MULTIQUIP CONCRETE WATER TANKS
VOLUME = 22 500L(min).
DIAMETER = 3.5m(APPROX).
PUMP OUT SYSTEM & CONNECTIONS TO SERVICES BY OTHERS.

PO & SA3 (HUMECEPTOR STC-3 Ø2290) SL41.00 — PO & SA4 (HUMECEPTOR STC-5 Ø2290) SL41.55

PRG-1 SL40.45 2250 — RG-HW1 SL41.20 — RG-HW2 SL41.40

Ø600 @ 0.94% — Ø525 @ 0.75% — Ø600 @ 1.50% — Ø600 @ 1.94% — Ø372 @ 0.74% — Ø450 @ 0.50% — Ø225 @ 0.50%(SUSPENDED LINE) — Ø225 @ 0.50% — Ø450 @ 1.25%

P24 SL42.00 — P26 SL42.00 — P27 SL41.80 — P25 SL42.00

GRATED DRAIN — DISH DRAIN (300mm WIDE) — VERTICAL PIPE — DP SL42.00 — OVERFLOW PIPE TO P24

CREST RL 42.10 — LINE OF EXISTING CONCRETE PAVEMENT — PROPOSED SHEAR

RE-DIRECT THE EXISTING PIPE — PROVIDE NON RETURN FLAP VALVE — EXISTING PAVED AREA TO BE RAISED TO THE PROPOSAL FINISHED SURFACE/LEVEL.

EXISTING BBQ AREA & AWN TO BE REMOVED — SEE DETAIL X — SEE DETAIL Y

3/Ø150 SLOTTED LINE (600CTS) DRAINING TO PRG-1

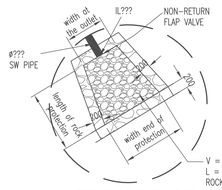
PROPOSED RAIN GARDEN AREA-380.00m² TWL - 40.80

BIO RETENTION WARNING SIGN AND NOTES

BIO-RETENTION FILTER MEDIA REQUIREMENTS

PRIOR TO PLACEMENT, CERTIFICATION IS TO BE PROVIDED THAT THE BIORETENTION FILTER MEDIA HAS:

a) A MINIMUM HYDRAULIC CONDUCTIVITY AS DEFINED BY ASTM F1815–06 OF 250mm/hr (ACTUAL, NOT PREDICTED). (WHERE THIS CANNOT BE CERTIFIED AMENDED DESIGN RATES AND MUSIC MODELLING BASED ON HALF THE TESTED RATE WILL BE REQUIRED AND DRAINAGE PLANS AMENDED.)
b) A MAXIMUM HYDRAULIC CONDUCTIVITY AS DEFINED BY ASTM F1815–06 OF 400mm/hr(ACTUAL, NOT PREDICTED)
c) AN ORTHOPHOSPHATE CONTENT<50mm/kg , AND
d) A TOTAL NITROGEN CONTENT<1000mg/kg



TYP.HEAD WALL DETAIL
1:50

Sizing of Rock Outlet Pads

			POND-HW1	POND-HW2	RG-HW1	RG-HW2
Discharge l/s			607	151	249.5	433
Pipe dia.	mm	m	0.45	0.375	0.525	0.6
Outlet velocity	mm/sec		3.82	1.37	1.15	1.53
Minimum rock size (Fig 8.13)		m	0.4	0.2	0.2	0.2
Length of rockprotection		m	3.2	0.8	1.2	1.2
Say		m				
Width at the outlet		m	1.05	0.975	1.125	1.2
Width at the end of protection		m	2.33	1.295	1.605	1.68

NOTE: EXISTING CONCRETE PAVED AREA TO BE RESURFACED WITH SELECTED MATERIAL TO DRAIN SURFACE DISCHARGE IN TO DISH DRAINS PROVIDED

NEW TRUCK WHEELWASH — NEW WEIGHBRIDGE — NEW WEIGHBRIDGE

EXISTING OUTLETS TO BE DISCONTINUED(TYP)

CLEAN & MAKE GOOD THE EXST.SW PITS & PIPES. REPLACE ANY DAMAGED FILTER INSERTS OR ANY OTHER COMPONENT AS NECESSARY(TYP)

EXISTING SW DISCHARGE NETWORK

(A) EASEMENT TO DRAIN WATER 21.50 WIDE AND VARAIBALE (DP643925)
(B) EASEMENT FOR TRANSMISSION LINE 20.115 WIDE (H478705)
(A) EASEMENT TO DRAIN WATER 7.315 WIDE (M899111)
(B) EASEMENT TO DRAIN WATER VARIABLE WIDTH (V409992)

STORMWATER DRAINAGE CONCEPT PLAN(PART 1)
1:300

DRAINAGE CONCEPT NOTES

1. DRAINAGE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ASSOCIATED ARCHITECTURAL DRAWINGS.
2. THIS CONCEPT PLAN SHALL BE USED FOR COUNCIL EVALUATION ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE.
3. FINAL DESIGN OF THE STORMWATER DRAINAGE SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE COUNCIL AND OTHER RELEVANT AUSTRALIAN STANDARDS.

SURVEY
LEVELS ARE TO AHD AND ARE TAKEN FROM DRAWING No. 59760
PREPARED BY LEAN LEACKENBY & HAYWARD SURVEYING CONSULTANTS.

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

Date	MAR 2014
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Drawn	GP
Checked	LA
Certified	

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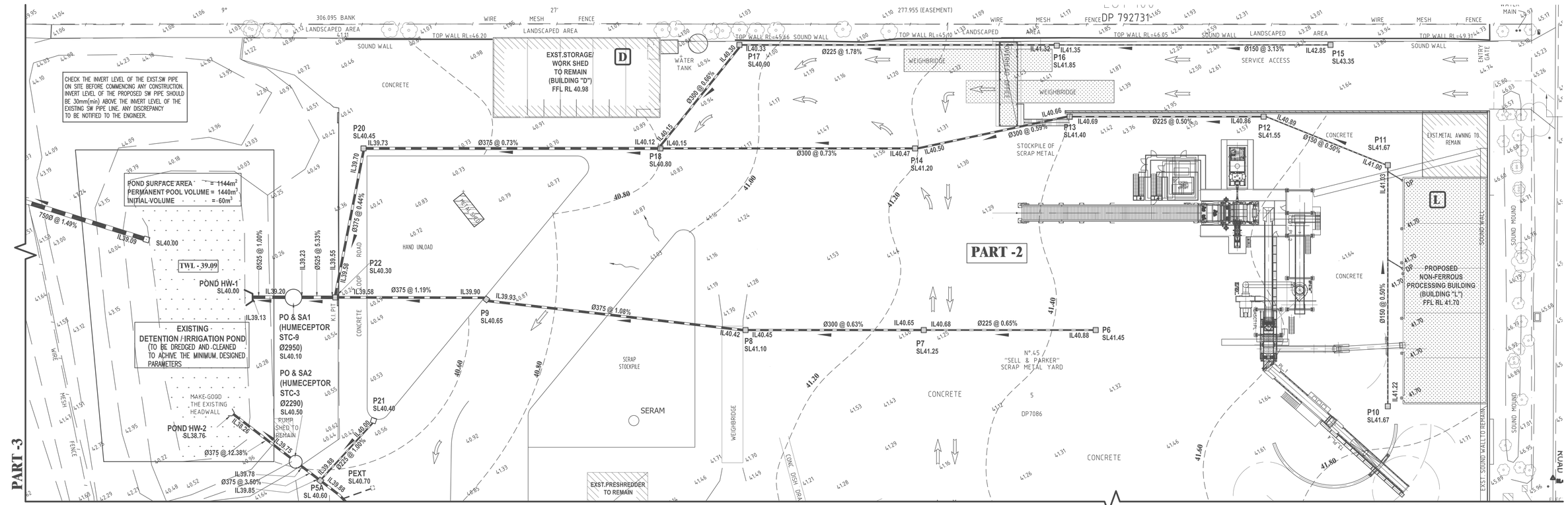
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL — Project No.: P4144

Title	Activity Type:	Job No.:	Sheet No.:	Issue
STORMWATER DRAINAGE CONCEPT PLAN (PART 1)	DA	1049-13	D01	A

B1 SHEET

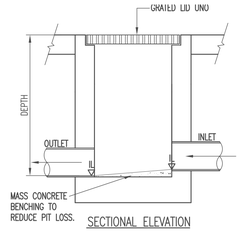


STORMWATER DRAINAGE CONCEPT PLAN(PART 2)

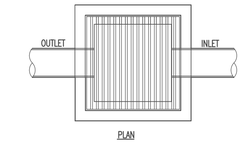
1:300

LEGEND:

- EXISTING CONTOUR
- PROPOSED DESIGN CONTOUR
- PROPOSED DESIGN LEVEL
- EXISTING LEVEL
- FFL — FINISHED FLOOR LEVEL
- SL — SURFACE LEVEL OF PIT
- IL — INVERT LEVEL
- RL — REDUCED LEVEL
- P1,P2.... — PITS OR SIMILAR
- DP — DOWN PIPES
- IE — INSPECTION EYE
- PROPOSED STORMWATER PIPE LINE
- EXISTING STORMWATER PIPE LINE
- S — SEWER PIPE LINE
- EXST. STORMWATER DRAINAGE PIT WITH CONCRETE LID
- EXST. STORMWATER DRAINAGE PIT WITH GRATE
- PROP. STORMWATER DRAINAGE PIT WITH CONCRETE LID
- PROP. STORMWATER DRAINAGE PIT WITH GRATE



SECTIONAL ELEVATION



PLAN

TYPICAL STORMWATER PIT
NTS

PIT SCHEDULE			
PIT/ NODE	DEPTH	*COVER SIZE	TYPE OF NODE/PIT COVER
	m	mm x mm (Min)	
P1	0.50	450X450	HEAVY DUTY TRAFFICABLE GRATE
P2	0.53	450X450	HEAVY DUTY TRAFFICABLE GRATE
P3	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P4	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P5	0.85	600X600	HEAVY DUTY TRAFFICABLE GRATE
P5A	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P O&SA-2	0.76	600X600	CONCRETE LID
P6	0.58	450X450	HEAVY DUTY TRAFFICABLE GRATE
P7	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P8	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P9	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P10	0.45	450X450	HEAVY DUTY TRAFFICABLE GRATE
P11	0.67	600X600	HEAVY DUTY TRAFFICABLE GRATE
P12	0.69	600X600	HEAVY DUTY TRAFFICABLE GRATE
P13	0.74	600X600	HEAVY DUTY TRAFFICABLE GRATE
P14	0.73	600X600	HEAVY DUTY TRAFFICABLE GRATE
P15	0.50	450X450	HEAVY DUTY TRAFFICABLE GRATE
P16	0.53	450X450	HEAVY DUTY TRAFFICABLE GRATE
P17	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P18	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P20	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P22	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
PO&SA1	0.88	2950mm dia.	CONCRETE LID
POND	0.91	600X900	CONCRETE LID
DP	-7.35	150mm dia.	CAPPED AND SEALED CLEANING EYE
RWT	0.68	5650mm dia.	CONCRETE LID
P24	0.71	600X600	HEAVY DUTY TRAFFICABLE GRATE
P25	0.90	600X900	HEAVY DUTY TRAFFICABLE GRATE
PEXT1	0.95	-	HEAVY DUTY TRAFFICABLE GRATE
P26	0.90	600X900	HEAVY DUTY TRAFFICABLE GRATE
P27	0.93	600X900	HEAVY DUTY TRAFFICABLE GRATE
PO&SA4	0.98	2950mm dia.	CONCRETE LID
PEXT2	0.98	-	HEAVY DUTY TRAFFICABLE GRATE
PO&SA3	1.14	2950mm dia.	CONCRETE LID
PRG1	1.65	900X900	HEAVY DUTY TRAFFICABLE GRATE

Pits deeper than 1200mm shall be provided with Galv. step irons @ 300 mm staggered intervals.

Pits in trafficable areas must be cast insitu concrete, pre cast concrete or brick/block.

Where depth of pit exceeds 1500mm, walls and bottom to be reinforced in all directions with RF82 mesh at 30mm cover to inside face. Pits deeper than 2000mm shall be designed by a professional structural engineer.

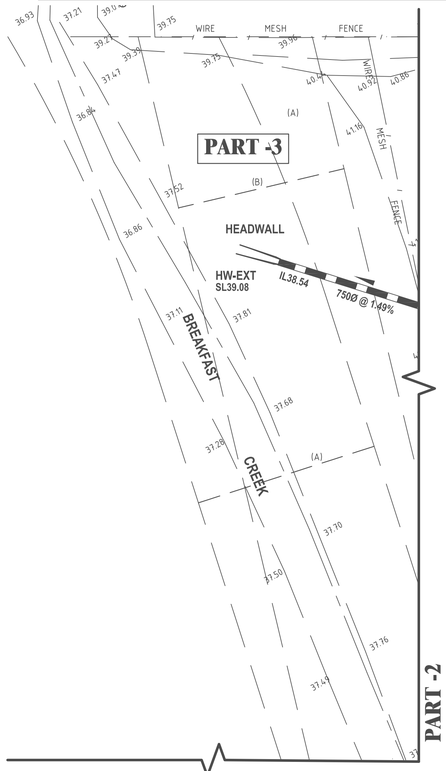
Maximum Weight of each individual hinged grate shall be 20 kg.

All grates over pits to be hinged and to be provided with Child locks.

For pits up to 1200X1200, grates must have same clear opening as internal dimension of pit.

Oil and Silt Arrestor (OSA) pit is to be installed as per manufacturer's specifications & guidelines.

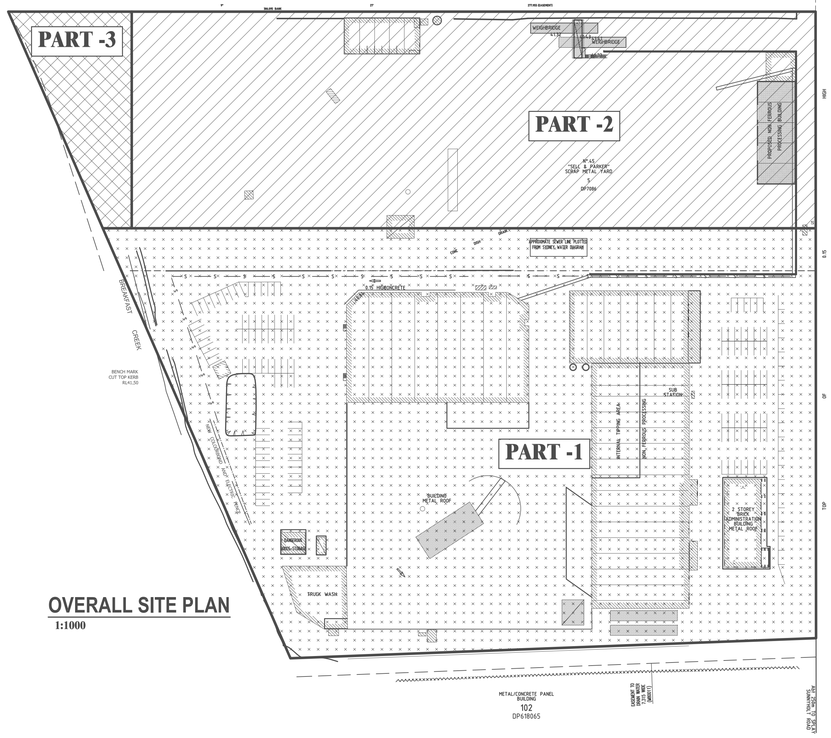
*Shown minimum cover size only. Pit size maybe adjusted according to size & number of inlet & outlet pipes.



PART -1 REFER SHEET D01

STORMWATER DRAINAGE CONCEPT PLAN(PART 3)

1:300



OVERALL SITE PLAN

1:1000

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

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LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title: STORMWATER DRAINAGE CONCEPT (PART 2 & 3) AND OVERALL SITE PLAN

Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	D02	A

B1 SHEET

SOIL CONSERVATION NOTES

A.1) PRIOR TO ANY CLEARING OR EXCAVATION AT THE PROJECT SITE. A TEMPORARY SEDIMENT TRAP ARRANGEMENT SHALL BE MADE TO ENSURE THE CAPTURE OF ANY WATER BORNE MATERIAL GENERATED FROM THE SITE.

2) PROVIDE SEDIMENT FENCE AS SHOWN ON PLAN.

3) PROVIDE TEMPORARY CONSTRUCTION EXIT PAD TO PREVENT TRANSMISSION OF SOIL FROM TRUCK TYRES TO PUBLIC ROADS AND DRAINAGE

4) STRIP AND STOCKPILE TOP SOIL (FOR FUTURE RESPREADING) IMMEDIATELY BEFORE STARTING BULK EARTHWORKS. BEFORE STRIPPING,CLEAR THE SITE OF DEBRIS, SLASH OR GRAZE THE SITE WHERE VEGETATIVE GROWTH IS DENSE

5) WHERE POSSIBLE DO NOT EXTEND LAND DISTURBANCE ACTIVITIES BEYOND 5.0M PREFERABLY 2.0M FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY.

6) A VEHICLE WHEEL WASH, CATTLE GRID, WHEEL SHAKER OR OTHER APPROPRIATE DEVICE, SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY SITE WORKS OR ACTIVITIES, TO PREVENT MUD AND DIRT LEAVING THE SITE AND BEING DEPOSITED ON THE STREET.

B. DURING CONSTRUCTION

1) SILTATION PROTECTION DESCRIBED ABOVE SHALL BE MAINTAINED DURING THE COURSE OF CONSTRUCTION.

2) NEWLY CONSTRUCTED PITS SHALL BE PROTECTED FROM ANY SEDIMENT ENTRY.

3) ONCE IN PLACE, NO SILTATION PROTECTION SHALL BE REMOVED WITHOUT COUNCIL APPROVAL.

4) AFTER EACH STORM, ALL SEDIMENT TRAPS SHALL BE CLEANED AND REPLACED(IF REQUIRED) TO COUNCIL'S SATISFACTION.

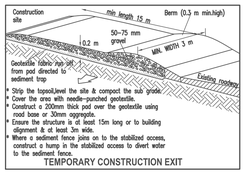
5) VEGETATION AND/OR EXISTING BUILDING STRUCTURES WILL BE CLEARED FROM THE CONSTRUCTION SITE ONLY OTHER AREAS TO REMAIN UNDISTURBED.

6) BUILDING OPERATIONS SUCH AS BRICK CUTTING, WASHING TOOLS OR BRUSHES & MIXING MORTAR ARE NOT PERMITTED ON PUBLIC ROADWAYS OR FOOT WAYS OR IN ANY OTHER LOCATIONS WHICH COULD LEAD TO THE DISCHARGE OF MATERIALS INTO THE STORMWATER DRAINAGE SYSTEM.

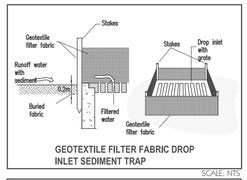
7) STOCKPILES OF TOPSOIL, SAND, AGGREGATE, SOIL OR OTHER MATERIAL SHALL NOT BE LOCATED ON ANY DRAINAGE LINE OR EASEMENT, NATURAL WATERCOURSE, FOOTPATH OR ROADWAY & SHALL BE PROTECTED WITH ADEQUATE SEDIMENT CONTROLS.

8) INSTALLATION OF GUTTERS, DOWN PIPES, AND THE CONNECTION OF DOWN PIPES TO THE STORMWATER DISPOSAL SYSTEM PRIOR TO THE FIXING OF THE ROOF CLADDING.

9) OTHER METHODS OF SEDIMENT CONTROL AS MAY BE REQ'D BY THE COUNCIL SHALL BE COMPLIED WITH.

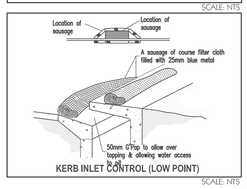


TEMPORARY CONSTRUCTION EXIT



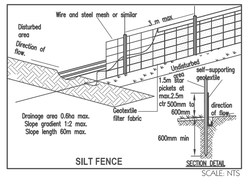
GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP

SCALE: NTS



KERB INLET CONTROL (LOW POINT)

SCALE: NTS

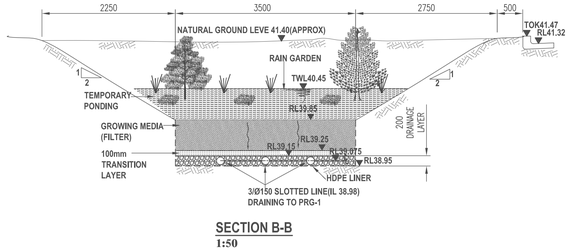


SILT FENCE

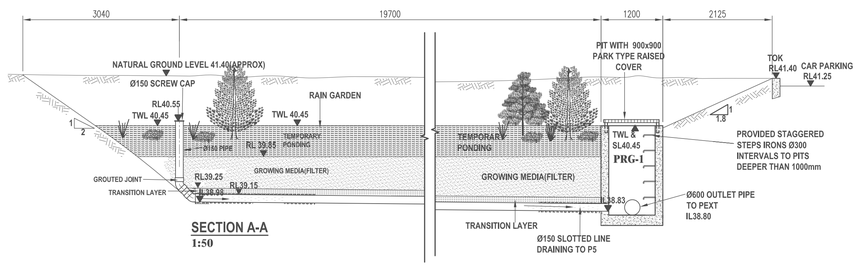
SCALE: NTS

LEGEND:

???	EXISTING CONTOUR
× ???	EXISTING LEVEL
FFL	FINISHED FLOOR LEVEL
SL	SURFACE LEVEL OF PIT
IL	INVERT LEVEL
RL	REDUCED LEVEL
P1,P2,...	PITS OR SIMILAR
	EXISTING STORMWATER PIPE LINE
S	SEWER PIPE LINE
	EXST. STORMWATER DRAINAGE PIT WITH CONCRETE LID
	EXST. STORMWATER DRAINAGE PIT WITH GRATE



SECTION B-B
1:50



SECTION A-A
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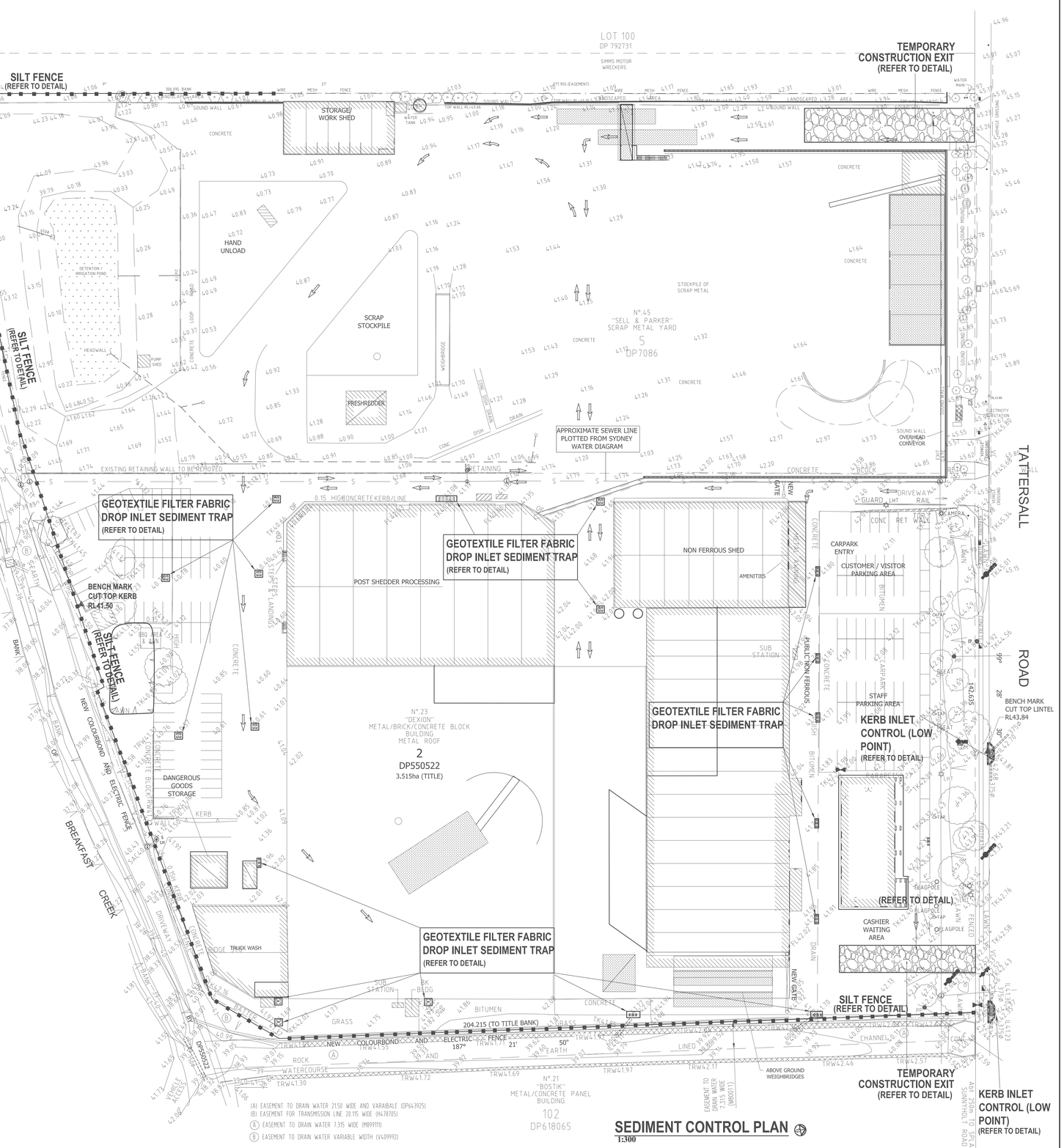

SEDIMENT CONTROL PLAN
1:300

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

Date	MAR 2014
Scale	AS SHOWN
Drawn	GP
Checked	LA
Certified	

ALGORRY ZAPPIA & ASSOCIATES PTY. LTD.
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Tel: 9602 3133 / 9602 0303 Fax: 9601 6903
E-mail: admin@algorryzappia.com.au
Web: www.algorryzappia.com.au

Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title: SEDIMENT CONTROL PLAN AND SECTION DETAILS

Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	D03	A

B1 SHEET

Annex B

Development Consents

42 TATTERSALL RD

Land and Environment Court
of New South Wales

CITATION :	**Sell & Parker Pty Limited v Blacktown Council [2001] NSWLEC 12**
PARTIES :	APPLICANT: Sell & Parker Pty Limited ACN 000 101 315 RESPONDENT: Blacktown City Council
FILE NUMBER(S) :	10204 of 2000
CORAM:	Lloyd J
KEY ISSUES:	Development Application :- whether hazardous industry - whether offensive industry - components of development not to be considered in isolation for the purpose of characterisation
LEGISLATION CITED:	Environmental Planning and Assessment Act 1979 s 91 and s 97 Environmental Planning and Assessment Regulation 1994 Sch 3 Protection of the Environment Operations Act 1997 State Environmental Policy No. 33 - Hazardous and Offensive Development Pt 2 and Pt 3 Blacktown Local Environmental Plan 1998
CASES CITED:	Rudman v Tweed Council, NSWLEC, Bignold J, 28 September 1993, unreported
DATES OF HEARING:	06/11/2000; 07/11/2000; 08/11/200; 09/11/2000; 10/11/2000; 05/02/2001 and 06/02/2001
DATE OF JUDGMENT:	11/05/2001
LEGAL REPRESENTATIVES:	APPLICANT: Mr N A Hemmings QC (Solicitor) SOLICITORS: Allen Allen & Hemsley RESPONDENT: Mr M J Craig QC SOLICITORS: Michell Sillar

IN THE LAND AND	**Matter No: 10204 of 2000**
ENVIRONMENT COURT	**Coram: Lloyd J**
OF NEW SOUTH WALES	**Decision date: 11 May 2001**

Sell & Parker Pty Limited

ACN 000 101 315

Applicant

v

Blacktown City Council

Respondent

JUDGEMENT

Description of the Proposed Development

1. This is an appeal under section 97 of the Environmental Planning and Assessment Act 1979 ("The EP&A Act") against the deemed refusal by the respondent, Blacktown Council ("the council") of a development application for a metal recycling facility. Following the filing of the appeal the council resolved to refuse the development application.

2. An amended statement of issues relied upon by the council lists twenty nine issues. It seems, however, that this is another example of the ingenuity of lawyers to say essentially the same things in a great number of ways. The basic issues which were raised at the hearing are discussed below.

3. The land to which the development applies is known as No. 45-54 Tattersall Road, Kings Park. The land has an area of about 2.91 hectares, having a frontage of about 100 metres to Tattersall Road, a depth of about 260 metres and a rear boundary adjacent to Breakfast Creek. The land has a fall of about 7.5 metres from Tattersall Road to Breakfast Creek.

4. On 27 November 1996 the council granted development consent for the establishment of a metal recycling facility on the central and southern (or rear) part of land. The development authorised by that consent is a metal shear facility, an office building, a weighbridge, storage bays, a stormwater detention dam and car parking. The approved development has been implemented and has, I understand, been in operation for about the last three years.

5. The present development application is for the establishment of a hammermill (also known as a fragmentiser or metal shredder) on the northern part of the land (near Tattersall Road), together with associated components. The development also proposes to make use of the existing administrative buildings, the existing maintenance facilities and the existing stormwater detention dam on the southern part of the land. The development also proposes some additional car parking on the southern part of the land and the extension of acoustical fencing and landscaping proposed for the northern part of the site onto the southern part as well.

6. The hammermill is designated development, being classified as a *"mineral processing or metallurgical works"* as described in Schedule 3 of the Environmental Planning and Assessment Regulation 1994. It is also integrated development within the meaning of section 91 of the EP&A Act, requiring approvals from the Environment Protection Authority ("the EPA") pursuant to the Protection of the Environment Operations Act 1997; and from the Department of Land and Water Conservation pursuant to the Rivers and Foreshores Improvement Act 1948, as part of the proposed development is within 40 metres of Breakfast Creek.

7. According to the Environment Impact Statement ("the EIS"), the development will enable the processing of 60,000 tonnes of raw material per annum. About 90 per cent of the raw material will be industrial scrap metal and demolition waste and the remaining 10 per cent will comprise car bodies. The annual output of the development will be 4,000 tonnes of ferrous material and 250 tonnes of non-ferrous material such as aluminium, copper and smaller quantities of other material such as lead.

8. The main component of the development is the hammermill (which is also variously described in the evidence as a fragmentiser or shredder). This is a fairly awesome

machine which breaks up the raw material which is fed into it at one end so that it emerges at the other end as fragmented or shredded pieces of metal suitable for re-processing.

9. The main components of the development are:

a) raw material stockpile with bunding and oil water separators;
b) rubber tyre materials handler to remove raw feed materials;
c) metal recycling plant equipment comprising:
    i) infeed conveyor;
    ii) hammermill;
    iii) air extraction system including cyclones, fans, wet scrubber and cascade;
    iv) drum magnet;
    v) shaker table;
    vi) pan feeder and trommel;
    vii) 2 eddy current separators;
    viii) picking station;
    ix) picking conveyor;
    x) discharge conveyor;
d) waste enclosure;
e) product stockpile;
f) rubber tyre loader;
g) aboveground hydrocarbon storage tank with storage capacity of 5,000 litres with secondary containment.

10. The materials handler will feed all material into the metal recycling plant at the southern end and the finished product will be emitted from the northern end. The metal recycling plant is 17 metres high and will cover an area of approximately 70 metres by 50 metres. It will be situated directly behind a proposed retaining wall and a screen wall which is 7.5 metres from the front property boundary along Tattersall Road.

11. The development includes excavation of the site by up to 4 metres commencing 7.5 metres from the northern boundary to accommodate the metal recycling plant and concreting of the entire site.

12. The development also includes:

a) three additional car spaces adjacent to the existing office building and nine car spaces on the south eastern corner of the site;

b) new access roadway and weighbridge at the southern end of the site adjacent to the proposed additional car spaces and existing maintenance building;

c) a wheel wash at the exit from the site to Tattersall Road;

d) landscaping around the perimeter of the site;

e) reinforced concrete retaining walls on the northern, western and eastern sides of the metal recycling facility;

f) four metres high fencing on the northern, eastern and western boundaries of the site; and

g) use of the existing office building for staff amenities including lunchroom, bathroom and office space.

13. The processing operation of the metal recycling facility is to be as follows:

a) cars and scrap metal are fed into the conveyors by a raw materials handler;

b) the feed conveyor feeds material into the hammermill which shreds material into fist-size pieces;

c) a draft fan extracts air from the hammermill and passes it through the cyclone to remove particulates, then through a wet scrubber to remove fine dust;

d) fragmented raw material is then carried on an inclined conveyor belt and dropped into a conveyor chute and undergoes a cleaning process;

e) cleaned fragmented material then runs through a drum magnet, which collects ferrous materials and drops them onto a picking conveyor where operators manually remove non-ferrous material. Non-ferrous material drops beneath he drum magnet;

f) materials then continue along the conveyor which off-loads the ferrous product into the product stockpile via an eddy current separator, which collects aluminium copper and brass in a skip. The remaining material proceeds through various sorting and collection processes;

g) remaining material constitutes waste product and proceeds into a brick bunker. Waste products typically comprise mixed plastics, particulates, glass and foam. Solid wastes such as mud and loose dirt also result.

Is the development permissible under the planning controls?

14. The first issue in the case is whether the development is prohibited within the relevant zone. The subject land is within Zone No. 4(a) General Industrial Zone under the Blacktown Local Environmental Plan 1998 ("the LEP"). Clause 9(3) of the LEP states:.

> *Except as otherwise provided by this plan, the consent authority shall not grant consent to the carrying out of development on the land to which this plan applies unless the consent authority is of the opinion that the carrying out of development is generally consistent with one or more of the objectives of the plan and one or more of the objectives of the zone within which the development is proposed to be carried out.*

15. The objectives of the zone include the following:

> ...
>
> *(b) to encourage the establishment of new industry and other compatible, large-scale activity in appropriate locations;*
>
> *(c) to accommodate large industrial, warehousing and the like developments such as auction rooms, plant and equipment hire establishments, timber yards and the like, but to prohibit offensive or hazardous industries;*
>
> ...
>
> *(f) to ensure permitted development creates areas which are pleasant to work in and are safe and efficient in terms of transportation and land utilisation*
>
> *(g) to enhance and improve the physical environment of the City of Blacktown by minimising disturbances caused by air pollutants, water pollutants, other pollutants and noise pollution;....*

16. The zoning table for the 4(a) Zone expressly allows, with development consent, an industry listed in Schedule 3 to the Environmental Planning and Assessment Regulation 1994, being designated development. The zoning table expressly prohibits hazardous industries and offensive industries within the 4(a) Zone.

17. A *"potentially hazardous industry"* is described in the LEP as follows:

> ***potentially hazardous industry*** *means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*
>
> *a) to human health, life or property; or*
>
> *b) to the biophysical environment*
>
> *and includes a hazardous industry and a hazardous storage establishment;*

18. A *"hazardous industry"* is defined in the LEP in the following terms:

> ***hazardous industry*** *means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impacts on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would pose a significant risk in relation to the locality:*
>
> *a) to human health, life or property; or*
>
> *b) to the biophysical environment,*

19. These two definitions are identical to the definitions of "*potentially hazardous indus*try" and *"hazardous industry"* in State Environmental Planning Policy No. 33 – Hazardous and Offensive Development ("SEPP 33").

20. Similarly, the definition of *"potentially offensive industry"* and *"offensive industry"* in the LEP are identical to those definitions in SEPP 33. Those definition are as follows:

> ***potentially offensive industry*** *means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.*
>
> ***offensive industry*** *means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impacts on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality.*

21. Part 2 of the SEPP 33 applies to hazardous industries and to offensive industries. It provides that in determining whether a development is a hazardous industry or an offensive industry, consideration must be given to current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development.

22. Part 3 of SEPP 33 applies to potentially hazardous and potentially offensive industries. It requires an applicant for such development to prepare in accordance with the current circulars or guidelines published by the Department of Planning, a preliminary hazard analysis and to submit the analysis with the development application (clause 12). In

determining an application to carry out such development the consent authority must consider (in addition to other matters specified in the EP&A Act or in an environmental planning instrument applying to the development):

a) *current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development; and*

b) *whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply; and*

c) *in the case of development for the purpose of a potentially hazardous industry - a preliminary hazard analysis prepared by or on behalf of the applicant; and*

d) *any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application); and*

e) *any likely future use of the land surrounding the development. (Clause 13)*

23. The applicant contends that the proposed development is not a hazardous industry nor an offensive industry, neither is it a potentially hazardous industry nor a potentially offensive industry. The council contends to the contrary.

24. The Department of Planning has published guidelines for the purpose of clause 12 of SEPP 33. The guidelines state that a preliminary hazard analysis should be prepared in accordance with a number of hazardous industry advisory papers prepared by the Department.

25. In *Rudman v Tweed Council* (NSWLEC, 28 September 1993, unreported) Bignold J held that the requirements of clauses 12 and 13 of SEPP 33 are properly to be regarded

as directory and not mandatory. His Honour further held that it follows that non-compliance with those requirements does not produce invalidity in the resultant action, at least if it can be shown that there has been substantial compliance with the requirements. The conclusion of Bignold J is supported by a reading of the guidelines and advisory papers themselves, with statements such as *"the PHA* [the preliminary hazard analysis] should *be prepared in accordance with Hazardous Industry Planning Advisory Paper No 6..."* (not *"must"* or *"shall"*). On the same basis it would seem that clause 8 of SEPP 33, which requires that consideration must be given to current circulars or guidelines published by the Department of Planning in determining whether a development is a hazardous or potentially hazardous industry, or an offensive or potentially offence of industry, is similarly a directory and not mandatory requirement.

26. Both clauses 8 and 12 of SEPP 33 refer to circulars published by the Department of Planning as well as to guidelines. In one such a circular dated 16 March 1992 the Secretary of the Department stated:

> *The PHA need not be an elaborate or extensive study. For simple cases, a brief analysis, sufficient to satisfy consent authorities that the location and controls are appropriate should suffice.*

This statement suggests again that substantial compliance with the relevant guidelines is sufficient.

27. If it can be said that the development is a potentially hazardous industry, then in the present case a hazard analysis substantially in accordance with the guidelines was prepared and was included as part of the EIS. Although called a *"preliminary risk assessment"* in the EIS it is, in substance, a preliminary hazard analysis which substantially complies with the above-mentioned circular and with the guidelines. Irrespective of the question of whether the development is a potentially hazardous industry or hazardous industry, there has, in my opinion, been substantial compliance with clause 12 of SEPP 33.

28. The applicant contends, however, that the development would not pose a significant risk

in relation to the locality and is thus neither a potentially hazardous industry nor hazardous industry.

29. The council, on the other hand, contends that the development is either a hazardous or an offensive industry and is thus prohibited in the General Industrial zone. The significant risks to the locality posed by the development are said by the council to result from explosions (mainly the emission of projectiles, airblast overpressure and noise); fires in stockpiles (with resultant explosions and the emission of radiant heat and toxins); contamination (from the entry onto the land of toxic and hazardous materials); and the emission of polluting discharges. The council further submits that if the Court determines that the development is not characterised as either hazardous or offensive it should nevertheless be refused on its merits because of its unacceptable environmental impacts and/or because of the failure of the applicant to adequately identify and assess the potential environmental impacts.

30. I have set out the relevant definitions (in pars [17]; [18] and [20] above). It seems to me that fundamental to the characterisation of the development is the answer to the question: what is *"the development"*?

31. The *"development"* in this case comprises the various components which I have set out (in pars [9] and [12] above), as described in the EIS. That is *"the development"* described in the application. The various components cannot, in my opinion, be considered in isolation from one another for the purpose of characterisation. To consider each component in isolation would be an artificial exercise and would corrupt the word *"development"* as used in the definitions which I have set out (in paras [17], [18] and [20] above).

32. In order to determine whether *"the development"* (which necessarily includes its various components) is within or without the definition of *"potentially hazardous industry"* or of *"hazardous industry"*, it is necessary to examine the whole proposal to determine whether it would pose a significant risk in relation to the locality. Similarly, in order to determine whether *"the development"* is within or without the definition of *"potentially offensive industry"* or *"offensive industry"*, it is necessary to examine the whole proposal to determine whether it would emit a polluting discharge in a manner

which would have a significant adverse impact on the locality.

33. In another way, in order to make the determination called for by the definitions it is necessary to examine the impact of the proposed development in the same way that the merits of the proposal are assessed. That is to say, in assessing the merits of the proposed development one can at the same time reach the determination called for by the definitions. Conversely, reaching the determination called for by the definitions involves an assessment of the merits of the proposal.

34. An assessment of the merits of the proposal leads me to the following conclusions. In my opinion *"the development"* is neither a potentially hazardous industry nor is it a hazardous industry. Neither is *"the development"* a potentially offensive industry nor is it an offensive industry. If the development as proposed (which necessarily includes its various components) were to operate without employing any additional measures to reduce or minimise its impact, it would not, in my opinion, pose a significant risk in relation to the locality, neither would it emit a polluting discharge in a manner which would have a significant adverse impact in the locality. I have also come to the view that the development is acceptable on the merits. I have come to these views for the following reasons.

35. The key component of the development, the hammermill, is so designed that if an explosion does occur it will not have any significant consequences or pose any significant risk in relation to the locality. The hammermill is to be manufactured and supplied by Lynxs Shredder Technology Limited of the United Kingdom and it has a number of design features which make it different from American-made machines as used by other metal recycling facilities in Sydney. These design features were described in evidence by Mr T A Christian, a director of Lynxs Shredder Technology Limited and designer of the Lynxs hammermill. Mr Christian has been involved in the design and installation of similar Lynxs machines overseas. He was the only expert witness who was experienced in the design, installation and operation of such machines. I have no reason to doubt his evidence, which was tested by a long and searching cross-examination.

36. Without repeating the technical details of the design, I am satisfied by the evidence that no uncontrolled ejection of fragments can occur even if operator error results in combustible substances being introduced into the hammermill. Apart from the structure of the machine being designed to withstand explosion pressures, there is incorporated in the design a dust extraction system and the addition of water to dampen the feed materials and diminish sparking during the shredding process, thus reducing the probability of the ignition of any volatile fumes resulting from any residual hydrocarbons left after inspection and preparation of the feed material.

37. The evidence of the council contradicting Mr Christian's evidence is less convincing. For example, Mr A Magrabi, a chemical and fire protection engineer who gave evidence for the council believed that the operating temperatures within the machine would be between 700 and 800 degrees Celsius (at which temperature the bearings would fail), whereas the design temperature is about 150 degrees Celsius. Moreover, Mr Magrabi had never seen a hammermill. I completely reject his evidence. I also prefer the evidence of Mr Christian to that of Dr Lozzi, senior lecturer in mechanical engineering at the University of Sydney and who was called by the council. Dr Lozzi's evidence seemed to be based on to some extent of his knowledge of a hammermill at a metal recycling plant operated by Simsmetal Limited at St Mary's, which has about five times the capacity of the proposed plant here, was made by a different manufacturer and does not possess a number of the design features of the proposed Lynxs plant.

38. The process to be adopted by the applicant involves the exclusion of dangerous goods, such as petrol, diesel oil or liquefied petroleum gas (LPG). LPG cylinders will be removed from the feed stock and then removed from the site. The storage and handling of unpurged cylinders will comply with the relevant Australian Standard. The proposed development includes the installation of a 5000 litre above ground tank for the storage of petrol, diesel oil and oil drained from the car bodies; and the storage of 1000 litres of hydraulic oil. The 5000 litre tank will be designed, installed and operated in accordance with the relevant Australian Standard. Car bodies will be handled in an upside-down position so that any fuel tanks (if present) can be discovered and removed before the car body is processed. Crushed or baled cars will not be accepted for processing. Fuel tanks will not be fed into the hammermill but will instead be processed at the presently

existing metal shear facility. As noted above, in the unlikely event of scrap metal containing volatile flammable material being inadvertently fed into the hammermill resulting in an internal explosion, the hammermill is designed to accommodate such an event without any risk to anyone on the outside.

39. Noise levels are predicted to be an L_{A10} of 68dB(A) at the property boundary. This is within the EPA's General Terms of Approval of a maximum L_{A10} of 70dB(A). Moreover, the noise will be non-impulsive. The plant incorporates a set of vibration isolating elements in its support structure so that there will be an imperceptible level of ground vibration at the property boundary. As to airblast overpressure in the event of an explosion within the plant, the development will comply with the EPA's General Terms of Approval that any such airblast overpressure levels must not exceed 120dB (linear peak) when measured at the property boundary. The council's acoustical consultant, Mr S E Cooper, accepts this as being an appropriate standard.

40. The dust generated by the development will arise mainly from the vehicle movements and the wet scrubber, and will be less than 0.1 gram per square metre per month (0.1gm/m^2/month) and the annual average increase in total suspended particulates and PM_{10} would be less than 1 microgram per cubic metre (1μg/m^3) at the nearest residences. These are very low values and unlikely to be perceptible to householders. Flock-type waste will not be stored in the open but in a skip in an enclosed building from which it will be transported from the site to landfill after first being covered. Enclosed conveyors over the waste stream and a two-stage end extraction system will result in no dust escaping from the plant when it is in operation.

41. The council argues that as a result of the sealing of the northern part of the site, the volume of run-off containing leachate with concentrations of dissolved metal will increase, to be treated in the existing stormwater detention pond. It is then said by the council that such contaminants will be discharged into Breakfast Creek and will enter the groundwater system. The evidence shows that the active groundwater system is at present at a depth of less than 3 metres below the surface of the land; the groundwater beneath the surface will discharge into Breakfast Creek whenever the water level in the Creek is lower than the groundwater; and copper, lead and zinc are at present in the groundwater beneath the site at concentrations which exceed the Australian and New

Zealand Environment and Conservation Council (1992) Guidelines ("ANZEC Guidelines") for the Protection of Freshwater Aquatic Ecosystems. It is said that the washing of scrap metal in the primary stockpile area could cause contaminants to a be washed into the system; and stormwater run-off from parts of the site could be contaminated with oils, grease, sediment and metals generated during the operation of the development.

42. The testing of groundwater samples shows, however, that dissolved metal concentrations in the groundwater which is flowing onto the site are higher than those in the groundwater flowing off the site. This suggests that the existing detention pond and the site generally appear to be acting to reduce the concentrations of dissolved metals in the groundwater. Notwithstanding the existing metal recycling activities on the land, the site appears to be acting generally to improve the quality of groundwater from the up gradient to the down gradient. Moreover, leachate testing of the stockpile materials shows that concentrations of dissolved metals would be significantly lower than those occurring naturally in the existing groundwater. The proposed development site is to be sealed. This will in turn minimise the potential for any leachate to infiltrate the underlying ground. The capacity of the detention pond is such that it is designed to cope with a one in ten-year storm event; its capacity was approved by the council's engineer (who was not called) and who has stated that it will cope adequately with the proposed development; and the Department of Land and Water Conservation has approved it.

Conclusion

43. I am thus led to the conclusion that the development as proposed in this case would not pose a significant risk in relation to the locality to human health, life or property, or to the biophysical environment. It is thus not a potentially hazardous industry. It follows that it is also not a hazardous industry. Similarly, I am led to the conclusion that the development would not emit any polluting discharge in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land. It is thus not a potentially offensive industry. It follows that it is also not an offensive industry.

44. The consequence of these conclusions is that the development is permissible with development consent. The discussion of the issues of merit which have led to these conclusions also shows that the development should be approved on merit, subject to the conditions which are attached to this judgment, most of which have been agreed to by the parties.

45. I should briefly indicate why those conditions which are disputed have been dealt with in the manner shown in the attached conditions.

Condition 2

46. Condition 2 provides: *"the life of this consent is limited to a period of 20 years from the date of this consent."* This condition is imposed so as to be consistent with condition 3: *"the development shall be carried out in accordance with the Environmental Impact Statement..."*. The EIS states that the estimated life of the facility will be 20 years. The condition does no more than impose as a condition on the development consent a statement contained in the EIS. I accept the council's submission that this condition is appropriate, so that if it is intended to continue the development beyond 20 years then advantage might be taken of any advance in the technology in that time.

Condition 3

47. The applicant seeks the inclusion of reference to figure 2.1, which is described in the development application plans as the existing site plan. The council opposes this because the plan is said by it to be not reflective of the state of affairs as they exist at the present time and it might otherwise be thought that consent is being granted to a modification of the existing development. I agree with the council's contention. In order to remove any possible dispute as to what is the subject of the consent there will be no reference to figure 2.1 in the condition.

Condition 9(d)

48. This calls for the submission of engineering plans and design specifications. The applicant has no objection to this, but objects to the review of the design. This condition does not, however, require that there be a review of the material; it only

requires that the drawings and specifications be furnished (so as to be included with or incorporated by reference in the construction certificate). This condition will be included.

Condition 9(e)

49. The parties have agreed on the amended condition in the form of the attachment hereto.

Condition 9(f)

50. This condition as sought by the council requires details of noise control and monitoring measures to be implemented during construction of the metal recycling facility to ensure that a level of 48 dB(A) L_{A10} will be achieved at all residences in accordance with Table 5.12 of the EIS. According to the council, what the condition seeks to do is to have identified for consideration the measures designed to ensure that the level is in fact met.

51. I do not think it is necessary to impose the condition. None of the acoustical engineers who gave evidence suggested that there would be any problem in meeting the nominated standard set out in the EIS. The condition is both onerous and unnecessary. It is deleted.

Condition 9(g)

52. The council seeks additional details in relation to the landscaping plan. The details sought by this condition are not included in the landscaping plan, neither are they included in the report of Dem Design which was tendered in evidence. In my opinion the additional information is both proper and necessary.

Condition 9(i)

53. This condition is in two parts. In the first part the council seeks to require that stormwater pollution controls be designed to meet the 95th percentile, five-day storm event. The need for this is said to arise from the uncertainty attaching to the capacity of the detention dam. The evidence shows, however, that stormwater pollution controls designed for the 75th percentile five-day storm would be appropriate. Both the EPA and the council's engineer have expressed satisfaction with the storage capacity of the

dam. I see no reason to adopt the standard sought by the council.

54. In the second part of the condition the council requires that waters in the post-construction phase which discharge into Breakfast Creek comply with the ANZEC Guidelines. The applicant argues, however, that the water in the dam meets drinking standard and is the same as the quality of the water in the creek and that the ANZEC Guidelines are excessive, onerous and cannot be met.

55. The evidence shows that stormwater goes through the ground and then into the detention dam, but the naturally occurring metals in the groundwater commonly exceed the ANZEC Guidelines. This is commonly the case throughout western Sydney. The minerality of the soil is a result of the weathering process of the underlying Wiaramatta shale. I thus accept the applicant's contention that, for this reason, the condition as proposed by the council cannot be met. Condition 9(i) is amended accordingly to reflect these conclusions.

Condition 9(j)

56. The council seeks to impose a condition that, as part of the Erosion and Sediment Control Plan described in Condition 9(h), provision be made for the modelling of storm water pollution and to specify what the model must show.

57. I note that an Erosion and Sediment Control Plan is required by condition 03.1 of the EPA's General Terms of Approval and that it must be prepared in accordance with the requirements for such plans outlined in the so-called "*Blue Book*": *Managing Urban Stormwater: Soils and Construction*. In the light of the expert evidence adduced during the hearing I see no reason to impose different or other requirements. This condition, in my opinion, is not required and is deleted.

Condition 9(k)

58. The council requires an assessment of the adequacy of the existing water quality control measures on the site, including details relating to the existing sedimentation dam. The evidence adduced during the hearing, however, did not disclose any shortcoming in the operation, capacity or effectiveness of the dam or of water control measures on the site.

In my opinion, this condition is unnecessary and is deleted.

Condition 9(l)

59. Both parties have agreed to the deletion of this condition.

Condition 10

60. The council seeks to supplement Condition 9(h) by requiring the applicant to consult it regarding design parameters for the Erosion and Sediment Control Plan and requiring the system to be design in accordance with certain publication nominated by it. This condition may have the effect, however, of altering the design parameters in the *"Blue Book"* referred to in Condition 9(h) and in condition O3.1 of the EPA's General Terms of Approval. I am not persuaded that this condition is either necessary or appropriate. It is deleted.

Condition 29

61. The council has sought to impose a condition to allow it to require additional erosion and pollution control measures in case the work is stalled and the site is left in an unfinished state, whether as consequence of liquidity problem on the part of the developer or otherwise. The applicant submits, however, that the council cannot reserve to itself the power to review conditions of the consent and such a condition would be *ultra vires*. I am inclined to agree with the applicant. The council's position would be protected in such an event by other remedies. Condition 29 is deleted.

Condition 36

62. This condition which the council seeks merely repeats the noise criterion set out in the EIS. I can see no objection to specifically stating the criterion in a condition.

Condition 37

63. The parties agreed to amending this condition to the form in which it now appears.

Condition 50

64. The parties agreed to the deletion of this condition.

Condition 53

65. The parties agreed to the amendment of this condition to the form in which it now appears.

Condition 54

66. This condition has been amended to reflect the parties' agreement to its form.

Condition 62

67. The council seeks to impose a condition requiring the applicant to obtain a licence from the EPA in relation to the discharge of waste waters into a watercourse; if the EPA does not require such discharges to be the subject of a licence then section 120 of the Protection of the Environment Operations Act 1997 must be complied with.

68. I agree with the applicant's contention that this condition is inappropriate. The Protection of the Environment Operations Act is administered by the EPA and the applicant must comply with that Act in any event. This condition is also deleted.

Condition 64(e)

69. The council seeks to impose a condition requiring a fire safety study to be carried out to its satisfaction and to the satisfaction of the NSW Fire Brigades and WorkCover NSW, such study to be carried out in accordance with the relevant guidelines produced by the Department of Urban Affairs and Planning for the assessment of hazardous industries.

70. I agree with the applicant's submission that this condition is unnecessary. The development application was referred to the NSW Fire Brigades which has expressed satisfaction with the operation and does not require a fire safety study. I see no reason why I should not accept the views of that body. The guidelines of the Department of Urban Affairs and Planning do not apply because the development is neither a hazardous industry nor a potentially hazardous industry. This condition is deleted.

Condition 71

71. This condition is amended as agreed to by the parties.

Condition 77

72. The parties agreed that this condition may be deleted.

Condition 78

73. The council seeks to verify the fact that no more than 10 per cent of the material processed comprises car bodies. It seeks by this condition to require the applicant to keep appropriate records and submit them to the council.

74. The applicant has no objection to the keeping of appropriate records, but objects to submitting them to the council for fear that its commercially sensitive records will became known to its trade competitors. The applicant proposes an alternative condition allowing officers of the council to inspect its records. I think that the applicant's approach is appropriate and reasonable. The applicant's alternative condition is adopted.

Condition 82(a)

75. The applicant agreed to accept this condition provided that the actual records do not have to be submitted to the council.

Condition 85

76. The parties agreed to this condition being amended in the manner in which it now appear.

Condition 88

77. This condition has been amended in the manner agreed to by the parties.

Condition 89

78. This condition is also amended in the manner agreed to by the parties.

Condition 102

79. This condition is amended to correct a reference to another condition.

Condition 103

80. This condition is amended to reflect what appears in table 3 in the report of Dr R Tonin (Exhibit D). The applicant objects to the fixing of any numerical standard, preferring a condition which requires compliance with the limits set out in the EPA Noise Control Manual and the Industrial Noise Policy 2000. In my opinion, however, the applicant should be held to what it says it can and will do.

Condition 111

81. The council accepts the alternative condition proposed by the applicant and which is now incorporated in this condition.

82. ***Conditions 112 and 113*** deal with dust suppression. The council requires a water truck capable of supplying a water spray at a rate of 1.5 *l*/m^2/hour to water unsealed traffic areas; and water spray for exposed material surfaces in the plant and stockpiles at a delivery rate exceeding 1.5*l*/m^2/hour.

83. The applicant submits that the delivery rate proposed by the council of 1.5*l*/m^2/hour is excessive and likely to cause run-off; the existing dry sweeper incorporates a vacuum extraction system and is satisfactory; and static dust supplement sprays are unnecessary

84. I agree with the applicant's submissions. The EIS shows that the dust-generating standards can be met without the additional measures supported by the council. The two conditions proposed by the council are therefore substituted by a single condition to reflect the current and satisfactory practice.

Condition 115

85. This condition has been amended in accordance with the parties agreement.

86. ***Conditions 117 and 126A*** are, by agreement, deleted.

Condition 131

87. The council seeks a condition requiring the applicant to prepare an emergency plan in accordance with the relevant guidelines. The guidelines apply, however, only where the development is a potentially hazardous industry. I thus accept the applicant's submission that there is no requirement for an emergency plan as sought by the council. This condition is deleted.

Condition 136

88. The parties have agreed on an amended condition which is accordingly included.

Condition 137

89. Similarly, the parties have agreed on an amended condition which is accordingly included.

Condition 140

90. The parties agreed to an amendment of this condition which is now in the agreed form.

Condition 147

91. The council seeks a cash bond or bank guarantee in the sum of $50,000 to ensure the effective establishment and maintenance of landscaping. The applicant opposes this but is prepared to consent to a bond or bank guarantee in the sum of $10,000.

There is no evidence to suggest what sum would be appropriate for such a purpose. There is nothing, however, to suggest that if the landscaping is not established and maintained, the council could not either prosecute the applicant or obtain an injunction from the Court to secure the observance of this or any other condition of consent. I would not have been inclined to require any bond or bank guarantee, but since the applicant agree to provide bond in the sum of $10,000 this is reflected in the condition.

92. ***Conditions 148, 149 and 151*** are deleted as agreed by the parties.

Orders

93. I make the following orders:

1. Appeal upheld.

2. Development consent is granted for a metal recycling facility and associated works at Nos. 45-54 Tattersall Road, Kings Park subject to conditions attached to these orders.

3. The exhibits, other than Exhibits A and B, may be returned.

I hereby certify that the preceding 93 paragraphs are a true copy of the reasons for judgment herein of the Honourable Mr Justice Lloyd

Associate

Dated: 11 May 2001

CONDITIONS OF DEVELOPMENT CONSENT

Sell & Parker Pty Limited v Blacktown City Council

Lot 5, DP 7086, 45-54 Tattersall Road, Kings Park
Metal Recycling Facility -
Hammermill and Associated Works

1. This consent authorises the use of the northern part of the Site for the following purposes, subject to compliance with all other conditions of this consent:

   METAL RECYCLING FACILITY (LYNXS SHREDDER AND ASSOCIATED COMPONENTS) WITH A MAXIMUM MASS FEEDSTOCK OF 60,000 TONNES PER ANNUM.

   THE ONLY RAW MATERIALS PERMITTED TO BE SHREDDED ARE GENERAL METAL SCRAP AND CARBODIES. UNDER NO CIRCUMSTANCES ARE ANY PRESSURISED VESSELS OR ANY VOLATILE OR EXPLOSIVE SUBSTANCES TO ENTER THE METAL RECYCLING FACILITY.

2. The life of this consent is limited to a period of 20 years from the date of this consent.

3. The development shall be carried out in accordance with the Environmental Impact Statement dated December 1999 prepared by Environmental Resources Management (the "**EIS**") and the Visual Impact Design by Dem design as amended by these conditions and the following plans:

Drawing No.	Dated	Council's File Enclosure No.
Figure 2.2 Proposed Layout	undated	29C
Figure 2.3 Site Layout	undated	29D
SK-1-Site Plan & Elevation	undated	189B
SK-2 Large Rigid Truck (12.5 metre) manoeuvring path	undated	
SK-3 Semi-trailer turning paths (19.0 metre)	undated	

N00699-2-BE-SECT Earthworks Plan & Sections (Concept)	July 00	194C
A1-R-2131-B	October 00	355C
A1-R-2132-B	October 00	355D
A1-R-2601-B	October 00	355E
A1-R-302-A	October 00	355F
219925-1B	19.8.00	352A
219925-2B	19.8.00	352B
219925-3B	19.8.00	352C
219925-4B	19.8.00	352D

4. In this development consent:

"Council" means Blacktown City Council.

"**EPA**" means the Environment Protection Authority of New South Wales.

"**DLWC**" means the Department of Land and Water Conservation.

"**Metal Recycling Facility**" means the metal recycling facility the subject of development application No. 99/7797.

"**Northern part of the Site"** means the part of the Site between the existing office building, maintenance shed and the Tattersall Road frontage.

"**Sedimentation Pond**" means the sedimentation pond located on the southern portion of the Site.

"**Site**" means the land known as Lot 5 DP7086 being 45-55 Tattersall Road Kings Park.

"**Southern part of the Site"** means the part of the Site to the south of the existing office building.

5. Any reference in this consent to a Construction, Compliance, Occupation or Subdivision Certificate is a reference to such certificates as defined by Section 109C of the Environmental Planning & Assessment Act 1979.

6. Separate approval is required for any ancillary activity not approved by this consent, including, without limitation, the erection of any advertising sign not being exempt development.

7. It is necessary to obtain a Construction Certificate (prior to construction of the approved development). A Construction Certificate may be issued either by Council or an appropriately accredited certifier. A separate application, complete with detailed plans and specifications, must be made for the Construction Certificate.

PRE-CONSTRUCTION CERTIFICATE MATTERS

Preamble

8. **The following conditions in this section of the consent must be complied with or addressed prior to the issue of any Construction Certificate relating to the approved development, whether by Council or an appropriately accredited certifier. In many cases the conditions require certain details to be included with or incorporated in the detailed plans and specifications which accompany the Construction Certificate.**

9. Prior to the issue of a construction certificate the following must be submitted to the Council or an appropriately accredited certifier:

(a) Details of the location of the decommissioning pit for vehicles, together with particulars of the size of the pit and the appropriate environmental safeguards and stormwater control.

(b) Details of external materials to be used on the waste enclosure. This is to include coloured samples in brochure form.

(c) Details of the location of the wheel wash and shaker pads together with particulars of the design, wash water recovery and sediment removal.

(d) Details of the design features of the Metal Recycling Facility which will prevent the emission and/or ejection of metal debris/dust fines and projectiles, including, without limitation, full manufacturer's details of the Metal Recycling Facility and all of its components (including engineering drawings and design specifications) particularly those which are designed for the purpose of minimising and containing explosions and the emission of projectiles, ensuring compliance with noise levels and controlling operational hazards.

(e) Details of dust suppression and monitoring measures to be implemented during construction of the Metal Recycling Facility to achieve ambient air quality levels in accordance with the EPA Guidelines for Ambient Air Quality in respect of suspended particulate matter and dust deposition when measured at residential receptors.

(f) **DELETED.**

(g) The following additional detail regarding landscaping:

(i) Works required to ensure the stabilisation of any exposed soil areas.

(ii) Measures designed to ensure the survival of vegetation.

(iii) Provision for the planting of a combination of 35 litre, 75 litre, and 100 litre trees. All shrubs to be planted are to have minimum pot sizes of 200mm.

(iv) Details of the shade cloth to be erected on the Site, including, without limitation, the location, size and method of erection of the shade cloth. Shade cloths are to be used to augment the perimeter wall and fencing.

(v) Dense climber planting which is to be established along the entire length of the northern side of the 4.0m high wall.

(h) An Erosion and Sediment Control Plan ("**ESCP**") as required by condition 0.3.1 of the EPA's General Terms of Approval for the Site (attachment "B" of this consent). The ESCP must be prepared in accordance with Council's Soil Erosion and Sediment Control Policy and the state government's guidelines entitled Managing Urban Stormwater: Soils and Construction (Department of Housing). The ESCP must incorporate (without being limited to) plans and details of the proposed measures and information on general Site management, material handling practices, soil stabilisation, water control, stormwater pollution control, wind erosion control and access protection measures during the construction and operation of the development.

(i) Stormwater pollution control works, as part of the ESCP, shall be designed to the following standards in the 75th percentile, 5-day storm depth:

(a) throughout the construction phase, achieve stormwater discharges of less than 50 milligrams per litre total suspended solids;

(b) in the post construction, the site is to be operated to prevent pollution of receiving of waters (Breakfast Creek), in accordance with the provisions of the Protection of the Environment Operations Act 1997.

(j) **DELETED.**

(k) **DELETED.**

(l) **DELETED.**

Site Works and Drainage

10. **DELETED.**

Services

11. Information regarding the location of underground services may be obtained from the Sydney "Dial Before You Dig" service, telephone number 1100, fax number (02) 9806 0777. Enquirers should provide the street/road name and number, side of street/road and the nearest cross street/road.

12. The applicant is advised to consult with:

    (a) Sydney Water Corporation Limited

    (b) Integral Energy

    (c) Natural Gas Company

    (d) The relevant local telecommunications carrier

    regarding their requirements for the provision of services to the development and the location of existing services that may be affected by proposed works, either on Site or on the adjacent public road(s). All approved building construction plans will need to be submitted to and stamped by Sydney Water Corporation Limited as an indication that they comply with the Corporation's requirements. Sydney Water Corporation Limited may also require the applicant to obtain a Trade Waste Approval as part of the operation of the approved development. Enquiries should be made of the Corporation's requirements for the eventual operation of the approved use.

Suburb Name

13. The land the subject of this consent is known to be located in the following suburb. This suburb name is to be used for all correspondence and property transactions:
Suburb: BLACKTOWN

14. Any advertising of land sales in association with the approved development shall clearly indicate that the development is located in the following suburb. No other estate names are to be used in any advertisements or other promotional information:
Suburb: BLACKTOWN

Other Fees and Security Deposits

15. The following fee must be paid to Council's Maintenance Section pursuant to Sections 608 and 609 of the Local Government Act 1993. The fee is subject to periodic review and may vary at actual time of payment.

    (a) Vehicle Crossing Application and Inspection Fee: $176

16. Prior to the issue of a Construction Certificate, whether by Council or an appropriately accredited certifier, the following fee and bond are to be paid to Council. The fee and bond are subject to periodic review and may vary at actual time of payment.

Road inspection fee:	**$113**
Road maintenance bond:	**$4776**

Consistency with Approved Development Plans

17. Any Construction Certificate that may be issued in association with this development consent must ensure that any certified plans and designs are generally consistent (in terms of Site layout, Site levels, building location, size, external configuration and appearance) with the approved Development Application plans and in accordance with the conditions of the consent.

Compliance with Development Control Plan 1992

18. Except as otherwise approved, the design plans which accompany the Construction Certificate are to comply with the design criteria specified in Council's Development Control Plan 1992, Parts A and E.

Services and Service Authorities' Clearances

19. The following documentary evidence, if required, is to be obtained prior to the issue of any Construction Certificate.

(a) A Section 73 Certificate issued by the Sydney Water Corporation Limited or other evidence from the Urban Development Branch at the relevant Sydney Water Business Centre confirming that the Corporation does not object to the commencement of work on the basis of service availability.

(b) A written clearance from Integral Energy, stating that electrical services have been made available to the development or that arrangements have been entered into for the provision of services to the development.

Compliance with Building Code of Australia

20. All aspects of the building design shall comply with the applicable performance requirements of the *Building Code of Australia* so as to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity for the ongoing benefit of the community. Compliance with the performance requirements can only be achieved by:

(a) Complying with the deemed to satisfy provisions, or

(b) Formulating an alternative solution which :

(i) complies with the performance requirements, or

(ii) is shown to be at least equivalent to the deemed to satisfy provision, or

(c) A combination of (a) and (b).

Required Design Specification

21. All engineering works required by Part A must be designed and undertaken in accordance with the relevant aspects of the following documents, except as otherwise authorised by this consent:

(a) Blacktown City Council's Works Specification - Civil (Current Version)

(b) Blacktown City Council's Engineering Guide for Development (Current Version)

Content and Type of Construction Certificate

22. Any Construction Certificate issued in relation to this consent shall incorporate and address the design of those works required by Part A of this consent and any ancillary works necessary to make the construction effective.

Hydrocarbon Tank

23. All licences and approvals required by the NSW WorkCover Authority, the NSW Fire Brigade and the EPA will be obtained in respect of the 5000L hydrocarbon tank prior to its commissioning.

PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK

Notification to Council

24. At least 2 days prior to work commencing on the Site, Council must be informed, by the submission of Form 7 of the *Environmental Planning & Assessment Regulation 1994*, of the name and details of the Principal Certifying Authority (if applicable) and the date upon which the construction work is proposed to commence.

Toilet Facilities

25. Toilet facilities are to be provided, at or in the vicinity of the work Site on which work involved in the erection or demolition of a building is being carried out, at the rate of 1 toilet for every 20 persons or part of 20 persons employed at the Site.

Each toilet provided:

(a) must be a standard flushing toilet, and

(b) must be connected:

(i) to a public sewer, or

(ii) if connection to a public sewer is not practicable, to an accredited sewage management facility approved by the Council, or

(iii) if connection to a public sewer or an accredited sewage management facility is not practicable, to some other sewage management facility approved by the Council.

The provision of toilet facilities in accordance with this condition must be completed before any other work is commenced.

Signs on Building and Demolition Sites

26. A sign must be erected in a prominent position on part of the Site on which the erection or demolition of a building is being carried out:

(a) stating that unauthorised entry to the work Site is prohibited, and

(b) showing the name of the person in charge of the work and a telephone number at which that person may be contacted outside working hours.

This condition does not apply to:

(a) building work carried out inside an existing building, or

(b) building work carried out on premises that are to be occupied continuously (both during and outside working hours) while the work is being carried out.

Soil Erosion and Sedimentation Control

27. All measures specified in the ESCP and the Construction Certificate to control soil erosion and sedimentation are to be installed prior to the commencement of construction works. Infringement Notices, incurring a monetary penalty, may be issued by Council where measures are not implemented or maintained.

28. To prevent sediment being removed from the Site on construction vehicles during the construction of the approved development, a portable wheelwash or similar device for cleaning truck wheels shall be installed at the exit point from the Site.

29. **DELETED.**

30. Structural details of all retaining walls, prepared and/or certified by a professional engineer or other appropriately qualified person, shall be lodged with Council prior to commencement or construction of any retaining wall.

Waste Disposal

31. For the purposes of effective off Site waste management, waste building materials and excavated soil wastes/fill materials must be disposed of to approved waste disposal depots or to licensed landfill sites.

32. Receipts from the licensed landfills or waste depots in respect of waste disposed of in accordance with Condition 38 must be submitted to the Council within 14 days of the disposal of the waste.

DURING CONSTRUCTION

Compliance with the Building Code of Australia

33. All building work must be carried out in accordance with the provisions of the *Building Code of Australia.*

Demolition

34. Demolition of the office building on the Northern part of the Site must be in accordance with the requirements of the Blacktown City Council Local Approvals Policy.

Noise Control

35. The hours of work for any construction work which generates noise are 7am to 5pm, Mondays to Fridays and 7am to 3pm Saturdays inclusive, with no such work to be conducted at any time on a Sunday or Public Holidays.

36. Any noise generated during the construction of the development shall not exceed 48dB(A) L_{10} at all residences.

Dust

37. Dust suppression and monitoring measures must be implemented to ensure that ambient air quality levels are in accordance with the EPA Guidelines for Ambient Air Quality in respect of suspended particulate matter and dust deposition when measured at the boundaries of the Site. This monitoring should at least include 30 day dust deposition [maximum dust deposition not to exceed 2 grams per square metre per month (2 g/m^2/mth) above background to a maximum of 4 g/m^2/mth total solids].

Construction Inspections

38. Compliance Certificates may be issued for the following applicable stages of the building construction:

	Stage	**Nominated Work**
(i)	**Footing system -**	**placing concrete or covering.**
(ii)	**Stormwater drainage -**	**covering or backfilling.**
(iii)	**Completion -**	**occupation or use.**

Any Compliance Certificate issued for the above stages of construction shall certify that all relevant ancillary or dependent work has been undertaken in accordance with the *Building Code of Australia* and any other condition of this consent.

39. Any Compliance Certificate issued for the above stages of construction shall certify that all relevant ancillary or dependent work has been undertaken in accordance with the *Building Code of Australia* and any other condition of this consent.

40. Any additional Council inspection, beyond the scope of any Compliance Certificate package and which is required to verify the compliance of any work, will be charged at the individual inspection rate nominated in Council's Fees and Charges Schedule.

Building Materials and Wastes

41. Building and construction materials, plant and equipment are not to be placed or stored at any time on Council's footpath or roadway.

42. Suitable and effective builder's refuse and waste storage facilities are to be provided on the Site for the duration of construction works.

43. Roads adjoining the Site must be kept clean and free of materials excavated or transported from the Site.

Car Parking and Access

44. All required internal roads and car parking spaces are to be line-marked, sealed with a hard standing, all-weather material and maintained to a satisfactory useable standard.

45. All internal roads and other paved areas are to be graded to provide continuous surface drainage flow paths to approved points of discharge.

46. Entrance/exit points are to be clearly signposted and visible from both the street and the Site at all times.

47. Access to and parking for persons with disabilities is to be provided in accordance with Australian Standard 2890.1-1993.

Tree Protection and Landscaping

48. Barriers, tree guards and other measures employed to protect existing trees on Site are to be effectively maintained for the duration of construction works.

49. All landscaping is to be undertaken in accordance with approved plans/details. All turfed areas are to finish level with adjoining surfaces and shall fall evenly to approved points of drainage discharge.

50. **DELETED.**

Ancillary Works

51. The following ancillary works shall be undertaken, where required:

(a) the relocation of underground services where required by the positioning of new drainage and road infrastructure.

(b) the relocation of above ground power and telephone services.

(c) the matching of new infrastructure into existing or future designed infrastructure.

Public Safety

52. All works undertaken in a public place are to be maintained in a safe condition at all times. Council may at any time and without prior notification make safe any such works Council considers to be unsafe, and recover all reasonable costs incurred from the applicant.

Environmental Management

53. An Environmental Management Plan ("**EMP**") which addresses the following matters is to be prepared in respect of development on the Site and provided to Council 3 months prior to the commencement of operations associated with the Metal Recycling Facility:

(a) Environmental management procedures required to ensure compliance with the Protection of the Environment Operations Act 1997, the Waste Minimisation and Management Act 1995, the Dangerous Goods Act 1975, the Contaminated Land Management Act 1997 and the Rivers and Foreshores Improvement Act 1948 and all associated Regulations (and all Acts which amend, repeal or supplement this legislation).

(b) Responsibility of all employees of the Metal Recycling Facility in relation to prevention of pollution and training requirements (including, without limitation, the prevention of explosions, fires and the pollution of water, soil and air);

(c) Remediation of contaminated soil and water on the Site (including groundwater) in accordance with condition 64;

(d) The storage and handling of all waste either brought onto the Site or generated as part of the development (including, without limitation, details of the lawful off-site disposal of all waste);

(e) Procedures to prevent pollution of air, surface and ground water and soil;

(f) Response procedures and preventative measures in relation to pollution incidents;

(g) Compliance with the ESCP required as part of this consent, including without limitation, information in respect of the following matters:

(i) How the Sedimentation Pond will have sufficient capacity to service all development on the Site (including details of a maintenance schedule to ensure the regular removal of sediment from the Pond)

(ii) Details of how the sediment will be removed from the Pond

(iii) An assessment of the potential for hydraulic connectivity between the Sedimentation Pond and groundwater

(iv) Plans showing the lining of the Sedimentation Pond.

(h) The storage and handling of dangerous goods in accordance with the Dangerous Goods Act 1975, all associated regulations and the requirements of the NSW WorkCover Authority including without limitation the removal of volatile, explosive and hazardous materials from the feedstock; the triple rinsing of tanks and the removal of tanks from cars.

(i) The minimisation of the emission of noise and vibration to ensure compliance with the conditions of this consent;

(j) The establishment and implementation of a complaints register at all times;

(k) Details of an emergency evacuation plan.

Soil Contamination

54. All contaminated soil and other contaminated material excavated from the Site as part of the development must be removed from the Site and disposed of by a licensed contractor at a facility licensed under the Waste Minimisation and Management Act 1995. A report is to be prepared by a suitably qualified consultant detailing the contamination remediation measures required as part of the proposed excavation/construction works. Council may require remediation works and or removal of the soil and or groundwater, depending on the report's recommendations. Following this, an independent validation of the remediation works by an environmental consultant will be required and a report submitted to Council.

PRIOR TO ISSUE OF OCCUPATION CERTIFICATE

Road Damage

55. The cost of repairing any damage caused to Council's assets in the vicinity of the subject Site as a result of construction works associated with the approved development is to be met in full by the applicant/developer prior to the issue of an Occupation Certificate. Should the cost of damage repair work not exceed the road maintenance bond (see Part A of this consent) Council will automatically call up the bond to recover its costs. Should the repair costs exceed the bond amount a separate invoice will be issued to the applicant/developer in respect of these works.

Removal of Temporary Facilities

56. Any temporary toilet facilities provided during construction works are to be appropriately dismantled, disconnected and removed from the Site.

57. All temporary builder's signs or other Site information signs are to be removed upon the completion of Site works.

58. All temporary soil erosion controls employed during construction are to be removed and other permanent measures in accordance with the ESCP are to be implemented prior to the use or occupation of the development.

Works-As-Executed Plans

59. A work-as-executed plan (to a standard suitable for microfilming) prepared by a Chartered Professional Engineer or a Registered Surveyor must be lodged with Blacktown City Council when the engineering works (bulk earthworks) are complete.

Service Authorities

60. The applicant is to obtain a Trade Waste Approval from the Sydney Water Corporation Limited in relation to any discharges to the Corporation's sewerage system.

61. A final clearance is to be obtained from both Integral Energy and the Sydney Water Corporation if such clearance (in the form of a Notification of Arrangement or a Section 73 Certificate) has not previously been issued.

Discharges to Water

62. **DELETED.**

63. As the premises is a "Scheduled Premises" within the meaning of the Protection of the Environment Operations Act, 1997, an application for an environmental licence shall be made to the EPA. A copy of the licence is to be submitted to Council prior to the issue of the Occupation Certificate.

Fire Safety

64. The development must comply with the requirements of the NSW Fire Brigades including but not limited to the following:

(a) The hydrant system is to be extended to control and extinguish any fires.

(b) Details of how contaminated fire water is to be contained are to be provided to the Council.

(c) Clear, unhindered access is to be provided at all times for the NSW Fire Brigades vehicles at all times.

(d) At least a 1.0m clear access is to be provided between stockpiles and the Metal Recycling Facility and its components in the event of a fire hazard.

(e) **DELETED.**

65. A copy of the Stormwater/Management Scheme required by Condition O4.1 of the EPA's General Terms of Approval (held at Attachment "B" of this consent) shall be provided to Council prior to the issue of the Occupation Certificate.

OPERATIONAL MATTERS

Compliance with the general terms of approval of the EPA and DLWC

66. The development must be carried out in accordance with the general terms of approval of the EPA and the DLWC which are annexed and marked "A" and "B" respectively, as amended by the conditions of this consent. A copy of all reports and information required to be submitted to the EPA and DLAWC, must be submitted to the Council contemporaneously.

Hours of operation

67. The hours of operation of activities associated with the Metal Recycling Facility shall not be outside of the following nominated times:

Approved hours of operation:	Monday to Friday:	7.00am - 5.00pm
	Saturday:	7.00am – 3.00pm

No activities are to be conducted on the Site on Sundays or Public Holidays.

Restrictions on volumes of raw and processed materials

68. No more than 60,000 tonnes of raw scrap metal can be processed in the Metal Recycling Facility in any one year. The 60,000 tonne limit is inclusive of all material to be processed in the hammermill (including, without limitation, car bodies).

69. The only raw materials that can be processed in the hammermill facility is general metal scrap which contains no volatile or potentially explosive substances (including, without limitation, petrol tanks).

70. Each year, car bodies may comprise no more than 10% of raw material processed in the Metal Recycling Facility.

71. Each year, car bodies which are to be processed in the Metal Recycling Facility shall not comprise in excess of 10% of the raw materials stored on the Northern part of the Site.

Restriction on storage of materials

72. Car bodies which are to be processed in the Metal Recycling Facility must not be stored on the Southern part of the Site.

73. No goods, materials or trade wastes are to be stored at any time outside the building on either the internal vehicular driveway, car parking area, landscaping, footpath or other than in approved garbage receptacles.

Car parking and traffic

74. A minimum of 20 carparking spaces in total are to be provided on Site, each having minimum dimensions as follows:

(a) uncovered - 2.5m x 5.2m;

(b) parking for plant equipment - appropriately signposted, and linemarked;

(c) widen the entry driveway to 6.5 metres carriageway plus at least 300mm clearance to any structure;

(d) the queuing area is to be appropriately sign posted.

75. The internal driveway and parking areas are to be designed in accordance with Australian Standard 2890.1.

76. Soil and other material must not be deposited on roads adjoining the Site by vehicles entering or leaving the Site.

Enclosure of the Metal Recycling Facility

77. **DELETED.**

Requirement to keep records

78. Records must be kept of all scrap metal, including car bodies received for processing in the Metal Recycling Facility. In addition to the volumetric records from the vehicle weighbridges on the Site, records must be kept which particularise the type of scrap received, and the date on which it was received. These records must be made available to the Council officers for inspection annually following the commencement of the operation of the Metal Recycling Facility.

Video monitoring

79. Video surveillance equipment must be installed to record all raw material as it enters the Metal Recycling Facility.

80. Video recordings are to be on a "continuous tape" basis whereby the tape is retained in the event of an explosion or fire.

81. All video recording is to be kept for a period of 90 days except in the event of an explosion or fire in which case the video recording must be retained for 5 years and provided to the Council and the EPA upon request.

Inspection procedure

82. Prior to the commencement of the operation of the Metal Recycling Facility, an inspection procedure plan must be submitted to the Council detailing the following:

(a) How the type and tonnage of all scrap material (including car bodies) received each month for processing in the Metal Recycling Facility will be recorded;

(b) Inspection procedures to ensure that no volatile substance is processed in the Metal Recycling Facility;

(c) The installation of video monitoring equipment in accordance with the conditions of this consent;

(d) The keeping of written records of all materials which are received at the Site and processed in the Metal Recycling Facility;

(e) Procedures to be undertaken for:

(i) the safe removal from the Site of any explosive or volatile substance received at the Site:

(ii) the decommissioning of vehicles including, without limitation, details of the mechanisms for removal and draining of petrol tanks; and

(iii) the removal, storage and disposal of petrol, oil and all other fuels, fluids and substances removed from raw material received at the Site.

83. The development must be carried out in accordance with the inspection plan required to be submitted pursuant to condition 82.

Projectiles

84. No projectiles of any kind will be discharged from the Metal Recycling Facility.

Explosion prevention

85. No crushed cars can be received on the Site for processing in the Metal Recycling Facility except those vehicles inspected, treated and crushed by Sell & Parker.

86. All petrol tanks and LPG gas tanks must be manually removed from cars prior to the car being processing in the Metal Recycling Facility. Petrol tanks shall not be removed by way of a grab crane or any other mechanical device.

87. All petrol tanks must be drained of fuel and triple rinsed with water.

88. Petrol tanks removed from vehicles on Site must be stored in a separately bunded area in accordance with the requirements of the EMP referred to at condition 53.

89. Petrol tanks, LPG tanks, pressurised tanks or any tanks containing volatile substances shall not be processed in the Metal Recycling Facility.

90. All cars received on the Site will be separately stockpiled in the raw material stockpile area. Sufficient distances must be maintained between stockpiles of cars and other raw materials to allow Fire Brigade access in the event of a fire in either stockpile.

91. A separately bunded area will be provided for the purpose of draining of vehicle fuel tanks. This bunded area shall be located at a safe distance from the raw material stockpile area in accordance with the requirements of WorkCover NSW and the EPA. This bunded area shall not be located on the Southern part of the Site.

92. The bunded area referred to at condition 91 shall be roofed sufficiently to prevent the entry of stormwater into the bunded area. The design, construction and operation of the bunded area shall be in accordance with the EMP referred to at condition 53.

93. All LPG tanks, pressurised tanks or any tanks containing volatile substances removed from cars or any material that enters the Site must be placed in a separately bunded area and removed from the Site in accordance with the requirements of the EMP.

94. No material that may, either individually or in combination with another substance, cause an explosion if processed in the Metal Recycling Facility shall be processed in the Metal Recycling Facility.

95. A sign must be erected at the entrance way to the Site stipulating that the following substances must not be brought on to the Site:

(a) Flammable substances;

(b) Asbestos;

(c) Explosives;

(d) Radioactive materials;

(e) Toxic materials;

(f) Infectious materials.

96. All pressurised vessels received at the Site, including without limitation, LPG, butane and propane, shall be stored in accordance with the requirements of the Dangerous Goods Act 1975; the Dangerous Goods (General) Regulation 1999; the Occupational Health and Safety Act 1983; the Factories Shops and Industries Act 1962; the Workplace Injury Management and Workers' Compensation Act 1998; the Workers' Compensation Act 1987 and all associated Regulations (and all Acts which amend, repeal or supplement this legislation).

97. All decommissioned vehicles are to be kept in a separate storage area from vehicles which have not been decommissioned. Clear signage is to be erected on the Site distinguishing the separate storage areas.

98. All raw materials and processed materials are to be stored in separate storage areas at all times. Clear signage is to be erected on the Site distinguishing the separate storage areas.

Dust explosions

99. The water injection system in the Metal Recycling Facility is to be operational at all times that the metal recycling facility is in operation.

Noise

100. The noise amelioration works identified in all approved drawings and the EIS (as amended by these conditions) must be implemented and maintained.

101. Noise at the Site boundary of the premises must not exceed an $L_{A10(15minute)}$ noise emission criterion of 70dB(A).

102. Noise from all activities on the Site is to be measured on the adjoining premises within one metre of the boundary to determine compliance with condition 101.

103. The L_{10} residential noise boundary contribution from operations on the Site under isothermal conditions shall not exceed 50dB(A) at Sunnyholt Road and 44dB(A) at Camorta Close.

104. Within 90 days of the commencement of the development, noise measurements must be carried out showing compliance with the noise limits required pursuant to this consent. The results of the tests must be submitted to the EPA and the Council within 14 days of the tests being carried out.

105. If the noise measurements submitted to Council pursuant to condition 104 show a failure to comply with the noise limits at conditions 101 and 103, a noise mitigation plan must be submitted to the Council within 28 days of the submission of the noise measurements in accordance with condition 101 and 103. The noise mitigation plan must identify how compliance with these conditions will be achieved.

Overpressure

106. All air blast over pressure levels resulting from activities during the operation of the Metal Recycling Facility, including without limitation, explosions, must not exceed 120dBLin(peak hold) when measured at any boundary of the Site.

107. An air blast over pressure monitor must be installed at the boundary of the Site.

108. Records of all air blast pressure measurements in excess of 120dBLin (peak hold) must be submitted to Council in writing every 30 days following the commencement of the operation of the metal recycling facility. Information in relation to the cause, date and time of all air blast pressure measurements must be included in this report.

109. In the event that air blast over pressure levels from the operation of the Metal Recycling Facility exceed 120dBLin (peak hold), a plan of management must be submitted to the EPA and the Council within 14 days identifying how compliance with the maximum permissible air blast over pressure level will be achieved.

110. The over pressure monitoring system must be capable of measuring and reporting to a limit not less than 165dB(Lin).

Soil and Water Management

111. Soil and water management measures identified in the ESCP must be introduced and be effectively maintained to the satisfaction of the Council. Plans and details of the proposed measures must be submitted to the certifying authority with any application for a construction certificate. The plans should describe procedures for erosion control, surface and subsurface drainage and stabilisation structures as well as a schedule for any necessary phasing of these works.

Dust Suppression

112. A dry sweeper incorporating a vacuum extraction system is to be used to remove dust and other particles from the sealed traffic areas of the operation.

113. **DELETED.**

114. In periods of high wind (>8 metres per second), it will be necessary to reprogram dust generating activities which cannot be adequately controlled by water or other means and may cause nuisance to people or property.

115. During operation of the proposed metal recycling facility operations an air quality monitoring network must be established to the satisfaction of EPA and Council. This monitoring should at least include 30 day dust deposition [maximum dust deposition not to exceed 2 grams per square metre per month (g/m^2mth) above background to a maximum of 4 g/m^2mth total solids].

Car Parking and Access

116. All car parking spaces and internal roads shall be properly maintained and in a condition which is free of dust.

117. **DELETED.**

118. All vehicles are to enter and leave the Site in a forward direction, and all on-Site traffic is to be one-way. Appropriate directional signage is to be erected and kept in a well-maintained condition and should be clearly visible.

119. Both driveways shall be widened to 8.0m for at least the first 10.0m measured from the kerbline of Tattersall Road, with the addition of a 4.0m radius kerb return on the inside of each driveway (one side only).

120. The exit driveway is to be at least 6.0m sealed width, with additional side clearances for at least 0.3m.

121. A directional control signposting system must be installed to the satisfaction of Council.

122. Raw material stockpiles are not to be any closer than 30m from the northern kerb of the weighbridge access road or any location where the stockpiled material would affect the proposed circulation system, with stockpiling also to not prevent vehicular access to the material stockpile.

123. Signs shall be erected to prevent drivers entering the Site by way of the exit driveway.

124. A dynamic sign to be placed on the entry driveway approximately 110 metres from the front boundary of the Site. The sign shall direct drivers to the first available vacant weighbridge.

125. All loading and unloading operations are to take place at all times wholly within the confines of the Site.

126. No vehicles are to queue on Tattersall Road in connection with deliveries of material to the Site.

126A. **DELETED.**

Hydrocarbon Tank

127. The installation of the 5000L hydrocarbon tank referred to at Figure 2.3 of the EIS will be certified by an appropriately qualified environmental engineer.

Landscape Maintenance

128. All landscaped areas are to be maintained at all times in a suitable manner.

Use of Premises

129. The use of the approved development shall, at all times, be conducted in a manner consistent with the terms and conditions of this consent.

Emergency Procedures

130. Instructions concerning procedures to be adopted in the event of an emergency are to be clearly displayed on the premises for both public and staff information at all times to the satisfaction of Council, prior to commencement of the use.

131. **DELETED.**

Other Matters

132. A maximum of 6 skip bins are permitted to be kept on the Northern part of the Site and are to be stored on the location shown on the approved plans at all times.

133. A separate storage area which is bunded is to be provided for the storage of hazardous materials. This area will be maintained in accordance with the requirements of the New South Wales WorkCover Authority and the Dangerous Goods Act 1975 and all associated regulations.

134. All metal cutting/grinding activities are to be undertaken at a safe distance from any dangerous goods stored on the Site and comply with the requirements of the New South Wales WorkCover Authority and the Dangerous Goods Act 1975 and all

associated regulations.

135. Unhindered access for all service/trade waste vehicles is to be maintained at all times. In particular, this applies to the waste enclosure on the north-western part of the Site, and the dangerous goods storage area.

136. The 4.0m high wall and all fencing is to be maintained in a satisfactory manner. No advertising is permitted on the wall fronting Tattersall Road.

137. No stockpile on the Northern portion of the premises is to exceed 7.0m in height. Permanent markings are to be placed on the inner side of the wall along the northern boundary of the premises to Tattersall Road to monitor the height. This marking is to run along the entire wall and be clear and visible at all times.

138. The Metal Recycling Facility and its components are to be provided with the necessary design features which will prevent any fallout of projectiles and/or debris. These features are to be employed at all times during the operation of the Metal Recycling Facility. These features are to be kept in a proper working order, and the Metal Recycling Facility is not to be operated without these additional safety measures.

139. A copy of the acoustical report required by condition L3.3 of the NSW Environment Protection Authority's General Terms of Approval (held at Attachment "B" of this consent) is to be provided to Council upon its preparation. Any components not previously identified as a noise source in the EIS are to be assessed. In addition to this, any noise emissions from existing structures or operations on the Site and any impact of this noise or employees working on the Site are to be assessed. A copy of the report detailing the noise mitigation measures are to be submitted to Council.

140. Within 90 days of commissioning of the Metal Recycling Facility a compliance certificate from an accredited acoustic consulting engineer shall be submitted to Council and the EPA setting out the results of monitoring and confirmation of compliance of the boundary criterion and the sound level pressure contribution at residential receivers.

141. Validation reports on the ongoing performance of the water quality control measures shall be provided to Council within six months of commencement of operation of the Metal Recycling Facility. Monitoring data is thereafter to be provided to Council at six-monthly intervals.

142. All plant and equipment powered or propelled by internal combustion or diesel engines used on the Site must be properly maintained to ensure exhaust emissions comply with the Protection of the Environment (Operations) Act.

Nuisance

143. Spillage of light, if any, shall be controlled so as not to cause nuisance to the amenity of adjoining land.

144. If artificial lighting is proposed full details are to be submitted indicating the manner in which adjoining properties are to be protected.

145. If an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the *Protection of the Environment Operations Act 1997*.

PART A - ENGINEERING WORKS

Drainage Works

146. Drainage from the Site must be connected into:

(a) the existing Site drainage system.

Other Matters

147. Landscaping Bond – a cash bond or bank guarantee in the sum of $10,000 is to be lodged with Council to ensure the effective establishment and maintenance of landscaping. The bond or guarantee is to be lodged prior to the release of the Construction Certificate and will be returned on the following basis:

(a) 50% on completion of landscaping to Council's satisfaction;

(b) 25% six months after the completion date of the landscaping, subject to Council being satisfied that the maintenance program is proceeding satisfactorily;

(c) 25% residue to be refunded twelve months after completion, subject to satisfactory maintenance of the landscape area.

148. **DELETED.**

149. **DELETED.**

150. Restoration of Public Roads – restoration of public road and associated works required as a result of the development shall be carried out by Council and all costs shall be paid by the applicant.

151. **DELETED.**

BLACKTOWN CITY COUNCIL

NOTICE OF DETERMINATION

OF A DEVELOPMENT APPLICATION
UNDER THE ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT 1979 (SECTION 92)

APPLICANT
BLH CONSULTING
C/- SELL & PARKER HOLDINGS P/L
PO BOX 99
WATERLOO 2017

DETERMINATION No. 1 4 6 6 4

File No: DA-96-305

TN.AR0111.NOV

PROPERTY DESCRIPTION
H/N 45, LOT 5, DP 7086, TATTERSALL ROAD, KINGS PARK

DEVELOPMENT
METAL RECYCLING FACILITY

DETERMINATION
Pursuant to Section 92 of the Act Council advises that the Development Application has been determined by:

- GRANTING OF CONSENT SUBJECT TO THE CONDITIONS ATTACHED ON THE FOLLOWING PAGES

BY DELEGATED AUTHORITY - DIRECTOR, DEVELOPMENT SERVICES

RIGHT OF APPEAL
SECTION 97 OF THE ACT CONFERS ON AN APPLICANT WHO IS DISSATISFIED WITH THE DETERMINATION OF A CONSENT AUTHORITY A RIGHT OF APPEAL TO THE LAND AND ENVIRONMENT COURT.

NOTE: This Consent is generally valid for a period of 5 years effective from the date of this notice, unless specified otherwise by Sections 93 and 99 of the Act, or by conditions.

TERRY McCORMACK
A/GENERAL MANAGER
per:

DATE: 27 NOV 1996

Pursuant to Clause 81 of the Environmental Planning and Assessment Regulation 1994, notice of this determination will be published in a newspaper circulating in the local area. In accordance with Section 104A of the Environmental Planning and Assessment Act 1979, any person may question the validity of this consent in legal proceedings commenced in the Land and Environment Court within 3 months of the date of publication of the notice.

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

1. The use or occupation of the approved development shall not commence until such time as all conditions of this development consent have been complied with. The use or occupation of the development prior to compliance with all conditions of development consent may make the applicant/developer liable to legal proceedings.

2. Development is to take place in accordance with the following drawings subject to compliance with any other conditions of this consent.

Drawing No.	Dated	Council's File Encl. No
N00699-C-01 (Civil Works - Concepts)	30.8.96	26G
96.031.2/2 (Section Through Yard)	30.7.96	16D
96.031.½ (Site Plans & Floor Plans)	28.5.96	15A
96.031.1 (Site Plans & Floor Plans Also Incorporating Dust Suppression Details)	27.8.96	34B

NOTE: The abovementioned Civil Works concept plan, and site plans and floor plans shall be amended on the building application to show a minimum scaled dimension of 50m from the "truck ring road" surrounding the facility and the irrigation pump shed to the top of the Breakfast Creek bank.

NOTE: The applicant/developer shall also comply with the dust suppression report prepared by "Hydro-plan", dated 28th August, 1996 and entitled "Preliminary Technical Report - Automatic Pumping and Spray Irrigation System for Dust Suppression for Open Scrap Metal Yard Section of 45 Tattersall Road, Blacktown" at Council's file enclosure 34A.

3. Compliance with the following building requirements:

   A. The submission of a Building Application complying with existing the Local Government Act, 1993 (also to include details of building demolition).

   B. No approval for advertising signs is given by this consent and a separate application is to be made and Council's approval obtained prior to the erection of any signs.

TN.AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664
File No. DA-96-305

CONDITIONS OF APPROVAL

C. A proposed erosion and sedimentation control plan shall be submitted with the Building Application.

D. Submission of an hydraulics layout for the existing building including water supply, sewerage service and roofwater drainage and the correction of any defects or encroachments to the satisfaction of the Director, Development Services.

4. Compliance with the following engineering requirements at Attachment "A".

5. A Section 73 Certificate issued by the Sydney Water Corporation Limited is to be submitted with the required Building Application. Approved building plans will not be released until this certificate has been submitted.

6. Compliance with the requirements of :
   - A. NSW Environment Protection Authority; ✓
   - B. Integral Energy; Seen
   - C. Telstra; ✓
   - *D. Hawkesbury Nepean River Catchment Management Trust; and ✓
   - *E. Department of Land & Water Conservation. ✓

   Possible Area.

   NOTE: See Attachment "A" Condition H to this consent.

7. Car Parking and Access
   - A. 10 off street car parking spaces are to be provided on site.
   - B. Each right angle car parking space is to be a minimum of 5.2 x 2.5m.
   - C. All car parking spaces are to be line-marked and sealed with a hard standing all weather material, and maintained to the satisfaction of Council's Director, Development Services.
   - D. All internal roads shall be constructed of hard standing, all-weather material and shall be maintained to the satisfaction of Council at all times.
   - E. All carparking spaces and internal roadways, storage and manoeuvring areas shall be kept in a dust free manner at all times.

8. Off street car parking is to be encouraged by the placement of prominent signs indicating its availability.

9. Entrance/exit points are to be clearly signposted and visible from both the street and the site at all times.

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These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

CONDITIONS OF APPROVAL

10. All loading and unloading operations are to take place at all times wholly within the confines of the site.

11. Landscaping

A. Separate detailed landscaping plans are to be submitted to and approved by Council.

B. Landscaping is to extend along the entire western and eastern boundaries of the subject site to a minimum width of 3m, and also across the full Tattersall Road frontage of the site.

C. A minimum 3m wide densely landscaped area shall be created immediately to the north of the proposed office and carparking area, extending in each direction to the trucking road.

D. There shall be a minimum of 50m distance from the top of the existing Breakfast Creek bank to the truck ring road and proposed irrigation pumping shed. This 50m distance shall be heavily landscaped and all details of landscaping should be prepared by a qualified landscape architect to the satisfaction of Council's Landscape Architect. Approved building plans will not be released until Council's Landscape Architect is satisfied with those plans.

E. Such landscaping is to include suitable species (including ground covers, shrubs and trees) which, at maturity, will provide a dense screen of vegetation at least 10 m high, along the southern, eastern and western site boundaries of the site, and in front of the proposed office and parking. In this regard, advanced, fast growing tree species should be planted. Landscaping plans should include details of species and common name, mature growth height and estimated growth time.

F. Landscaping is to be completed to the satisfaction of the Director, Development Services prior to the use or occupation of the development and is to be maintained at all times to the satisfaction of the Director, Development Services.

12. No filling or earthworks carried out on the site shall interfere with the existing natural drainage system unless approved by Council.

13. That part of the site shown upon the approved drawings as not being related to the metal recycling facility shall not be redeveloped without the prior consent of Council.

14. Spillage of light, if any, shall be controlled so as not to cause nuisance to the amenity of adjoining land.

TN_AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

15. If an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the Noise Control Act, 1975.

16. The emission of noise from the site shall not exceed the relevant standards of the NSW Environment Protection Authority (noise as measured at the boundaries of the relevant industrial and nearby residential properties).

17. The hours of operation of the metal recycling facility are limited to:
    7a.m. to 5p.m. Monday to Friday
    7a.m. to 12 midday on Saturday
    Any alterations to these hours would require the separate approval of Council.

18. Site Remediation

    Page 12 of the "Stage 2 Environmental Site Investigation" Report prepared by ADI Services refers to approximately 30 m^3 (100 m^2) of zinc impacted soil, located beneath/around the saw mill building.

    This zinc impacted soil is to be removed completely from the site and the area validated by an approved consultant to Council's satisfaction prior to commencement of the Metal Recycling Facility.

19. Storage

    Scrap metal shall not be stored in mounds of a height exceeding 7.5 m above existing ground level.
    In this regard a permanent marker pole showing 2.5 m, 5.0 m x 7.5 m height above ground level is to be erected within the metal storage area so as to be visible from all parts of the storage area. Full details to be provided on the Building Application.

20. In addition to Condition 11C above a screen wall of suitable height is to be erected on both sides of the proposed office, and extending west and east to the truck ring road, to screen the scrap metal piles from Tattersall Road. This wall may form part of the office and could be constructed as a "mock wall". Full details of wall height, materials of construction and external finishes to be submitted with the Building Application.

21. The sheering installation shall be set in the site bedrock and mounted on absorption pads to minimise noise emission.

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These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is to the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per

DATE: 27 NOV 1996

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BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

22. The development and operation of the metal recycling facility shall generally be carried out in accordance with the Statement of Environmental/Effects prepared by Axis Environmental Consultants Pty Ltd, dated July 1996 and located at Council's file enclosure 10A.

TN.AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

ATTACHMENT "A" - ENGINEERING CONDITIONS

A. The following amount must be paid upon submission of Engineering Plans for approval

Design Checking and Inspection Fee $414

The amounts mentioned above is valid until 30th June, 1997 after which it is payable at the rate applicable at the time of payment.

B. Erosion, sediment control and re-vegetation measures must be provided prior to any construction activity and maintained during the construction and maintenance period. Details (which may include a written strategy) must be lodged with the engineering plans.

C. Existing vegetation must be left undisturbed except where drainage lines and filling works are proposed.

D. Re-vegetation must be applied to disturbed areas as soon as practical after completion of the earthworks or as directed by Council and must be established prior to Council's final inspection of the engineering works. All open drains must be turfed to the satisfaction of Council's Engineer.

E. Prior to the commencement of any earthworks the site must be inspected by Council's representative and the applicant's representative to identify and appropriately mark:-

(i) The trees to be retained.
(ii) All areas to be left undisturbed and cordoned off.

F. Drainage from the site must be connected into Council's existing drainage system to the satisfaction of the Director, Development Services. Details must be submitted to and approved by the Development Services Engineer prior to commencement of building construction/and the construction of the drainage line must be completed prior to commencement of building construction. Where drainage involves the provision of drains across land owned by others evidence of the creation of necessary easements must be lodged with Council prior to release of the building permit.

G. Details of bank stabilisation and protection measures are to be submitted in conjunction with the engineering plans for approval by Council's Catchment and Drainage Design Section and Development Engineers.

H. Prior to approval of engineering plans by Council the proposal is to be forwarded to the NSW Environment Protection Authority and the Hawkesbury Nepean River Catchment Management Trust for written comments regarding the proposal, and in particular the operating and design details of the recycled water pond to be used for dust suppression.

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

11:08 96, 82 VON 963 P08 +0263416 49 BLH CONSULTING

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

I. A separate application must be lodged with Council for the construction of the industrial vehicular footway crossing with minimum width of 6.0 metres servicing this development. This application will be subject to payment of the appropriate Crossing Inspection Fee, and inspections arranged through Council's Engineering Clerk on phone 9839.6367. The crossing is to be constructed in accordance with Council Plan A(BS)61S.

J. Prior to commencement of construction of footway crossings a clearance must be obtained from Telstra and Integral Energy that all necessary ducts have been provided under the proposed crossing.

K. Finished levels of all internal works at the road boundary of the property must be 4% above the top of the kerb/near edge of the existing concrete path paving.

L. Redundant gutter crossing must be replaced with integral kerb and gutter. The footway area must be restored by turfing to the satisfaction of the Director, Development Services.

M. Work required by this Notice MUST NOT be commenced until engineering plans showing full design details have been approved by the Development Services Engineer. Designs must be in accordance with the current edition of Council's "Engineering Development Guide" and works must be in accordance with the current edition of Council's "Works Specification Subdivisions/Developments". Engineering submissions must be accompanied by Form SEA.10, a copy of which can be found in the "Subdivision Guide Engineering". Council's Development Engineers are available for consultation between 10.00am and 12.00noon weekdays.

N. Seven days written notice must be given of the commencement of the engineering works and must be accompanied by evidence of the contractor's Public Liability and Workers Compensation Insurances.

O. All Engineering work required by the Director, Development Services MUST be inspected, by Council's Engineering Development Overseer who can be contacted by phoning 9830-9715 between 7.00am & 8.00am or 12.30pm & 1.30pm). 24 hours notice must be given. Fees must be paid prior to contact.

P. An application for practical completion shall be accompanied by Form SEW20, a copy of which will be sent with the approved engineering plans. A copy can also be found in the "Subdivisions Guide Engineering".

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 96

11:08 96, 82 NOV 963 P09 BLK COUNSELLING

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

Q. A work-as-executed plan (to a standard suitable for microfilming) under the hand of a Chartered Professional Engineer or a Registered Surveyor must be lodged when the engineering works are complete. In addition a certificate in Council's standard format shall be submitted by a Registered Surveyor indicating that all pipelines and associated structures lie wholly within any easements required by the engineering works.

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per

DATE: 27 NOV 1996

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963 P10 NOV 28 '96 08:12

Annex C

Director General Requirements

NSW GOVERNMENT | Planning & Infrastructure

Contact: Ashley Cheong
Phone: 02 9228 2052
Fax: 02 9228 6466
Email: ashley.cheong@planning.nsw.gov.au

Our ref: SSD-5041
File: 12/01683

Mr Robert Chambers
BBC Consulting Planners
PO BOX 438
Broadway NSW 2007

Dear Mr Chambers

State Significant Development - Director General's Requirements
Kings Park Waste Metal Recovery, Processing and Recycling Facility (SSD-5041)

Following your request, the Department has reviewed the Director-General's requirements for the development and provides an updated and re-issued version.

Please note that these Director-General Requirement's (DGRs) are issued on the basis that the development is permissible with development consent. Prior to lodging the EIS, please confirm that the development is permissible under the relevant legislation.

Please note that the Department may alter these requirements at any time, and that you must consult further with the Department if you do not lodge a development application and EIS for the proposal within two years of the date of issue of these DGRs. The Department will review the EIS for the proposal carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the DGRs.

I wish to emphasise the importance of effective and genuine community consultation and the need for proposals to proactively respond to the community's concerns. Accordingly a comprehensive, detailed and genuine community consultation and engagement process must be undertaken during preparation of the EIS. This process must ensure that the community is both informed of the proposal and is actively engaged in issues of concern to them. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the potential impacts.

Your proposal may require a separate approval under Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). If an EPBC Act approval is required, I would appreciate it if you would advise the Department accordingly, as the Commonwealth approval process may be integrated into the NSW approval process, and supplementary DGR's may need to be issued.

I would appreciate it if you would contact the Department at least two week before you propose to submit the DA and EIS for the development. This will enable the Department to:

- confirm the applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the number of copies (hard-copy and CD-ROM) of the EIS required for review.

If you have any enquiries about these requirements, please contact Mr. Ashley Cheong on the details above.

Yours sincerely

23/12/13

Chris Ritchie
Acting Director
Industry, Key Sites and Social Projects
as the Director-General's nominee

Director General's Environmental Assessment Requirements

Section 78A(8A) of the *Environmental Planning and Assessment Act*

State Significant Development

Application Number	SSD-5041
Development	Expansion of the existing waste metal recovery and recycling facility in Blacktown which includes: • Increasing the processing capacity from 90,000 tonnes per annum to 350,000 tonnes per annum of waste metal; • The use of the adjoining site to the east (No. 23-43 Tattersall Road, Kings Park); • Modifications to the site layout and alterations to existing buildings; • Improvement works to vehicular access to the site and internal roads; and • Construction of ancillary infrastructure.
Location	45 Tattersall Road (Lot 5 / DP 7086) and 23-43 Tattersall Road (Lot 2 / DP 550522), Kings Park in the Blacktown local government area
Applicant	Sell and Parker Pty Ltd
Date of Issue	December 2013
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. In addition, the EIS must include a: • detailed description of the development, including: – need for the proposed development; – justification for the proposed development; – likely staging of the development - including construction, and operational stage/s; – likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; – plans of any proposed building works; • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; • detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: – a description of the existing environment, using sufficient baseline data; – an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and – a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of

	the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and • consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must also be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (as defined in clause 3 of the *Environmental Planning and Assessment Regulation 2000*) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • a close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and • certification that the information provided is accurate at the date of preparation.
Key issues	The EIS must address the following specific matters: • **Waste Management** – including: – a detailed description of the likely waste streams that would be handled/stored/disposed of at the facility; – details of how this waste would be stored and handled on site, and transported to and from the site; – details of the location and size of stockpiles of unprocessed and processed recycled waste on the site; – the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2007*; – a description of the technology and timeframes for processing waste and the quality control measures that would be implemented; and – details of the potential impacts associated with treating, storing, using and disposing of this waste and waste products. • **Air Quality and Odour** – including: – a quantitative assessment of the potential air quality and odour impacts of the development on surrounding landowners; – a description of how the handling, transporting, production and storage of waste materials would be managed to control dust generation; and – details of all proposed mitigation, management and monitoring measures. • **Noise and Vibration** – including: – construction, operation and traffic noise; – impacts from explosions; and – details of all proposed mitigation, management and monitoring measures. • **Transport, Access and Parking** – including: – predictions of the traffic volumes likely to be generated during construction and operation; – an assessment of the impacts of this traffic on the safety, capacity and efficiency of the surrounding road network;

	– modelling of key intersections (including any nearby existing or proposed developments) and details of truck routes; – an assessment of the need for upgrading or road improvement works; – details of the availability of non-car travel modes and measures to encourage greater use of these travel modes; and – access and parking. • **Soil and Water** – including: – a detailed water balance for the development, outlining the measures to minimise water use and any potential for a sustainable water supply; – wastewater predictions, and the measures that would be implemented to treat, reuse and/or dispose of this water; – the proposed erosion and sediment controls during construction of the post fragmentation processing structure and any other proposed structures; – the proposed stormwater management system; and – consideration of the potential salinity, contamination, flooding and acid sulfate soil impacts of the development. • **Hazards and Risks** – including an assessment of the hazards and risks on the site to people and the environment (and the potential for off site impacts). • **Fire and incident management** – including technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill cleanup equipment and fire management and containment measures. • **Greenhouse Gas** – including: – a quantitative assessment of the potential scope 1 and 2 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment; and – a detailed description of the measure that would be implemented on site to ensure that the development is energy efficient. • **Visual** – including; – an assessment of the potential visual impacts of the development on the amenity of the surrounding area; and – a detailed description of the measures that would be implemented to minimise the visual impacts of the development, including the design features, landscaping and measures to minimise the lighting and signage impacts of the development. • **Design** – including details of building design and fit-out for the post fragmentation processing structure and any other proposed structures to be used for the handling of chemicals (e.g. bunding and tanker loading/unloading areas).
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000.* These documents should be included as part of the EIS rather than as separate documents.
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.

	In particular you must consult with: • Blacktown City Council; • NSW Environment Protection Authority; • NSW Office of Water; • NSW Roads and Maritime Services; • Sydney Water; and • WorkCover NSW. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.
Further consultation after 2 years	If you do not lodge an EIS for the development within 2 years of the issue date of these DGRs, you must consult with the Director General in relation to the requirements for lodgement.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.

ATTACHMENT 1
Technical and Policy Guidelines

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:
http://www.planning.nsw.gov.au
http://www.bookshop.nsw.gov.au
http://www.publications.gov.au
http://www.blacktown.nsw.gov.au

Policies, Guidelines and Plans

Aspect	Policy /Methodology
Waste	
	Waste Avoidance and Resource Recovery Strategy 2007 (DECC)
	Waste Classification Guidelines (DECC)
	Environmental Guidelines: Assessment Classification and Management of Non-Liquid and Liquid Waste (NSW EPA)
	Environmental guidelines: Composting and Related Organics Processing Facilities (DEC)
	Environmental guidelines: Use and Disposal of Biosolid Products (NSW EPA)
	Composts, soil conditioners and mulches (Standards Australia, AS 4454)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2010
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Odour	
	Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
	Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
Noise and Vibration	
	Assessing Vibration: a technical guide (DEC)
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Environmental Noise Control Manual (DECC)
	Interim Construction Noise Guideline (DECC)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Soil and Water	
Surface Water	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ)

	National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Environmental Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Floodplain Development Manual (DIPNR)
	Floodplain Risk Management Guideline (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Environmental Guidelines: Use of Effluent by Irrigation (DECC)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
	The NSW State Groundwater Dependent Ecosystem Policy (DLWC)
	Guidelines for the Assessment and Management of Groundwater Contamination (DECC) Draft
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)
	National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)
	Draft Guidelines for the Assessment & Management if Groundwater Contamination (DECC)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP)
Hazard and Risk	
	AS/NZS 4360:2004 Risk Management
	HB 203:2006 Environmental Risk Management – Principals and Process
	State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33)
	Planning Advisory Paper No. 6 – Guidelines for Hazardous Analysis (DUAP)
	Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning (DUAP)
Greenhouse Gas	
	AGO Factors and Methods Workbook (AGO)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS 4282)
	State Environmental Planning Policy No 64 - Advertising and Signage

ATTACHMENT 2

Public Authority Responses to Request for Key Issues

NSW GOVERNMENT | Office of Environment & Heritage

Mr David Kitto
Major Projects Assessment
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2000

Attention: Nicholas Hall

Notice Number	1503269
File Number	LIC06/43-03
Date	20-Dec-2011

RE: INCREASE IN HANDLING CAPACITY OF SELL & PARKER Pty Ltd EPL 11555

I refer to your request for the Office of Environment and Heritage's (OEH) requirements for the environmental impact statement (EIS) in regard to the above proposal received by OEH on 7 December 2011.

Please note that, although the Environment Protection Authority ("EPA") is now a part of the OEH, certain statutory functions and powers continue to be exercised in the name of the EPA.

OEH has identified the information it requires to issue its general terms of approval in Attachment A. In summary, OEH's key information requirements for the proposal include an adequate assessment of:

1. Air pollution - impact on neighbouring properties from smoke and odours
2. Noise - impact on neighbouring properties
3. Dust - impact on neighbouring properties
4. Water - treatment and disposal and storage of contaminated waste water
5. Vibration - impact on neighbouring properties

Please contact Andrew Reece on (02) 9995 5770 if you have any questions about this letter or require further information.

Yours sincerely

Molly Tregoning

Molly Tregoning
Unit Head
Waste Operations

(by Delegation)

NSW GOVERNMENT | Office of Environment & Heritage

ATTACHMENT A: EIS REQUIREMENTS FOR

Increased handling capacity of Sell and Parker Pty Ltd Metal Recyclers

How to use these requirements

The OEH requirements have been structured in accordance with the (former) DIPNR EIS Guidelines, as follows. It is suggested that the EIS follow the same structure:

A. Executive summary

B. The proposal

C. The location

D. Identification and prioritisation of issues

E. The environmental issues

F. List of approvals and licences

G. Compilation of mitigation measures

H. Justification for the proposal

A Executive summary

The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

B The proposal

1. Objectives of the proposal

- The objectives of the proposal should be clearly stated and refer to:
  a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced
  b) a life cycle approach to the production, use or disposal of products
  c) the anticipated level of performance in meeting required environmental standards and cleaner production principles
  d) the staging and timing of the proposal and any plans for future expansion
  e) the proposal's relationship to any other industry or facility.

2. Description of the proposal

General

- Outline the production process including:
  a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)
  b) any life-cycle strategies for the products.
- Outline cleaner production actions, including:
  a) measures to minimise waste (typically through addressing source reduction)
  b) proposals for use or recycling of by-products
  c) proposed disposal methods for solid and liquid waste
  d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points
  e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.
  f) soil contamination treatment and prevention systems.
- Outline construction works including:
  a) actions to address any existing soil contamination

b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)

c) construction timetable and staging; hours of construction; proposed construction methods

d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.

Air

- Identify all sources of air emissions from the development.
  Note: emissions can be classed as either:
  - *point (eg emissions from stack or vent) or*
  - *fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).*
- Provide details of the project that are essential for predicting and assessing air impacts including:

a) the quantities and physio-chemical parameters (eg concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored

b) an outline of procedures for handling, transport, production and storage

c) the management of solid, liquid and gaseous waste streams with potential for significant air impacts.

Noise and vibration

- Identify all noise sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.
- Specify the times of operation for all phases of the development and for all noise producing activities.
- For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

Water

- Provide details of the project that are essential for predicting and assessing impacts to waters:

a) including the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on www.environment.nsw.gov.au/ieo, using technical criteria derived from the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC 2000)

b) the management of discharges with potential for water impacts

c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.

- Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts eg effluent ponds) and showing potential areas of modification of contours, drainage etc.
- Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Waste and chemicals

- Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (NSW EPA, 1999).
- Provide details of liquid waste and non-liquid waste management at the facility, including:
  a) the transportation, assessment and handling of waste arriving at or generated at the site
  b) any stockpiling of wastes or recovered materials at the site
  c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site
  d) the method for disposing of all wastes or recovered materials at the facility
  e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility
  f) the proposed controls for managing the environmental impacts of these activities.
- Provide details of spoil disposal with particular attention to:
  a) the quantity of spoil material likely to be generated
  b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil
  c) the need to maximise reuse of spoil material in the construction industry
  d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material
  e) designation of transportation routes for transport of spoil.
- Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
- Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.
- Reference should be made to the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (NSW EPA, 1999).

ESD

- Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:

an assessment of a range of options available for use of the resource, including the benefits of each option to future generations

f) proper valuation and pricing of environmental resources

g) identification of who will bear the environmental costs of the proposal.

3. Rehabilitation

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

4. Consideration of alternatives and justification for the proposal

- Consider the environmental consequences of adopting alternatives, including alternative:
  a) sites and site layouts
  b) access modes and routes
  c) materials handling and production processes
  d) waste and water management
  e) impact mitigation measures
  f) energy sources
- Selection of the preferred option should be justified in terms of:
  a) ability to satisfy the objectives of the proposal
  b) relative environmental and other costs of each alternative
  c) acceptability of environmental impacts and contribution to identified environmental objectives
  d) acceptability of any environmental risks or uncertainties
  e) reliability of proposed environmental impact mitigation measures
  f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.

C The location

1. General

- Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:
  a) meteorological data (eg rainfall, temperature and evaporation, wind speed and direction)
  b) topography (landform element, slope type, gradient and length)
  c) surrounding land uses (potential synergies and conflicts)
  d) geomorphology (rates of landform change and current erosion and deposition processes)
  e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)
  f) ecological information (water system habitat, vegetation, fauna)

g) availability of services and the accessibility of the site for passenger and freight transport.

2. Air

- Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.
- Describe surrounding buildings that may effect plume dispersion.
- Provide and analyse site representative data on following meteorological parameters:
  a) temperature and humidity
  b) rainfall, evaporation and cloud cover
  c) wind speed and direction
  d) atmospheric stability class
  e) mixing height (the height that emissions will be ultimately mixed in the atmosphere)
  f) air re-circulation.

3. Noise and vibration

- Identify any noise sensitive locations likely to be affected by activities at the site, such as other businesses, residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality.
- Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas
- Identify if the activities on the Premises will affect the identified locations.

4. Water

- Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The Water Quality and River Flow Objectives on the website: www.environment.nsw.gov.au/ieo should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.

5. Soil Contamination Issues

- Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.

D Identification and prioritisation of issues / scoping of impact assessment

- Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
  a) relevant NSW government guidelines
  b) industry guidelines
  c) EISs for similar projects
  d) relevant research and reference material
  e) relevant preliminary studies or reports for the proposal
  f) consultation with stakeholders.
- Provide a summary of the outcomes of the process including:
  a) all issues identified including local, regional and global impacts (eg increased/ decreased greenhouse emissions)
  b) key issues which will require a full analysis (including comprehensive baseline assessment)
  c) issues not needing full analysis though they may be addressed in the mitigation strategy
  d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).

E The environmental issues

1. General

- The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.
- Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.

Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.

Describe baseline conditions

- Provide a description of existing environmental conditions for any potential impacts.

Assess impacts

- For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.
- Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.
- The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts eg assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc.
- The assessment needs to consider impacts at all phases of the project cycle including: exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.
- The level of assessment should be commensurate with the risk to the environment.

Describe management and mitigation measures

- Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Proponents are expected to implement a 'reasonable level of performance' to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology based criteria if available, or identify good practice for this type of activity or development. A 'reasonable level of performance' involves adopting and implementing technology and management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.
- Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.
- Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:

  a) operational procedures to manage environmental impacts

  b) monitoring procedures

  c) training programs

  d) community consultation

  e) complaint mechanisms including site contacts

  f) strategies to use monitoring information to improve performance

  g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.

1. Air

Describe baseline conditions

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data. This description should include the following parameters
    a. PM10
    b. Nickel and nickel compounds
    c. Lead
    d. Arsenic and compounds
    e. Mercury organic
    f. Mercury inorganic
    g. Cadmium and cadmium compounds
    h. Copper dusts and mists
    i. Copper fumes
    j. Chromium III
    k. Chromium V

Assess impacts

- Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.
- Estimate the resulting ground level concentrations of all pollutants. Where necessary (eg potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the OEH.
- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.
- Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.
- For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA / OEH procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate.

  Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.

- Reference should be made to *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW* (EPA, 2001); *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (EPA, 2001); *Assessment and Management of Odour from Stationary Sources in NSW* (EPA, 2001); *Technical Notes: Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW (EPA, 2001); Load Calculation Protocol for use by holders of NSW Environment Protection Licences when calculating Assessable Pollutant Loads* (EPA, 1999).

c) determination of the amenity criterion for each receiver

d) determination of the appropriate sleep disturbance limit.

- Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible affects on sleep. Where LA1(1min) noise levels from the site are less than 15 dB above the background LA90 noise level, sleep disturbance impacts are unlikely. Where this is not the case, further analysis is required. Additional guidance is provided in Appendix B of the *NSW Environmental Criteria for Road Traffic Noise*.
- Determine expected noise level and noise character (eg tonality, impulsiveness, vibration, etc) likely to be generated from noise sources during:

  a) site establishment

  b) construction

  c) operational phases

  d) transport including traffic noise generated by the proposal

  e) other services.

  Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).

- Determine the noise levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development). Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.
- The noise impact assessment report should include:

  a) a plan showing the assumed location of each noise source for each prediction scenario

  b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site

  c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc

  d) methods used to predict noise impacts including identification of any noise models used. Where modelling approaches other than the use of the ENM or SoundPlan computer models are adopted, the approach should be appropriately justified and validated

  e) an assessment of appropriate weather conditions for the noise predictions including reference to any weather data used to justify the assumed conditions

  f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario under any identified significant adverse weather conditions as well as calm conditions where appropriate

  g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived

  h) an assessment of the need to include modification factors as detailed in Section 4 of the *NSW Industrial Noise Policy*.

- Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional mitigation measures.
- The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.
- Where relevant noise/vibration criteria cannot be met after application of all feasible and cost effective mitigation measures the residual level of noise impact needs to be quantified by identifying:
  a) locations where the noise level exceeds the criteria and extent of exceedence
  b) numbers of people (or areas) affected
  c) times when criteria will be exceeded
  d) likely impact on activities (speech, sleep, relaxation, listening, etc)
  e) change on ambient conditions
  f) the result of any community consultation or negotiated agreement.
- For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.
- Where blasting is intended an assessment in accordance with the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (ANZECC, 1990) should be undertaken. The following details of the blast design should be included in the noise assessment:
  a) bench height, burden spacing, spacing burden ratio
  b) blast hole diameter, inclination and spacing
  c) type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

Describe management and mitigation measures

- Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.
- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:
  a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage
  b) control of traffic (eg: limiting times of access or speed limitations)
  c) resurfacing of the road using a quiet surface
  d) use of (additional) noise barriers or bunds
  e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern

f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quite' trucks and/or trucks to use air bag suspension

g) driver education

h) appropriate truck routes

i) limit usage of exhaust breaks

j) use of premium muffles on trucks

k) reducing speed limits for trucks

l) ongoing community liaison and monitoring of complaints

m) phasing in the increased road use.

4. Water

Describe baseline conditions

- Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).

  Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECCW 2004) *or be approved and analyses undertaken by accredited laboratories).*

- Provide site drainage details and surface runoff yield.
- State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: www.environment.nsw.gov.au/ieo. The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal. NB: A consolidated and approved list of environmental values are not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.
- State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC 2000 *Guidelines for Fresh and Marine Water Quality* (http://www.deh.gov.au/water/quality/nwqms/volume1.html)(Note that, as at 2004, the NSW Water Quality Objectives booklets and website contain technical criteria derived from the 1992 version of the ANZECC Guidelines. The Water Quality Objectives remain as Government Policy, reflecting the community's environmental values and long-term goals, but the technical criteria are replaced by the more recent ANZECC 2000 Guidelines). NB: While specific guidelines for groundwater are not available, the ANCECC 2000 Guidelines endorse the application of the trigger values and decision trees as a tool to assess risk to environmental values in groundwater.
- State any locally specific objectives, criteria or targets, which have been endorsed by the government e.g. the Healthy Rivers Commission Inquiries (www.hrc.nsw.gov.au) or the NSW Salinity Strategy (DLWC, 2000) (www.dlwc.nsw.gov.au/care/salinity/#Strategy).
- Where site specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to

assess whether a licensed discharge impacts on water quality objectives), then prior agreement from the OEH on the approach and study design must be obtained.

- Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality / river flow / groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include:
  a) lake or estuary flushing characteristics
  b) specific human uses (e.g. exact location of drinking water offtake)
  c) sensitive ecosystems or species conservation values
  d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc
  e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
  f) historic river flow data where available for the catchment.

Assess impacts

- No proposal should breach clause 120 of the *Protection of the Environment Operations Act* 1997 (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).
- Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.
- Include a rationale, along with relevant calculations, supporting the prediction of the discharges.
- Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater).
- Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow).
- Identify any potential impacts on quality or quantity of groundwater describing their source.
- Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.
- Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.
- Containment of spills and leaks shall be in accordance with the technical guidelines section 'Bunding and Spill Management' of the *Authorised Officers Manual* (EPA, 1995) (http://www.environment.nsw.gov.au/mao/bundingspill.htm) and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge.
- The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to

demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered:

a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and

b) will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.

- Consult with the OEH as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does not immediately meet water quality objectives. The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). The OEH will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment.

  Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.

- Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines.
- Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.
- Reference should be made to *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004), *Guidelines for Fresh and Marine Water Quality* ANZECC 2000), *Environmental Guidelines: Use of effluent by Irrigation* (DECCW, 2004).

Describe management and mitigation measures

- Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.
- Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.
- Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements.
- Outline pollution control measures relating to storage of materials, possibility of accidental spills (eg preparation of contingency plans), appropriate disposal methods, and generation of leachate.
- Describe hydrological impact mitigation measures including:

  a) site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition)

  b) minimising runoff

  c) minimising reductions or modifications to flow regimes

d) avoiding modifications to groundwater.

- Describe groundwater impact mitigation measures including:
  a) site selection
  b) retention of native vegetation and revegetation
  c) artificial recharge
  d) providing surface storages with impervious linings
  e) monitoring program.
- Describe geomorphological impact mitigation measures including:
  a) site selection
  b) erosion and sediment controls
  c) minimising instream works
  d) treating existing accelerated erosion and deposition
  e) monitoring program.
- Any proposed monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DECCW 2004).

5. Soils and contamination

Describe baseline conditions

- Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.

Assess impacts

- Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:
  a) disturbing any existing contaminated soil
  b) contamination of soil by operation of the activity
  c) subsidence or instability
  d) soil erosion
  e) disturbing acid sulfate or potential acid sulfate soils.
- Reference should be made to *Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites* (EPA, 1997); *Contaminated Sites – Guidelines on the duty to report contamination under the contaminated land management Act 1997.*

Describe management and mitigation measures

- Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:
  a) erosion and sediment control measures
  b) proposals for site remediation – see *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)
  c) proposals for the management of these soils – see *Assessing and Managing Acid Sulfate Soils,* Environment Protection Authority, 1995 (note that this is the only methodology accepted by the OEH).

6. Waste and chemicals

Describe baseline conditions

- Describe any existing waste or chemicals operations related to the proposal.

Assess impacts

- Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.
- Reference should be made to *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (EPA, 1999).

Describe management and mitigation measures

- Outline measures to minimise the consumption of natural resources.
- Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.
- Outline measures to support any approved regional or industry waste plans.

7. Cumulative impacts

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.
- Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region.
- Identify infrastructure requirements flowing from the proposal (eg water and sewerage services, transport infrastructure upgrades).
- Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (eg travel demand management strategies).

F. List of approvals and licences

- Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).

G. Compilation of mitigation measures

- Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under OEH licences or approvals (eg outline of an environmental management plan).
- The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.

H. Justification for the Proposal

- Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.

Office of Environment and Heritage

SC-RT9 - Staff Placement Notification

This Notification must be completed and submitted to Service Centre on Staff's first day of duty.

For Existing OEH Staff - complete Part A only Part A

For new OEH Staff - complete Part A & B, (Part C is optional)

Placement Details

Please tick appropriate box

☐ Existing staff ☐ New staff ☐ Transfer from Gov't Dep't (all constituent agencies) ☐ Previously employed by OEH (all constituent agencies) ☐ Previously employed by Gov't agency (broken service)

Surname

Given Names

For existing OEH employees

Employee Number

Is this placement in addition to current position? ☐ Yes ☐ No

Position Details

Group/Division

Branch/Section Unit

Position Title

Aurion Position Number

Is this a change of position number without recruitment action? ☐ Yes ☐ No

Classification/Grade

Salary

Commencement date

Remote Area Allowance ☐ No ☐ Yes, without dependents ☐ Yes, with dependents

Does your spouse receive the Remote Areas Allowance? ☐ Yes ☐ No

Recruitment Details

What recruitment action was undertaken for this staff placement?

☐ External Advert - specify OEH Advert No. ☐ EOI - specify EOI Ref No.

☐ Temporary Appointment / Employment Without Advertising or EOI (SC-RT3)

☐ Eligibility List Activation - specify OEH Advert No.

Employment Details

Employment Type ☐ Permanent ☐ Temporary Appointment ☐ Temporary Employment ☐ Casual

If Temporary Appointment / Employment or Casual specify period: From To

Employment Status ☐ Full time ☐ Part Time

Citizenship Status ☐ Citizen ☐ Permanent Resident ☐ Visa Type of Visa

Date Visa Expires

For part time specify days of the week and hours to be worked:

	Proposed Working Hours						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Hours	Hours	hours	Hours	Hours	Hours	Hours
Week 1							
Week 2							

Supervisor's Name | Supervisor's Signature | Date: | Contact Number

Completed Form must be submitted on first day of duty to: The Recruitment Team, Service Centre
Level 9, Hurstville OR
Fax: (02) 9585 6116

(electronic copies will not be accepted)

Personnel Services - Service Centre use:

Record adjusted by: _____ Checked by: _____ Pay period processed: _____

NSW GOVERNMENT | Office of Environment & Heritage

Network Account Request Form

Please fax to the IT Service Desk:

02 9995 6633

When completing the form, press TAB to move between fields. Do not press Enter.

Important information

- This form must be approved by a Supervisor and completed in full.
- The IT Service Desk requires at least two working days to create the network account.
- Network access is granted as specified in *Employment details* (below).
- The network account is activated when a signed *Acceptance of Conditions of Network Use Form* is received by the IT Service Desk.
- Volunteers and Board members do not automatically receive an organisation email address.

Employment details

Last name: **Middle initial:** **First name:**

Phone number: **Fax number:**

Position title: **Division:**

Branch: **Section/Region:**

Unit/Area: **Address:**

Expected start date:

Permanent employee? ☐ Yes ☐ No If **No**, specify last day of employment / engagement:

Employee type ☐ Permanent ☐ Temporary ☐ Contractor ☐ Volunteer ☐ Work Experience ☐ Other

Employment located at a site within the organisation? ☐ Yes ☐ No

Access to the organisation's email required? ☐ Yes ☐ No

Access to a personal network U drive required? ☐ Yes ☐ No

Additional access required, e.g. shared Branch network drive? ☐ Yes ☐ No

If **Yes**, specify:

Supervisor's approval

I approve this request.

Supervisor name: **Position title:**

Division: **Branch:**

Section/Region: **Unit/Area:**

Signature: **Date:**

Blacktown City Council
Growing with Pride

File No: MC-11-2620
20 December 2011

Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Nick Hall

Dear Mr Hall,

Re: State Significant Development – Director General's Requirements Kings Park Waste Metal Recovery Processing and Recycling Facility (Your Reference: SSD-5041)

Reference is made to your letter received by Council on 6 December 2011 requesting Council review the Department of Planning and Infrastructure's draft Director General's Requirements (DGR's) for the abovementioned development.

Please be advised that Council has undertaken a preliminary review of the DGR's. In this regard, please find attached an updated list of key issues which has been attached to this letter and includes additional matters for consideration which Council would like to see addressed and included within the final Environmental Impact Statement.

Thank you for affording Council the opportunity to provide comments on the draft DGR's and it is trusted that the DPI will endeavour to ensure the Applicant addresses the above matters to Council's satisfaction. Please note that this letter is in no way to be perceived by the Department as an endorsement of the proposal, or a reflection that Council will not be making a further submission once the proposal is placed on formal public exhibition. Council would appreciate the opportunity to comment on the detailed plans as part of the public exhibition. Council also reserves the right to raise additional issues as deemed necessary upon exhibition of the final Environmental Impact Assessment.

Please do not hesitate to contact Pip Sanders on 9839 6104 should you wish to discuss this matter further.

Yours faithfully,

Judith Portelli
Manger Development Services and Administration

Council Chambers • 62 Flushcombe Road • Blacktown NSW 2148
Telephone: (02) 9839 6000 • **Facsimile:** (02) 9831-1961 • DX 8117 Blacktown
Email: council@blacktown.nsw.gov.au • **Website:** www.blacktown.nsw.gov.au
All correspondence to: The General Manager • PO Box 63 • Blacktown NSW 2148

NSW GOVERNMENT | Planning & Infrastructure

Contact: Nick Hall
Phone: 02 9228 6438
Fax: 02 9228 6466
Email: nicholas.hall@planning.nsw.gov.au

Our ref: SSD-5041
File:

Mr R Chambers
BBC Consulting Planners
PO BOX 438
Broadway NSW 2007

Dear Mr Chambers

State Significant Development - Director General's Requirements
Kings Park Waste Metal Recovery, Processing and Recycling Facility (SSD-5041)

I have attached the Director General's environmental assessment requirements (DGRs) for the abovementioned project.

These requirements have been prepared in consultation with the relevant government agencies (see attachment 2), and are based on the information you have provided to date. Please note that the Director-General may alter these requirements at any time, and that these requirements will expire if you do not lodge a development application (DA) and environmental impact statement for the proposed facility within the next two years.

The Department will review the EIS for the proposed facility carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the DGRs.

If the proposed facility is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation and it is your responsibility to contact the Department of Sustainability, Environment, Water, Population and Communities to determine if an approval under the EPBC Act is required for your development (http://www.environment.gov.au or 6274 1111).

I would appreciate it if you would contact the Department at least two week before you propose to submit the DA and EIS for the proposed facility.

If you have any enquiries about these requirements, please contact Nick Hall on 02 9228 6438 or via email at nicholas.hall@planning.nsw.gov.au.

Yours sincerely

David Kitto
Director, Mining & Industry Projects
Major Projects Assessment
as delegate of the Director-General

Director General's Environmental Assessment Requirements

Section 78A(8A) of the *Environmental Planning and Assessment Act*

State Significant Development

Application Number	SSD-5041
Development	Increase in handling capacity of existing waste metal recovery, processing and recycling facility at 45 Tattersall Road and use of 58 Tattersall Road for related equipment storage and employee parking
Location	45 Tattersall Road (Lot 5 / DP 7086) and 58 Tattersall Road (Lot 13 / DP 220004), Kings Park in the Blacktown local government area
Applicant	Sell and Parker Pty Ltd
Date of Issue	
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*
Key issues	The EIS must address the following specific matters: • **Hazards and Risks** – including an assessment of the hazards and risks associated with the proposal and the existing operations on site (and the potential for off site impacts) including details of hazardous materials used or kept on the premises during operation. The EIS shall also include a screening of potential hazards on and off site to determine the potential for off site impacts and any requirement for a Preliminary Hazard Analysis (PHA). Should potential off-site impacts be identified, a PHA must be prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 6 Hazard analysis and Multi-level Risk Assessment*. The PHA should: – consider the risks from the facility (including explosion risks, traffic risks and cumulative risks, see below); and – demonstrate that the proposal would comply with the criteria set out in *Hazardous Industry Planning Advisory Paper No 4 Risk Criteria for Land Use Safety Planning.* – *SEPP 33 - Hazardous and Offensive Development assessment* • **Strategic and Statutory Context** – including: – detailed justification for the proposal and suitability of the sites to be developed; and – demonstration that the proposal is generally consistent with all relevant environmental planning instruments, development control plans (DCPs), and justification for any inconsistencies. – Blacktown City Council DCP – Part A (General) and Part E (Industrial) – Draft Blacktown City Centre Masterplan to be exhibited in the near future. Should this plan be exhibited prior to the application being lodged, then this document should be a matter for consideration. • **Infrastructure** – demonstrating that suitable arrangements are in place to provide the necessary local and regional infrastructure for the proposal;

	• **Transport, Access and Parking** – including: – predictions of the traffic volumes likely to be generated as a result of the proposal; – an assessment of the impacts of this traffic on the safety, capacity and efficiency of the surrounding road network, including details of truck routes and modelling of key intersections; – detailed plans of any proposed road/intersection upgrades; – demonstration that the existing access points can continue to be safely and efficiently utilised to access the sites; – details of the availability of non-car travel modes and measures to encourage greater use of these travel modes; ~~and~~ – parking both for customers/trucks and employees;~~.~~ – Details of the pedestrian links for employees parking over the road and walking to the site; – The traffic report shall make appropriate recommendations to address any traffic impacts, including any necessary off-site works; and – Details of any changes to vehicle types proposed to access the site. • **Air** – including odour during operations and measures to reduce greenhouse gas emissions on-site; • **Noise and vibration** – during operations including traffic noise, ~~and~~ impacts from explosions and the use of equipment/machinery on-site as part of the process; – The impacts of noise arising from the extended hours of operation on the residents within the locality. • **Dust** – Dust control measures proposed to prevent impacts from crushing, tracking of vehicles, stock piles of unprocessed and processed materials. • **Water and soils** – including details of water supply, wastewater disposal and stormwater management during operation, flood liability and soil contamination of the sites; • **Waste** – including: – identification of the quantity and type of waste that would be handled, stored, processed or disposed of at the facility; and – a description of how this waste would be stored and handled on site, and transported to and from the site. • **Design –** including details of building design and fit-out for the post fragmentation processing structure and any other proposed structures to be used for the handling of chemicals (e.g. bunding and tanker loading/unloading areas); – Compliance with Building Code of Australia • **Visual** – including potential impacts from public roads; – Landscaping plan showing additional planting to front setback and along the side elevations. – Details of screening measures to buffer any buildings and/or tanks visible from the road. – Upgrade / improvement works to the existing entrance gates/walls/driveway to improve the visual appearance of the site and street façade. • **Fire and incident management** – including technical information on the environmental protection equipment to be installed on the

	premises such as air, water and noise controls, spill cleanup equipment and fire management and containment measures; ~~and~~ • **Cumulative impacts** – particularly in relation to hazards and risk associated with other nearby dangerous goods storage/major hazards facilities, air, noise and traffic, and~~.~~ • **Drainage** – Compliance with Blacktown Council DCP Part R – WSUD and Integrated Water Cycle Management – In particular the following should be noted: * The Rainwater tank shall be clearly marked on the plans, and details of the tank such as levels, location, area draining to the tank, and how a minimum of 80% of non-potable uses are to be met through rainwater, to comply with Council's DCP Part R. The size of the tank needs to be clearly shown together with any treatment requirements. * Details of the existing detention/irrigation pond are to be provided to Council. Details are to include the type of system, depth of the detention/irrigation pond, outlet details, removal rates, design capacity and how the system works to meet the removal requirements. If the pond is deemed insufficient, the existing trapped sediment shall be removed and the pond restored to its original capacity. * The proposed formalised carpark on 58 Tattersall Road must meet the development controls in regards to stormwater quality outlined in Council's DCP Part R. This will also require the submission of an electronic MUSIC model to Council for review. Council is able to supply the Council accepted rainfall data and source nodes to use in MUSIC. * The gap in the bund wall at the rear adjacent to Pick & Payless needs to be restored to the minimum levels elsewhere along the boundary. • **Details of the Use** – Processes to be undertaken on-site (current and proposed), – Employee numbers – Hours of Operation including any extended operating hours proposed and the '1 off' security processing arrangements – Details of the relationship between the increased processing volumes and the current and proposed processing hours – Staging and interim arrangements while the development/building is being constructed. How does this impact upon the current operation and parking arragements? – Details of any proposed signage including any illumination. All signage shall comply with SEPP 64 and Council's LEP. At no time would Council support "General Advertising". • **Consultation with Sydney Water for their requirements and compliance with any Trade Waste Agreement** • **Compliance with relevant Australian Standards**
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.

	In particular you must consult with: • Blacktown City Council; • NSW Office of Water; • Office of Environment and Heritage; • Roads and Traffic Authority; and • WorkCover NSW. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided
Further consultation after 2 years	If you do not lodge an EIS for the development within 2 years of the issue date of these DGRs, you must consult with the Director General in relation to the requirements for lodgement.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.

ATTACHMENT 1
Technical and Policy Guidelines

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:
http://www.planning.nsw.gov.au
http://www.bookshop.nsw.gov.au
http://www.publications.gov.au
http://www.blacktown.nsw.gov.au

Policies, Guidelines and Plans

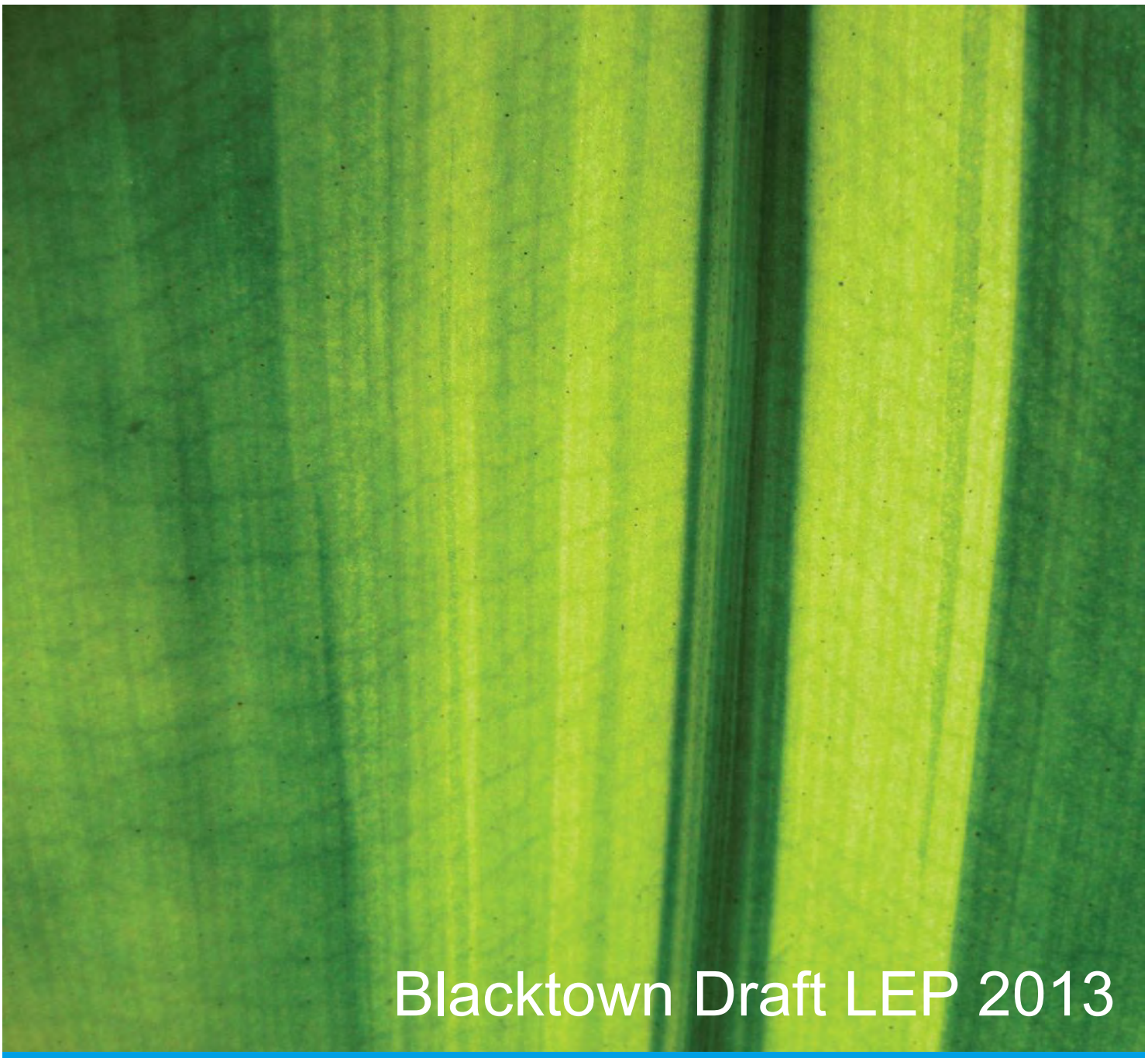
Aspect	Policy /Methodology
Hazard and Risk	
	AS/NZS 4360:2004 Risk Management
	HB 203:2006 Environmental Risk Management – Principals and Process
	State Environmental Planning Policy No 33– Hazardous and Offensive Development (SEPP 33)
	Planning Advisory Paper No. 6 – Guidelines for Hazardous Analysis (DUAP)
	Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning (DUAP)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulations 2010
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Odour	
	Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
	Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
Greenhouse Gas	
	National Greenhouse Accounts (NGA) Factors
	Guidelines for Energy Savings Action Plans (DEUS)
Noise and Vibration	
	Assessing Vibration: a technical guide (DEC)
	NSW Industrial Noise Policy (DECC)
	NSW Road Noise Policy (OEH)
	Environmental Noise Control Manual (DECC)
	Interim Construction Noise Guideline (DECC)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC)

Water	
Surface Water	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC)
	National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMMC & AHMC)
	National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMMC & AHMC)
	Managing Urban Stormwater: Council Handbook. Draft (EPA)
	Managing Urban Stormwater: Treatment Techniques (EPA)
	Managing Urban Stormwater: Source Control. Draft (EPA)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	Floodplain Risk Management Guideline: Practical Consideration of Climate Change (DECC) Blacktown City Council's Works Specification - Civil (Current Version) Blacktown City Council's Engineering Guide for Development (Current Version) Blacktown City Council Soil Erosion and Sediment Control Policy (Current Version) Blacktown City Council On Site Detention General Guidelines and Checklist Upper Parramatta River Catchment Trust On Site Stormwater Detention Handbook Third Edition December 1999 Blacktown City Council's Water Sensitive Urban Design & Integrated Water Cycle Management, DCP Part R
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
	The NSW State Groundwater Dependent Ecosystem Policy (DLWC)
	Guidelines for the Assessment and Management of Groundwater Contamination (DECC) Draft
Waste	
	Waste Avoidance and Resource Recovery Strategy (Resource NSW)
	Waste Classification Guidelines (DECC)
	Protection of the Environment Operations (Waste) Regulations 2005

ATTACHMENT 2
Government Authority Responses to Request for Key Issues

Annex D

Submission on Blacktown Draft LEP 2013



Blacktown Draft LEP 2013

Submission on behalf of Sell & Parker Pty Ltd

April 2013

urbis

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Disclaimer

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In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events including wars, civil unrest, economic disruption, financial market disruption, business cycles, industrial disputes, labour difficulties, political action and changes of government or law, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or made in relation to or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

Urbis has made all reasonable inquiries that it believes is necessary in preparing this report but it cannot be certain that all information material to the preparation of this report has been provided to it as there may be information that is not publicly available at the time of its inquiry.

In preparing this report, Urbis may rely on or refer to documents in a language other than English which Urbis will procure the translation of into English. Urbis is not responsible for the accuracy or completeness of such translations and to the extent that the inaccurate or incomplete translation of any document results in any statement or opinion made in this report being inaccurate or incomplete, Urbis expressly disclaims any liability for that inaccuracy or incompleteness.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in the previous paragraphs. Further, no responsibility is accepted by Urbis or any of its officers or employees for any errors, including errors in data which is either supplied by the Instructing Party, supplied by a third party to Urbis, or which Urbis is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Urbis from liability arising from an opinion expressed recklessly or in bad faith.

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Executive Summary

Urbis has prepared this submission to the *Draft Blacktown LEP 2013* (the Draft LEP) on behalf of our client, Sell & Parker Pty Ltd ('Sell & Parker'), who are the owners of 23, 45, 46, 50 and 58 Tattersall Road, Kings Park (the 'Sell & Parker land'). This land holding equates to approximately 6.9 hectares situated in the general industrial precinct (the 'precinct') north of the Blacktown CBD.

The Draft LEP proposes to rezone all the existing 4(a) General Industrial zoned land north of the CBD to a B7 Business Park.

We have reviewed the Draft LEP and understand the vision for a new B7 Business Park Zone north of the Blacktown CBD. However, based on the support studies and forecast lack of market demand we raise concern with the strategic rationale for the proposed extent and delivery of the rezoning of the existing general industrial lands to B7 Business Park Zone.

The proposed rezoning would result in numerous existing employment supporting businesses being prohibited within the precinct. Our key concerns with the proposed zoning of the precinct are:

- The rezoning has no regard to existing uses within the precinct.
- The precinct has key characteristics to support continued general industrial land uses.
- Demand for Business Park land has not been identified by supporting studies.
- The scale of the business park exceeds long-term market demand.
- Rezoning of the whole precinct at one time will reduce opportunity to create clustering of new businesses, which is a key driver of business park success.
- The precinct is highly fragmented, comprising approximately 306 allotments, which will not support large floorplate buildings desired in business parks.

The proposed rezoning of the Business Park Precinct to prohibit industrial uses would result in the following adverse outcomes:

- Potential for a number of existing industrial uses within the area becoming prohibited uses, thereby having to rely on existing use rights which would significantly impact on their ability to expand and grow their business and employment.
- Linked to the above, potential relocation costs for expanding business could be substantial and could affect their on-going viability. In the case of Sell & Parker, the business has identified that the cost of relocating to another premises could be in excess of $40m given the highly specialised *in-situ* plant that could not be readily relocated. This would be a major undertaking, especially as Blacktown City Council encouraged Sell & Parker to locate at their current site in 1996.
- In the event that Sell & Parker were forced to cease operating this would result in a loss of up to **64** direct jobs on-site plus another **150** supply chain jobs. It would have a significant impact on sustainability initiatives across Metropolitan Sydney, as the site is only one of two metal recycling plants serving the Sydney basin.
- This loss of employment could be replicated at other industrial premises within the Precinct.

Whilst Sell & Parker are not opposed to the long-term vision of a business park within the precinct, this submission seeks reconsideration of the proposed scale and delivery of the B7 Business Park zone, and requests Council:

- Rationalise the volume of land to be included within the future B7 Business Park Zone;
- Incrementally rezone the exiting general industrial precinct to respond to market demand;

- Restrict the initial extent of the B7 Zone to land adjacent to the existing Blacktown CBD to increase opportunity for clustering of businesses and to leverage from locating near commercial development in the CBD and transport infrastructure;

- Limit the ultimate extent of the future business park to the land south of Breakfast Creek, which would form the natural buffer for the separation of land uses; and

- Include the long-term business park vision for the precinct in an endorsed strategic planning policy which would provide landowners with a long-term strategic direction for the precinct, and guide investment decisions relating to technology and purpose-built improvements.

1 Introduction

Urbis has prepared this submission to the Draft Blacktown LEP 2013 on behalf of our client, Sell & Parker Pty Ltd ('Sell & Parker'), who are the owners of 23, 45, 46, 50 and 58 Tattersall Road, Kings Park (the 'Sell & Parker land'). This land holding equates to approximately 6.9 hectares of land situated in the general industrial precinct (the 'precinct') north of the Blacktown CBD.

The Sell & Parker land is located on Tattersall Road north of Breakfast Creek. It is situated in the existing general industrial precinct which is characterised by uses reflective of its zoning.

Sell & Parker own and operate a metal recycling facility at 45 Tattersall Road, Kings Park. The current operations were approved under two separate Development Applications, with the operations on the northern portion of the site including a hammermill being approved by the Land and Environment Court in 2001 (*Sell & Parker Pty Limited v Blacktown Council [2001] NSWLEC 12*).

Sell & Parker have operated from the site at Tattersall Road since 1997, and currently employ 64 staff. Sell & Parker staff earn an average wage of $82,079 pa, well above the average industrial wage, being commensurate to white collar wages. The majority of these employees are local, and have specialised skills for metal recycling operations, positioning them as specialised employees rather than general industrial workers. Since the establishment of the Tattersall Road facility, site-specific machinery has been installed with a capital investment of more than $40 million. The scale of investment in the site was made based on the long-term locational benefits the site has for Sell & Parker's operations, including:

- Well serviced by the regional motorway network which allows for metals to be delivered from across Sydney to the site, which is one of two metal recycling facilities in the Sydney metropolitan areas with a hammermill / metal shredder; and

- Located within an established general industrial zone, which is characterised by similar and compatible industrial land uses including vehicle repair shops and other recycling facilities.

On this basis, Sell & Parker have purchased several surrounding sites, including 23 Tattersall Road, with the intention to seek approval for the future expansion of their facility. The company has also purchased a number of investment properties with tenants on short remaining leases on properties specifically designed for manufacturing uses.

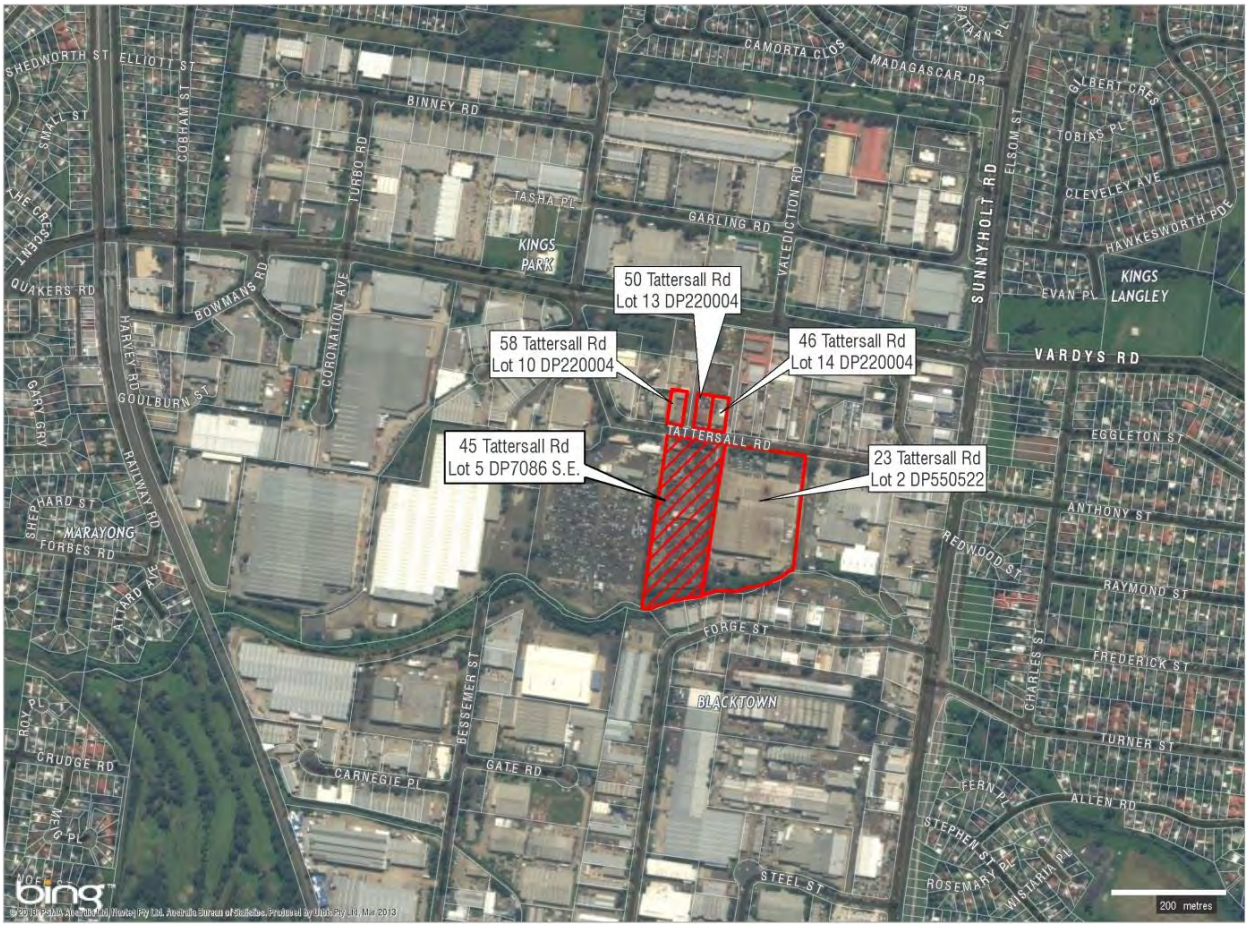
2 The Sell & Parker Site and Surroundings

The Sell & Parker lands comprise 23, 45, 46, 50 and 58 Tattersall Road, Kings Park, and have a total overall area of approximately 6.9 hectares, and are identified in **Figure 1** below. All these lands are located north of Breakfast Creek, and are primarily serviced by Vardys Road.

The metal recycling facility is located at 45 Tattersall Road Kings Park, with an area of approximately 2.86 hectares. The site has a northern street frontage to Tattersall Road and a southern boundary defined by Breakfast Creek. The facility is hatched on the aerial image in **Figure 1**.

FIGURE 1 – AERIAL IMAGE OF SELL & PARKER FACILITY

(Source: NSW Land and Property Information)



The site is within the broader Blacktown/Kings Park industrial precinct, which extends from the Blacktown CBD in the south to Faulkland Crescent Reserve in the north, and is bound by Sunnyholt Road to the east and the Richmond Railway Line to the west. The precinct may be accessed via Sunnyholt Road.

Breakfast Creek is a natural waterway which flows through the centre of the precinct, and acts as a boundary within the precinct. Sites to the north of Breakfast Creek are generally accessed via Vardys Road, while sites to the south connect directly to Sunnyholt Road. The M7 Motorway on-ramp/off-ramp approximately 1km to the north.

The precinct serves a diverse range of industrial, manufacturing and warehousing purposes, and according to the *Blacktown City Centre Masterplan*, the precinct provides more than 10,600 jobs.

3 Planning Controls

3.1 EXISTING PLANNING CONTROLS

The *Blacktown Local Environmental Plan 1988* (the 1988 LEP) is currently the relevant planning instrument applying to the site. Under the 1988 LEP, the site is zoned 4(a) General Industrial, which permits a broad range of industrial, manufacturing, warehousing and distribution land uses.

The 1988 LEP applies the 4(a) General Industrial zone to a substantial proportion of Blacktown's industrial land. While land to the north of Vardys Road is zoned 4(b) Light Industrial, the 4(a) zone is a comprehensive land use control which allows for diversity of employment-generating uses. It is noted that the 1988 LEP has applied the 4(a) General Industrial zone across the site for 25 years, and has supported the development of the precinct for a wide range of industrial uses reflective of its zoning.

3.2 FRAMEWORK PROPOSED BY THE DRAFT LEP

The *Blacktown City Centre Masterplan* (the Masterplan) is the primary strategic document informing the Draft LEP controls for the subject site and precinct. The Masterplan identifies seven City Centre Precincts broadly within a 2km radius of the Blacktown City Centre. The Masterplan proposes significant changes to land uses and development intensities within the City Centre Precincts. The Masterplan identifies the industrial precinct north of the Blacktown City Centre as the 'Business Park Precinct'.

The Masterplan acknowledges the strategic location of the Business Park Precinct close to the Blacktown CBD and existing major transport infrastructure, and identifies the area is a *'vital economic and employment area'*. However the Masterplan has limited regard to the important role the precinct currently serves, including supporting more than 10,600 jobs. Accordingly, the planning and implementation of the Masterplan and associated rezoning must be sensitive to current and future business operators in the precinct.

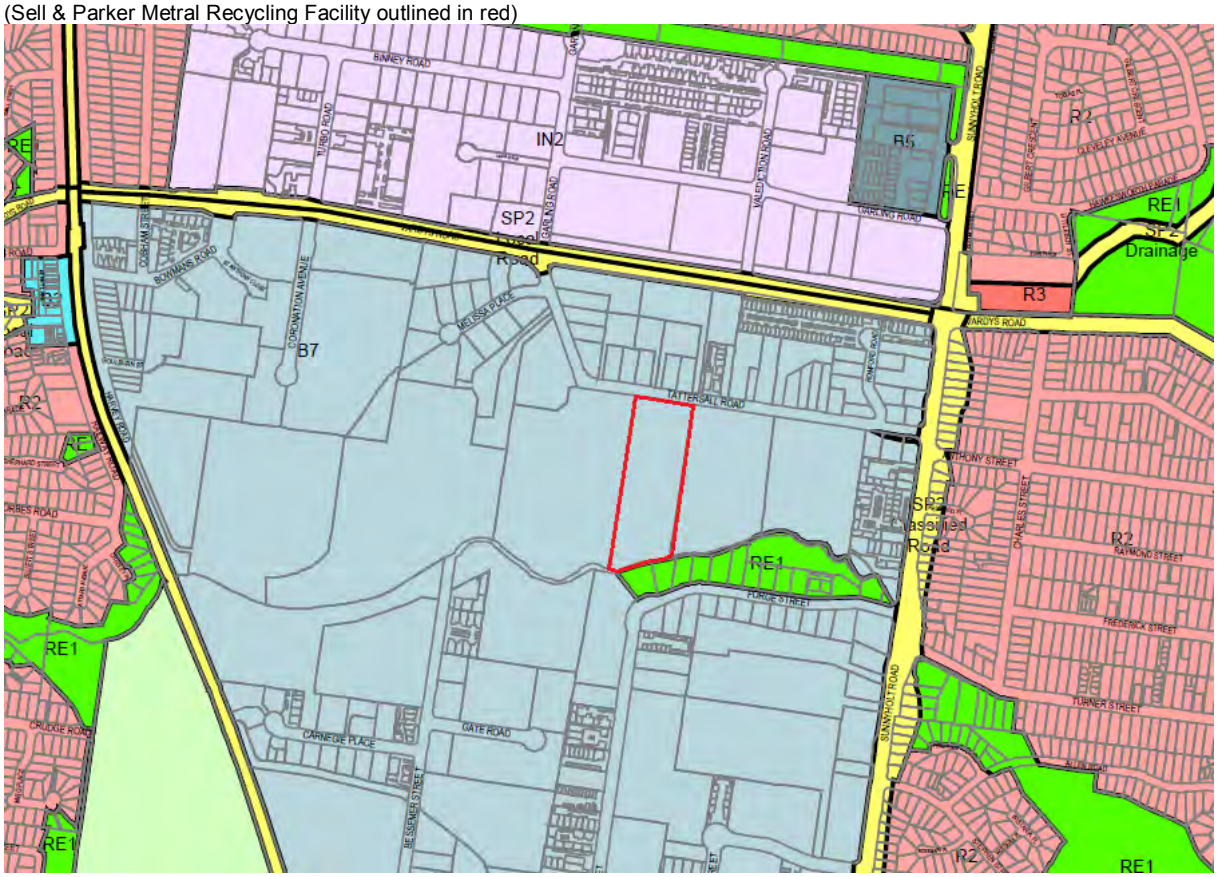
3.3 PROPOSED DRAFT BLACKTOWN LEP CONTROLS

In accordance with the Masterplan, the Draft LEP proposes to rezone the precinct B7 Business Park, as shown in **Figure 2** below. The B7 zone prohibits all industrial uses except for *'light industries'* and *'warehouse or distribution centres'*, creating a substantial change to the existing permissible land uses across the 181[1] hectares of land within the precinct.

[1] *Excludes Roads. Source: Urbis*

FIGURE 2 – EXTRACT, DRAFT BLACKTOWN LOCAL ENVIRONMENTAL PLAN 2013 ZONING MAP

(Sell & Parker Metral Recycling Facility outlined in red)



The Draft LEP applies the additional following development controls relevant to the site:

- A building height standard of 32 metres;
- Design excellence requirements for the construction of new buildings; and
- The reservation of lots to the south side of Breakfast Creek for acquisition by Council for the development of local open space.

It is noted that the Masterplan includes an extension of Forge Street over Breakfast Creek between 45 and 57 Tattersall Road to connect to Tattersall Road, and an extension of Chicago Avenue to connect to Third Avenue, however these road extensions are not included in the Draft LEP maps (including the Land Reservation Acquisitions Map). The proposed public recreational zone along Breakfast Creek extend to the residential area to the east and west of the precinct, however the Draft LEP proposes this zone only extends to the bend in Forge Street.

4 Key Concerns with the Draft LEP 2013

4.1 REZONING HAS NO REGARD TO EXISTING USES WITHIN THE PRECINCT

IMPACT ON EXISTING OPERATORS AND EXISTING JOBS

The 4(a) general industrial zoning of the precinct has remained largely unchanged since the gazettal of the LEP in 1988. This has resulted in a wide range of general industrial uses locating and investing in the precinct for many years. The Masterplan highlights that the precinct supports more than 10,600 jobs, largely comprising manufacturing and general industrial jobs.

The rezoning of this precinct to accommodate business park uses will result in the displacement of existing operators, including Sell & Parker. On review of the Draft LEP, it appears that no new general industrial zoned land is proposed to replace this precinct. This may result in the existing operators within the precinct being forced to relocate outside of the Blacktown LGA, and a loss of existing jobs from the Blacktown LGA.

SUITABILITY OF THE PRECINCT TO SUPPORT GENERAL INDUSTRIAL LAND USES

While the long-term vision to transform the precinct into a business park is understood, there is no immediate demand for business park operators within the precinct, and limited demand projected to 2036. This is discussed in detail in section 5 of this submission.

Conversely, there are existing industrial operators within the precinct which benefit from the short to medium term retention of the existing general industrial zone. The precinct is well located with good separation from sensitive land uses, and well serviced by the Transit-way and regional motorway network.

To introduce a zone which precludes the on-going use of the land for existing employment industries would effectively sterilise the land in the short to medium term, during which there is no identified demand for the proposed new zoned land.

Rezoning will prohibit existing businesses from expanding their current operations and investing further in local jobs. Buildings held by investors have been purpose built for manufacturing and would need to be redeveloped at significant cost to meet the new zoning requirements for tenants for which there is no acknowledged demand.

4.2 SCALE OF THE BUSINESS PARK PRECINCT

EXCEEDS LONG-TERM MARKET INTEREST IDENTIFIED IN COUNCIL'S STATISTICAL ANALYSIS

The Business Park precinct represents a drastic change to spatial planning for the Blacktown CBD. Within the precinct of 181 hectares, approximately 172 hectares will be rezoned from 4(a) General Industrial to B7 Business Park under the Draft LEP. While this may reflect a long-term spatial planning ambition for Council, the scale of the precinct-wide rezoning at a single point in time is not supported by demand analysis undertaken by Council consultants.

The Hill PDA report which informed the preparation of the Masterplan and Draft LEP assesses the likely employment changes in the Blacktown City Centre to 2036. It expects that by 2036, there will be a net increase in demand for manufacturing and wholesale trade floor space of **60,750 sq.m** in the area identified for the Business Park Precinct. By contrast, the report anticipates a net demand increase of just **2,070 sq.m** for commercial floor space in the proposed business park precinct in the same period.

The Hill PDA report identifies the need for the precinct to accommodate new manufacturing floorspace which may include high-technology manufacturing or research and development, as well as more traditional manufacturing sectors such as rubber and polymer, furniture, and warehousing and logistics.

When comparing the forecast demand for new manufacturing floorspace in this precinct with the forecast demand for commercial floorspace, it is evident that the rezoning of the precinct to support a business park is a long-term strategic vision (i.e. beyond 2036) to deliver a broad spectrum of jobs to the local

labour force. Based on employment forecasts it is clear that the majority of this land is required to support manufacturing and other industrial jobs.

Although there may be demand for a smaller business park precinct closer to the Blacktown CBD in the short to medium term, the rationale and evidence base for the scale of the business park precinct is not presented in the Blacktown City Centre Masterplan (exhibited with the draft LEP). Accordingly, there does not appear to be any clear link between the recommendations of the Hill PDA report and the proposed zoning of the precinct presented in the Draft LEP.

COMMERCIAL FLOORSPACE AVAILABILITY IN BLACKTOWN CBD

The significant development uplift generated by the recently-gazetted *Blacktown Local Environmental Plan (Central Business District) 2012* (the CBD LEP) must also be considered. The CBD LEP provides for commercial buildings up to 72 metres in parts of the city centre, far exceeding any existing built form in the LGA. This proposes a radical change to not only Blacktown's built form but its economic role and function. This will provide a land supply able to accommodate the anticipated commercial floor space demand for the City Centre to 2036, identified as 43,320 sq.m in the Hill PDA report. More detailed assessment is provided in **Section 5** of this submission.

Given the CBD LEP will significantly increase potential commercial floor space in the Blacktown CBD area, the release of some 181 hectares of B7 Business Park zoned land concurrently has the potential to undermine market interest in the Blacktown City Centre through disbursing commercial floorspace interest over a wider area, and reducing the likelihood that initial investment in the City Centre will be clustered. This could ultimately lead to *ad hoc* development across the precinct which will not attract key anchor tenants which seek to benefit from co-locating with other related businesses.

SCALE RELATIVE TO OTHER BUSINESS PARKS IN SYDNEY

The proposed new Business Park Precinct comprises approximately 181 hectares. This is comparable to other major established business parks in the broader Sydney metropolitan area.

Norwest (including Bella Vista) has been progressively expanded and developed over the past 25 years to reach its current size of approximately 165 hectares. The precinct was originally underdeveloped rural lands primarily in single ownership. Recent studies undertaken by Urbis have indicated that Norwest Business Park still has 15% vacancy rate and significant potential for further expansion.

The Macquarie Park precinct has strong railway connections to other parts of the Sydney and its development has evolved over decades, with key educational infrastructure and large land holdings being the key catalysts for its success. While Macquarie Park has an overall area of 340 hectares, the B7 Business Park zoned land comprises 156 hectares. Despite its status in the Global Economic Corridor, there remains significant land in Macquarie Park to accommodate business park uses.

The proposed Blacktown Business Park seeks to rezone 181 hectares of land to B7 Business Park, which will be greater than either of these existing business park precincts, which are identified as 'Specialised Centres' in Sydney. It is noted that it has taken decades for these business parks to achieve their current occupancy rates and that Macquarie Park is still seeking to devise a planning framework to achieve its infrastructure delivery plan which is stifling further investment.

4.3 CONSISTENCY WITH PLANNING POLICY AND STRATEGIES

CONSISTENCY WITH METROPOLITAN PLANNING OBJECTIVES

Ministerial Direction 1.1, issued under Section 117(2) of the *Environmental Planning and Assessment Act 1979*, provides heads of consideration for land use zoning changes for business and industrial lands. Amongst other requirements, a proposed planning instrument must not 'reduce the total potential floor space area for industrial uses in industrial zones', unless it is justified by a:

- Study prepared concurrently to a proposed planning instrument;
- Metropolitan or subregional strategy; or
- Local strategy endorsed by the Department of Planning and Infrastructure.

As discussed above, it is not considered that the Blacktown City Centre Masterplan or the extent of the proposed B7 zoning in the draft LEP accurately reflects lack of demand for business park floorspace in this area in the face of employment forecasts or extensive existing and planned supply of competitive sites. Similarly, there is no strategic policy prepared or endorsed by State government which gives rise to the proposed changes.

It is also the finding of this submission that the proposed changes contradict objectives of the Metropolitan Plan for Sydney and the Draft North West Subregional Strategy.

Action E3.3 of the Metropolitan Plan for Sydney aims to *'strengthen existing freight and industry clusters and support emergence of new clusters'*. Under this Action, the Blacktown-Seven Hills area is identified as a *'significant freight industry cluster'*. This recognises the region's industrial character and good access to road infrastructure. The business park zoning would restrict the potential of the area to operate as a freight cluster, and hence would contradict metropolitan planning directives.

DRAFT METROPOLITAN STRATEGY

The *Draft Metropolitan Strategy for Sydney to 2031* (the Draft Strategy) is currently on public exhibition until 31 May 2013. The Draft Strategy proposes a framework to assess proposed rezoning of industrial lands. This assessment framework includes a criteria 'checklist' to determine the suitability of the rezoning proposal, which are:

- *Is the proposed rezoning consistent with State and / or Council strategies on the future roles of industrial lands?*
- *Is the site:*
  - *Near or within direct access to key economic infrastructure?*
  - *Contributing to a significant industrial cluster?*
- *How would the proposed rezoning impact the industrial lands stock in the subregion and the ability to meet future demand for industrial land activity?*
- *How would the proposed rezoning impact on the achievement of the subregional/regional and LGA employment capacity targets and employment objectives?*
- *Is there a compelling argument that the industrial land cannot be used for an industrial purpose now or in the foreseeable future and what opportunities may exist to redevelop the land to support new forms of industrial land uses such as high-tech or creative industries?*
- *Is the site critical to meeting the need for land for an alternative identified in other NSW Government or endorsed council planning strategies?*

While there is no government direction or practice note on the interpretation of these criteria, it is evident that the proposed business park meets some of the criteria. However the proposed business park does not meet the following criteria:

- *Consistency with State and / or Council strategies on the future roles of industrial lands* – the precinct is identified in the Draft Strategy as 'employment lands', similar to other industrial land uses, while it is noted that existing business parks are identified as 'specialised precincts'. Accordingly, this shows the current position of State Government is that the precinct should remain industrial land.

- *Contributing to a significant industrial cluster* – the precinct comprises 181 hectares of industrial use land supporting over 10,600 jobs, and would classify as a '*significant industrial cluster'*.

- *Compelling argument that the industrial land cannot be used for an industrial purpose now or in the foreseeable future* – to the contrary, analysis prepared for Council in the preparation of the draft LEP indicates that there is forecast demand for 60,750 sq.m of industrial floorspace within the precinct by 2036, and only 2,070 sq.m of commercial floorspace demanded within the same period (Discussed further in Section 5).

On this basis, the consistency of the proposed rezoning of these industrial lands with the Draft Strategy and the industrial land rezoning criteria is questionable.

4.4 MARKET DEMAND

Urbis' own property market analysis confirms that there is likely to be little long term demand for business park floorspace within the proposed B7 zone, and that there is already an extensive supply of existing and planned business park sites and premises within the Greater Western Sydney Region to meet long term demand. This is discussed in detail in **Section 5**.

4.5 DELIVERY FRAMEWORK

While the long-term vision of a business park within the Blacktown City Centre is understood, the delivery of 181 hectares of business park land to the market at a single point in time has the potential to undermine the long-term objective.

REDUCE OPPORTUNITY FOR CLUSTERING OF NEW BUSINESSES

The success of business parks is dependent on their ability to attract businesses that seek to benefit from clustering. Due to the scale of the precinct, being almost 2km north-south, there is potential for initial business park developments to be scattered through the precinct and not cluster together. This could detrimentally effect the establishment phase of the precinct, and potentially stifle its long-term development.

LAND FRAGMENTATION

The most successful business parks in Sydney have large land holdings which allow for site masterplanning to stage the release of land to the market, establish an infrastructure and public domain delivery plan, and the provision of allotments which can support large floorplate buildings to accommodate campus-style business park developments.

As the precinct comprises more than 300 allotments, there is limited opportunity for masterplanning to be undertaken by the private sector and accordingly the delivery of the new business park must rely on the LEP being based on:

- A land release strategy to ensure investment is concentrated and clustering of business park developments occurs, noting that Council has little influence in this regard;
- A framework to prioritise and deliver the required infrastructure and public domain improvements; and
- Incentives to consolidate sites to accommodate building floorplates required in business park precincts.

It is premature to rezone the land until such time as a Masterplan that addresses these issues has been prepared by Council.

5 Property Market Assessment

Urbis has reviewed the background research utilised by Blacktown Council in the preparation of the draft LEP, and more broadly to consider whether the proposed B7 zoning is required in light of the supply of and demand for business park land and floorspace in Greater Western Sydney (GWS). The review is complemented by Urbis' own assessment of supply and demand and market issues affecting business park development in GWS. Our analysis concludes that:

1. The economic analysis that Blacktown Council commissioned prior to preparing the draft LEP (prepared by HillPDA) does not provide justification for rezoning the land to B7 Business Park zone. Rather, it highlights that there is minimal long term demand for commercial office floorspace in the Business Park Precinct (**for just over 2,000 sq.m additional floorspace by 2036**). The balance of commercial floorspace demand (41,250 sq.m) will be directed to the CBD.

2. HillPDA highlight that strong on-going market demand for floorspace to the north of Blacktown CBD is expected from general industrial users including food product manufacturing, printing, polymer and rubber manufacturing, primary metal and metal product manufacturing, machinery and equipment manufacturing, furniture and other manufacturing, transport, postal and warehousing.

3. It therefore appears that Blacktown Council has prepared a planning strategy and draft LEP that directly contradicts its own consultant's report in regard to demand for business park space compared to industrial land in this location.

4. Urbis' own property market analysis confirms that there is likely to be little long term demand for business park floorspace within the proposed B7 zone, and that there are significant supply side issues notably:

   - Substantial existing and proposed office / business park land and floorspace elsewhere in the Greater Western Sydney at Norwest, Marsden Park, Western Sydney Employment Area as well as existing capacity within Parramatta, Bankstown, Liverpool, Fairfield and Penrith CBDs.

   - There are in excess of 300 individual lots within the proposed B7 zone as well as multiple strata lots. There are inherent difficulties associated with site amalgamation, land acquisition and relocation of existing businesses to create viable opportunities for business park development particularly when there is a supply of land and premises at established business parks.

5. There are a significant number of 'general industrial' businesses located throughout the proposed B7 zone. The risk of these existing businesses becoming prohibited uses, even allowing for existing development rights, adds significant uncertainty to future investment decisions for these businesses which may result in loss of employment potential and capital investment.

6. It is essential that an adequate supply of general industrial land be maintained to meet current and future projected growth in industrial employment, to allow existing businesses to grow and new businesses to develop in line with forecast labour market trends. Given the low level of future office based demand, significant value uplift is unlikely to result that would otherwise assist industrial businesses to relocate.

5.1 KEY DOCUMENT REVIEW

Key documents that have been made publically available as part of the Blacktown Draft LEP review include:

- Blacktown Planning Strategy - Economic and Employment Input - prepared by Hill PDA for Blacktown City Council (October 2010);

- Blacktown Planning Strategy 2036 (2011);

- Blacktown City Centre Masterplan (2012);

- Blacktown Draft LEP 2013.

To prepare a coherent and evidence-based Planning Strategy and draft LEP, it is best practice for Councils to consider the key findings and recommendations from technical reports such as the Economic and Employment Input report, and use these to inform strategic principles in the Planning Strategy. These should underpin land use planning principles, zoning and controls in the Masterplan and draft LEP.

Whilst we recognise that Council is not bound by legislation to adopt the findings or recommendations of any Consultant studies that it commissions, effective strategic planning and adopting the evidence based approach to planning advocated by State government, would have regard to this work.

We are therefore concerned that the Economic and Employment analysis prepared by HillPDA for Council does not provide any justification for rezoning land to the north of Blacktown CBD as B7 Business Park zone. Rather, it highlights that there is **minimal long term demand for commercial office floorspace in this area** and that "*market conditions and tenant preferences are not conducive to development of new offices in Blacktown*".

In order to understand the rationale behind the proposed rezoning it is necessary to examine how these background documents relate to one another and to establish whether the key learnings from the research are reflected in the strategic planning through a 'bottom up' process.

5.1.1 ECONOMIC AND EMPLOYMENT INPUT ANALYSIS

The Hill PDA *Economic and Employment Input Analysis Report* sets out the following forecasts:

- Additional demand for just **2,070sq.m** commercial (office) floorspace within the industrial area north of the City Centre (the proposed B7 Business Park Zone) between 2011-2036. This is equal to **83sq.m per annum** over the period, the equivalent of a small sole practitioner office suite or consulting room.

- Demand for just **43,320sq.m** additional commercial floorspace across the Blacktown Urban Renewal Precinct as a whole (the area broadly within a 2km radius of the City Centre) between 2011-36, equal to **1,735sq.m per annum**, the equivalent of a single office floorplate in an office tower.

This analysis is based on Transport Data Centre (TDC) forecasts which assume that the Blacktown LGA will achieve net jobs growth of 72,500 between 2006 and 2036 which is a 77% increase. The top six industries forecast to grow across the LGA are:

- Retail trade (+8,805 jobs).

- Transport postal & warehousing (6,479 jobs).

- Health Care & Social Assistance (+6,161 jobs).

- Education & Training (+5,699 jobs).

- Accommodation & Food Services (+5,699 jobs).

- Construction (+4,525 jobs).

None of these sectors typically require business park accommodation.

The forecast demand for commercial floorspace in the Urban Renewal Precinct (URP) and the Business Park Precinct (refer to Figures 3 and 4) clearly does not provide a rational basis for the creation of a 181ha business park – the largest in Sydney. Moreover, HillPDAs analysis indicates that the majority of demand for additional floorspace in the proposed B7 zone is expected to come from the industrial sector. Demand for an additional **60,750 sq.m industrial floorspace** is forecast between 2006-2036 (although this is most likely to come through expansion of existing businesses rather than large new developments). The report comments:

> *"The industrial area to the North of the City Core is anticipated to experience growth in demand for over 90,000 sq.m of floorspace with the major growth industries being retail trade, transport and postal warehousing, polymer product and rubber product*

manufacturing, machinery and equipment and manufacturing…As to be expected the major share of growth relating to industrial floorspace will occur in the industrial area to the north of the City Core (+61,000 sq.m), and the major share of commercial floorspace (+43,000 sq.m) will occur within the City Core".

The *Economic and Employment Input Analysis Report* goes further to highlight significant market risks associated with developing business parks in suburban locations. HillPDA were engaged to undertake a review of the Blacktown property market and to provide advice regarding the economic viability of a mix of commercial uses in the Blacktown Urban Renewal Precinct. The report correctly presents a cautionary appraisal of the issues likely to limit demand for business park floorspace, notably:

- *Many residents seeking employment in higher salary commercial industries will need to continue to travel out of the LGA to centres such as Norwest, Parramatta and Sydney CBD as these activity centres are likely to continue to attract the main firms that generate this form of employment, at least in the short to medium term (page 13);*

- *Suburban [office] markets have been affected by the loss of business confidence, delaying decision making by tenants and commencement of new development…there are signs of recovery in certain markets such as North Sydney and Macquarie Park, but Chatswood and St Leonards remain oversupplied and out of favour. Key drivers for new development are focused on efficient construction costs, competitive rents and good corporate and staff amenity. Markets such as Parramatta, the closest comparable to Blacktown remains reliant on its preferred location for government departments (page 13);*

The report notes that "**market conditions and tenants preferences are not conducive to development of offices in Blacktown**" and suggests a number of initiatives that would need to be pursued to create a catalyst for a new employment node. These include:

- *"Preserving land for commercial uses close to the railway station and improving amenity and services in the precinct;*

- *Securing tenant pre-commitments to underpin investment in new office buildings;*

- *Encouraging medium density apartment development on the immediate periphery…however existing market conditions are unlikely to yield significant development due to the price levels of new apartments which do not sustain both a depth in the market or viable land values".*

The report concludes:

"Analysis of feasibility of various development densities, both commercial and residential indicates the challenging nature of most development options within the LGA at the present time….commercial development will require intervention to ensure a sustainable long term employment node within the Blacktown URP"

Whilst the Planning Strategy and City Centre Masterplan set out long term aspirations for the renewal of the lands to the north of the CBD, we are concerned that they do not reflect the findings of the economic analysis in the *Economic and Employment Input Analysis* prepared by Hill PDA.

5.1.2 BLACKTOWN PLANNING STRATEGY

The Blacktown Planning Strategy identifies the land to the north of the CBD as the largest of a number of 'business areas' that are identified in the Strategy, the others being Marsden Park, Riverstone, Seven Hills, Prospect, Minchinbury and Mount Druitt. The 'business areas' are located within or adjacent to Blacktown's extensive network of employment lands which also included the Western Sydney Employment Area (WSEA) (Refer to Figure 3). The Planning Strategy comments that:

"The potential employment capacity of the City's employment lands, and the more intensive uses associated with Blacktown City Centre, Major Centres and Business Parks, could potentially deliver an employment surplus for the City. This would significantly increase the

self-containment of the City and make a major contribution to the employment requirements of GWS and SMA[2] as a whole. The City currently has a substantial stock of high quality, well-serviced employment lands, providing jobs for residents of Western Sydney and significant investment opportunities for large national and multi-national companies. With over 3,000 hectares, Blacktown represents the largest supplier of employment lands in NSW, and a key focus of WSEA. The commercial attraction of a business park is a key driver of employment growth outside the Sydney CBD. In order to attract higher skilled jobs to the City, business park format offices may be an appropriate built form for future development. In planning for new business parks consideration would be given to public transport accessibility as a key factor".

The Planning Strategy highlights the fact that Blacktown LGA has an existing and planned network of business parks including Marsden Park (Sydney Business Park) which will provide 265 hectares of serviced land including a 70 hectare business park, as well as the broader Western Sydney Employment Area (WSEA) where more than 1,400 hectares is zoned for employment purposes with long term development potential for business parks. Given the historically low demand for suburban business park floorspace in Greater Western Sydney, these emerging sites offer significant long term opportunities to meet future business park demand.

5.1.3 BLACKTOWN CITY CENTRE MASTERPLAN

The Blacktown City Centre Masterplan identifies the land to the north of Blacktown CBD between Sunnyholt Road, the railway line and Vardys Road as a "Business Park Precinct" within Blacktown City Centre (the Blacktown City Centre as shown in the Masterplan extends for more than 2km and covers some 816 hectares (see Figure 4). It is more than six times the size of Sydney CBD and roughly the same size as Sydney, North Sydney, Parramatta, Chatswood, Wollongong and Newcastle CBDs combined). In outlining the rationale for designating the Business Park Precinct it makes a number of comments which conflict with the findings of the HillPDA report. These are summarised in **Table 1**.

[2] SMA refers to the "Sydney Metropolitan Area"

TABLE 1 – BLACKTOWN CITY CENTRE MASTERPLAN ALIGNMENT WITH ECONOMIC & EMPLOYMENT INPUT ANALYSIS

PAGE	MASTERPLAN COMMENT (BLCKTOWN CITY COUNCIL)	ALIGNMENT WITH ECONOMIC AND EMPLOYMENT INPUT ANALYSIS (HILLPDA)
27	*There are…significant opportunities to create a highly successful employment area that would allow for increased employment densities and a greater range of employment options for the City Centre.*	Conflicts with HillPDA advice which states that market conditions and tenant preferences are not conducive to development of offices in Blacktown and that commercial development will require intervention to ensure a sustainable long term employment node within the Blacktown URP. Additionally, the high cost of amalgamating sites and/or reconfiguration the existing industrial uses in the proposed B7 Business Park Zone would be a deterrent for developers given the site's brownfield location, with established infrastructure configured for industrial users.
42	*The Business Park Precinct will provide opportunities for a range of larger floor plate offices, high technology, education, warehouse and service activities, in high quality buildings and improved amenity. The Business Park will aim to develop a high standard of architectural design, landscape and supporting facilities.*	Conflicts with HillPDA advice which identifies very limited demand for additional commercial floorspace outside the CBD. In addition, the Masterplan also supports significant density uplift within the CBD for a mix of land uses including offices, meaning that development in one location could further reduce demand for development in the other.
77	*The Precinct…has the opportunity to become a highly successful business park and employment area, and one of the increasingly successful Business Parks in the Sydney Region. To facilitate this, 150 hectares of the Precinct could provide employment uses, a similar area to both Norwest and Macquarie Park.*	The feasibility assessment undertaken by HillPDA for a business park development tests the development potential for a 5 storey building with under croft and at grade parking and a footprint of 2,000 sq.m. It notes that such a development would be feasible, but only where it is possible to pre-lease a large portion of the development and holding the development for a long period. However, feasibility is for a **single building** rather than for the redevelopment of the precinct as a whole, and the report notes that there are major barriers to wholesale development, notably: ▪ Lack of demand for office floorspace; ▪ Difficulties in securing pre-commitments from tenants; ▪ Fragmented land ownership adding to development costs; and ▪ Marginal financial viability on any site with an existing FSR greater than 0.5:1 or a

PAGE	MASTERPLAN COMMENT (BLCKTOWN CITY COUNCIL)	ALIGNMENT WITH ECONOMIC AND EMPLOYMENT INPUT ANALYSIS (HILLPDA)
		land value in excess of $590 per sq.m The analysis in the HillPDA report *does not* identify that the precinct as a whole provides an opportunity to be a successful business park.
78	*Fragmented ownership creates various challenges, such as delivering new roads that would run through multiple properties and achieving an holistic solution to the large areas of drainage. It is vital that the renewal of the Business Park Precinct embraces environmental sustainability as a key objective. One of the major challenges will be to secure funding for proposed infrastructure and public domain improvements. Funding for many of the key projects will need to be sourced through contribution plans. If this is not feasible some of the proposed infrastructure and public domain improvements may need to be provided by the developer as part of any future proposal*	Conflicts with HillPDA commentary that key drivers for new development are focused on efficient construction costs, competitive rents and good corporate and staff amenity. Fragmented ownership (+300 lots, including 43 strata lots) and existing established business activity will significantly impact on the ability and cost-effectiveness to amalgamate sites for development in a co-ordinated manner. These costs and time constraints would put the precinct at a considerable disadvantage to existing and emerging business parks with capacity such as Norwest, Marsden Park and WSEA. In this context it is difficult to see how tenant pre-commitments to underpin investment in new office buildings will be secured, certainly in the medium term.
79	*Potentially the largest [Business Park] in the North West Subregion, it will replace the existing underutilised and inefficient industrial area. The business park will encourage diversity with campus style accommodation, providing large floor plates, adequate parking and opportunities to integrate research, manufacturing, managerial and distribution activities*	Rather than being 'underutilised and inefficient' Council's City Centre Masterplan notes that the precinct currently employs more than 10,600 people and is home to a number of warehousing, wholesaling, car repair and industrial tenants. Furthermore, HillPDA identify the demand for an additional 60,750 sq.m of manufacturing and wholesale trade floorspace within the Business Park precinct.

FIGURE 3 – EMPLOYMENT LANDS WITHIN BLACKTOWN LGA

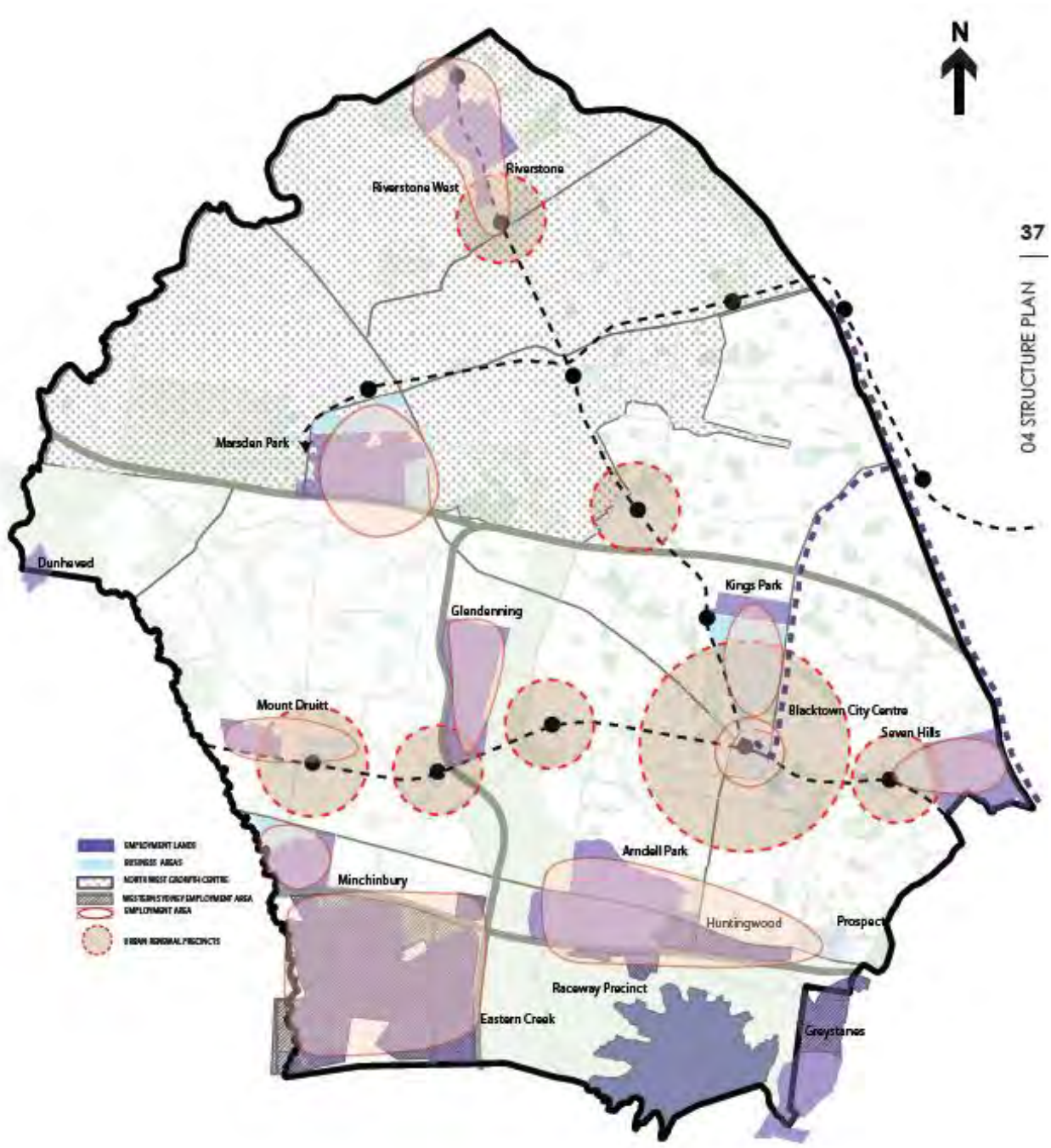
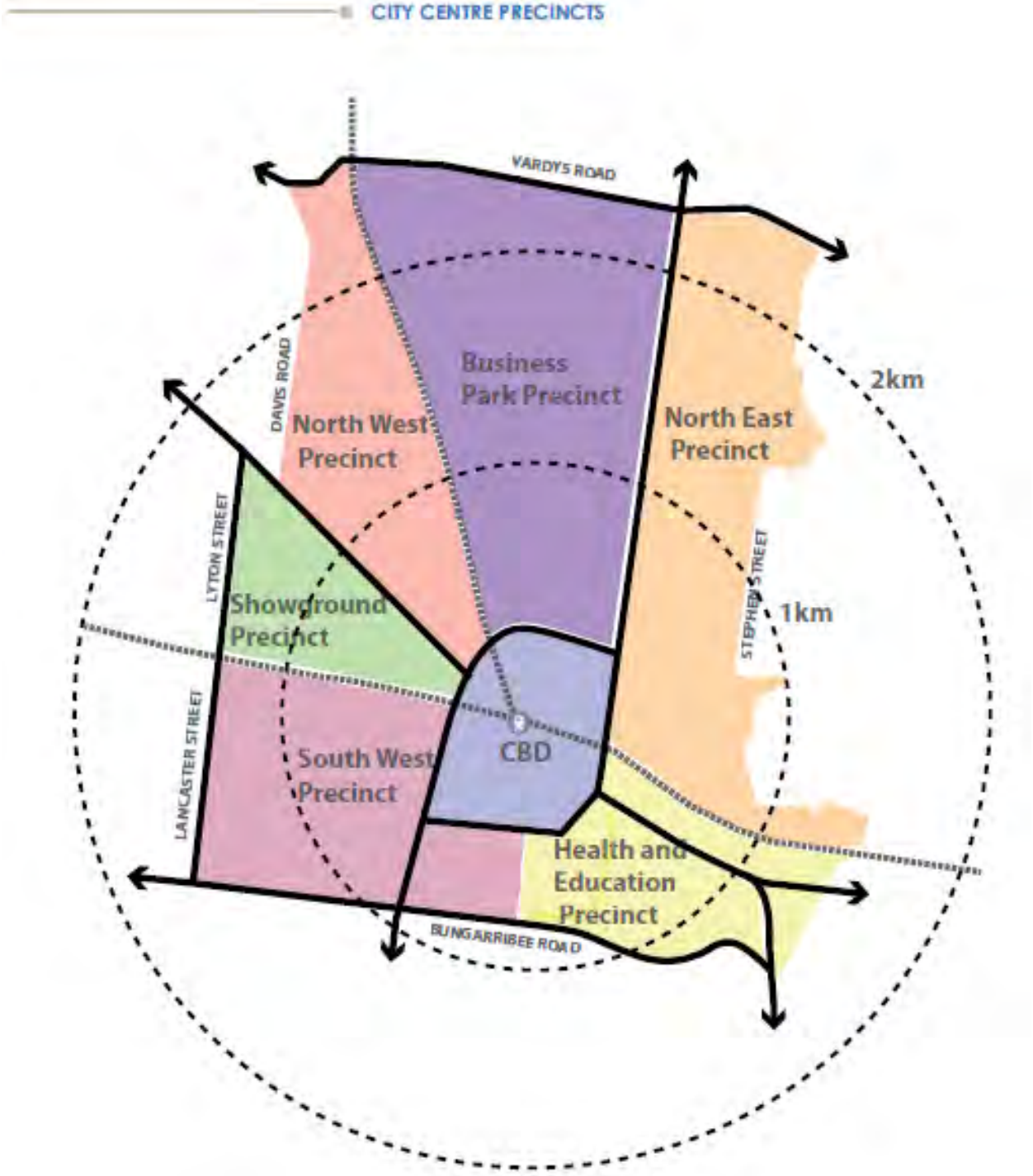


FIGURE 4 – BLACKTOWN CITY CENTRE AS DEFINED IN BLACKTOWN CITY CENTRE MASTERPLAN



5.2 EXISTING BUSINESS PARK SUPPLY

There is a significant supply of commercial floorspace within existing major business parks in Greater Western Sydney (GWS).

Table 2 demonstrates that there is close to 109,000 sq.m vacant office floorspace at existing GWS business parks and within Parramatta CBD, with potential for a further 267,000 sq.m in the development pipeline.

In addition, the development of lands around the proposed North West Rail Link stations at Bella Vista and Norwest has the potential to create new commercial floorspace as a further extension to these sites. There is also 70 hectares of commercial land zoned at Marsden Park as part of the "Sydney Business Park" development also within Blacktown LGA, as well as serviced land able to accommodate business park development in the Broader Western Sydney Employment Area (WSEA) in the long term. These sites offer large, serviced lots in a greenfield locations which do not involve the complexities of amalgamating sites, as would be required in proposed B7 Zone. There is also 69 hectares of employment land zoned as part of the Werrington Enterprise Living and Learning (WELL) precinct some 20 minutes drive to the west of Blacktown.

TABLE 2 – COMMERCIAL FLOORSPACE VACANCY AND PIPELINE (SQ.M) AT END OF 2012

BUSINESS PARK / COMMERCIAL	TOTAL STOCK	VACANCY RATE	VACANT STOCK	DEVELOPMENT PIPELINE
Norwest	272,474 sq.m	15.10%	41,144 sq.m	115,000 sq.m*
Homebush	156,141 sq.m	5.10%	7,963 sq.m	42,300 sq.m
Parramatta	684,400 sq.m	8.70%	59,543 sq.m	110,000 sq.m
Total	**1,113,015 sq.m**	**9.8%**	**108,650 sq.m**	**267,300 sq.m**

Additional expansion at Norwest is possible dependent upon results of structure planning of lands around NWRL train stations at Bella Vista and Norwest

Source: Source: Colliers, Sydney Metropolitan Office Report, Second half of 2012, Urbis

All of these sites and precincts will continue to be a focal point for GWS white collar professional jobs, as well as lands at Marsden Park, WELL, Greystanes and the future expansion of Norwest as noted above. The figures quoted in Table 2 relate only to current vacancies and development pipeline and there is likely to be further commercial uplift in these areas as sites are amalgamated.

The Department of Planning and Industry's Employment Lands Development Programme calculates that there is currently **232 hectares** of zoned land available for business park development in Greater Western Sydney (more than 40% larger than Norwest at present). These figures exclude the development potential of additional lands at Norwest or the Broader WSEA lands in the longer term. This demonstrates that there is significant capacity to accommodate business park growth in GWS over the long term, and these sites will be augmented by commercial growth within CBD centres.

It should be noted that a site such as Norwest, which has benefitted from consolidated landholdings, excellent road connectivity and a highly skilled workforce in its vicinity, has taken over 20 years to reach its current size. This highlights the very slow historic take-up rate of suburban business park space in Western Sydney even in an unconstrained environment. It suggests that the transition from industrial uses to business park within the proposed Business Park precinct would be an extremely long term proposition.

5.3 DEMAND OUTLOOK

The Blacktown Planning Strategy sets an aspiration to plan for **30,000** jobs within the Blacktown Regional City Centre by 2036. This will require an additional 7,000 jobs across this whole area (in all employment

categories and including the CBD and proposed Business Park precinct) based on Bureau of Transport Statistics (BTS) Travel Zone data as reported in the Economic and Employment Input report.

The Economic and Employment Input Report uses TDC small area forecast data to break this down into jobs by sector and then applies employment densities (number of sq.m per job across different categories) to identify the demand for additional floorspace by sector.

By applying an average employment density of **1 job per 30 sq.m** for commercial development, the report identifies demand **45,326 sq.m** additional commercial floorspace across the Blacktown Urban Renewal Precinct as a whole (the City Centre) between 2011-36 and **2,070 sq.m** within the Business Park Precinct.

The figures assume that 95% of future commercial floorspace development will occur within the CBD as opposed to the Business Park Precinct. The concentration of commercial floorspace within the CBD area is consistent with the general trend across Metropolitan Sydney.

The application of typical employment densities to employment forecasts is an appropriate method of calculating future demand for floorspace. A rate of 1 job per 30 sq.m is significantly lower than the efficiencies being achieved in CBD locations (recent office developments in Sydney CBD achieves rates in the order of 1 job per 15-20 sq.m), and in recent studies Urbis has adopted a rate of **1 job per 25 sq.m** for suburban business parks which would further reduce the demand for floorspace, however 1 per 30 sq.m is reasonable as it would cover a broad spectrum of commercial jobs.

In any event, the TDC forecasts confirm that the growth of 7,000 additional jobs (in total) across the City Centre required to meet the Planning Strategy target of 30,000 requires only minimal additional *commercial floorspace* in the CBD and Business Park Precinct. As noted previously, this demand for commercial floorspace could be taken up with some very modest developments in and around the CBD so there is no requirement to rezone the full extent of the Business Park precinct to meet Council's employment target, particularly as demand for general industrial floorspace will remain strong. Employment growth in other sectors, notably manufacturing, industry and retail and wholesale will continue to be key drivers for Blacktown.

5.3.1 DEMAND DRIVERS

The suitability of the proposed B7 Zone for business park development will ultimately be driven by fundamentals such as local labour force characteristics, transport connectivity, amenity, financial feasibility and access to suitable land.

Blacktown appears to have number locational challenges which are likely to prove detrimental to the success of the subject area as a business park location. A summary of the suitability of the proposed B7 Zone against these criteria is shown in **Table 3**.

TABLE 3 – DRIVERS OF BUSINESS PARK DEVELOPMENT

DEMAND DRIVER	REQUIREMENTS	SUITABILITY OF BLACKTOWN AGAINST CRITERIA
Labour	Access to a qualified and suitable white collar workforce is a large influence on the chosen location of many organisations.	Blacktown has a higher share of blue collar workers compared to other LGAs in GWS. BTS forecasts indicate that labour force characteristics in the area will continue to focus demand on industrial uses.
Connectivity	Access to localised transport infrastructure (such as highways and public transport) which is considered critical to employees. Demand for business park employment land is highest in areas with a presence of motorway and rail / bus infrastructure providing	The southern portion of the proposed B7 zone benefits from greater connectivity to Blacktown CBD and its range of services and amenities, whilst the northern end, including the subject site,

DEMAND DRIVER	REQUIREMENTS	SUITABILITY OF BLACKTOWN AGAINST CRITERIA
	access to the broader Sydney Metropolitan area.	is more isolated from the CBD. The southern part of the precinct would therefore be a more appropriate area to initiate renewal investment.
Decentralised land	Affordable / available greenfield land supply. Greenfield sties in newer locations can be developed at a cost lower than in developed areas without the implied difficulties arising from site amalgamation which can be costly and time consuming.	Assembling land for business park development would be challenging given the range of established industrial uses and fragmented land holdings within the precinct. The proposed B7 zone is extensively developed and lacks large vacant sites to facilitate large scale business park development.
Amenity	Access to local amenity, services and retail.	The proposed B7 zone is currently developed primarily as an industrial area and has few amenities amenity that would be appealing to business park owners and employees. The southern end of the precinct is better positioned in this regard as it is closer to the CBD.
Financial Feasibility	Proposed commercial facilities need to provide an adequate potential rental return investors whilst being at a price point suitable for potential tenants.	Blacktown in a secondary commercial location and it is unlikely that new development would attract a high volume of tenants willing to outlay rental amounts capable of supporting prime suburban commercial stock.
Relationship with nearby economic and social infrastructure	The presence of major hospital and/or universities or research institutes provides opportunities for linkages to businesses within the park.	The proposed B7 zone is not located nearby any major social infrastructure. Blacktown Hospital is located in excess of 4km from the proposed B7 zone and over 15km North West of the University of Western Sydney Parramatta Campus.

This analysis confirms that the proposed Business Park Precinct faces a number of challenges to its viability as a major business park location, particularly when considered against the relative strengths of existing and emerging locations within Blacktown and Greater Western Sydney.

5.4 IMPLICATIONS OF PROPOSED ZONING AMENDMENT

Based on the previous analysis, the proposed rezoning of the Business Park Precinct to prohibit industrial uses would result in the following adverse outcomes:

- Potential for a number of existing industrial uses within the area becoming prohibited uses, thereby having to rely on existing use rights which would significantly impact on their ability to expand and grow their business and employment.
- Linked to the above, potential relocation costs for expanding business could be substantial and could affect their on-going viability. In the case of Sell & Parker, the business has identified that the cost of

relocating to another premises could be in the order of $40m given the highly specialised in-situ plant that could not be readily relocated. This would be a major undertaking, especially as we understand that Blacktown City Council encouraged Sell & Parker to locate at their current site in 1996.

- In the event that Sell & Parker were forced to cease operating this would result in a loss of up to 64 direct jobs on-site plus another 150 supply chain jobs. It would have a significant impact on sustainability initiatives across Metropolitan Sydney, as the site is only one of two metal recycling plants serving the Sydney basin.

- This loss of employment could be replicated at other industrial premises within the Precinct.

- The Precinct measures 181 hectares and extends for 2 kilometres northwards from Third Avenue to Vardy's Road. There are currently no staging plans to guide future development, meaning that any future development could be fragmented across the wide area. This fragmentation and lack of a staging plan is likely to be a disincentive to developers as it offers no certainty on:

  - Infrastructure provision, including public transport, accessibility, open space and amenities;

  - The future role of surrounding land uses – whether adjacent uses will be commercial, light industrial, distribution, or industrial – and associated risks associated with noise, traffic, hours of operation and visual amenity;

  - The ability (or lack thereof) to cluster uses in nodes around essential services.

- Unrealistic land value expectations from landowners that there is a market for high rise commercial floorspace on their site (the draft LEP proposes a maximum 32 metre building height across the B7 zone), may mean that it becomes more difficult to amalgamate land into developable parcels.

- Impact on the ability to deliver an uplift in commercial floorspace within the CBD core.

All of these adverse outcomes from the draft LEP are predicated on the basis that there will be demand for business park development within the Precinct moving forward. In fact, Urbis' analysis and the Economic and Employment Input Analysis prepared by HillPDA establish that there is unlikely to be any significant demand for business park floorspace in the Precinct in the medium-long term.

In the absence of any identified significant demand for business park floorspace it is premature to rezone all of the land within the precinct until such time as a Masterplan that addresses these issues has been prepared by Council.

Should Council wish to support business park development to the north of Blacktown CBD, we consider that a staged approach to rezoning, focusing on land closest to the CBD in initial stages would be appropriate.

6 Requested Amendments to the Draft LEP

Based on the findings of our review of the Draft LEP and Property Market Assessment, it is clear there is a significant disconnect between medium and long-term demand for business park lands in this location, and the proposed extent of the B7 Business Park precinct. Accordingly, the following amendments to the Draft LEP are requested prior to Council endorsement and forwarding to the Department for finalisation and gazettal.

REQUESTED AMENDMENT 1: – RATIONALISE THE VOLUME OF LAND WITHIN THE FUTURE BLACKTOWN BUSINESS PARK LIMITING IT TO THE LAND SOUTH OF BREAKFAST CREEK, WHICH WOULD FORM THE NATURAL BUFFER FOR THE SEPARATION OF LAND USES

The scale of the proposed Blacktown Business Park exceeds the size of existing successful business parks across Sydney such as Norwest and Macquarie Park, which have taken decades to establish and have benefited from large land holdings.

Reducing the size of the future business park will provide sufficient land for the long-term delivery of the Blacktown Business Park objectives, while also encouraging the efficient use of land and infrastructure funding to achieve those objectives. It is noted that the Draft LEP proposes a height control of 32 metres and no FSR control, which will support a greater floorspace yield across a smaller area of land than is the case for Macquarie Park and Norwest.

The existing road and infrastructure framework for the precinct is disconnected by Breakfast Creek. This natural barrier provides a suitable location to separate the future business park from other employment land uses such as general industrial uses. By using the creek line as the zone boundary, the need to create the northern extension of Forge Street would be removed, and the creation of a northern open space corridor running along the creekline would be achieved through riparian management requirements.

The land north of the creek between Breakfast Creek and Vardys Road is serviced predominantly by Vardys Road and Sunnyholt Road and would not impact on traffic and amenity of the future business park uses.

REQUESTED AMENDMENT 2: – INCREMENTALLY REZONE THE EXITING GENERAL INDUSTRIAL PRECINCT TO RESPOND TO MARKET DEMAND

The proposed rezoning of 181 hectares of land to B7 Business Park land at a single point in time has the potential to undermine the long-term objective of delivering a business park to the Blacktown City Centre. The Blacktown Masterplan identifies a number of benefits of staging the release of residential land, however these benefits apply to all land uses including business parks.

The staged rezoning of the precinct to B7 will:

(a) Avoid potential to oversupply the market that could lead to ad hoc development within the precinct. This could be particularly damaging to business parks in their initial stage where their long-term success is reliant on attracting key anchor tenants such as Woolworths at Norwest and Optus at Macquarie Park. These tenants are attracted to locations where large floorplates can be accommodated and where they can see the benefits of agglomerating with other businesses in the same or associated industries. By releasing the land in stages, this can provide greater certainty that initial business park developments occur in a cluster and future tenants can see the benefits of locating in the Blacktown Business Park.

(b) Focused and co-ordinated delivery of new and improved infrastructure through locating initial stages of development in a concentrated location. This will support the establishment of an infrastructure delivery program which is able to prioritise infrastructure delivery within the precinct to respond to the specific stage of business park release.

(c) Respond to market demand by providing a sufficient volume of land that will attract market interest, without sterilising land that has a current successful employment land use.

REQUESTED AMENDMENT 3: –LOCATE THE FIRST STAGE OF BUSINESS PARK LAND ADJACENT TO THE EXISTING BLACKTOWN CITY CENTRE, TO INCREASE OPPORTUNITY FOR CLUSTERING OF BUSINESS DEVELOPMENTS

Based on the above concerns, a recommended staging plan has been prepared and is illustrated in **Figure 5** below.

The recommended initial stage of B7 Business Park rezoning should occur on the land directly adjacent to the Blacktown CBD which has the greatest access to support infrastructure including the Blacktown Railway Station, and existing retailing services supporting commercial operations in the CBD. This location will also leverage off the existing commercial operations in the CBD, which will create the initial sense of clustering required to create a successful business park.

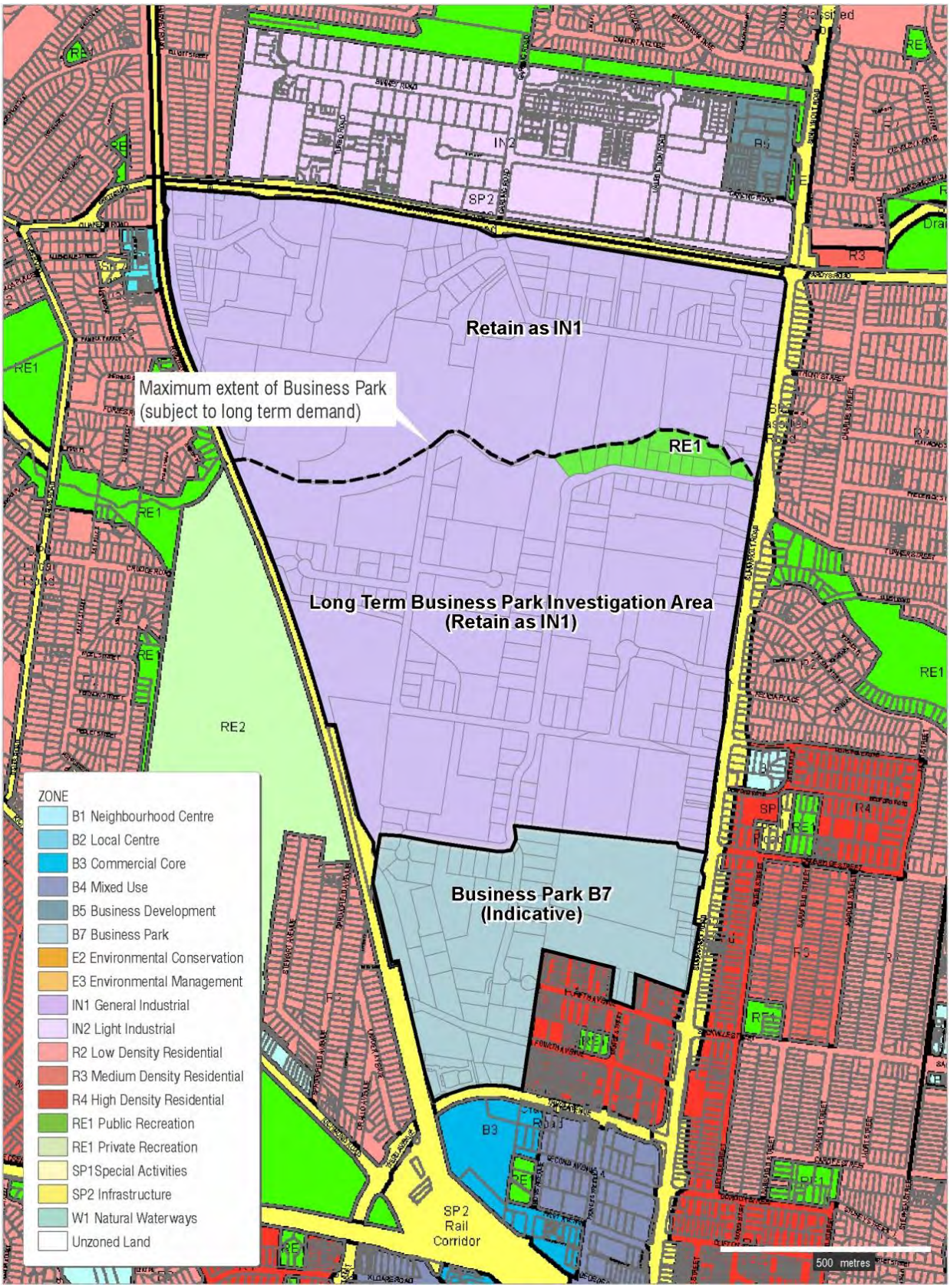
The subsequent stages of rezoning should occur incrementally northward from the initial rezoning stage, and the volume of land released at each stage should be dependent on market demand and take-up rates of the initial stage of rezoned land.

The indicative volume of land proposed to be released in the recommended staging strategy is outlined in **Table 4** below. The staging strategy has the potential for the first two stages of the Business Park zoned land to achieve the Business Park Criteria in the *Metropolitan Plan 2036*, and to continue to release land that strengthens the business park in the long-term. It is also noted that by containing the business park to the south of Breakfast Creek in the long-term, all Business Park Criteria in the *Metropolitan Plan 2036* will still be achieved.

TABLE 4 – RECOMMENDED REZONING STAGING STRATEGY LAND SUPPLY

STAGE	AREA (HA)	ALLOTMENTS	CUMLUATIVE AREA WITH CBD (HECTARES)	METRO PLAN BUSINESS PARK AREA CRITERIA (50 - 180 HECTARES)
Stage 1	30	63	94	YES
Future Stage(s)	81.5	134	172.5	YES

FIGURE 5 – RECOMMENDED BUSINESS PARK STAGED ZONING



REQUESTED AMENDMENT 4: – INCLUDE THE LONG-TERM BUSINESS PARK VISION FOR THESE LANDS IN AN ENDORSED STRATEGIC PLANNING POLICY

To ensure the long-term vision of a Blacktown Business Park is achieved, this vision should be reflected in both State and Local strategic planning policy prepared in consultation with key stakeholders. This would provide landowners within a clear understanding of the long-term vision for the precinct to guide key investment decisions relating to business operations including purpose-built technology and improvements.

7 Summary and Conclusion

Sell & Parker strongly object to the Draft LEP as currently exhibited, particularly the scale and extent of the proposed new Business Park Precinct.

The introduction of the proposed B7 Business Park zone across the precinct will result in a number of businesses, including Sell & Parker's current metal recycling operation, becoming prohibited. In the event that Sell & Parker were forced to cease operating this would result in a loss of up to 64 direct jobs on-site plus another 150 supply chain jobs. It would have a significant impact on sustainability initiatives across Metropolitan Sydney, as the site is only one of two metal recycling plants serving the Sydney basin.

While a future business park north of the Blacktown CBD has strategic merit, our review of the Draft LEP and support studies indicate there are significant supply and demand issues which have the potential to undermine the long-term success of a business park in this precinct.

Key concerns with the proposed rezoning of the precinct to B7 Business Park are:

- The rezoning has no regard to existing uses within the precinct.
- The precinct has key characteristics to support general industrial land uses.
- Demand for Business Park land has not been identified by studies.
- The scale of the business park exceeds long-term market demand.
- Rezoning of the whole precinct at one time will reduce opportunity to create clustering of new businesses, which is a key driver of business park success.
- The precinct is highly fragmented, comprising approximately 306 allotments, which will not support large floorplate buildings desired in business parks.

Balancing these concerns with a strategy to achieve the long-term business park vision for Blacktown, it is requested that Council reconsider the extent and release of the B7 lands are part of the adoption of the Draft LEP.

Accordingly, it is requested in Council's response to submissions the following amendments are made to the Draft LEP instrument:

- Rationalise the volume of land within the future Blacktown Business Park;
- Incrementally rezone the exiting general industrial precinct to respond to market demand;
- Locate the first stage of business park land adjacent to the existing Blacktown City Centre, to increase opportunity for clustering of businesses and to leverage from locating near commercial development in the CBD;
- Limit the extent of the future business park to the land south of Breakfast Creek, which would form the natural buffer for the separation of land uses; and
- Include the long-term business park vision for the precinct in an endorsed strategic planning policy which would provide landowners with a long-term strategic direction for the precinct, and guide investment decisions relating to technology and purpose-built improvements.

These recommended amendments to the Draft LEP will assist Council in achieving their long-term vision for a business park in this strategic location, however will ensure that in the short-term businesses which currently operate in the precinct and support more than 10,600 jobs will be retained until such time as market demand for business park lands in this location is identified. Further, by adopting a masterplan to guide the delivery of the long-term business park vision, existing landowners will be able to make informed decisions relating to capital investments.

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Annex E

Consultation

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24 January, 2014

Andrew Reece
Regional Operations Officer
NSW Environment Protection Authority (EPA)
PO Box A290
SYDNEY SOUTH NSW 1232

Our Reference: *0226308_EPA_LTR01_V02.DOCX*

Attention: **Andrew Reece**

Dear Andrew,

RE: PROPOSED EXPANSION OF WASTE METAL RECOVERY, PROCESSING AND RECYCLING FACILITY - TATTERSALL ROAD, KINGS PARK, BLACKTOWN

Environmental Resources Management Australia (ERM) has been commissioned by Sell and Parker Pty Ltd (Sell and Parker) to prepare an Environmental Impact Statement (EIS) for the expansion of an existing waste metal recovery, processing and recycling facility located within the Kings Park Industrial Estate at 45 Tattersall Road, Bankstown. The expanded facility will also include the adjacent lot to the east, 23-43 Tattersall Road and encompass a total area of approximately 6.38 hectares (ha) (refer to *Figure 1.1, Annex A*).

Blacktown City Council approved a metal recycling facility, with a handling capacity of 30,000 tonnes per annum, on the central and southern (rear) part of 45 Tattersalll Road in November 1996. In 2001, the Land and Environment Court approved the establishment of a hammermill (also known as a fragmentiser or metal shredder) on the northern part of 45 Tattersall Road, together with associated components, with an approved handling capacity 60,000 tonnes per annum, giving the site a total capacity of 90,000 tonnes per annum. The designated development approved by the Land and Environment Court was the subject of an Environmental Impact Statement (EIS) prepared in December 1999 by ERM. Both consents contain detailed conditions which govern the operation of the site.

The existing facility at 45 Tattersall Road is currently used by Sell and Parker as a waste metal resource recovery, processing and recycling facility involving the shearing, fragmenting and shredding of industrial scrap metal, demolition material and car bodies. Number 23-43 Tattersall Road is currently owned by Sell and Parker, but leased to Dexion, a manufacturer of pallet racking, industrial

Environmental Resources Management Australia Pty Ltd
A.C.N. 002 773 248
A.B.N. 12 002 773 248

Offices worldwide

and office storage equipment. This site contains a factory warehouse building with associated office, parking and landscaping areas. In order to meet projected future demands, approval is now being sought to expand the existing Sell and Parker site and increase in the handling capacity from 90,000 tonnes a year to 350,000 tonnes a year. This EIS will accompany a development application, which will be for State Significant Development pursuant to State Environmental Planning Policy (State and Regional Development) 2011.

Section 8(1) of the SEPP specifies that:

> *(1) Development is declared to be State significant development for the purposes of the Act if:*
>
> > *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
> >
> > *(b) the development is specified in Schedule 1 or 2.*

Clause 23(3) of Schedule 1 in the SEPP describes development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes a year of waste.

The proposed increase in waste metal recovery, processing and recycling from 90,000 tonnes to 350,000 tonnes a year, is development of a kind specified in Schedule 1 of the SEPP, and is therefore a development which is declared to be State Significant Development (SSD). The development has a capital investment value (CIV) of $10 million.

The changes to the proposed development, compared to existing operations, mainly involve the reconfiguration and expansion of the site on to the adjoining allotment to improve site safety and efficiency, improve traffic flow and reduce off-site traffic.

In summary, the proposed development is as follows:

- the existing office at No 45 Tattersall Road will be demolished and relocated to improve safety and improve access to the shredder. The office functions will be relocated to the existing office situated at the front of the expanded site (No. 23-43 Tattersall Road) to isolate pedestrians from the operational activities on the site;

- car parking for staff and visitors will be increased and moved adjacent to the new office on the expanded site (No. 23-43 Tattersall Road) and isolated from the processing area of the facility;

- the pre-shedder will be relocated to where the shear is currently located on No. 45 and the shear will be relocated to the expanded site (No 23-43 Tattersall Road);

- the existing post shredder non ferrous recovery processing will be enclosed under roof to improve efficiency and reduce potential for noise and dust nuisance;

- parts of the existing building on No. 23-43 Tattersall Road will be demolished to make way for better vehicle circulation through the site;

- additional post shredder processing will be introduced to further extract remaining recyclables (metals and plastics) from Floc material. This will involve conveying the Floc via enclosed conveyor after shredding to inside one of the existing buildings on the expanded site (the Post Shredder Processing facility). The additional processing and storage of all Floc will be located inside and hence reduce potential for noise and dust nuisance;

- the non-ferrous shed and non-ferrous processing will be relocated inside the remaining buildings on the expanded site to improve efficiency and reduce potential for noise and dust nuisance;

- the existing maintenance shed will be demolished and relocated to inside the existing buildings on the expanded site. This will improve access to the shredder;

- the existing driveway entry at No 23 -43 Tattersall Road will be used for retail non-ferrous customers so that they are kept isolated from the processing area of the facility;

- the current Sell and Parker entry driveway at No. 45 Tattersall Road will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time;

- the current exit driveway at No 23-43 Tattersall Road will be widened and two weighbridges installed to handle more traffic volume;

- the current Sell and Parker exit driveway at No 45 Tattersall Road will be closed and excavated to provide additional finished goods storage;

- part of the existing sound barrier wall and some vegetation will be removed between the two lots; and

- a new truck wash facility will be installed within the existing building on the enlarged site.

The NSW Department of Planning and Infrastructure (DP&I) have issued Director General Requirements, including input from key agencies, for the proposed SSD. ERM will address these requirements as part of the preparation of the EIS, which will accompany the SSD.

This letter intends to inform the NSW Environment Protection Authority of the proposed development and seeks comments related to it. Written submissions can be made within 21 days of the date on this letter, and should be forwarded to Adam.Coburn@erm.com or Adam Coburn, ERM, Locked Bag 24, Broadway NSW 2007.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

Adam Coburn
Principal Planner

CC to:
Celeste Forestal
Unit Head, Waste Compliance
NSW Environment Protection Authority (EPA)
PO Box A290
Sydney South, NSW 1232

Annex A

FIGURE

Rev. N.	Date	Revision	Drawn by	Rev. by
0	24/01/14	Initial Issue	TH	AC

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_GIS01_V1.mxd		
Date:	24/01/2014	Drawing Size: A4	
Drawn By:	TH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 1.1 - Site Locality Plan

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Tattersall Road Waste Metal Recovery, Processing and Recycling Facility Expansion

Community Information Newsletter

February 2014

Introduction

Environmental Resources Management Australia (ERM) is currently preparing an Environmental Impact Statement (EIS) for Sell and Parker Pty Ltd for the proposed expansion of their Tattersall Road Waste Metal Recovery, Processing and Recycling Facility.

The expanded facility will encompass the existing facility at 45 Tattersall Road, as well as the adjoining lot to the east, 23-43 Tattersall Road in Kings Park Industrial Estate, Blacktown, NSW. Number 23-43 Tattersall Road is currently occupied by Dexion who have previously announced that they will be ceasing manufacturing operations from this site in December 2014.

The Need for the Proposed Development

In order to meet projected future demands for waste metal recycling approval is being sought to expand the existing facility and increase in the approved handling capacity from 90,000 tonnes per annum (tpa) to 350,000 tpa.

The proposed expansion would enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient an effective metal resource recovery and recycling facilities.

The development has a capital investment value of $10 million and will result in the opportunity for the creation of approximately 20 additional jobs at the site with positive economic benefits for the wider community. The creation of additional jobs will assist in offsetting job losses associated with closure of the Dexion operations.

The Proposed Development

The changes to the proposed development, compared to existing operations mainly involves the reconfiguration and expansion of the site on to the adjoining allotment to improve site safety and efficiency, improve traffic flow, reduce off-site traffic and staging of traffic. The proposed development includes relocation of office buildings and car parking from 45 to 23-43 Tattersall Road, reconfiguration of pre-shredder and shear, introduction of additional post shredder processing capacity, reconfiguration of entry and exist driveways and installation of a new truck wash facility.

Development Classification

The development is classified as State significant development pursuant to *State Environmental Planning Policy (State and Regional Development) 2011*.

What is happening now?

ERM is currently preparing the EIS for the proposed expansion which will identify any environmental impacts that the proposed development may have. Detailed studies are being undertaken to support the EIS and include:

- Traffic Impact Assessment;
- Noise and Vibration Assessment;
- Air Quality Assessment;
- Hazard and Risk Assessment;
- Waste Management Assessment
- Greenhouse Gas Assessment; and
- Soil and Water Assessment.

Community Consultation

Sell and Parker recognises the importance of community consultation and ensuring all stakeholders have access to information regarding the proposed expansion. This newsletter forms the initial community consultation for the development. Relevant Local, State and Federal Government Stakeholders have also been consulted. A community information session has been scheduled for Tuesday 18 February 2014 between 6pm and 7pm at a Sell and Parker office, located at 46 Tattersall Road (directly opposite the existing facility at 45 Tattersall Road).

Once the EIS and supporting studies are complete they will be submitted to NSW Department of Planning and Infrastructure and then placed on public exhibition.

Comments regarding the proposed development can be forwarded to ERM's Project Manager:

Adam Coburn - Principal Planner
Locked Bag 24
Broadway NSW 2007
Phone: 02 8584 8888, Fax: 02 8584 8800
adam.coburn@erm.com

Annex F

Threatened and Migratory Species Search Results

Table F.1 Threatened Flora Species Potentially Occurring within 10km of the Investigation Area

Scientific Name	Common Name	Legal Status	
		TSC Act	EPBC Act
Acacia bynoeana	Bynoe's Wattle	E	V
Acacia gordonii	-	E	E
Acacia pubescens	Downy Wattle	V	V
Allocasuarina glareicola	-	E	E
Asterolasia elegans	-	E	E
Cryptostylis hunteriana	Leafless Tongue-orchid	V	V
Cynanchum elegans	White-flowered Wax Plant	E	E
Darwinia biflora	-	V	V
Dillwynia tenuifolia	-	V	-
Epacris purpurascens var. *purpurascens*	-	V	-
Eucalyptus nicholii	Narrow-leaved Black Peppermint	V	V
Eucalyptus sp. *Cattai*	-	E	-
Genoplesium baueri	Yellow Gnat-orchid	E	E
Grevillea juniperina subsp. *juniperina*	Juniper-leaved Grevillea	V	-
Grevillea parviflora subsp. *parviflora*	Small-flower Grevillea	V	V
Haloragis exalata subsp. *exalata*	Wingless Raspwort	V	V
Hibbertia superans	-	E	-
Lasiopetalum joyceae	-	V	V
Leucopogon fletcheri subsp. *fletcheri*	-	E	-
Marsdenia viridiflora subsp. *viridiflora*	-	E	-
Melaleuca deanei	Deane's Melaleuca	V	V
Micromyrtus minutiflora	-	E	V
Pelargonium sp. *Striatellum*	Omeo Stork's-bill	E	E
Persoonia hirsuta	Hairy Geebung	E	E
Persoonia nutans	Nodding Geebung	E	E
Pilularia novae-hollandiae	Austral Pillwort	E	-
Pimelea curviflora var. *curviflora*	-	V	V
Pimelea spicata	Spiked Rice-flower	E	E
Pomaderris brunnea	Rufous Pomaderris	V	V
Pterostylis gibbosa	Illawarra Greenhood	E	E
Pterostylis saxicola	Sydney Plains Greenhood	E	E
Pultenaea parviflora	-	E	V
Streblus pendulinus	Siah's Backbone	-	E
Syzygium paniculatum	*Magenta Lilly Pilly*	*E*	*V*

V =vulnerable; E = endangered.

TSC = Threatened Species Conservation Act 1995.

EPBC = Environment Protection and Biodiversity Act 1999

Table F.2 Threatened Fauna Species Potentially Occurring within 10km of the Investigation Area

Scientific Name	Common Name	Legal Status	
		TSC Act	EPBC Act
GASTROPODS			
Meridolum corneovirons	Cumberland Plain Land Snail	E	-
FISH			
Macquaria australasica	Macquarie Perch	E (FMA)	E
Prototroctes maraena	Australian Grayling	P (FMA)	V
AMPHIBIANS			
Heleioporus australiacus	Giant Burrowing Frog	V	V
Litoria aurea	Green and Golden Bell Frog	E	V
Litoria littlejohni	Littlejohn's Tree Frog	V	V
Litoria raniformis	Growling Grass Frog	E	V
Mixophyes balbus	Stuttering Frog	E	V
Pseudophryne australis	Red-crowned Toadlet	V	-
REPTILES			
Hoplocephalus bungaroides	Broad-headed Snake	E	V
BIRDS			
Anthochaera phrygia	Regent Honeyeater	CE	E
Botaurus poiciloptilus	Australasian Bittern	E	E
Callocephalon fimbriatum	Gang-gang Cockatoo	V	-
Calyptorhynchus lathami	Glossy Black-cockatoo	V	-
Chthonicola sagittata	Speckled Warbler	V	-
Climacteris picumnus victoriae	Brown Treecreeper	V	-
Daphoenositta chrysoptera	Varied Sittella	V	-
Dasyornis brachypterus	Eastern Bristlebird	E	E
Falco subniger	Black Falcon	V	-
Glossopsitta pusilla	Little Lorikeet	V	-
Hieraaetus morphnoides	Little Eagle	V	-
Lathamus discolor	Swift Parrot	E	E
Lophoictinia isura	Square-tailed Kite	V	-
Melithreptus gularis gularis	Black-chinned Honeyeater	V	-
Neophema pulchella	Turquoise Parrot	V	-
Ninox connivens	Barking Owl	V	-
Ninox strenua	Powerful Owl	V	-
Petroica boodang	Scarlet Robin	V	-
Petroica phoenicea	Flame Robin	V	-
Polytelis swainsonii	Superb Parrot	V	V
Rostratula australis	Australian Painted Snipe	E	E
Tyto novaehollandiae	Masked Owl	V	-
MAMMALS			
Chalinolobus dwyeri	Large-eared Pied Bat	V	V
Dasyurus maculatus	Spotted-tailed Quoll	V	E
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V	-
Isoodon obesulus obesulus	Southern Brown Bandicoot	E	E
Miniopterus australis	Little Bentwing-bat	V	-
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V	-
Mormopterus norfolkensis	Eastern Freetail-bat	V	-
Myotis macropus	Southern Myotis	V	-
Petrogale penicillata	Brush-tailed Rock-wallaby	E	V
Phascolarctos cinereus	Koala	V	V

Scientific Name	Common Name	Legal Status	
		TSC Act	EPBC Act
Potorous tridactylis tridactylis	Long-nosed Potoroo	V	V
Pseudomys novaehollandiae	New Holland Mouse	-	V
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	V	-
Scoteanax rueppellii	Greater Broad-nosed Bat	V	-

V =vulnerable; E = endangered; CE = critically endangered; P = Protected

TSC = Threatened Species Conservation Act 1995.

EPBC = Environment Protection and Biodiversity Act 1999

FMA = Fisheries Management Act 1994

Table F.3 Migratory Species Potentially Occurring within 10km of the Investigation Area

Scientific Name	Common Name
Apus pacificus	Fork-tailed Swift
Ardea alba	Great Egret
Ardea ibis	Cattle Egret
Gallinago hardwickii	Latham's Snipe
Haliaeetus leucogaster	White-bellied Sea-Eagle
Hirundapus caudacutus	White-throated Needletail
Merops ornatus	Rainbow Bee-eater
Monarcha melanopsis	Black-faced Monarch
Monarcha trivirgatus	Spectacled Monarch
Myiagra cyanoleuca	Satin Flycatcher
Rhipidura rufifrons	Rufous Fantail
Rostratula benghalensis	Painted Snipe

Annex G

AHIMS Search Results

AHIMS Web Services (AWS)
Search Result

Your Ref Number : 0226308

Client Service ID : 122848

ERM - Port Maquarie

P O Box 5711

Port Macquarie New South Wales 2444

Attention: Nathan Hegerty

Email: nathan.hegerty@erm.com

Date: 23 January 2014

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -33.7591, 150.9031 - Lat, Long To : -33.741, 150.9211 with a Buffer of 50 meters, conducted by Nathan Hegerty on 23 January 2014.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : 0226308

Client Service ID : 122846

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-4111	ASHLAR 2	GDA	56	305691	6262905	Open site	Valid	Artefact : 1		

Contact **Recorders** Doctor.Sandra Wallace,Artefact Heritage Services **Permits** 3655

Report generated by AHIMS Web Service on 23/01/2014 for Nathan Hegerty for the following area at Lat, Long From : -33.759, 150.9018 - Lat, Long To : -33.741, 150.9198 with a Buffer of 50 meters. Additional Info : To inform environmental assessment. Number of Aboriginal sites and Aboriginal objects found is 1

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Annex H

Noise And Vibration Impact Assessment

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics
Vibration
Structural Dynamics

KINGS PARK WASTE METAL RECOVERY, PROCESSING AND RECYCLING FACILITY

NOISE AND VIBRATION IMPACT ASSESSMENT FOR EIS

6 June 2014

SELL & PARKER

TG616-01F02 (rev 3) EIS Report.docx

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Document Details

Detail	Reference
Doc Reference:	TG616-01F02 (rev 3) EIS Report.docx
Prepared for:	SELL & PARKER
Address:	Sell & Parker Pty Ltd 24 Amelia Street Waterloo NSW 2011
Attention:	NIGEL FOX

Document Control

Date	Revision History	Non-Issued Revision	Issued Revision	Prepared	Instructed	Authorised
17.02.2014	Draft	0	1	WC	MCH	MCH
27.02.2014	Final	-	2	WC	MCH	MCH
06.06.2014	Final – update for vibration measurements	-	3	WC	MCH	MCH

The work presented in this document was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.

This document is issued subject to review and authorisation by the Team Leader noted by the initials printed in the last column above. If no initials appear, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

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The information contained herein is for the purpose of acoustics only. No claims are made and no liability is accepted in respect of design and construction issues falling outside of the specialist field of acoustics engineering including and not limited to structural integrity, fire rating, architectural buildability and fit-for-purpose, waterproofing and the like. Supplementary professional advice should be sought in respect of these issues.

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1 Introduction

Renzo Tonin & Associates was engaged to conduct a Noise and Vibration Impact Assessment for the proposed expansion of the existing Kings Park Waste Metal Recovery, Processing and Recycling Facility located at 45 Tattersall Road, Kings Park. The purpose of this assessment is to provide an environmental noise and vibration impact assessment of the expanded development affecting neighbouring residential and industrial premises.

For this project the following work has been undertaken:

- review of preliminary and final drawings of proposed site layout;
- review of all documentation provided for noise and vibration related items;
- site inspection and attended noise measurements;
- identification of noise criteria and relevant guidelines;
- noise calculations to distant residential and adjacent industrial neighbours;
- assessment of likely noise and vibration impacts from proposed activities on site to neighbours; and
- provision of in-principle acoustic advice, where likelihood of impact is high.

Noise emissions from this proposed development is assessed to relevant noise criteria set out in the NSW 'Industrial Noise Policy' (INP - Environment Protection Authority 2000) and NSW Road Noise Policy (Environment Protection Authority 2013)

The work documented in this report was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001. Appendix A contains a glossary of acoustic terms used in this report.

2 Project Description

Sell & Parker currently operates the Kings Park Waste Metal Recovery Processing and Recycling Facility at 45 Tattersall Road, Kings Park. The project proposal is to expand the facility to 23-43 Tattersall Road, the adjoining property to the east of the existing site, and increase approved capacity from 90,000 tonnes a year to 350,000 tonnes a year.

The changes to the proposed development, compared to the current and original proposal, mainly involve the reconfiguration of existing operations and expansion of the site on to the adjoining allotment to improve site safety and efficiency, improve traffic flow and reduce off-site traffic.

Operating hours sought are 6am to 9pm, Monday to Saturday.

A concept plan for the modified site is presented in Figure 1.

In summary, the proposed development is as follows:

- The existing office will be demolished and relocated to improve safety and improve access to the shredder. The office functions will be relocated to the existing office situated at the front of the expanded site (23 Tattersall Road) to isolate pedestrians from the operational activities on the site;
- Car parking for staff and visitors will be increased and moved adjacent to the new office on the expanded site and isolated from the processing area of the facility;
- The pre-shedder will be relocated to where the shear is currently located at 45 Tattersall Road and the shear will be relocated to the expanded site;
- The existing post shredder, non ferrous recovery processing plant will be enclosed under a roof to improve efficiency and reduce potential for noise and dust nuisance;
- Parts of the existing building at 23 Tattersall Road will be demolished to make way for better circulation through the site;
- Additional post shredder processing will be introduced to further extract remaining recyclables (metals and plastics) from Floc material. This will involve conveying the Floc via an enclosed conveyor after shredding to inside one of the existing buildings on the expanded site (the Post Shredder Processing facility). The additional processing and storage of all Floc will be located inside and hence reduce potential for noise and dust nuisance;
- The non-ferrous shed and non-ferrous processing plant will be relocated inside the remaining buildings on the expanded site to improve efficiency and reduce potential for noise and dust nuisance;
- Maintenance shed/work shed will be relocated to old non ferrous shed on existing site;

- The existing driveway entry at 23 Tattersall Road will be used for non-ferrous retail customers so that they are kept isolated from the processing area of the facility;
- The current Sell and Parker entry driveway will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time;
- The current exit driveway at 23 Tattersall Road will be widened and two weighbridges installed to handle traffic;
- The current exit driveway on 45 Tattersall Road will be closed and excavated to provide additional finished goods storage;
- Part of the existing sound barrier wall and some vegetation will be removed between the two lots; and
- A new truck wash facility will be installed within the existing building on the expanded site.

2.1 Noise Sensitive Receivers

Through an inspection of the site and the surrounding area, the following receivers were identified.

- **Receiver R1 – 189 Sunnyholt Road**
  Residential receiver located approx. 315m east of the expanded facility and considered representative of the nearest affected receivers along Sunnyholt Road.

- **Receiver R2 – 17 Camorta Close**
  Residential receiver located approx. 650m north of the expanded facility and considered representative of the nearest affected receivers along Camorta Close.

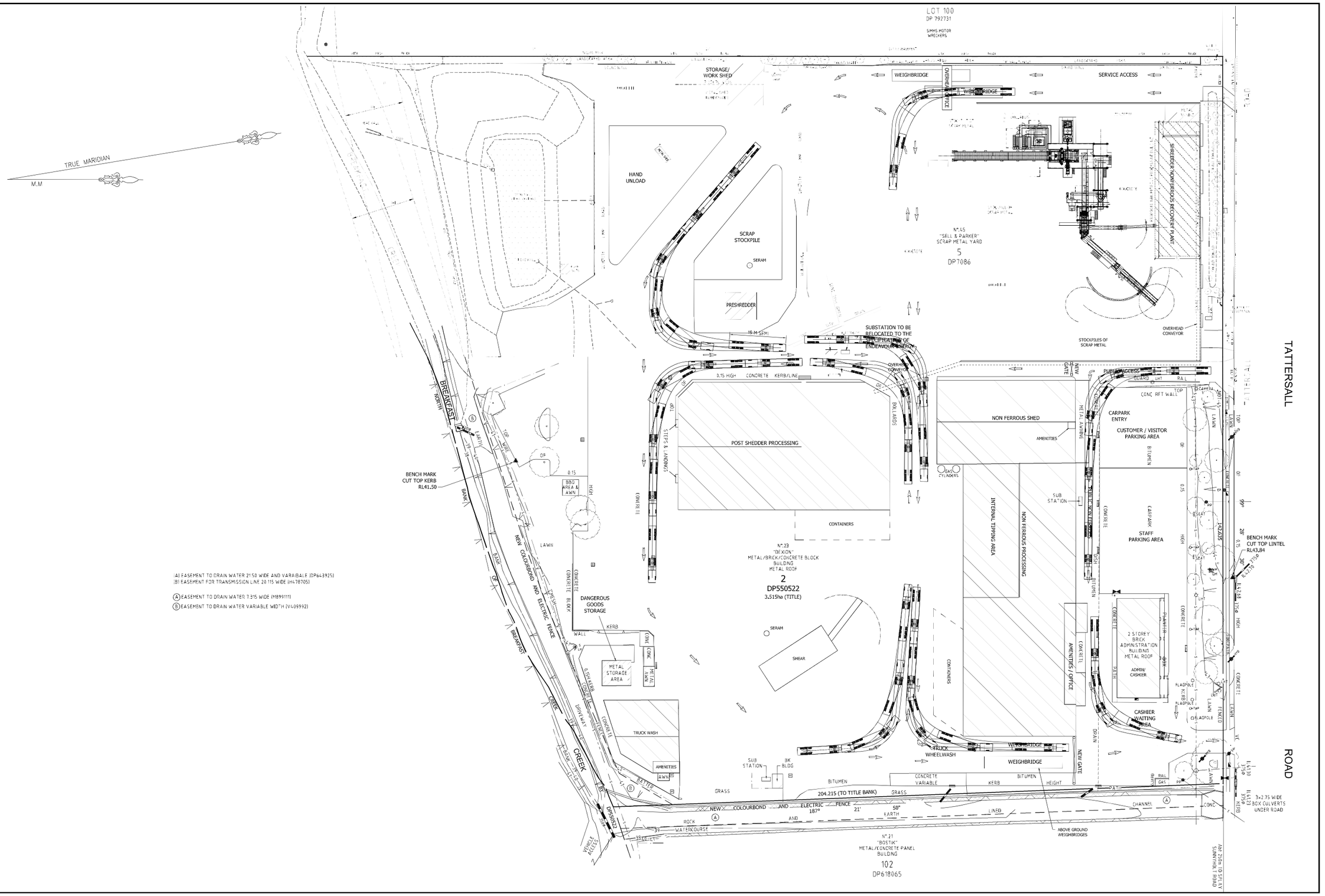
- **Receiver R3 – 3 Railway Road**
  Residential receiver located approx. 830m west of the expanded facility and considered representative of the nearest affected receivers along Railway Road.

- **Receiver R4 – 38 Tattersalls Road**
  Commercial/industrial receiver to the north of the expanded facility across from Tattersalls Road.

- **Receiver R5 – 57-69 Tattersalls Road**
  Commercial/industrial receiver to the west of the expanded facility sharing a common site boundary.

- **Receiver R6 – 21 Tattersalls Road**
  Commercial/industrial receiver to the east of the expanded facility sharing a common site boundary.

- **Receiver R7 – 38 Forge Street**
  Commercial/industrial receiver to the south of the expanded facility across Breakfast Creek.



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Sydney Melbourne Brisbane Kuwait

Project Concept Plan

Project:
TG616-01 Sell & Parker Blacktown

Date: 13-02-2014
Ref: TG616-01-P01(rev0)
Scale: NTS

3 Existing Acoustic Environment

Criteria for the assessment of operational noise are usually derived from the existing noise environment of an area, excluding noise from the subject development.

Appendix B of the NSW EPA 'Industrial Noise Policy' (INP) outlines two methods for determining the background noise level of an area, being 'B1 – Long-term background noise method' and 'B2 – Short-term background noise method'. This assessment has used a combination of long-term and short-term noise monitoring.

As the noise environment of an area almost always varies over time, background and ambient noise levels need to be determined for the operational times of the proposed development. For example, in a suburban or urban area the noise environment is typically at its minimum at 3am in the morning and at its maximum during the morning and afternoon traffic peak hours. The INP outlines the following standard time periods over which the background and ambient noise levels are to be determined:

- **Day:** 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
- **Evening:** 18:00-22:00 Monday to Sunday & Public Holidays
- **Night:** 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays

3.1 Noise Measurement Locations

Noise measurements are ideally carried out at the nearest or most potentially affected locations surrounding a development. Alternatively, representative locations should be established in the case of access restrictions or a safe and secure location cannot be identified. Furthermore, representative locations may be established in the case of multiple receivers as it is usually impractical to carry out measurements at all locations surrounding a site.

The long-term and short-term measurement locations are outlined in Table 3.1 and shown in Figure 2.

It is noted that long term noise monitoring was previously undertaken by Environmental Resources Management Australia Pty Ltd (ERM) and results of the noise monitoring have been used as part of this assessment. Data analysis was performed by Renzo Tonin & Associated, with due regard to the INP.

Table 3.1 – Noise Monitoring Locations

ID	Location	Description
Long-term noise monitoring		
L1	1/50 Charles Street	The noise monitor was located in the 'free-field'. The noise monitoring location is considered representative of residential receiver locations along Sunnyholt Road.
L2	2 Anthony Street	The noise monitor was located in the 'free-field'. The noise monitoring location was supplementary for residential receiver locations along Sunnyholt Road.

ID	Location	Description
Short-term noise monitoring		
S1	50 Charles Street - Kerb side	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation with the long term noise monitoring at Location L1.
S2	6 Railway Road - Kerb side	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation between the long term noise monitoring at Location L1 to the residential receivers along Railway Road.
S3	17 Camorta Close (southern side of southern site boundary)	Short term attended noise measurements were conducted in the 'free field'. The noise monitoring location was selected to provide a correlation between the long term noise monitoring at Location L1 to residential receivers along Camorta Close.

3.2 Long-Term Noise Measurement Results

Long-term unattended noise monitoring was previously carried out by ERM from Tuesday 17th December 2013 to Tuesday 24th December 2013. The results of the long term monitoring were analysed and noise level-vs-time graphs of the data were developed and are included in Appendix B.

Table 3.2 presents the overall single Rating Background Levels (RBL) and representative ambient L_{eq} noise levels for each assessment period, determined in accordance with the INP.

Table 3.2 – Long-Term Noise Monitoring Results, dB(A)

Monitoring Location	L_{A90} Rating Background Noise Level (RBL)				L_{Aeq} Ambient Noise Levels			
	Shoulder[1]	Day[2]	Evening[3]	Night[4]	Shoulder[1]	Day[2]	Evening[3]	Night[4]
L1 - 1/50 Charles Street	43	41	45	40	49	58	55	48
L2 - 2 Anthony Street	45	44	44	35	52	52	50	48

Notes:
1. Shoulder 06:00-07:00 Monday to Saturday
2. Day: 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
3. Evening: 18:00-22:00 Monday to Sunday & Public Holidays
4. Night: 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays
5. As required by the INP, the external ambient noise levels presented are free-field noise levels. [ie. no façade reflection]

Given that the expanded facility will operate between 6am and 9pm from Monday to Saturday, the shoulder, day and evening periods are applicable and will be assessed against from herein.

3.3 Short-Term Noise Measurement Results

Short-term noise measurements were undertaken during the daytime of Thursday 6th February 2014, in order to supplement the long-term noise monitoring and provide greater detail of the surrounding noise environment.

The equipment used for the short term noise measurements were two Brüel & Kjær Type 2250 precision sound level analysers which are Class 1 instruments having accuracies suitable for field and laboratory use. The instruments were calibrated prior and subsequent to measurements using a Bruel & Kjaer Type 4231 calibrator. No significant drift in calibration was observed. All instrumentation complies with AS

IEC 61672.1 2004 'Electroacoustics - Sound Level Meters' and carries current NATA certification (or if less than 2 years old, manufacturers certification).

A summary of the short-term measurement results are presented in Table 3.3.

Table 3.3 – Short-Term Noise Monitoring Results

Location / Time	Time	Measured Noise Level, dB(A)		Comments on Measured Noise Levels
		L_{Aeq}	L_{A90}	
S1 – 50 Charles Street	2:34pm - 2:49pm	57	43	Dominant noise source at this location was traffic noise from Sunnyholt Road.
S2 – 6 Railway Road		60	46	Dominant noise source at this location was traffic noise along Railway Road, rail movements along adjacent railway line and some industrial noise from the Blacktown industrial area.
S1 – 50 Charles Street	2:59pm - 3:14pm	57	42	Dominant noise source at this location was traffic noise from Sunnyholt Road.
S3 – 17 Carmota Close		47	45	Dominant noise source at this location was distant traffic noise and some industrial noise from the Blacktown industrial area.

Based on the simultaneous short-term noise monitoring results presented in Table 3.3, a correlation factor can be determined between the monitoring locations was determined between location S1 and S2 and between location S1 and S3. The correlation factor is then applied to the long-term noise monitoring results and the correlated Rating Background Noise Level results for Railway Road and Camorta Close are presented in Table 3.4.

Table 3.4 – Correlated Noise Monitoring Results

Monitoring Location	L_{A90} Rating Background Noise Level (RBL)			
	Shoulder[1]	Day[2]	Evening[3]	Night[4]
S2 – 6 Railway Road	46	44	48	43
S3 – 17 Carmota Close	46	44	48	43

Notes:
1. Shoulder 06:00-07:00 Monday to Saturday
2. Day: 07:00-18:00 Monday to Saturday and 08:00-18:00 Sundays & Public Holidays
3. Evening: 18:00-22:00 Monday to Sunday & Public Holidays
4. Night: 22:00-07:00 Monday to Saturday and 22:00-08:00 Sundays & Public Holidays
5. As required by the INP, the external ambient noise levels presented are free-field noise levels. [ie. no façade reflection]

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Project Concept Plan

Project:
TG616 Sell & Parker Blacktown

Date:
27-02-2014

Ref:
TG616-01-P02(rev1)

Scale:
NTS

4 Criteria

The operation of the proposed expansion of the Kings Park Waste Metal Recovery, Processing and Recycling Facility is assessed to the NSW 'Industrial Noise Policy' (INP – Environment Protection Authority 2000). The INP is used as a guide by the EPA for setting statutory limits in licences for scheduled noise sources.

The INP has two components:

- Controlling intrusive noise impacts in the short term for residences
- Maintaining noise level amenity for particular land uses for residences and other land uses.

4.1.1 Intrusive Noise Impacts

According to the INP, the intrusiveness of a noise source may generally be considered acceptable if the equivalent continuous (energy-average) A-weighted level of noise from the source (represented by the L_{Aeq} descriptor) does not exceed the background noise level measured in the absence of the source by more than 5dB(A). The intrusiveness criterion is summarised as follows:

- **$L_{Aeq,15minute}$ ≤ Rating Background Level (RBL) plus 5dB(A)**

4.1.2 Protecting Noise Amenity

The Amenity Criteria are determined in accordance with Chapter 2 of the NSW INP. The INP recommends base acceptable noise levels for various receivers, including residential, commercial, industrial receivers and sensitive receivers such as schools, hospitals, churches and parks. These base noise criteria are then lowered by up to 10dB depending on the extent of existing industrial noise impact upon the receiver. Higher levels of existing industrial noise therefore result in stricter Amenity Criteria applied to any new industrial development. In this way the cumulative impacts of existing and known future industrial noise sources are minimised.

To limit continuing increases in noise levels, the maximum ambient noise level within an area from industrial noise sources should not normally exceed the acceptable noise levels specified in Table 2.1 of the policy, the applicable parts of which are reproduced in Table 4.1 below.

Table 4.1 – Amenity Criteria – Recommended L_{Aeq} Noise Levels from Industrial Sources

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Recommended $L_{Aeq(Period)}$ Noise Level	
			Acceptable	Recommended Maximum
Residence	Suburban	Day	55	60
		Evening	45	50
		Night	40	45
Commercial premises	All	When in use	65	70

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Recommended $L_{Aeq(Period)}$ Noise Level	
			Acceptable	Recommended Maximum
Industrial premises	All	When in use	70	75

Note:
1. Daytime 7.00 am to 6.00 pm; Evening 6.00 pm to 10.00 pm; Night-time 10.00 pm to 7.00 am
2. On Sundays and Public Holidays, Daytime 8.00 am - 6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 8.00 am.
3. The LAeq index corresponds to the level of noise equivalent to the energy average of noise levels occurring over a measurement period.

4.1.3 Project Noise Goals

In accordance with the INP, noise impact should be assessed in terms of both intrusiveness and amenity. Based on the background and ambient noise monitoring carried out at the nearest affected residential locations, the applicable noise criteria are as follows.

Table 4.2 – Industrial Noise Criteria for the Proposed Expansion

Receiver Location	Intrusiveness Criteria, $L_{Aeq,15min}$, dB(A)			Amenity Criteria, $L_{Aeq,period}$, dB(A)		
	Shoulder	Day	Evening	Shoulder	Day	Evening
R1 – Sunnyholt Road	46	46	46	55[3]	55	45
R2 – Camorta Close[1]	49	49	49	55[3]	55	45
R3 - Railway Road[1]	49	49	49	55[3]	55	45
R4 - 38 Tattersalls Rd[2]	-	-	-	65	65	65
R5 - 57-69 Tattersalls Rd[2]	-	-	-	65	65	65
R6 - 21 Tattersalls Rd[2]	-	-	-	65	65	65
R7 - 38 Forge St[2]	-	-	-	65	65	65

Notes:
1. Intrusiveness criteria determined based on correlation of short term measurements at receiver Locations R2 and R3 with short term measurements at receiver Location R1
2. As there is a mix of commercial and/or industrial premises in the Blacktown industrial area, the more stringent commercial criteria has been adopted for adjacent non-residential receivers.
3. The daytime amenity criteria has been adopted for the shoulder period as the subject site is located within an industrial complex where the majority of neighbouring facilities are operational during the shoulder period, and the noise environment for residential receivers during the shoulder period is similar to the day time period.

5 Predicted Noise Levels

5.1 Noise Sources

5.1.1 Operational Noise

A summary of mobile and fixed equipment included in the noise modelling for the expansion, and relevant SWLs, is provided in Table 5.1. Sound power levels for this assessment were determined based on noise levels recorded on site, previous on site measurements and data from similar past projects and library file data.

Table 5.1 – Industrial Noise Criteria for the Proposed Expansion

Plant	Sound Power Level L_{Aeq}, dB(A) [per item]	Number of items (included in noise model)
Metal Shear	112	1
Excavator	107	2
Front End Loader	107	2
Pre shredder	107	1
Seram/pedestal Crane	107	2
Material Handler	105	3
Truck	105	4
Shredder & conveyor	95	1

Notes: 1. Only the noisiest and most dominant noise sources have been presented

The mechanical services plant for the site will utilise the existing air-conditioning equipment at 23-43 Tattersalls Road. Noise emissions from the existing air-conditioning equipment will be insignificant compared to the industrial noise sources operating on site as specified in Table 5.1 and would not require further assessment from herein.

5.1.2 Carpark Vehicle Movement on Site

Noise generated by car park activities which may contribute to the overall L_{Aeq} noise level emission from the site includes vehicle doors closing, vehicle engines starting and vehicles moving. To assess this noise, the L_{Aeq} noise levels were determined for the relevant time period based on the number of vehicle activities expected to occur during that period at the nearest affected receiver locations. Sound power level measurements from our database and library files were used for the purpose of this assessment.

The sound power levels of the car park activities are shown in Table 5.2 below.

Table 5.2 – Sound Power Levels of Car Park Activities, dB(A) re 1pW

Activity	Sound Power Level, dB(A) re 1pW
Vehicle door closing	86
Vehicle engine starting	92
Vehicle moving (10km/h)	79

A maximum staff capacity of 82 employees is proposed. Assuming all employees drive to work and arrive/leave within a one hour period, for modelling purposes, the worst case scenario for the car park would include 82 vehicle doors closing, 82 vehicle engine starts and 82 vehicles manoeuvring in the carpark, within a one hour.

5.2 Predicted Levels

Noise emissions were predicted by modelling the noise sources, receiver locations, topographical features of the intervening area, and possible noise control treatments using CadnaA (version 4.2) noise modelling computer program. The program calculates the contribution of each noise source at each specified receptor point and allows for the prediction of the total noise from a site.

The noise prediction models takes into account:

- Location of noise sources and receiver locations;
- Height of sources and receivers;
- Separation distances between sources and receivers;
- Ground type between sources and receivers (soft); and
- Attenuation from barriers (natural and purpose built).

The noise predictions are based on the indicative layout prepared by lean Lackenby & Hayward dated 10th October 2013, the amended site plan and reconfiguration of existing buildings on the Dexion site at 23 Tattersalls Road

The following assumptions were made for noise prediction purposes:

- All fixed and mobile plant operating concurrently;
- 4 trucks moving on site concurrently;
- The retained 4m high acoustic screen fencing erected around the existing site's northern and western boundaries and along existing driveways as shown on site drawings and detailed in Section 6.1; and
- New 4m high acoustic screen fencing erected along the new eastern boundary of the expanded site with details of the fence presented in Section 6.1.

Predicted noise levels based on the above assumptions are summarised in Table 5.3 below. In addition meteorological effects have been considered in the predictions. As the subject site will operate during predominantly day and evening periods, consideration of night time temperature inversions is not required. Wind is assumed to be a feature of the area and "prevailing wind condition" scenarios by using the default 3 m/s wind from source to receiver has been used

Table 5.3 – Predicted Noise Level Emission from Site Operations, dB(A)

Source	Intrusive Assessment, $L_{eq,15min}$			Amenity Assessment, $L_{eq,period}$		
	Shoulder	Day	Evening	Shoulder	Day	Evening
Receiver R1 – Residential Premises to the east - Sunnyholt Road						
Criteria	46	46	46	55	55	45
Cumulative (neutral condition)	41	41	41	41	41	41
Cumulative (prevailing wind condition)	44	44	44	44	44	44
Receiver R2 – Residential Premises to the north - Camorta Close						
Criteria	49	49	49	55	55	45
Cumulative (neutral condition)	31	31	31	31	31	31
Cumulative (prevailing wind condition)	34	34	34	34	34	34
Receiver R3 – Residential Premises to the north - Railway Road						
Criteria	49	49	49	55	55	45
Cumulative (neutral condition)	27	27	27	27	27	27
Cumulative (prevailing wind condition)	30	30	30	30	30	30
Receiver R4 – Neighbouring Commercial/Industrial Premises to the north - 38 Tattersalls Road						
Criteria	-	-	-	65	65	65
Cumulative (neutral condition)	-	-	-	60	60	60
Cumulative (prevailing wind condition)	-	-	-	60	60	60
Receiver R5 – Neighbouring Commercial/Industrial Premises to the west - 57-69 Tattersalls Road						
Criteria	-	-	-	65	65	65
Cumulative (neutral condition)	-	-	-	61	61	61
Cumulative (prevailing wind condition)	-	-	-	61	61	61
Receiver R6 – Neighbouring Commercial/Industrial Premises to the east- 21 Tattersalls Road						
Criteria	-	-	-	65	65	65
Cumulative (neutral condition)	-	-	-	63	63	63
Cumulative (prevailing wind condition)	-	-	-	63	63	63

Source	Intrusive Assessment, $L_{eq,15min}$			Amenity Assessment, $L_{eq,period}$		
	Shoulder	Day	Evening	Shoulder	Day	Evening
Receiver R7 – Neighbouring Commercial/Industrial Premises to the south - 38 Forge Street						
Criteria	-	-	-	65	65	65
Cumulative (neutral condition)	-	-	-	64	64	64
Cumulative (prevailing wind condition)	-	-	-	65	65	65

Note that based on recent noise measurements undertaken at Sell & Parker's Blacktown site and other previously similar metal recycling facilities, and after accounting for acoustic shielding provided by intervening structures between the site and both residential and industrial receptors, noise emission from the site is not anticipated to be tonal, impulsive or of low frequency character at the nominated receiver locations. Therefore, modifying factors are not applied to correct for the character of the noise emanating from the site.

5.3 Statement of Impact

Noise impacts exist where the predicted or measured noise level is greater than the project-specific noise levels.

From the results it is shown that noise emission levels to the residential receivers (Receivers R1, R2 and R3) comply with the project-specific noise levels without any additional noise mitigation measures.

Furthermore, noise emission levels to the neighbouring existing and proposed new industrial receivers (Receivers R4, R5, R6 and R7) comply with the project-specific noise levels.

6 Noise Mitigation Measures

The following recommendations provide in-principle noise control solutions to reduce noise impacts to residential receivers. This information is presented for the purpose of Council approval process and cost planning purposes and assistance from an acoustic consultant shall be sought at the detailed design phase of these works.

The advice provided here is in respect of acoustics only. Supplementary professional advice may need to be sought in respect of fire ratings, structural design, buildability, fitness for purpose and the like.

6.1 Acoustic screen fencing

The following acoustic screen fencing is proposed as shown on the plans of the proposed facility:

- Retain the existing acoustic screen fencing at a height of 4m, which is currently erected around the existing site northern and western boundary and along the existing driveways as shown on the site drawings; and
- The proposed new colorbond and electric fence along the new eastern boundary shall be acoustic screen fencing of a height of 4m.

The construction of acoustic screens can be from any durable material with sufficient mass to prevent direct noise transmission eg. earth mound, masonry, concrete, steel, aluminium, fibrous-cement, timber, or any combination of such materials, provided they withstand the weather elements. A natural barrier of trees or shrubs is not an effective noise screen.

In addition to the above, the noise screen will be designed with regard to the following:

- The extent of noise reduction required of the noise screen as a whole as perceived from any potentially affected receiver sites.
- Any penetrations through the fabric of the noise screen will be sealed air tight.
- All joints between noise screen panels will be sealed air tight.
- Noise screens will have no clearance gaps underneath them.

7 Road Traffic Noise Assessment

7.1 Road Traffic Noise Criteria

The EPA's 'Road Noise Policy' (RNP) is used to assess the potential traffic noise impact generated from the site's operations. Table 3 – 'Road traffic noise assessment criteria for residential land uses' divides land use developments into different categories and lists the respective criteria for each case.

Based on functionality, Sunnyholt Road is categorised as an 'arterial' road. The potentially affected residential premises are located in the vicinity of Sunnyholt Road, and all have an acoustic environment which is dominated by traffic noise from Sunnyholt Road. Therefore, the appropriate traffic noise criterion for these residences is the 'arterial' road noise criteria presented in Table 7.1.

Table 7.1 – EPA Road Traffic Noise Criteria, dB(A)

Road Category	Type of project/land use	Assessment Criteria, dB(A)	
		Day 7am – 10pm	Night 10pm – 7am
Freeway/arterial/sub-arterial roads	3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hr)}$ 60 (external)	$L_{Aeq(9hr)}$ 55 (external)

According to the guidelines, for existing residences affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level should be limited to 2dB above that of the corresponding 'no build option'. In all cases, traffic arising from the development should not lead to an increase in existing noise levels of more than 2dB(A).

7.2 Road Traffic Noise Predictions & Assessment

Existing annual average daily traffic (AADT) volumes along Sunnyholt Road have been obtained from traffic counting undertaken by the Roads and Maritime Services' (RMS) at a permanent traffic counting station (station no. 69.046) located on Sunnyholt Road at Kings Park, north of Forge Street. The AADT volume is reported to be 40,257 vehicles at the traffic counting station. It is noted that vehicle movements from the subject site would be insignificant (less than 170 vehicles movements per day) in comparison to the AADT along Sunnyholt Road and therefore, the increase in road traffic noise due to traffic generated by the subject site would be insignificant for residential properties currently experiencing noise from Sunnyholt Road.

Furthermore, the additional traffic on Sunnyholt Road as a result of the subject site would not contribute to the existing traffic noise levels from Sunnyholt Road to the affected residences and would be significantly less than the allowable 2dB(A) increase to existing traffic noise levels.

8 Vibration Impact assessment

8.1 Vibration Criteria

Vibration levels during the operation of the site will be insignificant at each residential receiver due to the large separation distances between plant and receivers. As such, this report only assesses vibration levels to adjacent industrial premises.

The effects of ground vibration on buildings resulting from construction may be segregated into the following three categories:

1. Disturbance to building occupants - vibration in which the occupants or users of the building are inconvenienced or possibly disturbed,
2. Effects on building contents - vibration where the building contents may be affected; and
3. Effects on building structures - vibration in which the integrity of the building or structure itself may be prejudiced.

In general, vibration criteria for human disturbance (1) are more stringent than vibration criteria for effects on building contents (2) and building structural damage (3). Hence, compliance with the more stringent limits dictated by Category 1, would ensure that compliance is also achieved for the other two categories.

8.1.1 Disturbance to Buildings Occupants

Assessment of potential disturbance from vibration on human occupants of buildings is in accordance with the EPA's 'Assessing Vibration; a technical guideline' (EPA, 2006). The guideline provides criteria which are based on the British Standard BS 6472-1992 'Evaluation of human exposure to vibration in buildings (1-80Hz)'. Sources of vibration are defined as either 'Continuous', 'Impulsive' or 'Intermittent'. Table 8.1 provides definitions and examples of each type of vibration.

Vibration sources are defined as Continuous, Impulsive or Intermittent. Table 8.1 provides a definition and examples of each type of vibration.

Table 8.1 – Types of Vibration

Type of Vibration	Definition	Examples
Continuous vibration	Continues uninterrupted for a defined period (usually throughout the day-time and/or night-time)	Machinery, steady road traffic, continuous construction activity (such as tunnel boring machinery).

Type of Vibration	Definition	Examples
Impulsive vibration	A rapid build-up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds	Infrequent: Activities that create up to 3 distinct vibration events in an assessment period, e.g. occasional dropping of heavy equipment, occasional loading and unloading.
Intermittent vibration	Can be defined as interrupted periods of continuous or repeated periods of impulsive vibration that varies significantly in magnitude	Trains, nearby intermittent construction activity, passing heavy vehicles, forging machines, impact pile driving, jack hammers. Where the number of vibration events in an assessment period is three or fewer, this would be assessed against impulsive vibration criteria.

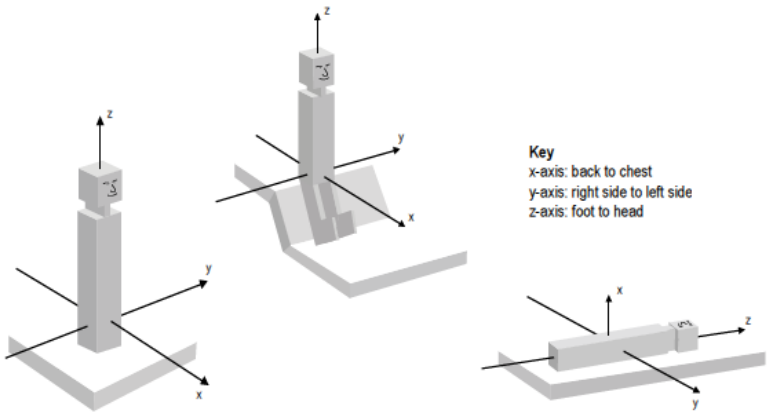
Source: Assessing Vibration; a technical guideline, Department of Environment & Climate Change, 2006

The vibration criteria are defined as a single weighted root mean square (rms) acceleration source level in each orthogonal axis. Section 2.3 of the guideline states:

> *'Evidence from research suggests that there are summation effects for vibrations at different frequencies. Therefore, for evaluation of vibration in relation to annoyance and comfort, overall weighted rms acceleration values of the vibration in each orthogonal axis are preferred (BS 6472).'*

When applying the criteria, it is important to note that the three directional axes are referenced to the human body, i.e. x-axis (back to chest), y-axis (right side to left side) or z-axis (foot to head). Vibration may enter the body along different orthogonal axes and affect it in different ways. Therefore, application of the criteria requires consideration of the position of the people being assessed, as illustrated in Figure 3. For example, vibration measured in the horizontal plane is compared with x- and y-axis criteria if the concern is for people in an upright position, or with the y- and z- axis criteria if the concern is for people in the lateral position.

Figure 3: Orthogonal Axes for Human Exposure to Vibration



The preferred and maximum values for continuous and impulsive vibration impacting on the adjacent industrial premises are defined in Table 2.2 of the guideline and are reproduced in Table 8.2.

Table 8.2 – Preferred and Maximum Levels for Human Comfort

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous vibration (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Workshops	Day- or night-time	0.04	0.029	0.080	0.058
Impulsive vibration (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Workshops	Day- or night-time	0.64	0.46	1.28	0.92
Intermittent vibration (Vibration Dose Values, VDV, $m/s^{1.75}$, 1-80Hz)					
Workshops	Day- or night-time	0.80		1.60	

Notes: 1. Daytime is 7:00am to 10:00pm and night-time is 10:00pm to 7:00am

8.2 Vibration Predictions and Assessment

In order to quantify the vibration levels from the highest vibration producing plant, attended vibration measurements were undertaken for the following plant item:

- **Hammer Mill** – vibration measurements conducted on Friday 9th May 2014, between 10.30am and 11.30am. The measurement location was approximately 10m from the plant item.
- **Metal Shear** – vibration measurements conducted on Tuesday 3rd June 2014, between 2.00pm and 3.00pm. The measurement location was approximately 10m from the plant item.

Each plant item was operating under normal conditions during the vibration measurements.

Vibration levels were measured in three orthogonal axes (x, y and z) using a Soundbook precision sound and vibration analyser, incorporating three PCB Type 393B12 Accelerometers. The PCB Type 393B12 accelerometers were calibrated before and after the measurements using a Bruel & Kjaer Type 4294 calibration exciter. No significant drift in calibration was observed.

The results of the measurements are given in the table below

Table 8.3 – Measured vibration levels for hammer mill

Plant Item	Measurement No.	Measured weighted rms acceleration, m/s^2		
		x-axis	y-axis	z-axis
Hammer Mill (9th May 2014)	1	0.019	0.014	0.042
	2	0.022	0.020	0.041
	3	0.016	0.011	0.035
	4	0.019	0.014	0.033
	5	0.015	0.011	0.030
	6	0.012	0.010	0.019

Plant Item	Measurement No.	Measured weighted rms acceleration, m/s^2		
		x-axis	y-axis	z-axis
Metal Shear (3rd June 2014)	1	0.006	0.002	0.013
	2	0.006	0.002	0.009
	3	0.007	0.003	0.012
	4	0.006	0.002	0.009
	5	0.006	0.002	0.009
	6	0.007	0.003	0.009

For the table above it can be seen that vibration levels from the hammer mill in the x and y axes are up to $0.022m/s^2$ and in the z axis up to $0.042m/s^2$ when at 10m from the plant. When assessed against the established vibration criteria presented in Table 8.2, the measured vibration levels comply with the preferred limits for the assessment of impulsive vibration in all axes and comply with the preferred limits for continuous vibration in the x and y axes.

The measured vibration levels in the z axis marginally exceeded the preferred limits but are well within the maximum limits for continuous vibration. Given that the measured vibration levels were measured at approximately 10m from the hammer mill and the nearest industrial receiver is in excess of 30m from the hammer mill, it is not expected that vibration levels in the z axis will exceed the preferred and/or maximum limits for continuous vibration at the nearest receivers. Therefore, vibration levels from the operation of the hammer mill will comply with the applicable vibration criteria at nearby receivers.

For the metal shear it can be seen from the above table that vibration levels in the x and y axes are up to $0.007m/s^2$ and in the z axis up to $0.013m/s^2$ when at 10m from the plant. When assessed against the established vibration criteria presented in Table 8.2, the measured vibration levels comply with the preferred limits for the assessment of both impulsive vibration and continuous vibration in all axes.

It is noted that the relocation of the metal shear within the proposed expanded site will be constructed to the same specifications as that currently operating at the existing site and will be in excess of 50m from the nearest adjoining premises. Therefore, vibration levels from the operation of the metal shear will comply with the applicable vibration criteria at future nearby receivers.

Based on the vibration measurements undertaken, vibration levels from the proposed expanded site will not cause human discomfort to the occupants of the nearest adjoining buildings.

9 Conclusion

Renzo Tonin & Associates have completed an assessment of environmental noise impact from the proposed expansion of the Kings Park Waste Metal Recovery, Processing and Recycling Facility.

Noise impact from the proposed expansion upon the potentially most affected noise sensitive residential locations and existing and future neighbouring industrial premises, has been quantified and compared to the noise guidelines set by the EPA and the Blacktown City Council.

Noise emissions to residential premises were predicted to comply with the project-specific noise levels without noise mitigation measures.

Noise and vibration emissions from site operations to neighbouring existing and proposed new industrial premises also comply with the project-specific noise levels once the noise mitigation measures proposed in Section 6, as part of the expansion, are implemented.

Potential traffic noise associated with the operation of the facility and impacting nearby residential receivers is assessed as being insignificant and would comply with the relevant EPA noise policy.

In summary, noise and vibration emissions from the construction and operation of the proposed expansion will comply with the relevant requirements of Blacktown City Council and the NSW EPA.

APPENDIX A Glossary of Terminology

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Assessment Period	The period in a day over which assessments are made.
Assessment Point	A point at which noise measurements are taken or estimated. A point at which noise measurements are taken or estimated.
Background Noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L90 noise level (see below).
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of every day sounds: 0dB The faintest sound we can hear 30dB A quiet library or in a quiet location in the country 45dB Typical office space. Ambience in the city at night 60dB CBD mall at lunch time 70dB The sound of a car passing on the street 80dB Loud music played at home 90dB The sound of a truck passing on the street 100dB The sound of a rock band 115dB Limit of sound permitted in industry 120dB Deafening
dB(A)	A-weighted decibels. The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter.
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
L_{Max}	The maximum sound pressure level measured over a given period.
L_{Min}	The minimum sound pressure level measured over a given period.
L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{10}	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.

L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
L_{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
Reflection	Sound wave changed in direction of propagation due to a solid object obscuring its path.
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound Absorption	The ability of a material to absorb sound energy through its conversion into thermal energy.
Sound Level Meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound Pressure Level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
Sound Power Level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
Tonal noise	Containing a prominent frequency and characterised by a definite pitch.

APPENDIX B Long Term Noise Monitoring Results

RENZO TONIN & ASSOCIATES
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Acoustics
Vibration
Structural Dynamics

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2 Anthony St, Blacktown

Background & Ambient Noise Monitoring Results - NSW 'Industrial Noise Policy', 2000						
	L_{A90} Background Noise Levels[5]			L_{Aeq} Ambient Noise Levels		
Date	**Day**	**Evening**	**Night**	**Day**	**Evening**	**Night**
Tuesday-17-December-2013	44.2	43.4	35.4	53.4	49.5	48.7
Wednesday-18-December-2013	44.1	43.4	34.9	52.2	51.4	48.0
Thursday-19-December-2013	44.2	43.6	36.6	52.8	50.7	47.9
Friday-20-December-2013	43.9	44.2	38.5	52.1	50.1	47.8
Saturday-21-December-2013	42.4	41.7	34.0	51.0	49.0	46.0
Sunday-22-December-2013	42.6	43.5	35.2	51.2	49.5	47.2
Monday-23-December-2013	45.0	44.2	33.6	52.8	50.2	47.1
Tuesday-24-December-2013	44.3	-	-	50.5	-	-
Representative Weekday	**44.2**	**43.6**	**35.4**	**52.4**	**50.4**	**47.9**
Representative Weekend	**42.5**	**42.6**	**34.6**	**51.1**	**49.2**	**46.7**
Representative Week	**44.2**	**43.5**	**35.2**	**52.1**	**50.1**	**47.6**

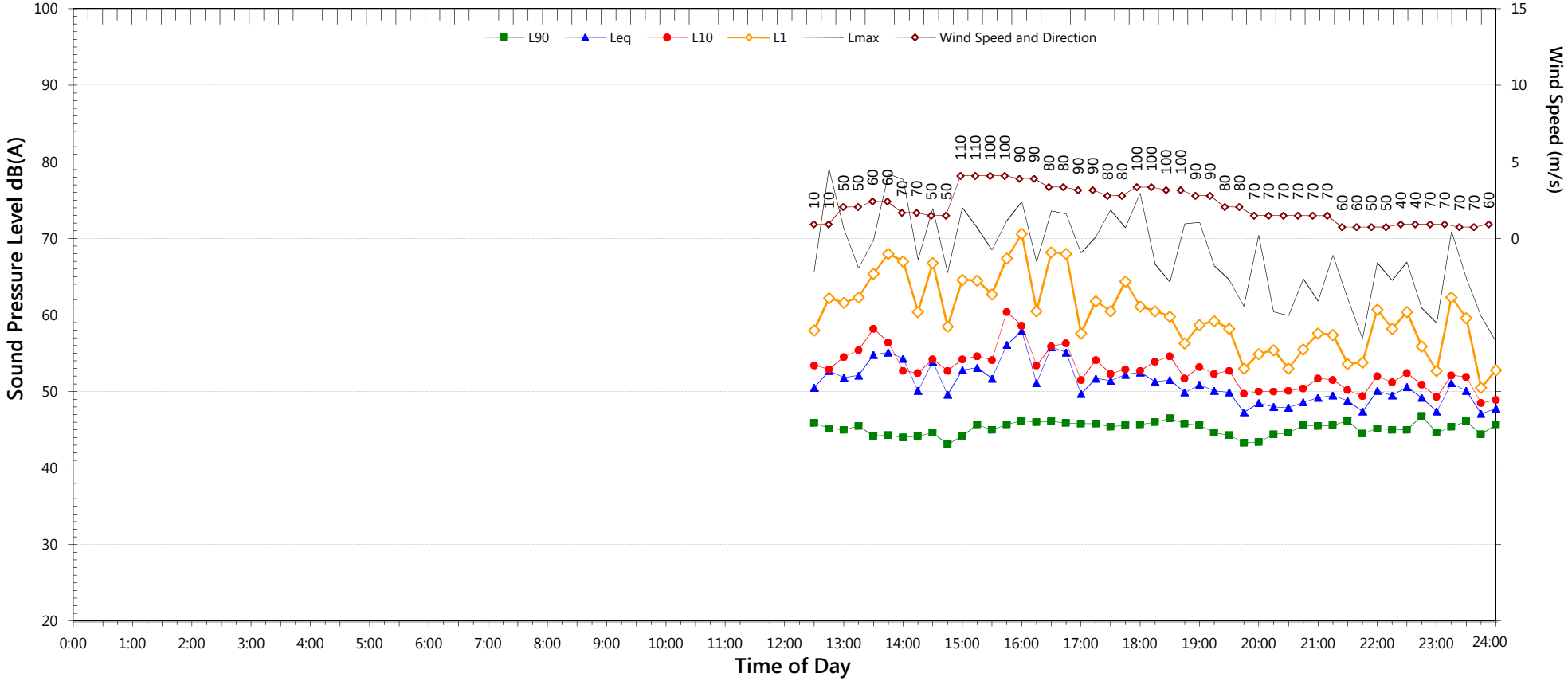
Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Rating Background Level (RBL) for L90 and logarithmic average for Leq
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Tuesday, 17 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.2	43.4	35.4
Leq	53.4	49.5	48.7

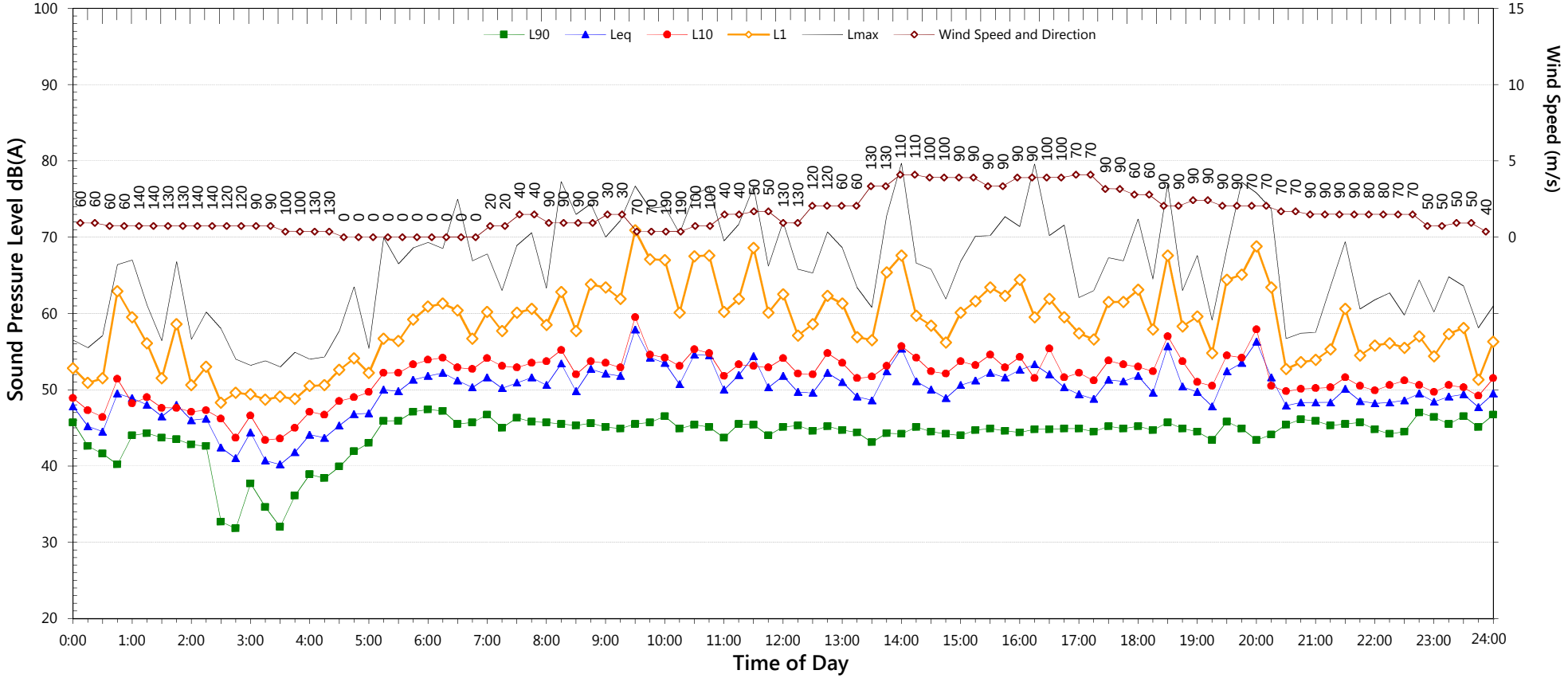
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Wednesday, 18 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.1	43.4	34.9
Leq	52.2	51.4	48.0

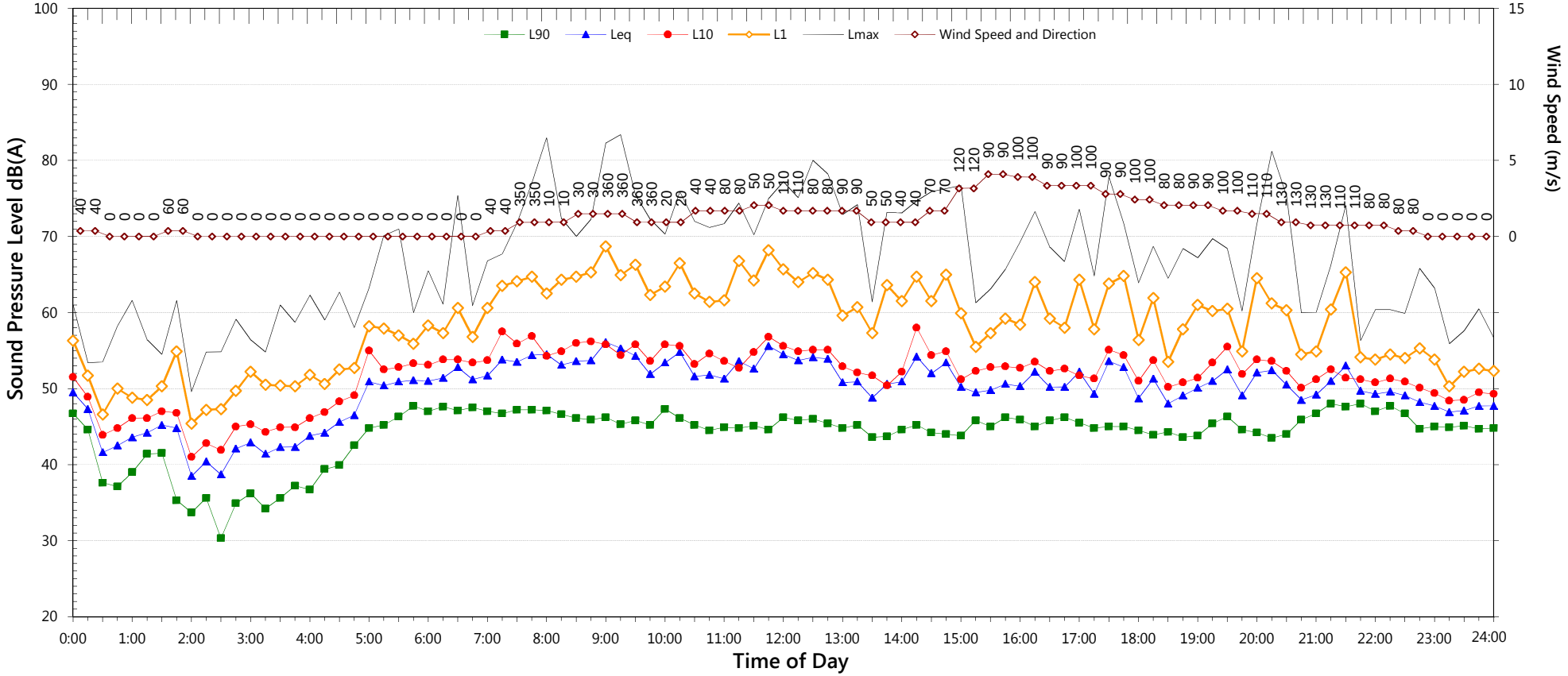
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Thursday, 19 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.2	43.6	36.6
Leq	52.8	50.7	47.9

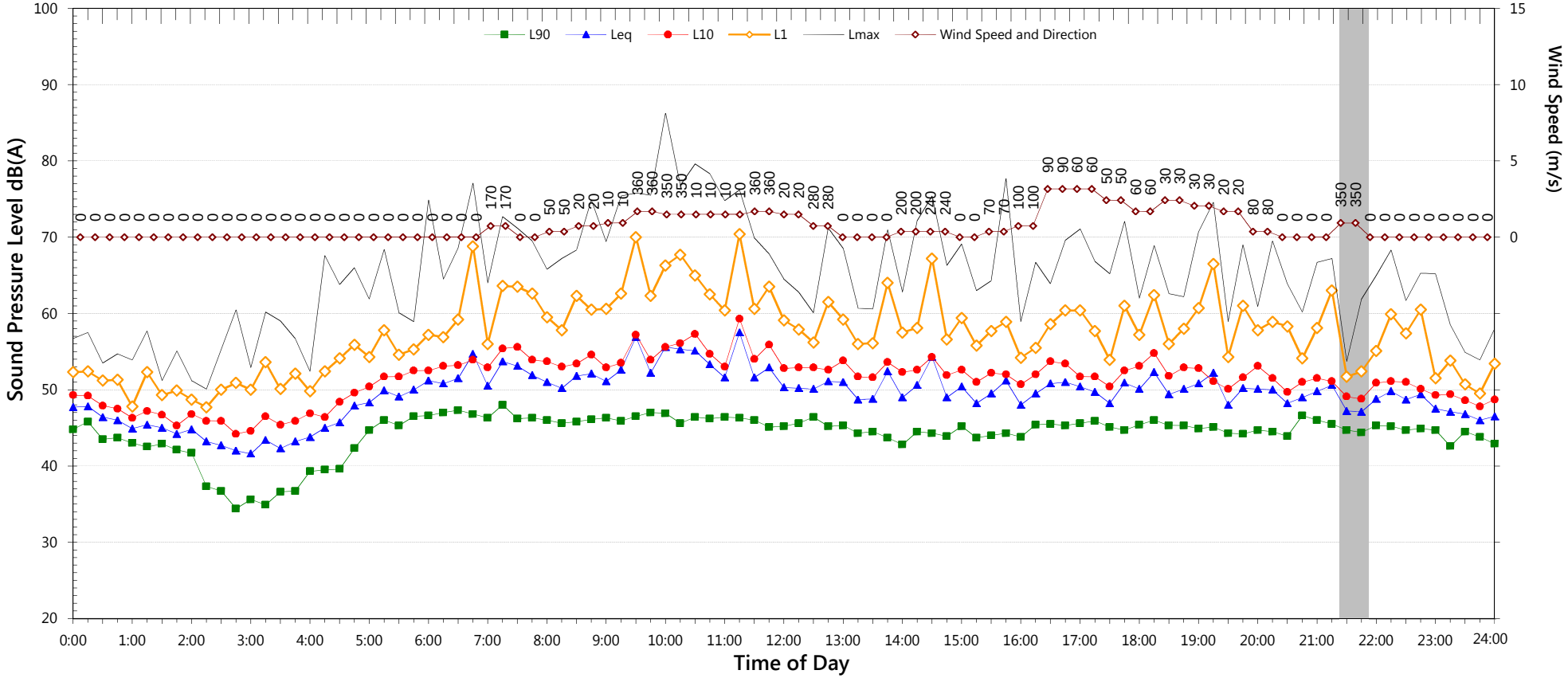
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Friday, 20 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	43.9	44.2	38.5
Leq	52.1	50.1	47.8

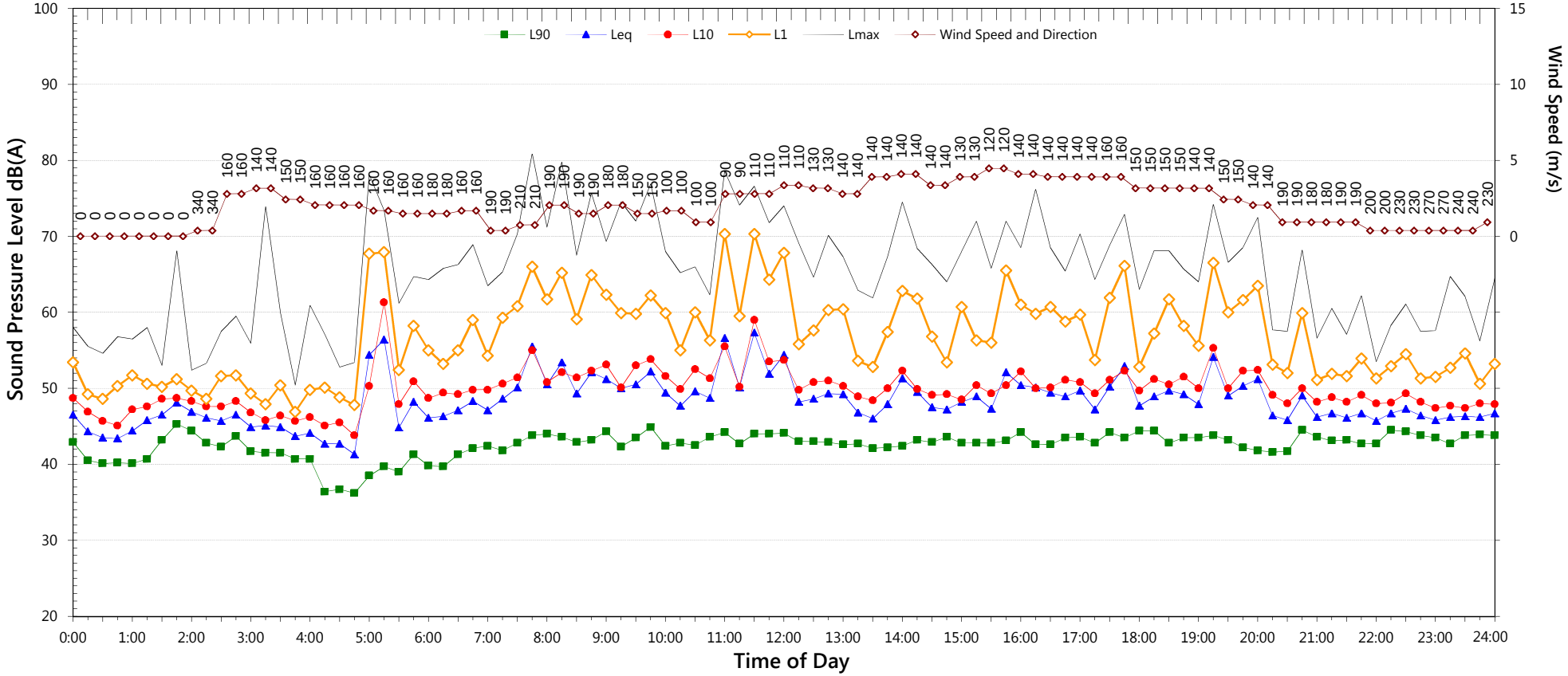
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Saturday, 21 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	42.4	41.7	34.0
Leq	51.0	49.0	46.0

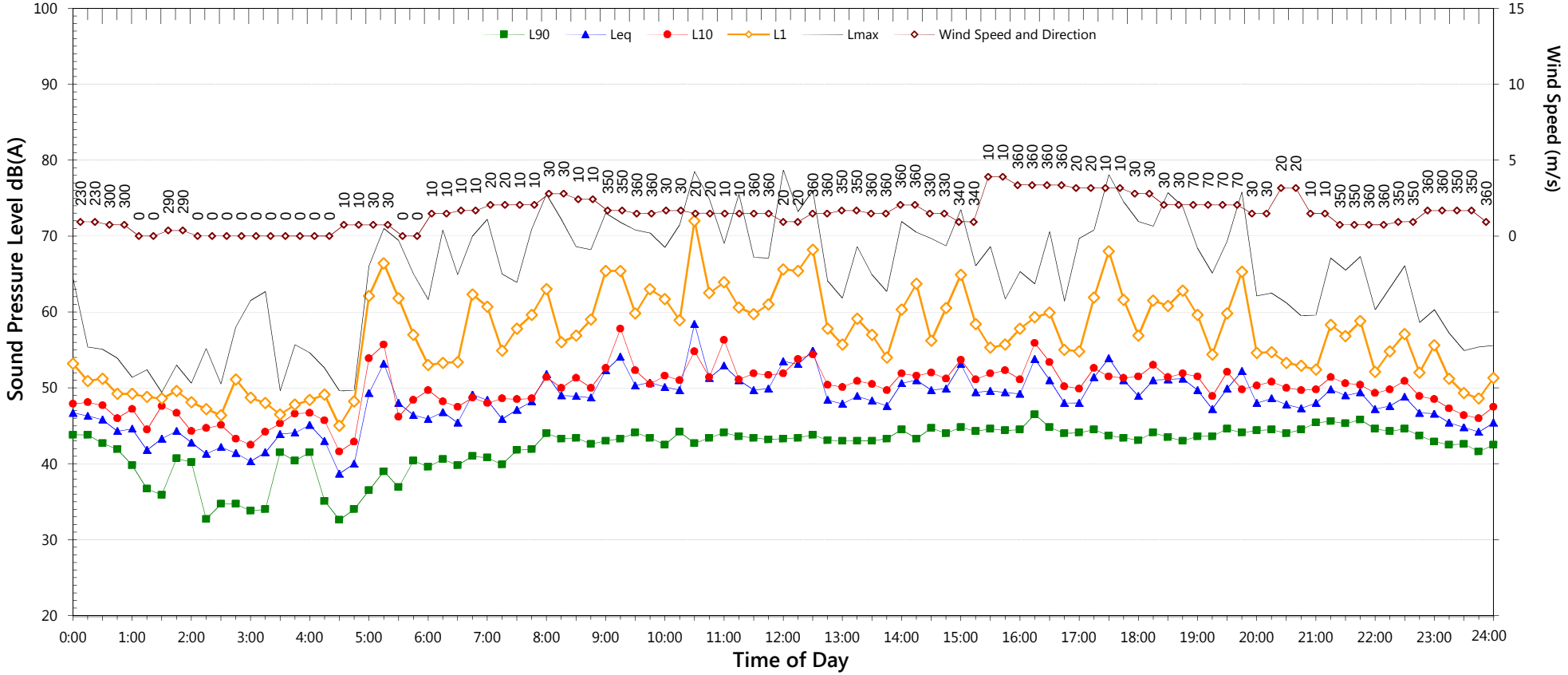
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Sunday, 22 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	42.6	43.5	35.2
Leq	51.2	49.5	47.2

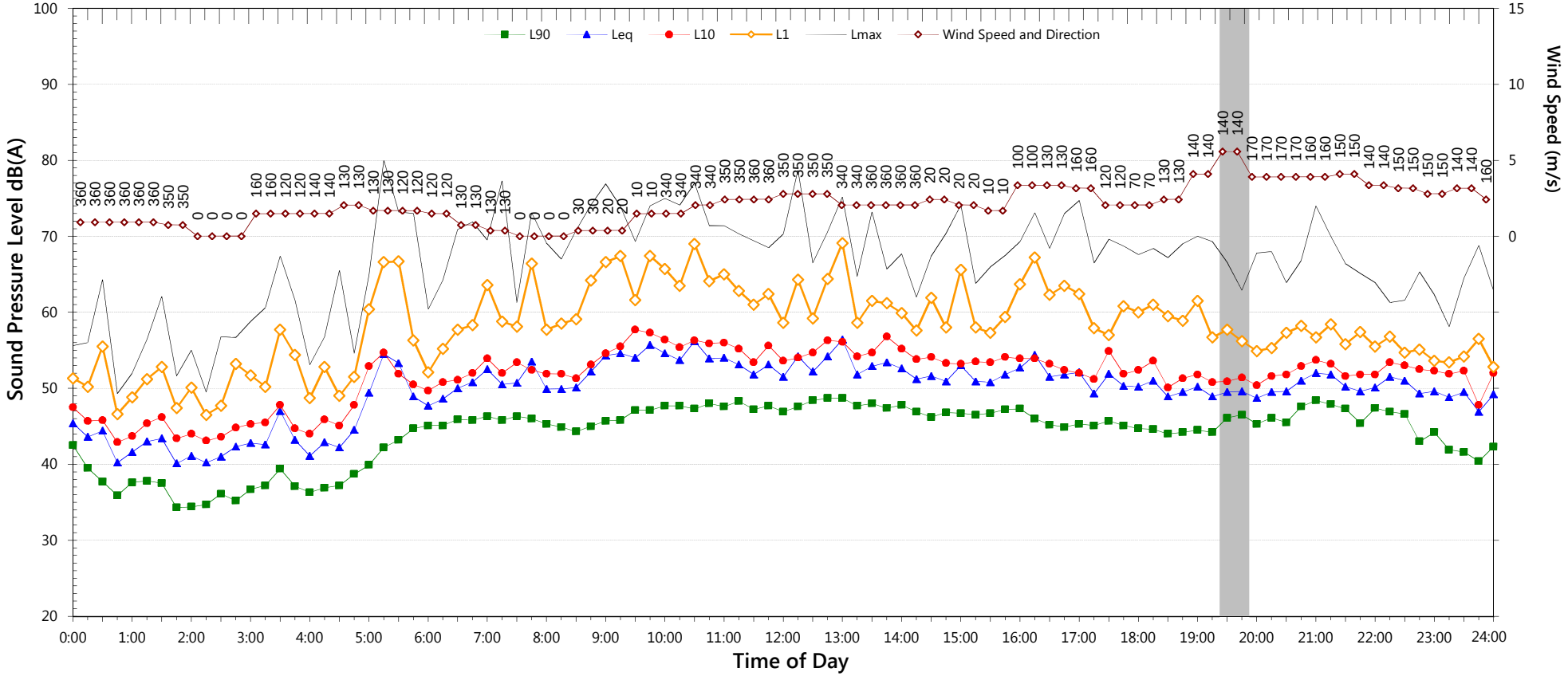
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Monday, 23 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	45.0	44.2	33.6
Leq	52.8	50.2	47.1

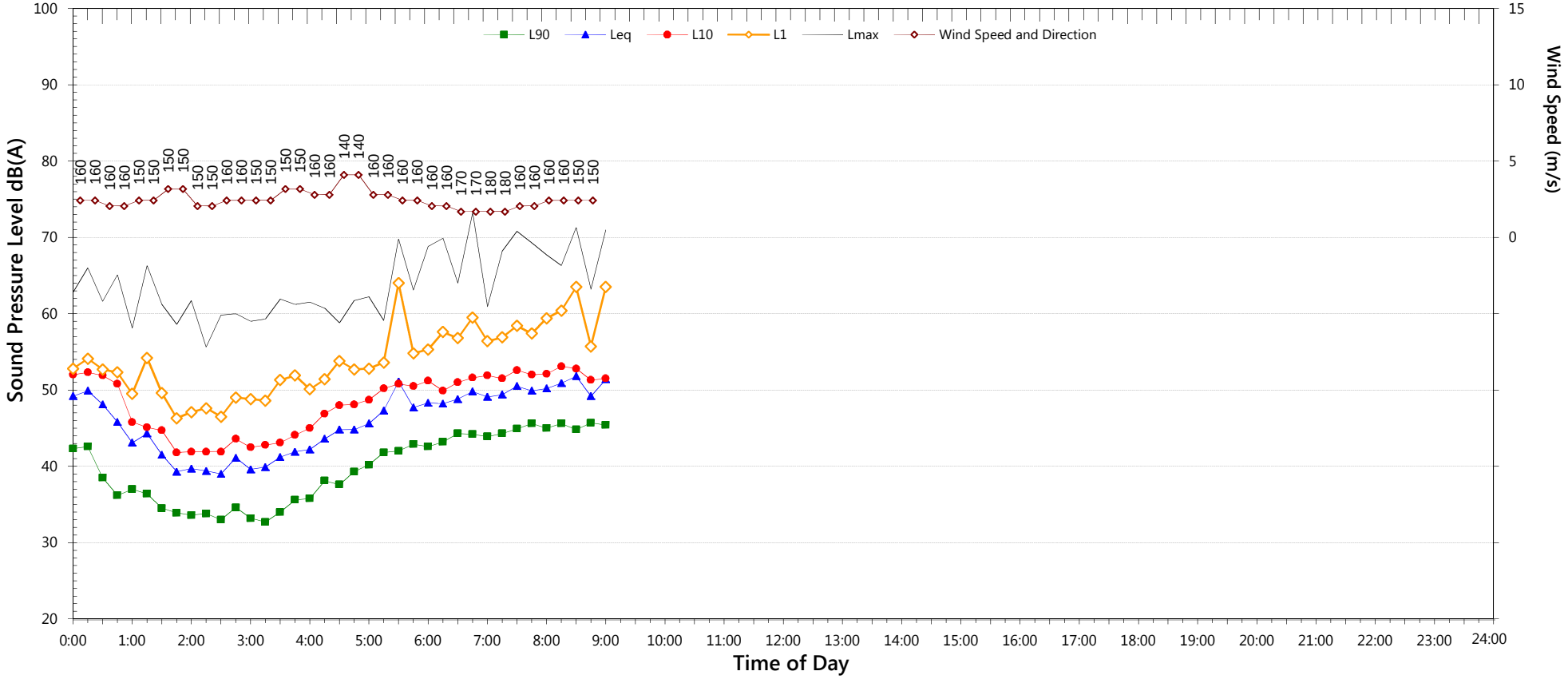
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

2 Anthony St, Blacktown

Tuesday, 24 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.3	-	-
Leq	50.5	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

3. Graphed data measured in free-field; tabulated results facade corrected

4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

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Background & Ambient Noise Monitoring Results - NSW 'Industrial Noise Policy', 2000						
	L_{A90} Background Noise Levels[5]			L_{Aeq} Ambient Noise Levels		
Date	**Day**	**Evening**	**Night**	**Day**	**Evening**	**Night**
Tuesday-17-December-2013	41.3	44.6	35.8	51.0	51.6	48.5
Wednesday-18-December-2013	39.2	41.5	41.4	50.3	48.9	47.3
Thursday-19-December-2013	40.4	45.1	41.4	48.1	50.7	48.6
Friday-20-December-2013	44.4	49.7	37.5	65.5	61.0	48.4
Saturday-21-December-2013	40.2	40.7	39.8	50.7	50.6	46.5
Sunday-22-December-2013	44.4	49.8	41.6	60.1	53.8	48.9
Monday-23-December-2013	45.8	40.6	33.0	54.6	50.3	47.7
Tuesday-24-December-2013	40.3	-	-	46.9	-	-
Representative Weekday	**40.9**	**44.6**	**37.5**	**58.5**	**55.3**	**48.1**
Representative Weekend	**42.3**	**45.3**	**40.7**	**57.6**	**52.5**	**47.9**
Representative Week	**40.9**	**44.6**	**39.8**	**58.3**	**54.7**	**48.1**

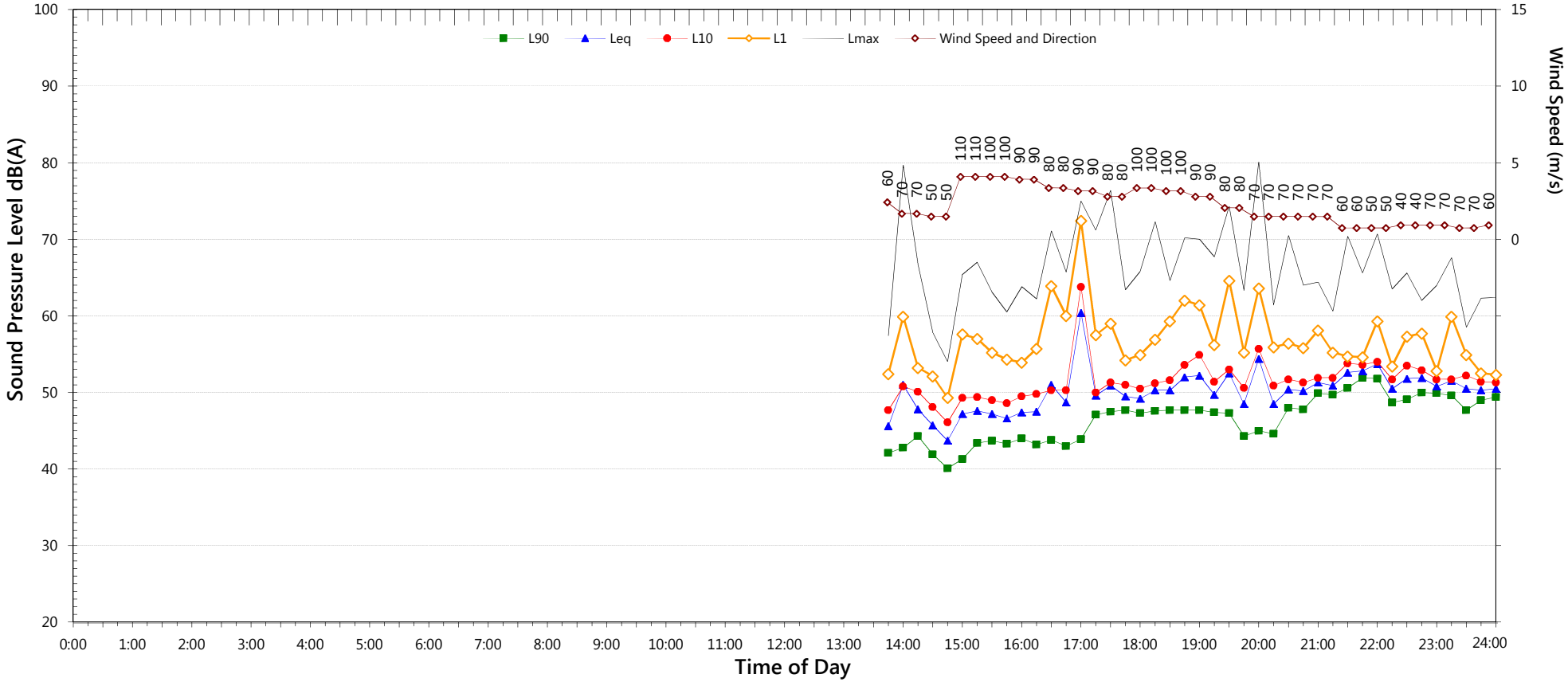
Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Rating Background Level (RBL) for L90 and logarithmic average for Leq
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Tuesday, 17 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	41.3	44.6	35.8
Leq	51.0	51.6	48.5

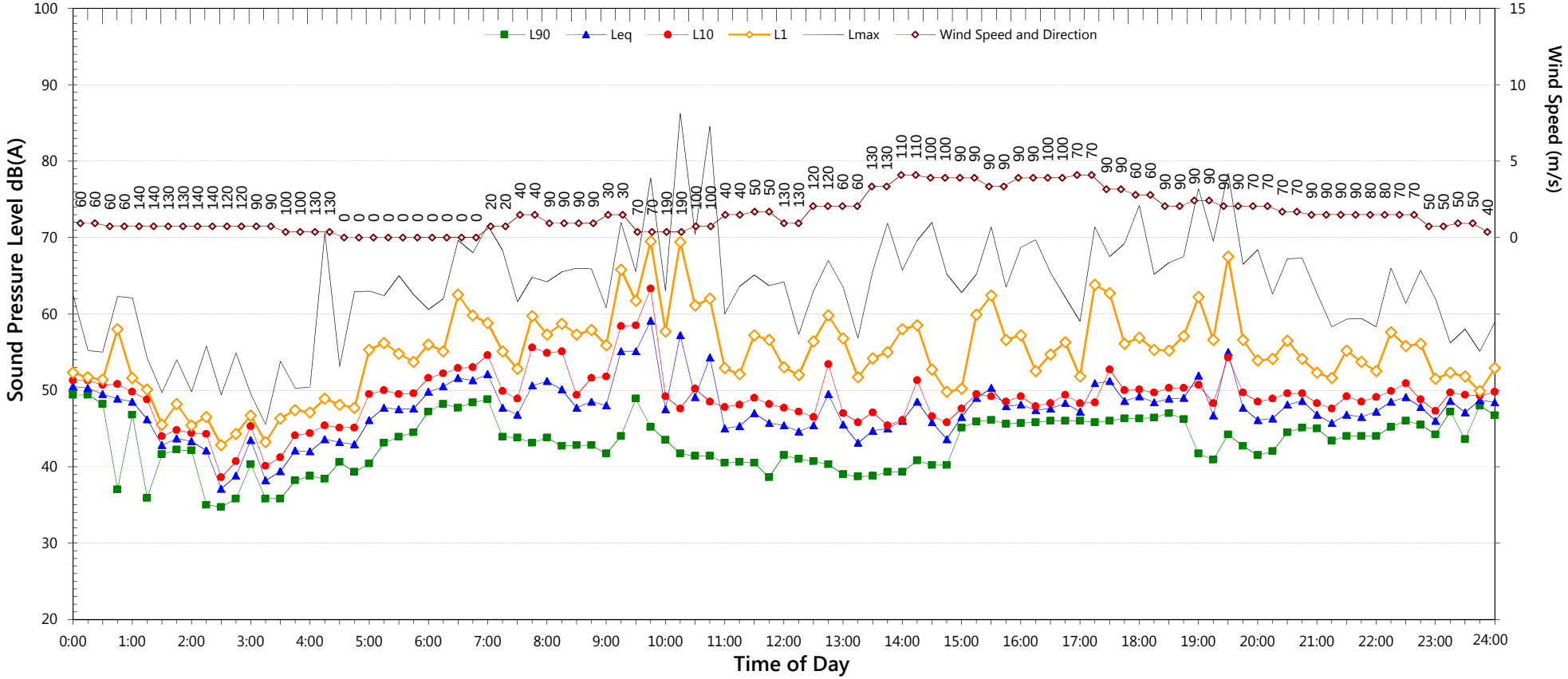
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Wednesday, 18 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	39.2	41.5	41.4
Leq	50.3	48.9	47.3

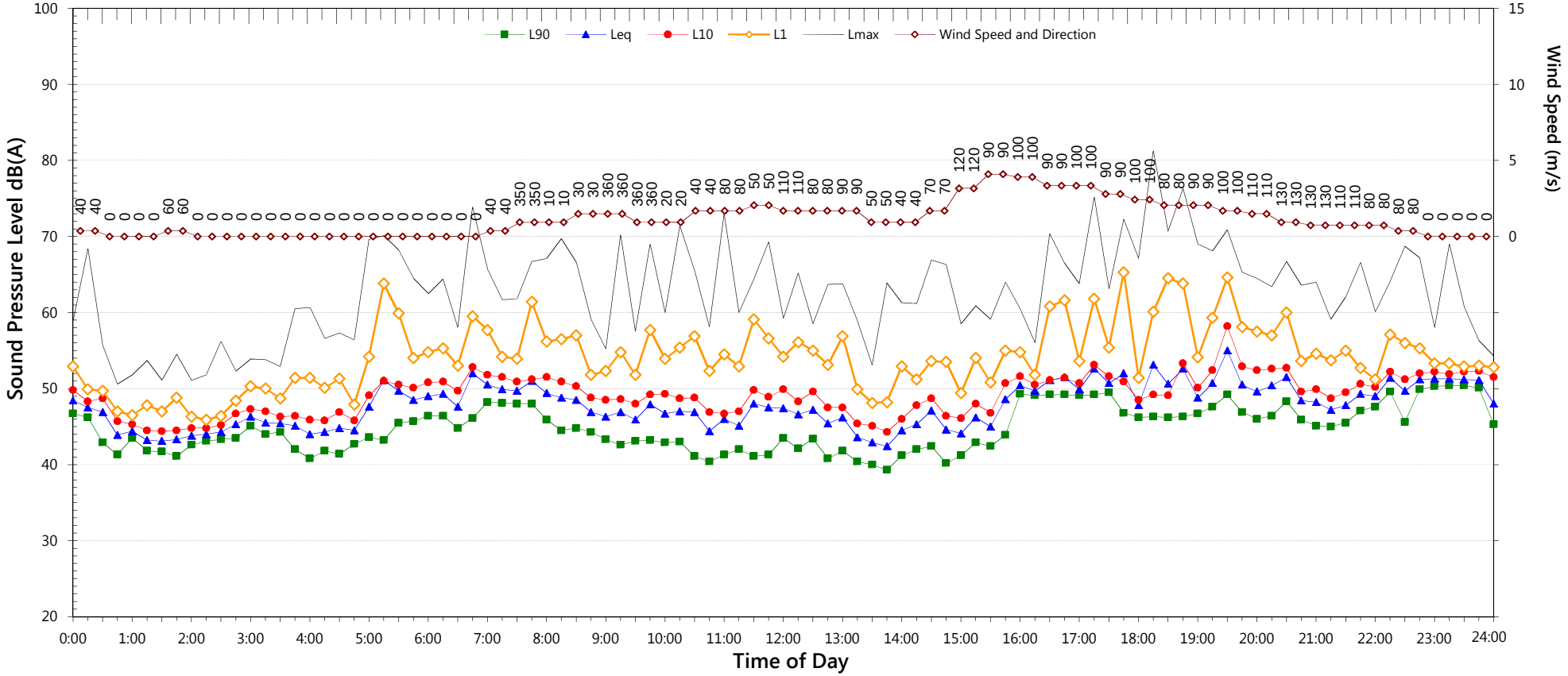
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Thursday, 19 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	40.4	45.1	41.4
Leq	48.1	50.7	48.6

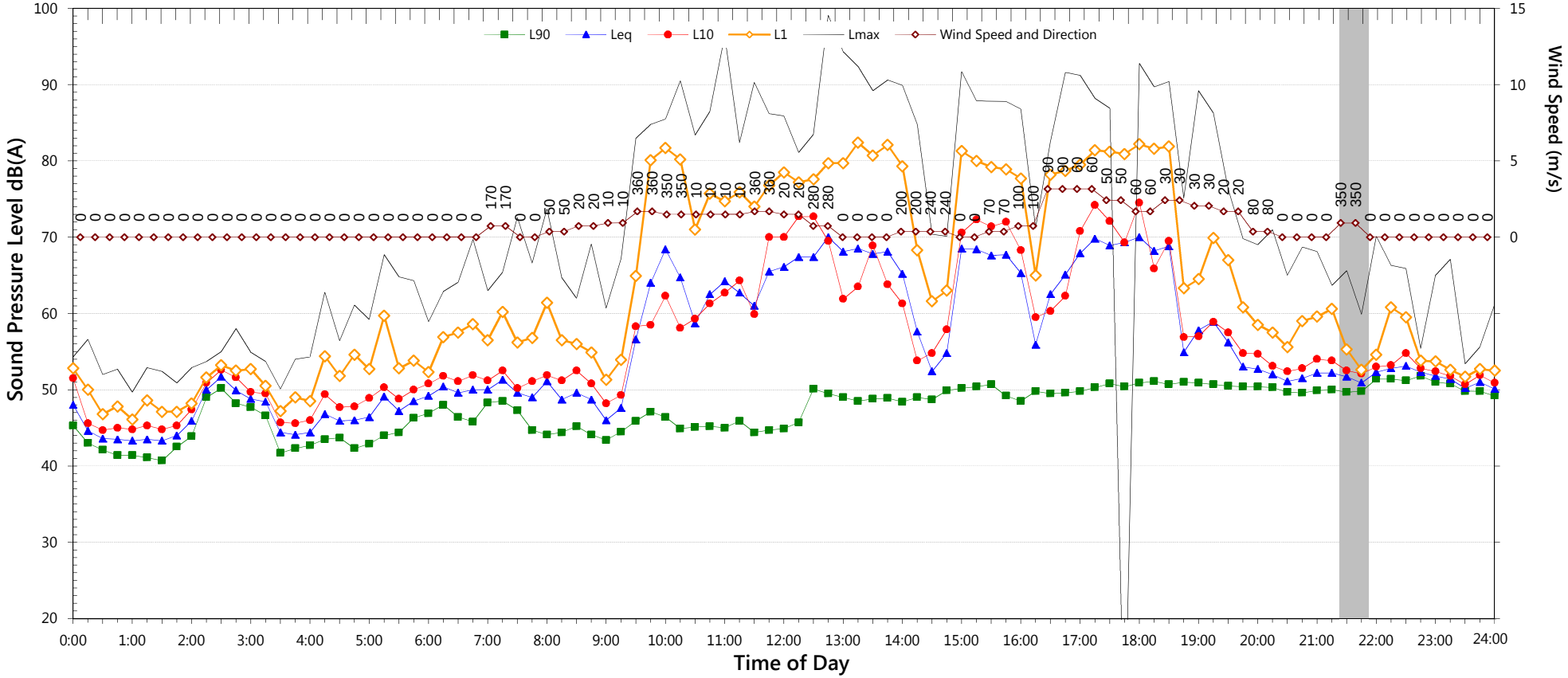
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Friday, 20 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.4	49.7	37.5
Leq	65.5	61.0	48.4

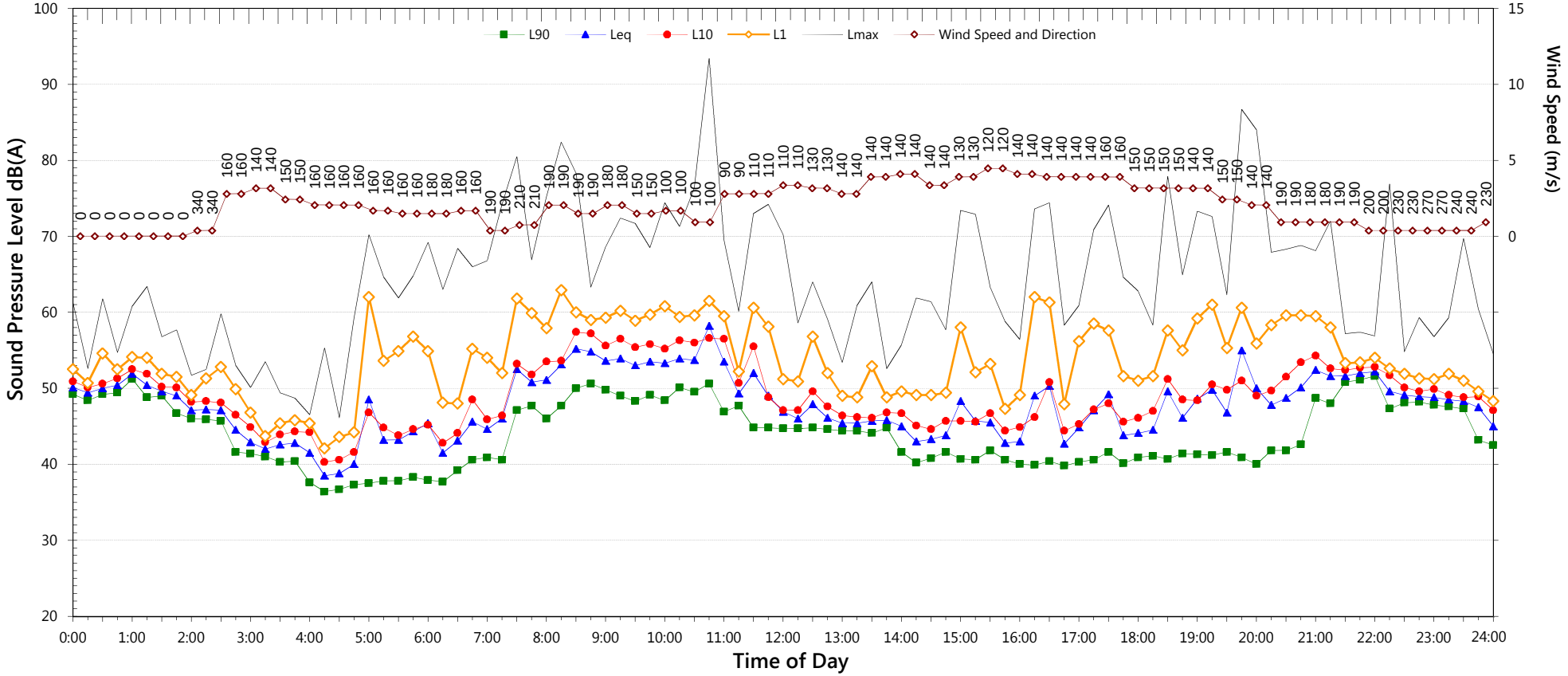
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Saturday, 21 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	40.2	40.7	39.8
Leq	50.7	50.6	46.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

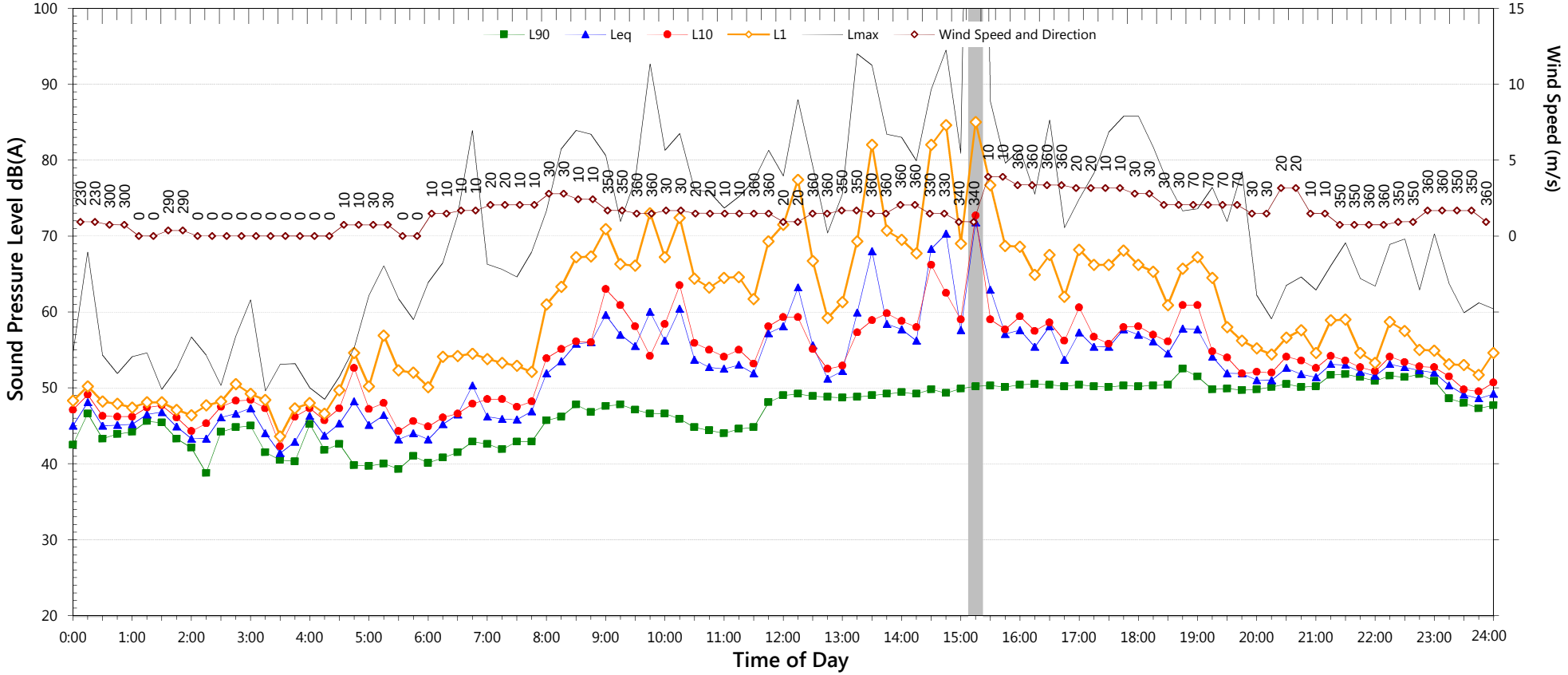
3. Graphed data measured in free-field; tabulated results facade corrected

4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Sunday, 22 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	44.4	49.8	41.6
Leq	60.1	53.8	48.9

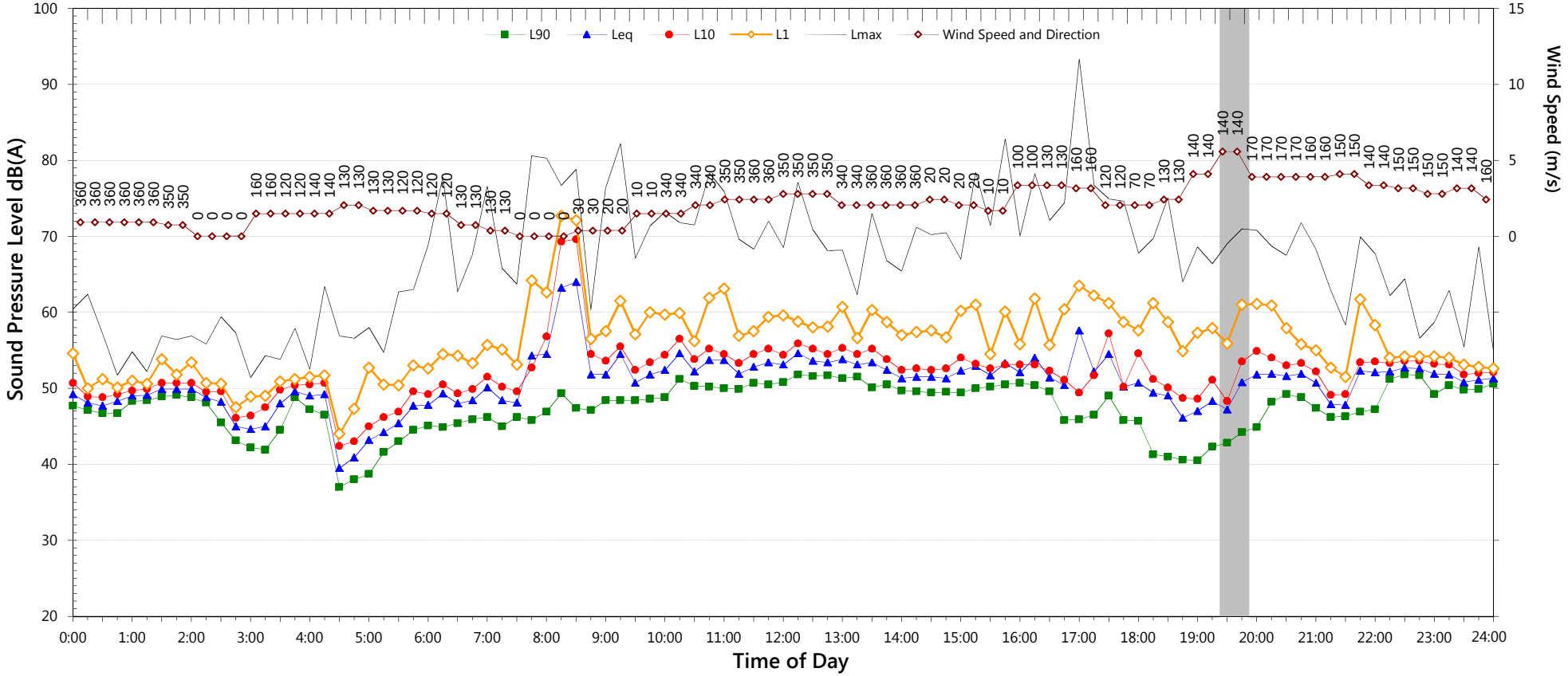
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Monday, 23 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	45.8	40.6	33.0
Leq	54.6	50.3	47.7

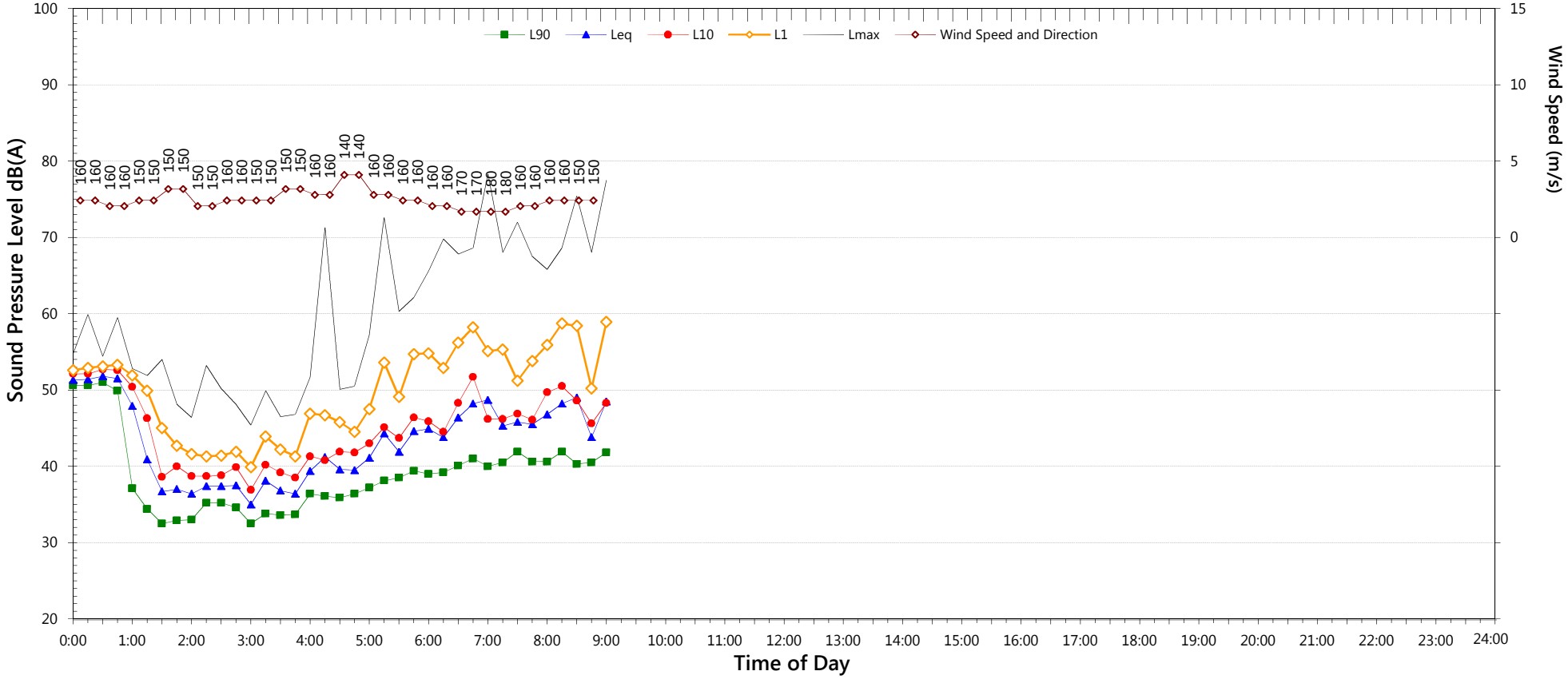
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Unattended Noise Monitoring Results

1/50 Charles St, Blacktown

Tuesday, 24 December 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night[2]
	7am-6pm	6pm-10pm	10pm-7am
L_{90}	40.3	-	-
Leq	46.9	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

3. Graphed data measured in free-field; tabulated results facade corrected

4. Night time Lmax values are shown only where Lmax >65dB(A) and where Lmax- Leq ≥15dB(A)

Annex I

Air Quality Impact Assessment

FINAL REPORT

Sell and Parker Pty Ltd

Waste Metal Recovery, Processing and Recycling Facility Expansion - 45 and 23-43 Tattersall Road, Kings Park, Blacktown

Air Quality Assessment

July 2014

Reference: 0226308_AirQual_Rp02

Environmental Resources Management Australia
Building C, 33 Saunders Street
Pyrmont, NSW 2009
Telephone +61 2 8584 8888
Facsimile +61 2 8584 8800
www.erm.com

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1 INTRODUCTION

Sell and Parker Pty Ltd (Sell and Parker) currently operate a waste metal recovery, processing and recycling facility at 45 Tattersall Road, Kings Park, Blacktown (the "Site"). Environmental Resources Management Australia Pty Ltd (ERM) was commissioned by Sell and Parker to prepare an air quality assessment as part of the Environmental Impact Statement (EIS) to increase the capacity of the existing waste metal recovery, processing and recycling facility at 45 Tattersall Road (Lot 5 DP 7086), Kings Park, from the approved 90,000 tonnes per annum (tpa) to 350,000 tpa. The increase in the processing capacity of the waste metal recovery and processing business would result in the expansion of the facility to encompass the adjoining lot to the east (Lot 2 DP 550522 or 23-43 Tattersall Road). Both Lot 5 DP 7086 and Lot 2 DP 550522 are collectively referred to as 'the site' within this air quality assessment.

The main site at 45 Tattersall Road is currently used by Sell and Parker as a waste metal resource recovery, processing and recycling facility involving the shearing, fragmenting and shredding of industrial scrap metal, demolition material and car bodies. 23-43 Tattersall Road is currently occupied by 'Dexion', a manufacturing business, which intends to cease operations at this site and relocate offshore.

1.1 SITE ACTIVITIES

The operational process on site post-upgrade is required to be understood in detail when assessing impacts to air quality. In operations like metals recycling, there are many opportunities for dust to be emitted including:

- truck delivery/removal of materials;
- truck dumping of materials onto stockpiles;
- material handling (pick up and drop off activities with front end loaders/mobile material handlers with grapples, conveyor drop points onto stockpiles etc.);
- conveying and conveyor transfer points;
- wet scrubber outlet vents of the hammer mill;
- manual metal cutting; and
- dust from wind erosion off the stockpiles.

A comprehensive understanding of the processes that occur on-site allows the development of a full emissions inventory and the selection of appropriate sources to be included in air dispersion modelling, with the proposed controls and mitigation measures taken into account. The following process description for the proposed handling capacity has informed the emissions inventory and mitigation measures applied. The mass of materials handled is considered to be the upper limit for each piece of equipment discussed.

1.1.1 Process Description

A simplified process diagram showing the proposed metal recycling process is provided in *Figure xx* of the main EIS document.

Petrol tanks will be emptied and liquefied petroleum gas (LPG) cylinders will be removed from cars before they are fed through the facility. LPG cylinders will be stored in a quarantined area before being removed offsite for decommissioning. Petrol and oil will be drained from tanks and collected in an above ground storage tanks and removed offsite for processing. Scrap metal that are too large in size to fit on a conveyor will be cut manually in the unloading zone.

Cars and scrap metal are lifted onto a heavy-duty feed conveyor (Cl) by an electric scrap handler. The operator of the mobile material handler will also check the feed material while loading it onto the conveyor. The materials will pass the control cabin, where an operator will also check incoming materials. The control cabin is an enclosed structure with sound proofing and air conditioning for operator comfort.

The feed conveyor transports raw material into the hammer mill which shreds the metal into fist-sized pieces.

The fragmented raw material is carried upwards by an incline conveyor and will then be dropped into a 'cascade' chute, hitting against its corners and therefore loosening any dirt and dust. Air from the cascade will be extracted by an induced draft fan and passed into the cascade cyclone, which will drop out particulates. Cleaned air will then pass through a wet scrubber to remove fine dust.

The cleaned fragmented material will then pass under drum magnets, which will pick up ferrous metals and drop them onto the picking conveyor (C2), where operators will remove remaining non-ferrous materials. The ferrous metals will continue up a conveyor (C3) which offloads the ferrous product into the product stockpile, that is contained in a designated area.

The non-ferrous materials will drop beneath the drum magnets to a conveyor which runs perpendicular to the ferrous product. This conveyor carries non-ferrous metals and wastes such as plastic and glass. The material is conveyed beneath another magnet, which picks up any small remaining quantities of ferrous metals and drops them into a skip for collection. Non-ferrous materials will continue through a pan feeder and trommel which will separate the materials into size streams for sorting.

The streams pass through an eddy-current separator, which collects aluminium, copper and brass into a skip. The streams then join and pass beneath a final eddy-current separator to win any remaining aluminium.

After passing through these stages, the remaining materials are waste products, which will be conveyed to a enclosed building. The new Post Shredder will involve a confidential proprietary arrangement of sizing, screening, eddy currents and induction sorters.

2 ENVIRONMENTAL SETTING

This section provides a description of the environmental setting of the Site in the context of air quality and provides a description of:

- climate;
- existing ambient air quality; and
- additional sources of emissions.

2.1 CLIMATE

The Site is located in a temperate environment, with the local climate generally mild. *Table 2.1* provides an overview of the climatic extremes as recorded by the Bureau of Meteorology between the years 1965 - 2014. Overall, the local area is characterised by:

- annual average rainfall of 760.6 mm;
- average maximum daytime temperature of 29.8°C in January;
- average minimum daytime temperature of 5.9°C in July;
- average maximum humidity of 81% in March; and
- average minimum humidity of 42% in both August and September.

2.1.1 *Typical wind conditions*

Figure 2.1 provides wind roses showing the frequency of strength and direction of winds for the past five years (2008-2012 inclusive) at Horsley Park, NSW. The data has been divided to show seasonal and annual trends. The data shows that:

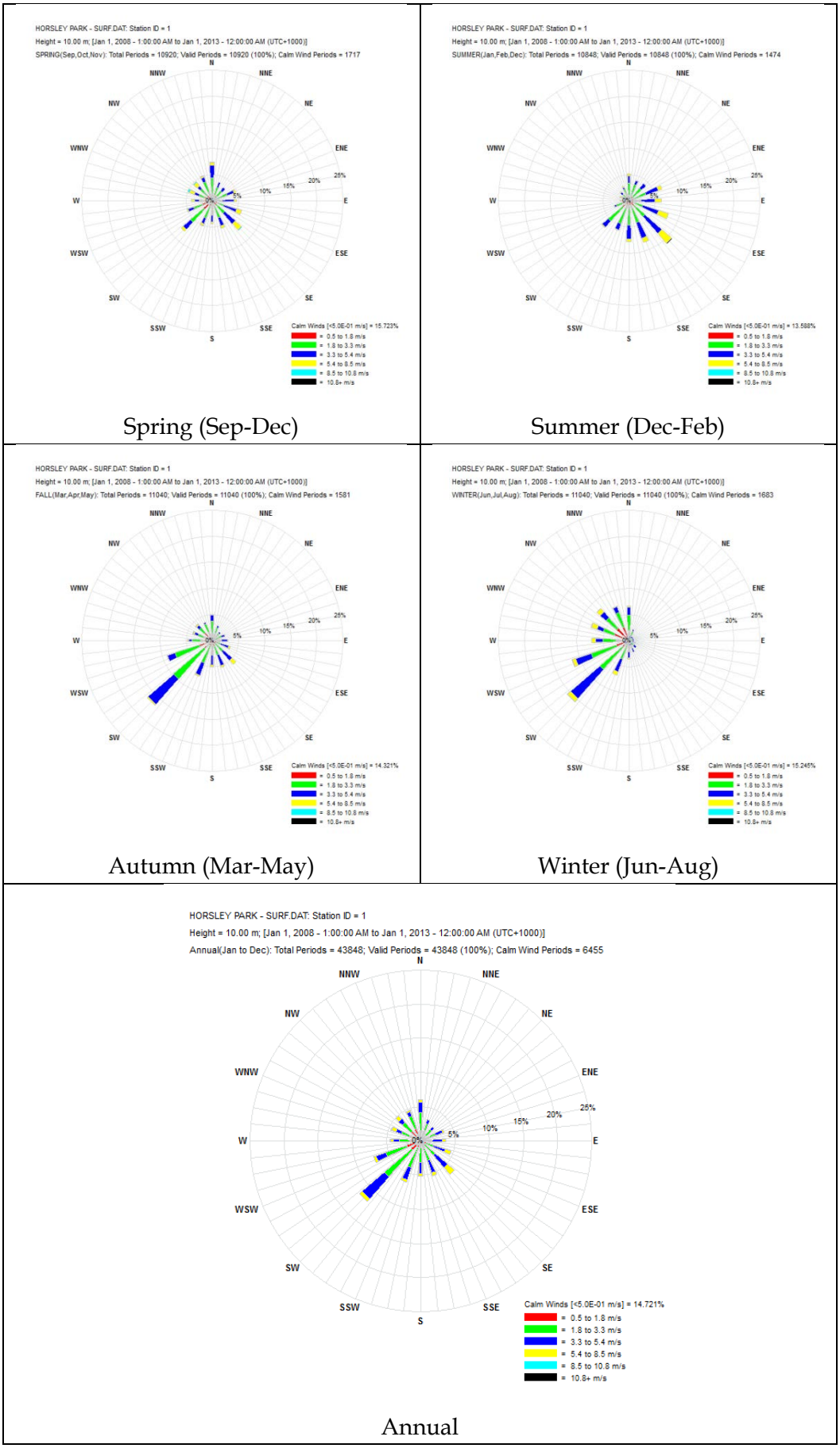
- Strong (5.4 – 8.5 m/s) south-easterly winds predominant in the summer and spring months
- South-westerly winds predominant (15%) in autumn and winter
- Annually, south-west is the predominant wind direction however the strongest winds originate from the south-east.

Table 2.1 Mean climatic conditions for nearest Bureau of Meteorology observation station at Horsley Park, NSW

Statistic Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Start Year	End Year
Mean maximum temperature (°C)	29.8	28.7	26.7	23.6	20.3	17.6	17.1	19	22.3	24.3	26.2	27.9	23.6	1997	2013
Mean minimum temperature (°C)	17.7	17.8	15.9	12.7	8.9	6.9	5.9	6.5	9.3	11.6	14.4	16.1	12	1997	2013
Mean rainfall (mm)	66.9	119.2	72.3	70.6	50.2	69.8	40.3	32.3	37.3	57.1	84.9	58.8	760.6	1997	2014
Mean number of clear days	12.6	11.7	11.7	8	9.5	8.3	6.6	6.3	7.1	9.2	10.6	10.5	112.1	1968	2001
Mean number of cloudy days	6.6	5	6.7	8.8	9	10	11.3	13.2	11.4	8.3	6.8	7.1	104.2	1968	2001
Mean daily evaporation (mm)	5.5	4.7	3.9	3	2	1.6	1.7	2.5	3.6	4.4	4.9	5.7	3.6	1965	2013
Mean 9am temperature (°C)	22	21.5	19.4	17.5	13.8	11.1	10.3	12	15.6	18.1	19.2	20.9	16.8	1997	2010
Mean 9am relative humidity (%)	73	77	81	76	77	80	78	70	65	61	70	71	73	1997	2010
Mean 9am cloud cover (oktas)	4.8	4.9	4.5	3.7	3.8	3.6	3.2	2.9	3.2	4	4.4	4.5	4	1965	2010
Mean 9am wind speed (km/h)	10.1	9.7	8.9	10.5	10.7	10.3	10.8	11.7	12.2	12.5	11.8	10.7	10.8	1997	2010
Mean 3pm temperature (° C)	28.2	27.1	25.3	22.2	19.2	16.6	16.1	17.8	20.8	22.5	24.2	26.5	22.2	1997	2010
Mean 3pm relative humidity (%)	49	53	54	53	52	55	50	42	42	45	50	48	49	1997	2010
Mean 3pm cloud cover (oktas)	4.8	5	4.8	4.2	4.3	4.2	3.9	3.8	3.9	4.4	4.8	4.6	4.4	1968	2001
Mean 3pm wind speed (km/h)	19.4	17	14.8	14.4	13	12.9	13.9	16.1	18.1	19.8	19.5	19.9	16.6	1997	2010

1. Mean cloudy days, mean clear days, mean daily evaporation, mean 9am cloud cover, and mean 3pm cloud cover have been taken from Prospect Reservoir [067019], 6.2 km away from Horsley Park.

Figure 2.1 ***Seasonal and annual wind roses for the past five years 2008-2012 at Horsley Park, NSW***



2.1.2 Atmospheric stability

Atmospheric stability is one of the key parameters that effects dispersion and dilution of emissions away from source. In essence it describes the degree of thermal and mechanical mixing of the atmosphere that occurs due to wind and thermal heating. Higher stability of the atmosphere typically results in poor dispersion conditions and higher ground level concentrations, whilst unstable atmospheres typically have the opposite impact.

Atmospheric stability is described by the Pasquil-Gifford classification where:

- Category A describes a very unstable atmosphere;
- Category B describes an unstable atmosphere;
- Category C describe a moderately unstable atmosphere;
- Category D describes a neutral atmosphere;
- Category E describes a stable atmosphere;
- Category F describes a very stable atmosphere; and
- Category G describes a very, very stable atmosphere.

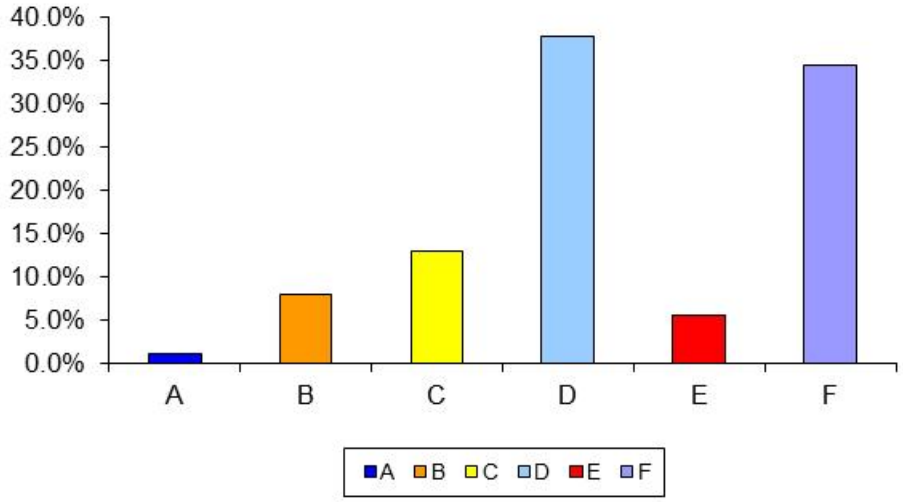
Usually, categories F and G are combined when describing the frequency of these categories.

Typically, these atmospheric conditions occur under the following conditions:

- Category A – very sunny and very windy conditions;
- Category B – Very sunny but less windy conditions;
- Category C – Moderately sunny and moderately windy conditions;
- Category D – Cloudy conditions;
- Category E, F and G – Mostly clear or clear night time conditions with decreasing wind speed.

Figure 2.2 shows the predicted frequency of stability categories at the Site. Stability categories have been predicted using the methodology outlined in Section *4.3*.

Figure 2.2 ***Frequency of atmospheric stability categories predicted for the Site***



The highest frequency of atmospheric stabilities for the 5 years of predicted meteorological data indicate that category D and F dominate the model domain. This reflects the prevalence of relative neutral day time conditions followed by clear and calm night time conditions.

2.2 EXISTING AMBIENT AIR QUALITY

Existing ambient air quality provides the basis on to which emissions from the project are projected. It is the cumulative concentration, resulting from existing air quality plus project contribution, which forms the prediction that is tested against the adopted assessment criteria.

2.2.1 PM_{10} Background

The nearest measurements of ambient air quality are undertaken by the Department of Environment and Heritage (DEH)[1] in William Lawson Park, Myrtle Street, Prospect, 5 km south to south-east of the Site. The maximum 24-hour average and the annual average per year for PM_{10} are presented in *Table 2.2*.

Table 2.2 ***Ambient Background Air Quality PM_{10} Concentrations***

Ambient Background Air Quality Concentration (µg/m³)	2008	2009	2010	2011	2012
24-hour average	41.8	1680.3	40.1	41.5	38.7
Annual Average	17.8	25.9	15.4	15.8	17.2

[1] Data downloaded from http://www.environment.nsw.gov.au/AQMS/search.htm

2.2.2 *TSP Background*

Ambient air quality monitoring does not exist for TSP in the local environment, however it is commonly found in the ambient atmosphere. No measurements of existing ambient air quality exist for TSP within the surrounding area. This assessment has taken an average of the 5 years of annual average PM_{10} background concentrations of 18.4 µg/m^3 and multiplied by two (2). It is commonly assumed that the particle size distribution ratio between PM_{10} and TSP is 0.5. This provides a typical annual average background concentration for TSP of 36.8 µg/m^3.

2.2.3 *$PM_{2.5}$ Background*

$PM_{2.5}$ concentrations are not measured at the Prospect monitoring station. The closest monitoring station to the Site that measures $PM_{2.5}$ is located at the University of Western Sydney in Richmond. Richmond is approximately 26 km north-west of Blacktown and provides and indicative background concentrations for the local area. *Table 2.3* shows the background concentrations for this measurement location

Table 2.3 Ambient Background Air Quality $PM_{2.5}$ Concentrations

Ambient Background Air Quality Concentration (µg/m^3)	2008	2009	2010	2011	2012
24-hour average	17.7	148.9	20.8	42.9	116.7
Annual Average	7.3	5.7	4.2	4.7	5.3

2.2.4 *Nitrogen Dioxide (NO_2) Background*

The nearest measurements of NO_2 are undertaken at the Prospect monitoring site by the DEH, 5 km south to south-east of the Site. The maximum annual average per year for NO_2 are presented in *Table 2.4*. Hourly averages are not available on the DEH website; as a result, daily averages were converted to an hourly average using the conversion factor of 1/0.59 (Environment Agency of England and Wales, 2011).

Table 2.4 Ambient Background Air Quality NO_2 Concentrations

Ambient Background Air Quality Concentration (µg/m^3)	2008	2009	2010	2011	2012
1-hour average	35.6	39.4	40.4	36.3	36.1
Annual Average	-	22.7	24.5	20.7	20.7

2.3 *ADDITIONAL SOURCE OF EMISSIONS*

Additional sources of emitted species within the modelled area include emissions from vehicular traffic and possible sources from other industry in the immediate vicinity of the site. These sources are implicitly included through the use of ambient monitoring to supply background air quality concentrations.

2.4 *SENSITIVE RECEPTORS*

Sensitive receptors are locations where the general population is likely to be exposed to the resultant ground level concentrations from the atmospheric emissions. These locations include:

- Residential housing;
- Hospitals;
- Schools;
- Aged care facilities; and
- Child day care facilities.

A review of the modelled area identified the sensitive receptors identified in *Figure 2.3*. It should be noted that the ten (10) selected sensitive receptors are in residential areas and have been selected on the basis of proximity to Site. These sensitive receptors are intended to be representative of the general residential area. The modelled grid will provide assessment for all other residential addresses not specifically included in the dispersion model.

Figure 2.3 Modelled sensitive receptor locations

Rev. N.	Date	Revision	Drawn by	Rev. by
0	25/02/14	Initial Issue	A. Radford	I. Cowan

Client: Sell and Parker
Drawing No: Sensitive Receptors.mxd
Date: 25/02/2014 Drawing Size: A4
Drawn By: AR Reviewed By: IC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Sensitive Receptors

Waste Metal Recovery Processing and Recycling Facility Expansion

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

3 LEGISLATIVE CONTEXT

This section defines the legislative context of the project in relation to air quality impacts, and discusses the adopted assessment criteria.

3.1 EMISSION CONCENTRATIONS

The *Protection of the Environment Operations (Clean Air) Regulation 2002* (the 'Regulation') provides the framework for the protection of the air environment in NSW and has been enacted under the *Protection of the Environment Operations Act 1997* (POEO Act). The Regulation:

- sets emission concentration standards and rate for certain activities;
- sets certain requirements in respect of domestic solid fuel heaters and motor vehicles; and
- establishes a framework for controlling where and what type of substances may be burnt.

Division 2 of the POEO Regulation states standards for scheduled premises and sets standards of concentrations for air impurities for stack or vent emissions. Schedule 4 provides a specific standard of concentration for Total solid particulate (TSP) for any crushing, grinding, separating or materials handling activity of 20 mg/m^3 (Group 6). The emissions from the wet scrubber onsite must comply with this in-stack concentration of TSP. The manufacturer's guarantee is limited at 2 mg/m^3 of TSP from the wet scrubber vent and so the standard of concentration is met.

3.2 IMPACT ASSESSMENT CRITERIA

Part 4: Emission of Air Impurities from Activities and Plant in the Regulation refers to the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* ('Approved Methods') (Department of Environment and Conservation, 2005). The Approved Methods lists the statutory methods for modelling and assessing emissions of air pollutants from stationary sources in the state. Industry has an obligation to ensure compliance with the requirements specified in the Regulation.

The NSW EPA prescribes impact assessment criteria, which are outlined in the Approved Methods (Department of Environment and Conservation, 2005). The impact assessment criteria refer to the total pollutant load in the environment and impacts from new sources of these pollutants must be added to existing background levels for assessment of compliance. In accordance with the guidance document, ERM has adopted the assessment criteria shown in *Table 3.1* for particulate matter, nitrogen dioxide (NO_2) and individual toxic air pollutants (metals).

In addition to health impacts, airborne dust also has the potential to cause nuisance impacts by depositing on surfaces. *Table 3.1* also shows the maximum acceptable increase in dust deposition over the existing dust levels (2 g/m^2/month) and the maximum total deposited dust level (4 g/m^2/month). Given that there are no ambient dust deposition levels for the local area, this assessment will be compared to the maximum increase in deposited dust level. These criteria for dust deposition levels are set to protect against nuisance impacts.

Odour nuisance impact has been included in the impact assessment. The impact assessment criteria for complex mixtures of odours have been designed to take into account the range of sensitivity to odours within the community and to provide additional protection for individuals with a heightened response to odours. This is achieved by using a statistical approach, dependent upon population size.

The assessment criteria for particulate matter and NO_2 were applied, in accordance with the requirements of the Approved Methods, as follows:

- at the nearest existing or likely future off-site sensitive receptor;
- the incremental impact (predicted impacts from the site alone) for each pollutant must be reported;
- background concentrations must be included; and
- total impact (incremental impact plus background) must be reported as the 100th percentile and compared with the relevant impact assessment criteria.

The assessment criteria for individual toxic air pollutants were applied, in accordance with the requirements of the Approved Methods, as follows:

- at and beyond the boundary of the facility;
- the incremental impact (predicted impacts from the site alone) for each pollutant must be reported in concentration units consistent with the criteria (mg/m^3 or ppm), for an averaging period of 1 hour and as the:
    - 100th percentile of dispersion model predictions for Level 1 (screening-level dispersion modelling technique using worst-case input data) impact assessments; and
    - 99.9th percentile of dispersion model predictions for Level 2 (refined dispersion modelling technique using site-specific input data) impact assessments.

However, the assessment criteria for toxic air pollutants within the Approved Methods are taken from the Victorian State Environment Protection Policy for Air Quality Management (SEPP (AQM)) (Government of Victoria, 2001). In developing the design criteria contained within the SEPP (AQM), exposure was considered to occur to sensitive populations 24 hours a day, 365 days a year for an entire life time. The Site is, however, located within an industrial estate; thus the working population surrounding the site are not exposed 24 hours a day, 365 days a year for an entire lifetime, typically they will be exposed eight to ten hours a day, five to six days a week for a working life time. It is therefore considered that the application of the toxic air pollutant criterion in an industrial setting is unduly restrictive. Rather, it is considered that a more appropriate criteria within the industrial setting is the Safe Work Australia Time-Weighted Average[2] should apply at or beyond the site boundary rather than the human health impact assessment criterion in *Table 3.1*.

Consequently, the human health criterion for individual toxic air pollutants (as shown in *Table 3.1*) applies where there are sensitive receptors (residential) with potential to be exposed to such pollutants from metals cutting on a long-term basis, although it is noted that these pollutants are only emitted up to 8 – 10 hours when metals cutting at the Site takes place. The Safe Work Australia Time-Weighted Average (adjusted to 10 hours to account for maximum metals cutting duration and for 100th percentile) has been used for assessment within the industrial area, and is presented in *Table 3.1*.

The assessment criteria for complex mixtures of odorous air pollutants were applied, in accordance with the requirements of the Approved Methods, as follows:

- at the nearest existing or likely future off-site sensitive receptor;
- the incremental impact (predicted impacts from the site alone) must be reported in units consistent with the impact assessment criteria (odour unit (OU)), as peak concentrations (i.e. approximately 1 second average) in accordance with the requirements of Section 6 of the Approved Methods and as the:
    - 100th percentile of dispersion model predictions for Level 1 impact assessments; and
    - 99th percentile of dispersion model predictions for Level 2 impact assessments.

[2] Time weighted average can be found on http://hsis.safeworkaustralia.gov.au

Table 3.1 Adopted Assessment Criteria

Species	Averaging Period	Criteria	Units
Particulate matter and nitrogen dioxide			
Total suspended particulate matter (TSP)	Annual mean[1,4]	90	µg/m^3
Particulate matter <10 µg in diameter (PM_{10})	Annual mean[2,4]	30	µg/m^3
	24-hour maximum[3,4]	50	µg/m^3
Nitrogen dioxide (NO_2)	1 hour[3,4]	246	µg/m^3
	Annual mean[3,4]	62	µg/m^3
Individual toxic air pollutants			
Iron oxide fumes	1 hour[5]	0.09	mg/m^3
Manganese and compounds	1 hour[5]	0.018	mg/m^3
Copper dusts and mists	1 hour[5]	0.018	mg/m^3
Safe Work Australia TWA (adjusted to 10 hours)			
Iron oxide fumes	10 hours	4	mg/m^3
Manganese and compounds	10 hours	0.8	mg/m^3
Copper dusts and mists	10 hours	0.8	mg/m^3
Dust deposition			
Maximum increase in deposited dust level	Annual[4]	2	g/m^2/month
Maximum total deposited dust level	Annual[4]	4	g/m^2/month

Odorous air pollutants (complex mixtures)[4,6]

Population of affected community	**Impact assessment criteria for complex mixtures of odorous air pollutants (OU) (nose-response-time average, 99th percentile)**
Urban (≥~2000) and/or schools and hospitals	2.0
~500	3.0
~125	4.0
~30	5.0
~10	6.0
Single rural residence (≤~2)	7.0

1. National Health and Medical Research Council (National Health and Medical Research Council, 1996)
2. Environment Protection Authority (NSW Environment Protection Authority, 1998)
3. National Environment Protection Council (National Environment Protection Council, 1998)
4. Department of Environment and Conservation (Department of Environment and Conservation, 2005)
5. State Environment Protection Policy (Air Quality Management) (Government of Victoria, 2001)
6. Environment Protection Authority ((NSW Environment Protection Authority, 2001)

4 METHODOLOGY

In order to determine the predicted ground level concentrations that result from the project, the following approach was adopted:

- dispersion model selection;
- emission estimation;
- meteorological modelling;
- dispersion modelling;
- post processing; and
- assessment.

4.1 DISPERSION MODEL SELECTION

Several different dispersion models are routinely used in Australia for the assessment of air quality impacts from industrial releases. These include:

- AERMOD;
- CALPUFF; and
- Ausplume.

Ausplume is the approved dispersion model for use in most simple, near field applications in NSW. The Approved Methods states, however that Ausplume version 6.0 or later as specifically not approved in the following applications:

- complex terrain, non-steady-state conditions;
- buoyant line plumes;
- coastal effects such as fumigation;
- high frequency of stable calm night-time conditions;
- high frequency of calm conditions; and / or
- inversion break-up fumigation conditions (Department of Environment and Conservation, 2005).

Consideration of *Figure 2.1* and *Figure 2.2* show that over the five years of data:

- calm winds (< 0.5 m/sec) occur for approximately 14% of the time; and
- stable night time conditions occur for approximately 35% of all hours.

Consequently, as determined by the Approved Methods, the CALPUFF model has been used for this assessment.

CALPUFF was selected as a multi-layer, multi-species non-steady state puff dispersion model that can simulate the effects of time- and space-varying meteorological conditions on pollutant transport, transformation and removal (Scire, et al., 2000).

CALPUFF is a highly versatile and widely-used model which can be run in three-dimensional or two-dimensional mode with respect to meteorology. The three-dimensional mode allows spatially varying wind fields, for example, to be incorporated: this can be important in coastal regions with seabreeze effects. CALPUFF also allows plumes to be tracked through time as they are transported by regional winds: in coastal regions recirculation of pollutants due to seabreeze and landbreeze cycles can also be important.

CALPUFF contains algorithms for near-source effects such as building downwash, partial plume penetration, sub-grid scale interactions as well as effects such as pollutant removal, chemical transformation, vertical wind shear, a Probability Distribution Function for dispersion in the convective boundary layer and coastal interaction effects (e.g. sea-breeze recirculation and fumigation within the Thermal Internal Boundary Layer).

Meteorological data used to drive CALPUFF are processed by the CALMET meteorological pre-processor (Scire, et al., 2000). CALMET includes a wind field generator containing objective analysis and parameterised treatments of slope flows, terrain effects and terrain blocking effects. The pre-processor produces fields of wind components, air temperature, relative humidity, mixing height and other micro-meteorological variables to produce the three-dimensional meteorological fields that are used in CALPUFF. CALMET uses measured and/or modelled meteorological inputs in combination with land use and geophysical information for the modelling domain to predict gridded meteorological fields for the region of interest.

CALPUFF is an USEPA regulatory model and is widely used in Australia.

4.2 EMISSION ESTIMATION

Estimates of emissions provide the basis for atmospheric dispersion modelling. Consideration of the processes on site has concluded that the dominant species to be emitted are:

- Total Suspended Particulate matter (TSP);
- Particulate Matter of less than 10 μm in aerodynamic diameter (PM_{10}); and
- Particulate Matter of less than 2.5 μm in aerodynamic diameter ($PM_{2.5}$)

The only combustion processes that occur on site are from vehicle engines, with the conveyors, hammermill, sheer and shredder powered by mains electricity. As discussed previously, the change in vehicle movement is expected to be less than 5%, and the change in emissions as a result of vehicle use is not considered to be a significant contribution to overall site emissions. The assessment has therefore concentrated on emissions of particulate matter from the handling and processing that occurs on site.

Table 4.1 shows the sources identified from the understanding of the process together with the source name used within the modelling. *Table* 4.2 and *Table 4.3* include a summary of pollutant emission rates included in the dispersion modelling. The sources WSS01, TRKD01, TRKD02, C1 – C2 and WE01-WE06 are discussed in detail in Annex A. WSS01, TRKD01, TRKD02 and WE01 – WE06 have variable TSP/PM_{10}/$PM_{2.5}$ emission rates dependent on wind speed, rainfall, or temperature, or a combination thereof, and are discussed further in *Annex A*.

Table 4.1 Source identification and process description

Source Name	Process Description
MH01	Non-ferrous material is transferred to the non-ferrous processing building
MH02	Transfer of raw material directly to the inspected stockpile of scrap metal (bypass pre-shredder)
MH03	
MH04	Transfer of raw material from stockpile to pre-shredder
MH05	
MH06	Transfer of pre-shredder output to a truck to convey to the inspected stockpile of scrap metal close to the conveyor into the hammer mill
MH07	
MH08	Transfer of the inspected stockpile of scrap metal close to the conveyor onto the hammer mill conveyor
MH09	
MH10	Ferrous metals are collected from the stockpile by front end loader and loaded into trucks.
MH11	
TP01	Pre-shredder drop point

Source Name	Process Description
TP02	The cleaned fragmented material (on a conveyor C1) passes under a drum magnet, where ferrous metals are dropped onto the picking conveyor (C2)
TP03	Ferrous metals transferred from C2, where operators remove remaining non-ferrous materials, to C3.
TP04	Ferrous metals are conveyed onto the product stockpile.
TP05	Non-ferrous materials drop beneath the drum magnet to a conveyor (C4) that runs perpendicular to the ferrous product.
TP06	Transfer point at conveyor bend 1
TP07	Transfer point at conveyor bend 2
TP08	Transfer point at conveyor bend 3
CV01 - CV03	Material from the stockpiles is conveyed into the hammer mill
CV04	Material from hammer mill is carried upwards by an incline conveyor and dropped into chute.
CV05	The cleaned fragmented material from the cascade chute passes under the drum magnet and ferrous metals are removed
CV06 - CV07	Operators remove remaining non-ferrous materials.
CV08 - CV09	Ferrous materials are taken and dropped onto a conveyor, which are conveyed to the product stockpile.
CV10 - CV11	Non-ferrous materials are dropped onto a conveyor, which transports material to the conveyor before the non-ferrous processing building.
CV12	Conveys non-ferrous material into the non-ferrous recovery plant.
CV13 - CV15	Floc product is transferred onto conveyor.
CV16 - CV33	Conveyor transports floc product to the post shredder processing building. Conveyor is enclosed.
TRKD01	Truck dumping at raw material delivery
TRKD02	Truck carries pre-shredder output to the inspected stockpile of scrap metal close to the conveyor into the hammer mill
C1 C2	Metals cutting at scrap unloading area
WE01	Scrap stockpile
WE02	Scrap stockpile
WE03	Post pre-shredder stockpile 1 - at pre-shredder
WE04	Post pre-shredder stockpile 2 - at hammer mill
WE05	Ferrous product stockpile
WE06	Ferrous product stockpile
WSS01	Wet scrubber stack

1. Emission rates for sources WSS01, TRKD01, TRKD02, C1 – C2 and WE01-WE06 are discussed in detail in Annex A.

Table 4.2 Mass emission rates by volume source

Source Name[1]	Source Type	Throughput (tonnes/day)	Operation[2] (hours/day)	Units	Species		
					TSP	PM_{10}	$PM_{2.5}$
MH01	Volume	50	15	g/sec	0.0012	0.0029	0.0004
MH02	Volume	750	14	g/sec	0.017	0.043	0.0056
MH03	Volume	750	14	g/sec	0.017	0.043	0.0056
MH04	Volume	300	14	g/sec	0.0069	0.017	0.0022
MH05	Volume	300	14	g/sec	0.0069	0.017	0.0022
MH06	Volume	300	14	g/sec	0.0069	0.017	0.0022
MH07	Volume	300	14	g/sec	0.0069	0.017	0.0022
MH08	Volume	1050	14	g/sec	0.024	0.061	0.0078
MH09	Volume	1050	14	g/sec	0.024	0.061	0.0078
MH10	Volume	790	14	g/sec	0.018	0.046	0.0059
MH11	Volume	790	14	g/sec	0.018	0.046	0.0059
TP01	Volume	300	14	g/sec	0.0069	0.017	0.0022
TP02	Volume	790	14	g/sec	0.018	0.046	0.0059
TP03	Volume	790	14	g/sec	0.018	0.046	0.0059
TP04	Volume	790	14	g/sec	0.018	0.046	0.0059
TP05	Volume	40	14	g/sec	0.0009	0.0023	0.0003
TP06	Volume	240	14	g/sec	0.0056	0.014	0.0018
TP07	Volume	240	14	g/sec	0.0056	0.014	0.0018
TP08	Volume	240	14	g/sec	0.0056	0.014	0.0018
CV01 - CV04	Volume	1050	14	g/sec	0.024	0.061	0.0078
CV05 - CV09	Volume	790	14	g/sec	0.018	0.046	0.0059
CV10 - CV12	Volume	40	14	g/sec	0.0009	0.0023	0.0003
CV13 - CV15	Volume	220	14	g/sec	0.0015	0.0038	0.0005
CV16 - CV33	Volume	240	14	g/sec	0.0017	0.0042	0.0005

1. Sources WSS01, TRKD01, TRKD02, C1 – C2 and WE01-WE06 are discussed in detail in Annex A. WSS01, TRKD01, TRKD02 and WE01 – WE06 have variable emission rates dependent on wind speed, rainfall, or temperature, or a combination thereof.
2. Sources have been modelled as occurring between the hours of 6am-9pm (15 hours/day) or 6am-8pm (14 hours/day).

Table 4.3 Mass emission rates by point source (C1, C2 and WSS01) for NO_X, odour and toxic air pollutants

Source Name[1]	Source Type	Operation[2] (hours/day)	Odour (OU/s)	NO_X (g/s)	Species		
					Iron oxide fumes (g/s)	Manganese and compounds (g/s)	Copper dusts and mists (g/s)
C1	Point	10	0.018	0.33	1.15	0.12	0.016
C2	Point	10	0.018	0.33	1.15	0.12	0.016
WSS01	Point	14	4445.2	-	-	-	-

1. Sources WSS01, TRKD01, TRKD02, C1 – C2 and WE01-WE06 are discussed in detail in Annex A. WSS01, TRKD01, TRKD02 and WE01 – WE06 have variable emission rates dependent on wind speed, rainfall, or temperature, or a combination thereof.
2. Metals cutting take place from 7am to 5 pm (10 hours/day) . Hammer mill is proposed to operate from 6am to 8pm (14 hours/day).

Annex A provides a description of the methodology used to derive the emission estimates for each of the sources, together with the input data used in the emission estimation.

The proposed expansion is likely to result in a decrease in emissions of particulate matter from the site whilst increasing in the throughput from the approved 90,000 tonnes/annum to 350,000 tonnes/annum. This reduction will be achieved through effective dust control measures and operational efficiencies.

Efficiencies and mitigation measures proposed for the expansion that reduce the level of particulate matter emitted on site include:

- The site will be totally sealed. A sealed surface provides a paved road for truck movement on and off site. This eliminates a large source of particulate matter emissions compared to an unpaved road (Department of Sustainability, Environment, Water, Population and Communities, 2012). Unpaved roads emit particulate matter as the force of the wheels on the road surface pulverise the surface material into fine particles. These fine particles are lifted by and dropped from the rolling wheels of vehicles and are removed by traffic through re-entrainment into the atmosphere. The road surface is also exposed to strong air currents in turbulent shear with the surface. The turbulent wake that is left behind the vehicle continues to act on the road surface after the vehicle has passed, resulting in further emissions of particulate matter. Therefore, paving the road surface reduces the emission of particulate matter on site significantly, assuming the silt loading on the surface of the road is maintained at an acceptable level.

- A sealed surface also reduces the emission of particulate matter from the mobile materials handling equipment due to a more consistent driving surface and the ability to select more direct routes across the site.

- The new site design no longer requires trucks to enter the site twice but allows for one main entrance and exit point, reducing the kilometres travelled by trucks. This reduces the emissions of particulate matter from the exhaust and reduces any potential emissions from wheel generated dust. Emissions from vehicle exhaust are not considered significant unless a change in net annual average daily traffic (AADT) or peak traffic flows are greater than ±5% or ±10% (Environmental Protection UK, 2010). The proposed expansion will not result in a change in traffic conditions of more than 5% net across the expanded site (accounting for existing Dexion operations) and hence vehicle emissions have not been considered in this assessment.

- Additional equipment purchased for the upgrade will conform to the standards of the latest technology.

4.3 METEOROLOGICAL MODELLING

In dispersion modelling, meteorology drives dispersion and dilution of emissions and therefore determines the predicted concentrations at ground level. It is important, therefore, that meteorology used in the dispersion modelling provides a reasonable representation of Site meteorology.

In order to provide the dispersion model with appropriate meteorological information, the following approach was taken:

- Meteorological model selection;
- Year selection;
- Meteorological model setup; and
- Meteorological model validation.

4.3.1 *Meteorological Model Selection*

Meteorological modelling conducted for this assessment included The Air Pollution Model (TAPM) and CALMET (a three dimensional micro-meteorological model). Insufficient site specific meteorological data was available for the site to adequately describe the local wind flows given the complex nature of the terrain in the model domain. TAPM was selected as an industry standard method able to create a 3-dimensional data file of gridded meteorological parameters by predicting airflow important to local scale air pollution from large scale meteorology provided by synoptic analyses. The TAPM outputs can be converted to file compatible with CALMET using CALTAPM and used as an initial estimated wind field in CALMET.

CALMET is the meteorological pre-processor for the chosen dispersion model and considers the initial estimated wind fields together with any observational data from further afield, terrain and land use information to produce a three-dimensional micro-meteorological model for use in dispersion modelling.

4.3.2 *Year Selection*

The most recent five years with available meteorological data at the time of preparing the assessment (2008-2012) were selected as the meteorological model years in accordance with international standard practice for dispersion modelling.

4.3.3 *Meteorological Model Setup*

Meteorological modelling was conducted in accordance with the 'Generic Guidance and Optimum Model Settings for the CALPUFF Modeling System for Inclusion into the 'Approved Methods for the Modelling and Assessments of Air Pollutants in NSW, Australia'' (Barclay & Scire, 2011). The following sub-sections detail the adopted methodology.

TAPM

Meteorological data was prepared for the dispersion modelling using TAPM developed by CSIRO. TAPM v4 solves the fundamental fluid dynamics and scalar transport equations to predict meteorology and (optionally) pollutant concentrations. It consists of coupled prognostic meteorological and air pollution concentration components. The model predicts airflow important to local scale air pollution, such as sea breezes and terrain induced flows, against a background of larger scale meteorology provided by synoptic analyses. The Technical Paper by Hurley (2008a) describes technical details of the model equations, parameterisations, and numerical methods. A summary of some verification studies using TAPM is also given in Hurley (2008b).

A meteorological dataset for 2008-2012 was created using meteorological information and terrain data inherent to TAPM. TAPM v4 has a tendency to over-predict the incidence of light winds in some situations. However, this tendency is considered to lend a conservative bias as low wind speeds are conducive to higher ground level concentrations.

TAPM was configured with the following information:

- centre grid point: 306580mE, 6263617mN (UTM Grid Zone 56S);
- grid points NX x NY x NZ = 35 x 35 x 25;
- 4 grid resolutions (nests) were defined: 30,000, 10,000, 3,000, 1,000; and
- 4 spin up days were allocated and meteorology was output after 2 days.

CALTAPM

CALTAPM was developed to provide users of the TAPM model the ability to create an hourly, 3-dimensional data file of gridded meteorological parameters of the type 3D.DAT for direct use in the CALMET diagnostic meteorological model. When used this way the TAPM data can be used in CALMET to determine the initial guess wind field, prior to the weighting of true observations or even to run CALMET in no-observation mode. The TAPM output file was converted to a 3D.DAT file using CALTAPM for input into CALMET as an initial guess wind field.

CALMET

CALMET is a meteorological pre-processor that includes a wind field generator containing objective analysis and parameterised treatments of slope flows, terrain effects and terrain blocking effects. The pre-processor produces fields of wind components, air temperature, relative humidity, mixing height and other micro-meteorological variables to produce the three-dimensional meteorological fields that are used in the CALPUFF dispersion model.

CALMET requires several datasets in order to resolve the surface and upper air meteorology occurring for each hour of the year:

- surface observations
  - wind speed
  - temperature
  - cloud cover amount
  - precipitation amount and type
  - base cloud height.
- upper air observations
  - height of observation
  - wind speed and direction at each height
  - temperature at each height
  - barometric pressure at each height.
- land use data
- topographical data.

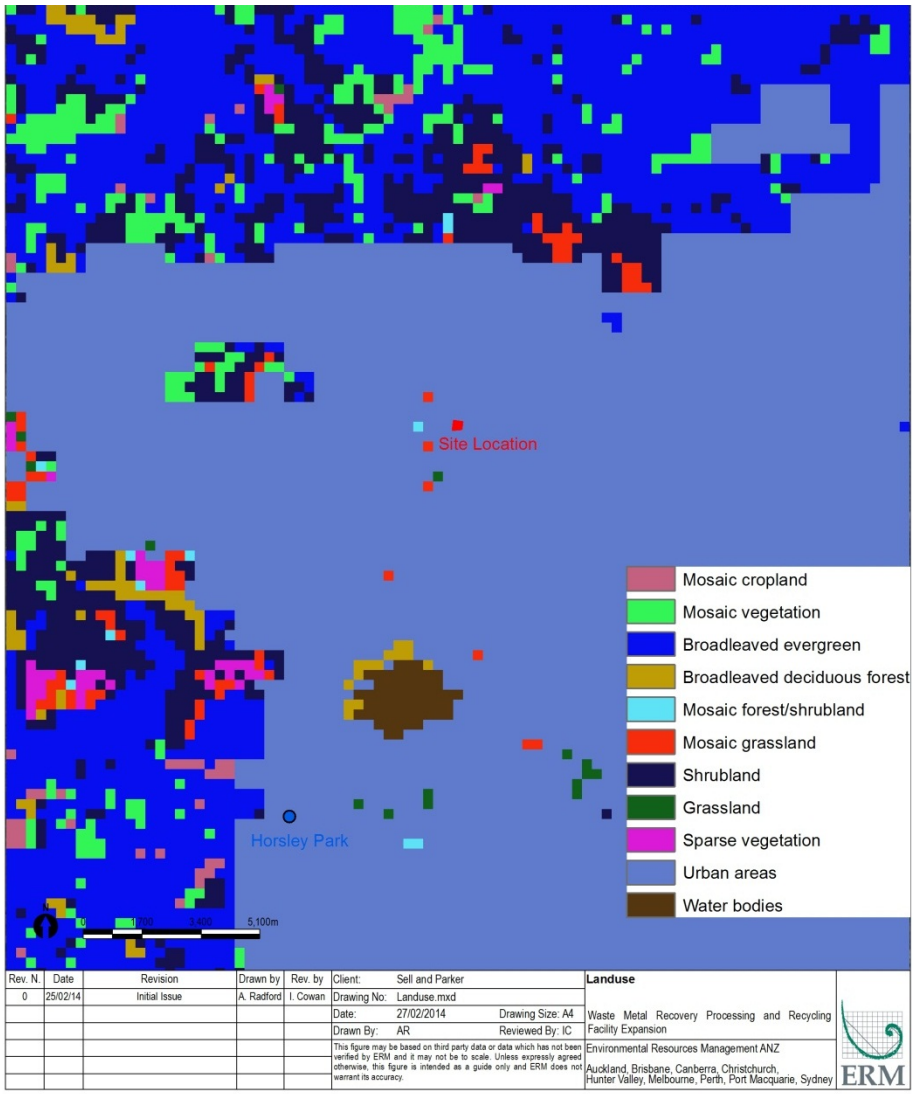
Surface observation data in the surrounding area was available from a Bureau of Meteorology (BoM) meteorological station at Horsley Park, NSW. A precipitation file was also generated from observations at Horsley Park. CALTAPM provided a 3D.DAT file containing surface and upper air observations at every grid point in the model domain. CALMET was run with a grid resolution of 0.2 km covering a 24 km by 24 km model domain. The vertical resolution incorporated 12 cell face heights up to 2000 m. The grid origin was located at 294580 mE, 6251617mN (UTM Zone 56S).

Land Use

The land use for the Project area was obtained from European Space Agency (ESA) GlobCover Portal. ESA delivers global composites and land cover maps using as input observations from the 300 m MERIS sensor on board the ENVISAT satellite mission. The land use maps were generated from observations taken during January - December 2009.

The model domain is mainly characterised by the urban landuse category given the location in the north-western suburbs of Sydney.

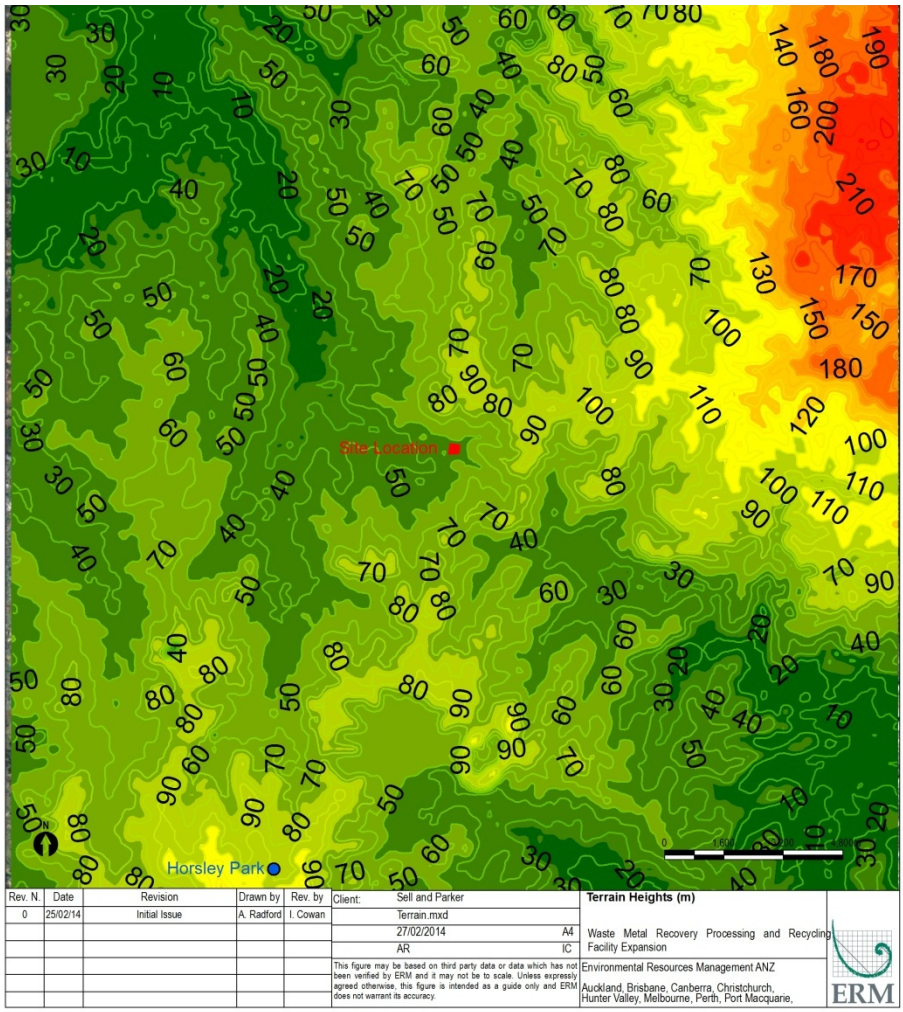
Figure 4.1 Landuse used in the meteorological modelling



Terrain

The terrain for the Project area was obtained from the NASA SRTM Mission at a 90 m spatial resolution. The terrain close to the site is quite uniform with a change in height of less than 40 m within 5 km of the site. The landscape could be described as gentle rolling hills with some larger terrain features to the north-east of the site. Horsley Park in the south-west of the modelling domain is likely to experience significantly different local wind flows than that at the site. Horsley Park is an elevated location is dominated by wind flows from the south-west. Given the undulating hills surrounding the site, wind directions are likely to channel through the valleys to the west-south-west. Both sites will be influenced on a local scale by drainage flows characterised by mountain-valley interactions.

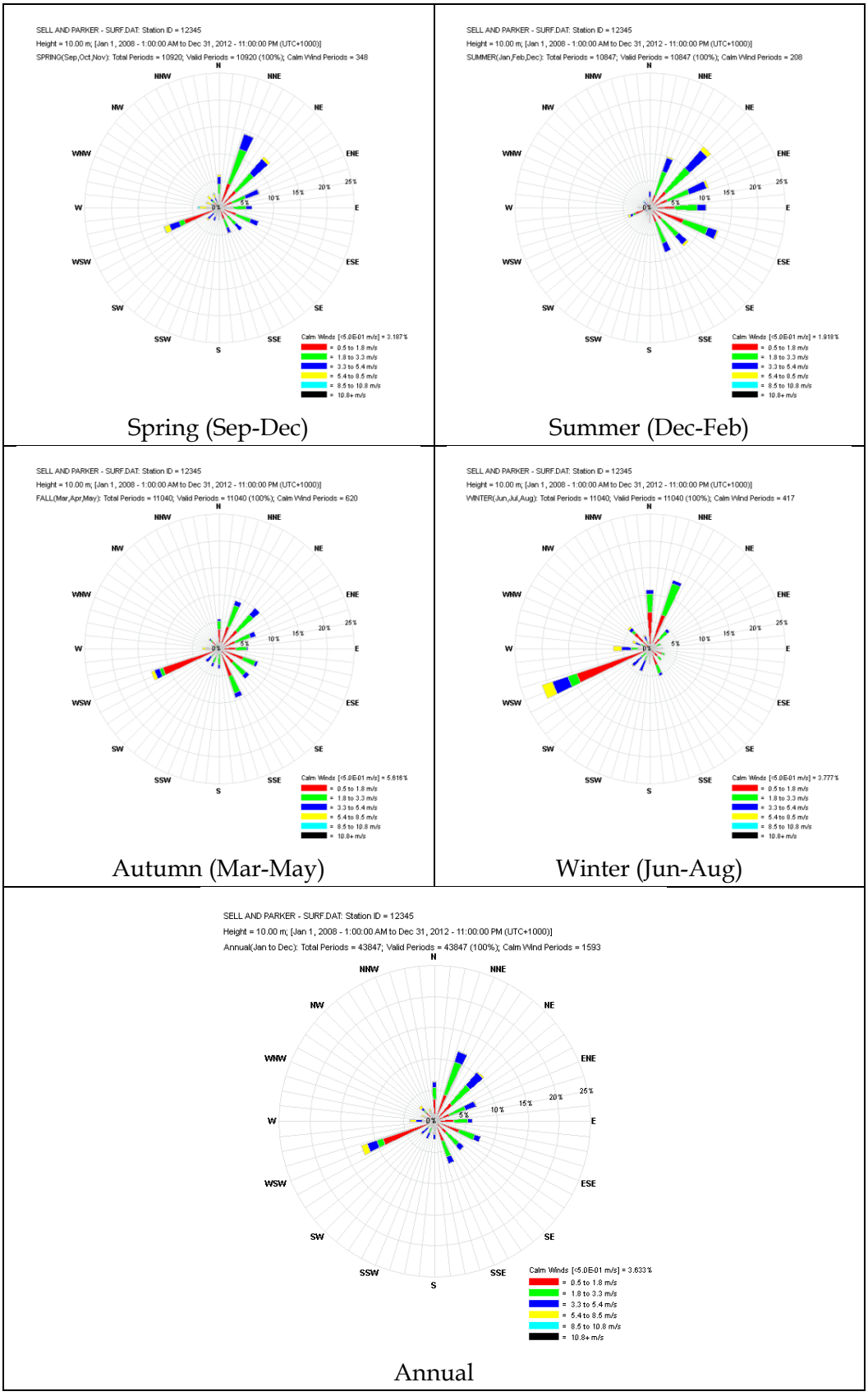
Figure 4.2 Terrain used in the meteorological modelling



4.3.4 *Meteorological model validation*

Figure 4.3 shows the wind roses predicted for the Site by CALMET including the data from TAPM and observation location at Horsley Park as described above.

Figure 4.3 Predicted wind roses for the site



Comparison of *Figure 4.3* with *Figure 2.1* indicates similarities between the datasets with almost no windflow from the west or north-west. Comparison of the wind roses predicted for the site (*Figure 4.3*) with the local terrain (*Figure 4.2*) shows that the wind flows for both sites are likely to align with their local shallow valley system. It is considered that the decrease in calm conditions at the Site compared to Horsely Park is reflective of local drainage in a shallow valley system at the Site compared to the position of the BoM monitor at the base of a hill at Horsely Park. The calm conditions demonstrated at Horsely Park are likely to be reflected in the higher frequency of 0.5 m/sec to 1.0 m/sec winds predicted at the Site as a result of cool air drainage.

4.4 DISPERSION MODELLING

Dispersion modelling was undertaken using the CALPUFF dispersion model. The emission sources were configured in the dispersion model using the parameters shown in *Table 4.4* together with the rates shown in 4.3 below.

Table 4.4 Emission parameters used in dispersion model

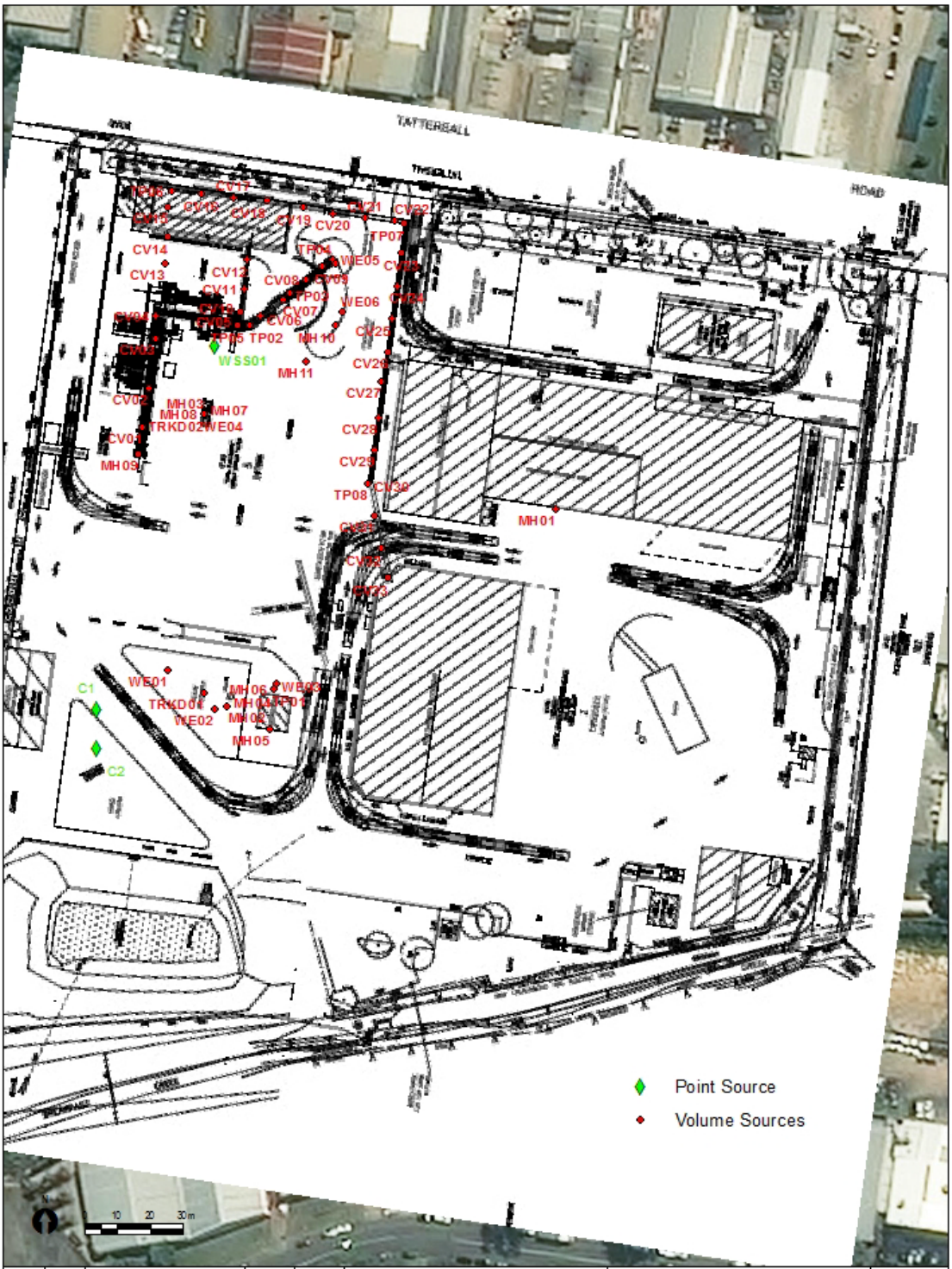
Source Name[1,2]	Source Type	Diameter (m)	Release velocity (m/sec)	Release Height (m)	ρy (m)	ρz (m)
WSS01	Point	0.56	11.28	3	-	-
TRKD01	Volume	-	-	2.5	1.16	2.33
TRKD02	Volume	-	-	2.5	1.16	2.33
MH01	Volume	-	-	4	1.02	0.37
MH02	Volume	-	-	3.5	1.02	2.16
MH03	Volume	-	-	4	1.02	0.37
MH04	Volume	-	-	3.5	1.02	2.16
MH05	Volume	-	-	4	1.02	0.37
MH06	Volume	-	-	2	1.02	2.16
MH07	Volume	-	-	4	1.02	0.37
MH08	Volume	-	-	2	1.02	2.16
MH09	Volume	-	-	2	1.02	0.37
MH10	Volume	-	-	3.5	0.84	2.21
MH11	Volume	-	-	4	0.84	0.37
TP01	Volume	-	-	7	0.47	0.23
TP02	Volume	-	-	1.0	0.47	0.09
TP03	Volume	-	-	1.0	0.47	0.09
TP04	Volume	-	-	7.0	0.47	0.23
TP05	Volume	-	-	1.0	0.47	0.09
TP06	Volume	-	-	3	0.70	0.09
TP07	Volume	-	-	3	0.70	0.09
TP08	Volume	-	-	3	0.70	0.09
CV01	Volume	-	-	2	1.40	0.47
CV02	Volume	-	-	2	1.40	0.47
CV03	Volume	-	-	2	1.40	0.47
CV04	Volume	-	-	3.5	0.47	0.81
CV05	Volume	-	-	1	0.47	0.23

Source Name[1,2]	Source Type	Diameter (m)	Release velocity (m/sec)	Release Height (m)	ρy (m)	ρz (m)
CV06	Volume	-	-	1	0.47	0.23
CV07	Volume	-	-	1	0.47	0.23
CV08	Volume	-	-	3.5	0.47	0.81
CV09	Volume	-	-	3.5	0.47	0.81
CV10	Volume	-	-	1	0.47	0.23
CV11	Volume	-	-	1	0.47	0.23
CV12	Volume	-	-	1	0.47	0.23
CV13	Volume	-	-	3	0.70	0.70
CV14	Volume	-	-	3	0.70	0.70
CV15	Volume	-	-	3	0.70	0.70
CV16	Volume	-	-	3	0.70	0.70
CV17	Volume	-	-	3	0.70	0.70
CV18	Volume	-	-	3	0.70	0.70
CV19	Volume	-	-	3	0.70	0.70
CV20	Volume	-	-	3	0.70	0.70
CV21	Volume	-	-	3	0.70	0.70
CV22	Volume	-	-	3	0.70	0.70
CV23	Volume	-	-	3	0.70	0.70
CV24	Volume	-	-	3	0.70	0.70
CV25	Volume	-	-	3	0.70	0.70
CV26	Volume	-	-	3	0.70	0.70
CV27	Volume	-	-	3	0.70	0.70
CV28	Volume	-	-	3	0.70	0.70
CV29	Volume	-	-	3	0.70	0.70
CV30	Volume	-	-	3	0.70	0.70
CV31	Volume	-	-	5	0.70	1.16
CV32	Volume	-	-	5	0.70	1.16
CV33	Volume	-	-	5	0.70	1.16
C1	Point	0.05	0.01	1	-	-
C2	Point	0.05	0.01	1	-	-
WE01	Volume	-	-	3.5	2.33	3.26
WE02	Volume	-	-	3.5	2.33	3.26
WE03	Volume	-	-	3.5	1.16	3.26
WE04	Volume	-	-	3.5	2.33	3.26
WE05	Volume	-	-	3.5	2.33	3.26
WE06	Volume	-	-	3.5	2.33	3.26

1. The release temperature for all sources is ambient air temperature.
2. WSS – wet scrubber stack; TRKD – truck dumping; MH – materials handling; TP – conveyor transfer point; CV – conveyors; WE – wind erosion from stockpiles.

The locations of the sources, described by a source name in *Table 4.4*, are indicated in *Figure 4.4*.

Figure 4.4 Location of the point and volume sources modelled



Rev. N.	Date	Revision	Drawn by	Rev. by	Client:	Sell and Parker	Location of Sources
0	25/02/14	Initial Issue	A. Radford	I. Cowen	Drawing No:	Sources.mxd	
1	8/7/2014	Update to include cutting sources	SY Lo	I. Cowen	Date:	08/07/2014 Drawing Size: A4	Waste Metal Recovery, Processing and Recycling Facility Expansion
					Drawn By:	AR Reviewed By: IC	
					This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.		Environmental Resources Management ANZ Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

4.4.1 Time Varying Emission Rates

Time varying emission rates have been used for some parameters. The point source, the wet scrubber, will operate between the hours of 6 am to 8 pm and has been modelled only for these hours. The emission rate from the wet scrubber has also been correlated to the ambient temperature (Annex A). The metal cutting operations typically take place up to 10 hours in a day (assumed from 7 am to 5 pm).

The materials handling activities on site, which have been represented as volume sources, have also been modelling between the hours of 6 am to 8 pm. Truck dumping, associated with the transportation of raw materials on the proposed site, has been modelled between the site operation hours of 6 am to 9 pm. The emission rates associated with proposed truck dumping and wind erosion from stockpiles have utilised equations relating wind speed and rainfall to the estimate the emissions of dust from these activities (Annex A).

4.4.2 Receptor Grid

A receptor grid of dimension 12 km by 12 km with a south west corner at 300580 mE, 6257617 mN (UTM Grid Zone 56) at a resolution of 200m was used to model predicted concentrations at ground level. The height of each receptor within the grid was extracted from the SRTM data.

4.5 POST-PROCESSING

Post processing has been undertaken using CALPOST for each of the five years modelled. This process reviews each of the hourly predicted concentrations across the model grid and at the sensitive receptors, averages the concentrations according to the requirements of the assessment criteria and retrieves the maximum predicted concentration at each location for the requisite averaging period specified by the Impact Assessment Criteria.

5 RESULTS

The assessment of impacts has considered the predicted concentrations of TSP, PM_{10}, $PM_{2.5}$ and deposited dust at the sensitive receptors, with and without background air quality concentrations.

5.1 CONTOUR PLOTS

The concentration or deposition contours for the modelled domain are presented in Annex B. Contours plots have been presented without the background concentrations as the elevated 24-hour and annual background concentrations do not allow the scale of the predicted results to be clearly demonstrated.

5.2 SENSITIVE RECEPTORS

The predicted concentrations are to be assessed against the assessment criteria at the nearest existing or likely future off-site sensitive receptor. The following tables report the incremental impact from the site, the maximum background concentration (if applicable) and the total impact (incremental impact plus background) as the 100th percentile concentration (or deposition).

5.2.1 Total Suspended Particulate Matter

The predicted annual average TSP concentrations at the receptors were produced from the model. The highest concentration at each receptor over a 5 year period is presented in *Table 5.1*. Whilst ambient TSP is not measured at Prospect, typically PM10 is considered to be half of the ambient TSP value. Taking the annual average PM_{10} value of 18.4 $\mu g/m^3$ this indicates and annual average background TSP value of 36.8 $\mu g/m^3$. When this indicative background is added to the maximum modelled annual mean TSP concentration at a sensitive receptor (0.89 $\mu g/m^{3)}$ this provides a cumulative concentration of approximately 37.7 $\mu g/m^3$. When compared to the assessment criteria of 90 $\mu g/m^3$, the highest annual average TSP concentrations at each of the receptors is therefore below the assessment criteria.

Table 5.1 Highest Annual Average TSP Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average TSP Concentration (Increment) [1] (µg/m³)	Impact Assessment Criteria (µg/m³)
1	306993	6263656	0.89	90
2	306975	6263528	0.75	
3	306963	6263414	0.53	
4	305627	6263452	0.34	
5	305527	6263624	0.26	
6	305475	6263762	0.23	
7	305584	6264114	0.20	
8	306081	6264458	0.30	
9	306603	6264395	0.28	
10	307080	6264227	0.22	

1. Maximum at each of the receptors over 5 years.

5.2.2 Dust Deposition

With an unknown background, the maximum allowable increase in deposited dust is 2 g/m²/month. *Table 5.2* shows the highest annual average dust deposition at each of the receptors produced from 5 years of data. The predicted concentrations at each of the sensitive receptors are below the assessment criteria (*Table 5.2*).

Table 5.2 Highest Annual Average Dust Deposition at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average Dust Deposition (Increment) [1] (g/m²/month)	Impact Assessment Criteria (g/m²/month)
1	306993	6263656	0.11	2
2	306975	6263528	0.09	
3	306963	6263414	0.06	
4	305627	6263452	0.03	
5	305527	6263624	0.03	
6	305475	6263762	0.02	
7	305584	6264114	0.02	
8	306081	6264458	0.04	
9	306603	6264395	0.04	
10	307080	6264227	0.03	

1. Maximum at each of the receptors over 5 years.

5.2.3 $PM_{2.5}$

While there is no appropriate assessment criterion for $PM_{2.5}$ concentrations, the highest maximum 24-hour average concentrations have been presented at each of the receptors over a 5 year time period (*Table 5.3*).

Table 5.3 Maximum predicted contribution to 24-hour Average $PM_{2.5}$ concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Year	Maximum $PM_{2.5}$ background[1] concentration ($\mu g/m^3$)	Maximum $PM_{2.5}$ Concentration (Increment) [2] ($\mu g/m^3$)	Increment plus background ($\mu g/m^3$)
1	306993	6263656	2010	20.8	4.15	25.0
2	306975	6263528	2010	20.8	4.05	24.9
3	306963	6263414	2010	20.8	2.79	23.6
4	305627	6263452	2009	148.9	1.88	150.8
5	305527	6263624	2009	148.9	1.62	150.5
6	305475	6263762	2009	148.9	1.04	149.9
7	305584	6264114	2009	148.9	1.04	149.9
8	306081	6264458	2009	148.9	1.54	150.4
9	306603	6264395	2008	17.7	1.24	18.9
10	307080	6264227	2010	20.8	0.87	21.7

1. Data from Richmond
2. Maximum at each of the receptors over 5 years.

5.2.4 PM_{10} Annual Mean

The highest annual average PM_{10} concentrations at each receptor are presented in *Table 5.4*. The corresponding background concentration for the year in which the maximum concentration was predicted is also presented. The addition of the background concentration and the maximum increment results concentrations below the annual mean criteria for PM_{10} (*Table 5.4*).

Table 5.4 Maximum Annual Average PM_{10} Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average PM_{10} Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	0.57	2009	25.9	26.5	30
2	306975	6263528	0.49	2009	25.9	26.4	
3	306963	6263414	0.36	2009	25.9	26.3	
4	305627	6263452	0.22	2012	17.2	17.4	
5	305527	6263624	0.18	2012	17.2	17.4	
6	305475	6263762	0.15	2012	17.2	17.4	
7	305584	6264114	0.14	2012	17.2	17.3	
8	306081	6264458	0.2	2011	15.8	16.0	
9	306603	6264395	0.19	2012	17.2	17.4	
10	307080	6264227	0.15	2012	17.2	17.4	

5.2.5 *PM_{10} 24-Hour Mean*

As shown in *Table 2.2*, the maximum 24-hour average PM_{10} concentration for 2009 exceeds the respective assessment criteria. The highest 24-hour average PM_{10} concentrations at each receptor are presented in *Table 5.5*, together with the maximum 24-hour average background concentration for the relevant year in which the prediction occurred.

While the highest maximum 24-hour average PM_{10} concentrations at each of the receptors (i.e. the increment) over 5 years are below the assessment criteria, the increment plus background exceeds the assessment criteria at receptors 1, 2, 4, 5, 6, 7 and 8 (*Table 5.5*). The exceedances of the background are the result of elevated backgrounds that are either close to or above the assessment criteria.

Level 2 Contemporaneous Assessment

The guidance document for the modelling and assessment of air pollutants in NSW (Department of Environment and Conservation, 2005) states that, where existing ambient air pollutant concentrations exceed the impact assessment criteria, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity.

The guidance indicates that the maximum predicted concentrations at the receptors as a result of site activities must be matched with the corresponding 24-hour average in the background ambient air quality data. This approach also needs to be applied vice versa, in that the maximum concentrations in the ambient air quality data, with the corresponding predicted 24-hour average at the receptors.

To facilitate this analysis, the highest maximum 24-hour average PM_{10} concentrations at each of the receptors for 5 years were extracted from the model data. These maximum concentrations at the receptors were matched with the corresponding 24-hour background concentration and added together to provide the increment plus background, when the concentrations at the receptors are at their highest over 5 years (*Table 5.6*).

The maximum Site contribution was determined to be 12.4 $\mu g/m^3$ at receptor 1. To determine whether there is potential for the site to result in additional exceedances of the criteria, the maximum 24-hour background concentrations below the criteria were extracted from the EPA measurements to a level equal to or below 37.6 $\mu g/m^3$. *Table 5.7* shows the maximum, non-exceedance background concentrations, together with the date on which they occurred, the predicted site contribution at the sensitive receptors and the cumulative impact of background plus site contribution.

Table 5.5 Maximum 24-hour Average PM_{10} Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Maximum 24-hour Average PM_{10} Concentration (Increment) [1] (µg/m³)	Year Maximum Concentration Occurred	Background Air Quality (µg/m³)	Increment plus Background (µg/m³)	Impact Assessment Criteria (µg/m³)
1	306993	6263656	12.35	2010	40.1	52.5	50
2	306975	6263528	11.91	2010	40.1	52.0	
3	306963	6263414	8.05	2010	40.1	48.2	
4	305627	6263452	4.37	2009	1,680.3	1,684.4	
5	305527	6263624	3.72	2009	1,680.3	1,684.0	
6	305475	6263762	2.84	2009	1,680.3	1,683.1	
7	305584	6264114	2.84	2009	1,680.3	1,683.1	
8	306081	6264458	3.98	2009	1,680.3	1,684.3	
9	306603	6264395	3.84	2008	41.8	45.6	
10	307080	6264227	2.59	2010	41.5	44.1	

1. Maximum at each of the receptors over 5 years.

In these analyses, the results indicate that there would be no additional exceedances as a result of the site activities (*Table 5.6* and *Table 5.7*). This results from events when dust is transported from the Project Site to receptors when the background concentrations are low, and when background concentrations are elevated, but below criteria, the concentrations as a result of Site activities is correspondingly low.

Table 5.6 Maximum 24-hour average Site contribution to PM_{10} Concentrations at the Receptors plus background

Date	Background[1] (µg/m³)	PM_{10} Maximum Predicted 24-hour average Site contribution (µg/m³) Sensitive Receptors										Increment plus Background (µg/m³) Sensitive Receptors									
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
05/02/2008	6.3									3.84										10	
03/06/2009	21.3				4.37	3.72									26	25					
21/06/2009	11.6						2.84	2.84	3.98								14	14	16		
17/07/2010	18.1										2.59										21
13/11/2010	18.4	12.35	11.91	8.05																	

1. Sourced from the Prospect ambient monitoring station

Table 5.7 24-hour average Site contribution to PM_{10} concentrations at the sensitive receptors at the time of the highest non-exceeding background concentrations

Date	Background[1] PM_{10} 24-hour average (ug/m^3)	24 -hour average at the Sensitive Receptors (ug/m^3)										Increment plus background									
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
27/11/2009	48.5	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	48.6	49.2	48.5	48.5	48.5	48.5	48.5	48.5	48.5
20/11/2009	48.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.2	0.1	48.1	48.1	48.1	48.2	48.2	48.2	48.4	48.2	48.3	48.2
25/02/2009	44.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	44.7	44.7	44.7	44.7	44.7	44.7	44.9	45.2	44.7	44.7
02/10/2009	42.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	43.4	42.6
06/12/2008	41.8	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.1	42.6	42.6	42.3	41.8	41.8	41.8	41.8	41.8	42.3	41.9
16/09/2008	41.5	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.7	42.4	41.8	41.6	41.5	41.5	41.5	41.5	41.5	41.6	42.2
20/09/2011	41.5	0.4	0.3	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	41.9	41.8	41.7	41.5	41.5	41.5	41.8	41.5	41.5	41.5
25/08/2009	40.9	1.6	1.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	42.6	42.0	40.9	40.9	40.9	40.9	40.9	40.9	40.9
01/07/2008	40.1	1.6	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	42.1	40.4	40.1	40.1	40.1	40.1	40.1	40.1	40.1
27/03/2010	40.1	0.2	1.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.3	41.7	41.9	40.1	40.1	40.1	40.1	40.1	40.1	40.1
26/03/2009	39.7	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.0	39.7	39.7	39.7	39.7	39.7	39.8	40.0	39.9	39.9	39.7
15/09/2008	39.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2	39.2	39.3	39.2	39.2	39.2	39.2	39.2	39.2	39.2
14/10/2009	38.8	2.5	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	39.7	39.0	38.8	38.8	38.8	38.8	38.8	38.8	38.8
23/09/2011	38.7	0.0	0.0	0.0	0.3	1.1	1.0	0.5	0.1	0.3	0.0	38.7	38.7	38.7	39.0	39.8	39.7	39.2	38.8	39.0	38.7
26/10/2012	38.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	38.7	38.7	38.7	38.8	38.7	38.7	38.7	38.7	38.7	38.7
12/09/2009	38.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	38.1	38.2	38.1	38.1	38.1	38.1	38.1	38.1	38.1
25/01/2011	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.0	37.5	37.5	37.5	37.5	37.5	37.5	37.8	37.7	37.7	37.5

1- Sourced from Prospect monitoring station

5.2.6 *Odour*

The evaluation of odour impacts requires the estimation of short or peak concentrations on the time scale of less than one second. The peak odour impacts are estimated from the 1-hour odour modelling results by multiplying with the appropriate factor from Table 6.1 of the Approved Methods. The selection of the appropriate factor is based on the wet scrubber vent of the hammer mill, which is the biggest source of odour (see *Sections A1.5* and *A1.6* in *Annex A)*, i.e. the value of 2.3 for a wake-affected point (the 3 m height of the wet scrubber is within the building wake zone).

In *Table 5.8*, the incremental odour results are reported for the nearest sensitive receptors (99th percentile for mixed odorants for a Level 2 assessment), as required by the Approved Methods. In addition, the maximum incremental offsite odour impact (99th percentile) has also been reported, as requested by the EPA. No odour background concentrations are available for this assessment.

Table 5.8 Maximum predicted peak odour concentrations at Receptors and maximum offsite odour concentrations over 5 years

Sensitive Receptor	X	Y	Year	Maximum peak odour concentration[1] (OU)
1	306993	6263656	2010	0.23
2	306975	6263528	2010	0.17
3	306963	6263414	2010	0.16
4	305627	6263452	2009	0.07
5	305527	6263624	2009	0.05
6	305475	6263762	2009	0.04
7	305584	6264114	2009	0.05
8	306081	6264458	2009	0.06
9	306603	6264395	2008	0.08
10	307080	6264227	2010	0.07
Maximum offsite location				1.03

1. Maximum at each of the receptors over 5 years.

Based on an impact assessment criterion of 2 OU (for urban population of >2000 people) as presented in *Table 3.1*, it can be seen that odour impacts from the Site at the sensitive receptors are below the assessment criterion.

5.2.7 *NO_2 Annual Mean*

Nitrogen oxide (NO_X) is emitted by the metals cutting process (see *Section A1.6* of *Annex A*); however, it is NO_2 that pertains to human health impact. NO_X consists of nitrogen oxide (NO) and NO_2, but NO will undergo oxidation in the atmosphere to become NO_2.

The Approved Methods recommend that 100% conversion of NO to NO_2, as a worst-case assessment, and this has been adopted in this impact assessment for conservative purposes. The results of mean NO_2 concentrations for an annual averaging period are reported for the nearest sensitive receptors in *Table 5.9*.

With an annual mean assessment criterion of 62 µg/m^3, it can be seen from the results in *Table 5.9* that the NO_2 impacts at the sensitive receptors on an annual basis are below the assessment criterion.

5.2.8 NO_2 1-Hour Mean

Using a 100% NO-to-NO_2 conversion, the results of 1-hour mean NO_2 concentrations for a 100th percentile is reported in *Table 5.10* for the nearest sensitive receptors.

With an assessment criterion of 246 µg/m^3, it can be seen from the results in *Table 5.10* that the NO_2 impacts at the sensitive receptors on an hourly basis are below the assessment criterion.

Table 5.9 Maximum Annual Average NO_2 Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	Annual Average NO_2 Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	0.32	2009	22.7	23.0	62
2	306975	6263528	0.34	2009	22.7	23.0	
3	306963	6263414	0.27	2009	22.7	23.0	
4	305627	6263452	0.13	2012	20.7	20.8	
5	305527	6263624	0.11	2012	20.7	20.8	
6	305475	6263762	0.09	2012	20.7	20.8	
7	305584	6264114	0.08	2012	20.7	20.8	
8	306081	6264458	0.14	2011	20.7	20.8	
9	306603	6264395	0.12	2012	20.7	20.8	
10	307080	6264227	0.11	2012	20.7	20.8	

1. Maximum at each of the receptors over 5 years.

Table 5.10 Maximum Hourly Average NO_2 Concentrations at Receptors over 5 years

Sensitive Receptor	X	Y	99.9th Percentile Hourly Average NO_2 Concentration (Increment) [1] ($\mu g/m^3$)	Year Maximum Concentration Occurred	Maximum Measured Background Air Quality ($\mu g/m^3$)	Increment plus Background ($\mu g/m^3$)	Impact Assessment Criteria ($\mu g/m^3$)
1	306993	6263656	52	2010	40.4	92.0	246
2	306975	6263528	67	2010	40.4	107.4	
3	306963	6263414	79	2011	36.3	115.0	
4	305627	6263452	33	2009	39.4	72.1	
5	305527	6263624	34	2009	39.4	73.2	
6	305475	6263762	18	2012	36.1	54.5	
7	305584	6264114	14	2011	36.3	50.3	
8	306081	6264458	36	2009	39.4	75.6	
9	306603	6264395	30	2009	39.4	69.4	
10	307080	6264227	16	2011	36.3	52.5	

1. Maximum at each of the receptors over 5 years.

5.2.9 *Iron Oxide Fumes 1-Hour Mean*

Table 5.11 presents the 99.9th percentile hourly iron oxide fume concentrations predicted by the modelling at the sensitive receptors and for the 10-hour adjusted maximum concentration (100th percentile) at any offsite location within the industrial estate.

Table 5.11 99.9th percentile predicted 1-hour mean iron oxide fume concentrations at Receptors and 10-hour maximum offsite iron oxide fume concentrations over 5 years

Sensitive Receptor	X	Y	Year	Hourly average incremental iron oxide fumes concentration[1] (mg/m³)
1	306993	6263656	2010	0.078
2	306975	6263528	2010	0.085
3	306963	6263414	2010	0.077
4	305627	6263452	2009	0.048
5	305527	6263624	2009	0.039
6	305475	6263762	2009	0.028
7	305584	6264114	2009	0.027
8	306081	6264458	2009	0.026
9	306603	6264395	2008	0.027
10	307080	6264227	2010	0.024
Maximum offsite location (10 hours)				2.01

1. Maximum at each of the receptors over 5 years.

Based on the toxic air pollutants criterion of 0.09 mg/m³, it can be seen that at the sensitive receptors where this criterion applies, the predicted 1 hour concentrations at 99.9th percentile are below the assessment criterion.

At the maximum offsite location, using 10 hours of metals cutting and the adjusted TWA of 4 mg/m³, the predicted iron oxide fume concentration of 2.01 mg/m³ does not exceed the Safe Work Australia criterion.

5.2.10 *Manganese and Compounds 1-Hour Mean*

In keeping with the iron oxide fume impact assessment, the Approved Methods toxic air pollutant criterion does not apply at the industrial estate where the Site is located.

Consequently, the sensitive receptors have been assessed against a 1-hour criterion of 0.018 mg/m³ as per

Table 3.1, whilst the 10-hour TWA for manganese and compounds of 0.8 mg/m^3 has been used within the industrial area as per *Table 3.1*.

Table 5.12 shows that ambient manganese concentrations are below the adopted assessment criteria in the relevant locations.

Table 5.12 99.9th percentile predicted 1-hour mean manganese and compounds concentrations at Receptors and 10-hour maximum offsite manganese and compounds concentrations over 5 years

Sensitive Receptor	X	Y	Year	Hourly average incremental manganese and compounds concentration[1] (mg/m^3)
1	306993	6263656	2010	0.0082
2	306975	6263528	2010	0.0089
3	306963	6263414	2010	0.0080
4	305627	6263452	2009	0.0050
5	305527	6263624	2009	0.0041
6	305475	6263762	2009	0.0029
7	305584	6264114	2009	0.0028
8	306081	6264458	2009	0.0028
9	306603	6264395	2008	0.0028
10	307080	6264227	2010	0.0025
Maximum offsite location (10 hours)				0.21

1. Maximum at each of the receptors over 5 years.

5.2.11 Copper Dusts and Mists 1-Hour Mean

In keeping with the iron oxide fume impact assessment, the Approved Methods toxic air pollutant criterion does not apply at the industrial estate where the Site is located.

Consequently, the sensitive receptors have been assigned a 1-hour assessment criterion for copper dusts and mists of 0.018 mg/m^3 as per *Table 3.1*, whilst the 10-hour TWA for copper dusts and mists of 0.8 mg/m^3 has been used within the industrial area as per *Table 3.1*.

Table 5.13 shows that ambient concentrations of copper dusts and mists are below the adopted assessment criteria in the relevant locations.

Table 5.13 ***99.9th percentile predicted 1-hour mean copper dusts and mists concentrations at Receptors and 10-hour maximum offsite copper dusts and mist concentrations over 5 years***

Sensitive Receptor	X	Y	Year	Hourly average incremental copper dusts and mists concentration[1] (mg/m³)
1	306993	6263656	2010	0.0011
2	306975	6263528	2010	0.0012
3	306963	6263414	2010	0.0011
4	305627	6263452	2009	0.0007
5	305527	6263624	2009	0.0005
6	305475	6263762	2009	0.0004
7	305584	6264114	2009	0.0004
8	306081	6264458	2009	0.0004
9	306603	6264395	2008	0.0004
10	307080	6264227	2010	0.0003
Maximum offsite location (10 hours)				0.0081

1. Maximum at each of the receptors over 5 years.

6 CONCLUSION

An air quality assessment has been undertaken for an expansion and increase in the handling capacity of Sell and Parker's existing waste metal recovery, processing and recycling facility at Blacktown, New South Wales.

The number and type of sources of emission from the site were thoroughly investigated and appropriately assessed for inclusion in the air dispersion modelling. The air dispersion modelling results indicated that:

- the highest predicted annual average TSP concentrations at each of the receptors is below the assessment criteria;
- the highest annual average dust deposition at each of the receptors produced from 5 years of data is below the assessment criteria;
- the highest annual average PM_{10} concentration at the receptors at each of the receptors is below the assessment criteria;
- the maximum predicted 24-hour average PM_{10} concentration together with the maximum background concentration results in levels that exceed the assessment criteria at the sensitive receptors due to the elevated background ambient air quality concentration in this area;
- the peak odour concentration at the receptors is below the assessment criterion;
- the highest annual average and 1 hour average NO_2 concentrations at the receptors are below the respective assessment criteria; and
- the toxic air pollutants (iron oxide fumes, manganese and compounds, copper dusts and mists) concentrations are found not to exceed the Work Safe 10-hour adjusted TWA at offsite locations within the industrial estate where the Site is located, and found not to exceed the human health assessment criteria at the nearest sensitive receptors.

Where existing ambient air pollutant concentrations exceed the impact assessment criteria, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity:

A cumulative assessment of the maximum predicted 24-hour concentrations at the sensitive receptors together with the background concentration, that occurred on the date of the prediction, indicated that there would be no additional exceedance due to the Site activities.

A cumulative assessment of the periods of background concentration below the assessment criteria, together with the predicted concentrations as a result of site activities on those dates, indicated that there would be no additional exceedance due to the Site activities.

7 *LIMITATIONS*

This report was prepared in accordance with the scope of work outlined and/or referenced within this report and subject to the applicable cost, time and other constraints. ERM performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental profession. No warranties, expressed or implied, are made.

ERM makes no warranty concerning the suitability of the Site for any purpose or the permissibility of any use, development or re-development of the Site. Use of the Site for any purpose may require planning and other approvals and, in some cases, EPA and accredited site auditor approvals. ERM offers no opinion as to the likelihood of obtaining any such approvals, or the conditions and obligations which such approvals may impose, which may include the requirement for additional environment works.

Except as otherwise stated, ERM's assessment is limited to specified environmental conditions associated with the subject Site and does not evaluate operational or other conditions of any part of the Site (including any buildings, equipment or infrastructure).

This assessment is based on Site conditions described in the report, and information provided by Sell and Parker Pty Ltd or other people with knowledge of the Site conditions. Conclusions and recommendations made in the report are the professional opinions of the ERM personnel involved with the project and, while normal checking of the accuracy of data has been conducted, ERM assumes no responsibility or liability for errors in data obtained from such sources, regulatory agencies and/or any other external sources, nor from occurrences outside the scope of this project.

It is unlikely that the results and estimations presented in this report will represent the extremes of conditions within the Site. Conditions including impact concentrations can change in a limited period of time. ERM have used the last five years of meteorology in assessing the potential for impact to surrounding land use. No guarantee is provided that this contains the worst case meteorological conditions that could ever occur, and higher ground level concentrations than predicted in this assessment are possible. Only the chemicals specifically referred to in this report have been considered. ERM makes no statement or representation as to the existence (or otherwise) of any chemicals other than those specifically referred to herein. Except as otherwise specifically stated in this report, ERM makes no warranty or representation as to the presence or otherwise of asbestos and/or asbestos containing materials ("ACM") on the Site.

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This report does not constitute legal advice.

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Annex A

Emission Estimation

A.1 METHODOLOGY

Annex A provides a description of the methodology used to derive the emission estimates for each source type together with the input data used in the emission estimation.

The general equation for emissions estimation is:

Equation A.1 General Equation for Emission Estimation

$$Ei = A \times EFi$$

where:
E*i* = Emission of substance *i* (kg/day)
A = Activity rate (quantity of materials handled through the source) (t/day)
EF*i* = Emission factor of substance *i* (kg/t)

A.1.1 Source Screening

The site activities were screened to ascertain any activities that would not produce a sufficient emission to warrant inclusion in the dispersion model. Complex air quality dispersion models, such as CALPUFF, take increasing amounts of time to run as the complexity of the site increases.

One drop point was considered adequate for the drop off of non-ferrous product by the public to the non-ferrous processing area. The building is enclosed and materials inside the shed are sorted and packed for transport off-site to end users.

Transfer of large items to the shear, the shearing process and loading of shear product onto truck for transport off-site were all deemed activities that would generate few emissions of particulate matter. The material taken to the shear was described as large (i.e. railway sleepers etc.) that were simply cut into more manageable sizes.

The post shredder processing building that processes the 'floc' is an enclosed building designed to recover additional materials from the initial recovery process. It was deemed that the building would not provide an additional source of particulate matter once the conveyor had delivered the 'floc' into the enclosed shed.

A.1.2 Materials Handling/Transfer Points/Conveying

The materials handling sources include materials handling of raw material, shredded material, product or waste material by front end loaders and/or other material handling equipment fitted with grapples.

The National Pollution Inventory (NPI) Manual for Mining (Department of Sustainability, Environment, Water, Population and Communities, 2012) was used to estimate the emissions from the materials handling processes.

The default emission factors for TSP and PM_{10} are 0.005 kg/t and 0.002 kg/t, respectively, for materials handling of high moisture content ores from metalliferous mines. The high moisture content ore emission factors were selected on the basis that the particulate matter fractions from metals recycling will be much larger than that for metalliferous mines.

The resulting emission factor was fed into *Equation A.1* and applied to every hour the source is operational (6am-8pm for all materials handling operations).

Each of the sources involved in materials handling processes will operate without any additional controls except for the conveyor that transports the 'floc' to the post-shredder processing building. An additional 70% reduction of emissions has been applied to this conveyor, as it is enclosed.

A load in/load out particulate matter size distribution between $PM_{2.5}$ and PM_{10} of 32% has been used to calculate the emission rate of $PM_{2.5}$ for all materials handling sources (SKM, 2005).

A.1.3 Truck Dumping

Truck dumpling only occurs at two areas of the site, where the raw materials are delivered onto the scrap stockpile, and the dumping of the output from the pre-shredder onto the inspected stockpile near the shredder.

The National Pollution Inventory (NPI) Manual for Mining (Department of Sustainability, Environment, Water, Population and Communities, 2012) provides an equation for the loading and unloading of trucks (rear dumping) that takes into account mean wind speed and moisture content of the product. This equation was used to estimate the emissions from the truck dumping processes.

Equation A.2 Emission Estimation for Loading and Unloading Trucks

$$EFTSP = KTSP \times 0.0016 \times \frac{(\frac{U}{2.2})^{1.3}}{(\frac{M}{2})^{1.4}}$$

Where:

EFTSP = emission factor for total suspended particles (kg/t)

$EFPM_{10}$ = emission factor for PM_{10} (kg/t)

KTSP = 0.74 for particles less than 30 micrometres in aerodynamic diameter

KPM_{10} = 0.35 for particles less than 10 micrometres in aerodynamic diameter

U = mean wind speed (m/s)

M = moisture content (% by weight)

The moisture content entered into this equation for the raw material was 2%, as provided by Sell and Parker. Hourly wind speed was extracted at the site from the CALMET meteorological model. This allowed for an hourly changing wind speed to be included in the emission estimation. The wind speed (extracted at 10 m) was adjusted to the release height using *Equation A.3*.

Equation A.3 Wind Speed at Release Height

$$\frac{U}{Ur} = (\frac{Z}{Zr})^a$$

Where:
U = wind speed (m/s) at height Z
Ur = wind speed at reference height (10 m)
Zr = reference height (10 m)
a = an empirically derived coefficient that varies dependent upon the stability of the atmosphere

The resulting emission factor was fed into *Equation A.1* and applied to every hour the source is operational (6am-9pm for raw material delivery and 6am-8pm for post pre-shredder dumping). The throughput rates for the source TRKD01 (at the raw material delivery) was 1500 tonnes/day and 300 tonnes/day for TRKD02 (truck dumping pre-shredder output at the inspected stockpile).

A load in/load out particulate matter size distribution between $PM_{2.5}$ and PM_{10} of 32% has been used to calculate the emission rate of $PM_{2.5}$ for all materials handling sources (SKM, 2005).

A.1.4 Wind Erosion from Stockpiles

Wind erosion from stockpiles was estimated by using an equation from The National Pollution Inventory (NPI) Manual for Mining (Department of Sustainability, Environment, Water, Population and Communities, 2012).

Equation A.4 Wind erosion from stockpiles

$$EFTSP = 1.9 \times (\frac{S}{1.5}) \times 365 \times (\frac{365 - p}{235}) \times (\frac{f}{15})$$

Where:
EFTSP = the emission factor of TSP (kg/ha/y)
S = silt content (5 by weight)
p = number of days per year when rainfall is greater than (0.25mm)
f = percentage of time that wind speed is greater than 5.4 m/s at the mean height of the stockpile

A silt content of 5.3% was used, which corresponded to the silt content of slag from iron and steel production (AP-42, 2006). For each year assessed, the total TSP content was calculated using *Equation A.4*.

This total emission per year was divided between the number of hours where both the wind speed and rainfall conditions were met. This kg/ha/yr emission rate was converted to a g/sec/m^2 emission rate.

A wind erosion based particulate matter size distribution between PM_{10} and PM_{30} factor of 0.5 was used to calculate the emission rate of $PM_{2.5}$ for wind erosion (SKM, 2005). Similarly, a factor of 0.4 was used to calculate the particulate matter size distribution between $PM_{2.5}$ and PM_{10}.

A.1.5 Wet Scrubber Vent

Air Species

The wet scrubber vent has been modelled with the following parameters:

- Stack height = 3 m
- Stack diameter = 0.56 m (the rectangle area of 0.25 m^2 has been approximated to the area of a circle and the diameter taken from this)
- Temperature = ambient temperature (taken for every hour of the year from the CALMET meteorological modelling)
- Stack velocity = 11.28 m/s. An electric fan and throttle valve are located within the stack close to the release point, which will disrupt the laminar flow of air from the stack. To account for this disturbance to the flow, the velocity of the stack flow has been reduced by 50%.
- Maximum dust concentration from the vent = 20 mg/m^3.
- Volumetric flow rate = 20,000 Nm^3/h.

A particulate matter size distribution between $PM_{2.5}$ and PM_{10} of 32% has been used to calculate the emission rate of $PM_{2.5}$ out the vent (SKM, 2005).

The normalised volumetric flow was converted to ambient temperature (for every hour the source was operational) and multiplied by the mass flow rate of 20 mg/m^3. This was subsequently converted to a g/sec emission rate and applied to every hour the source is operational (6am-8pm).

Odour

The odour source strength from the wet scrubber vent of the hammer mill has been assessed during an odour source monitoring exercise, undertaken on 12 June, 2014 by EML Air Pty Ltd (test results are presented in Annex C).

Using a conservative approach, the maximum measured odour concentration (in units of odour unit (OU)/m^3) for the hammer mill of 1600 OU/m^3 has been used in the odour impact assessment. With a stack velocity of 11.28 m/s, this provides an odour source strength of 4445.2 OU/s that has been used in the modelling.

A.1.6 Metals Cutting

Air Species

Metal cutting on site takes place at the scrap metal unloading area. Sell and Parker has reported that mild steel (about 20 mm thickness) is usually cut in wet and dry conditions, with typically 8 to 10 hours cutting per day.

The National Pollutant Inventory (NPI) has been used as a reference source for establishing the types of emissions from metals cutting. The NPI Emission Estimation Technique Manual for Structural & Fabricated Metal Product Manufacture[3] provided metals cutting emission factors. To facilitate emissions estimation, the following assumptions were made:

- there are no control equipment for cutting emissions;
- the NPI manual is limited only to emission factors for plasma cutting (with air as the plasma gas) for mild steel of 8 mm, and therefore the set of emission factors associated with this has been used;
- as a conservative approach, conventional cutting (dry cutting) is assumed as it provides the higher emission factors when compared to wet cutting;
- as a conservative approach, cutting takes place continuously through 10 hours in a day (starting 7 am, ending 5 pm);
- metals cutting has been observed on 12 June, 2014 (during the odour monitoring) to take place at two locations within that area, therefore two point sources have been assumed;
- metals cutting was observed to be undertaken at a ground/ low level on 12 June, and therefore as a default 1 m has been assumed;

[3] http://www.npi.gov.au/resource/emission-estimation-technique-manual-structural-fabricated-metal-product-manufacture

- temperature has been assumed at 700 C, which is the approximate ignition temperature of steel[4];

- exit velocity from metals cutting emissions is not well defined in literature, as it depends on the operating conditions, materials and the environment of application, which may change depend on the scrap metal received. As a conservative measure, a nominally low exit velocity of 0.01 m/s for the emissions has been assumed; and

- exit diameter for metals cutting emission is also not well defined in literature. As a conservative measure, a nominally low exit diameter of 0.05 m has been assumed.

The emissions which have corresponding assessment criteria in *Table 3.1* are shown below:

- Nitrogen oxide (NO_X) = 0.33 g/s

- Metal fumes (as iron oxide fumes, since iron is the main metal of steel) = 1.15 g/s

- Manganese = 0.12 g/s

- Copper dusts and mists = 0.016 g/s

Odour

The odour source strength from metal cutting has been assessed during the odour source monitoring exercise on 12 June, 2014.

Using a conservative approach, the maximum measured odour concentration (in units of odour unit (OU)/m^3) for metal cutting of 940 OU/m^3 has been used in the odour impact assessment. With an exit velocity of 0.01 m/s, this provides an odour source strength of 0.018 OU/s that has been used in the modelling for each point source.

[4] http://www.twi-global.com/technical-knowledge/job-knowledge/oxyfuel-cutting-process-and-fuel-gases-049/

Annex B

Figures

Figure B.1 *Maximum predicted (over 5 years) Site contribution to annual average TSP Concentrations (excluding background)*

Rev. N.	Date	Revision	Drawn by	Rev. by
0	27/02/14	Initial Issue	A. Radford	I. Cowan

Client: Sell and Parker
Drawing No: TSP_AA.mxd
Date: 27/02/2014 Drawing Size: A4
Drawn By: AR Reviewed By: IC

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Highest (over 5 years) Annual Average TSP Concentrations (ug/m^3)

Waste Metal Recovery, Processing and Recycling Facility Expansion

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Figure B.2 *Maximum predicted (over 5 years) Site contribution to Dust Deposition (excluding background)*

Rev. N.	Date	Revision	Drawn by	Rev. by
0	27/02/14	Initial Issue	A. Radford	I. Cowan

Client: Sell and Parker
Drawing No: DustD.mxd
Date: 27/02/2014 Drawing Size: A4
Drawn By: AR Reviewed By: IC

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Highest (over 5 years) Dust Deposition (g/m^2/month)

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Figure B.3 Maximum predicted (over five years) Site contribution to annual average PM_{10} concentrations (excluding background)

Rev. N.	Date	Revision	Drawn by	Rev. by
0	27/02/14	Initial Issue	A. Radford	I. Cowan

Client: Sell and Parker
Drawing No: PM10_AA.mxd
Date: 27/02/2014 Drawing Size: A4
Drawn By: AR Reviewed By: IC

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Highest (over 5 years) Annual Average PM_{10} Concentrations (ug/m^3)

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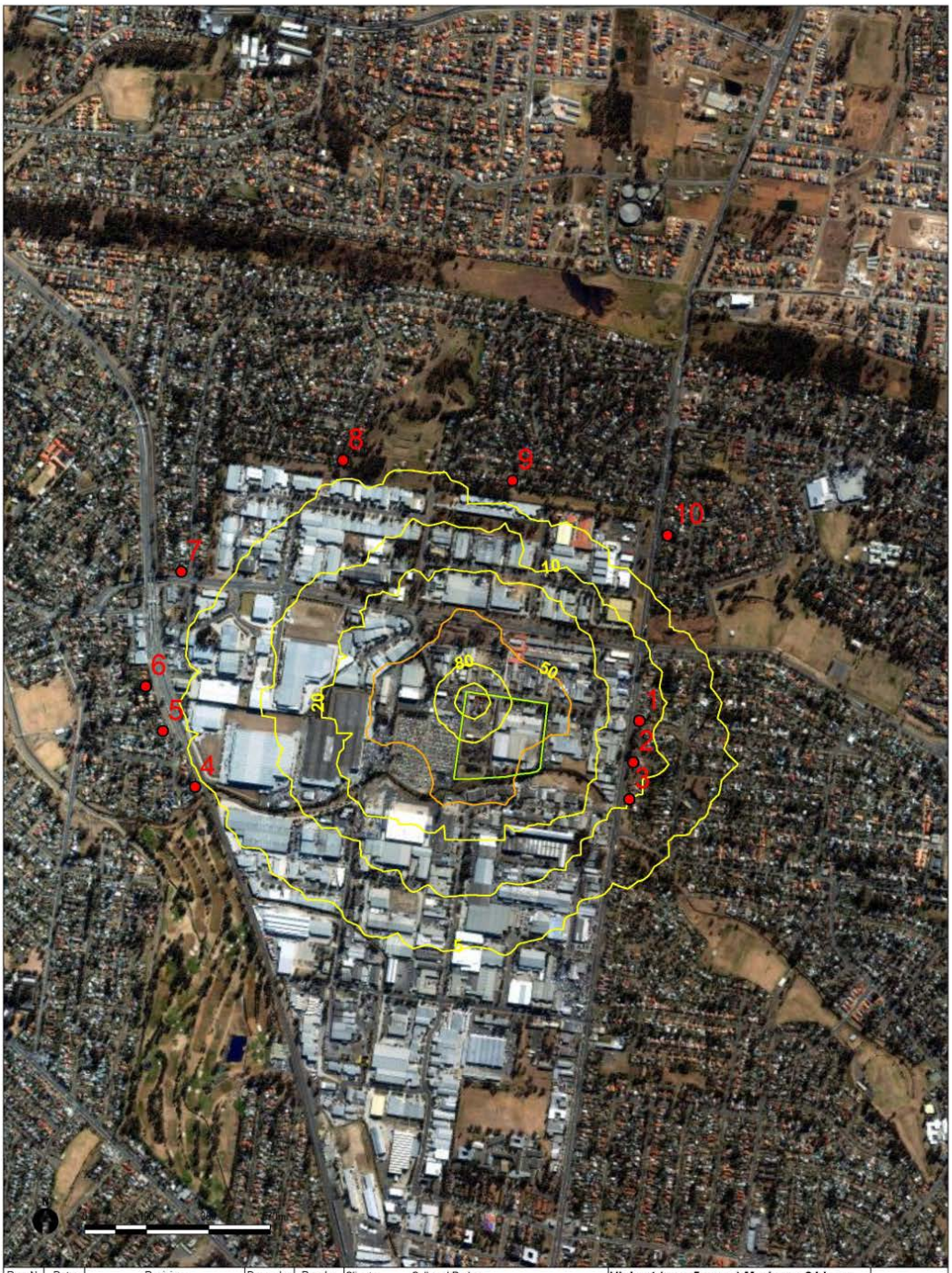
Figure B.4 Maximum predicted (over five years) Site contribution to 24-hour average PM_{10} concentrations (excluding background)



Rev. N.	Date	Revision	Drawn by	Rev. by
0	27/02/14	Initial Issue	A. Radford	I. Cowan

Client: Sell and Parker
Drawing No: PM10_MAX24h.mxd
Date: 27/02/2014 Drawing Size: A4
Drawn By: AR Reviewed By: IC

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Highest (over 5 years) Maximum 24-hour Average PM_{10} Concentrations (ug/m^3)

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Figure B.5 Maximum predicted (over five years) Site contribution to Peak odour concentrations (excluding background)

Rev. N.	Date	Revision	Drawn by	Rev. by	Client:	Sell and Parker	Highest (over 5 years) Peak Odour Concentrations (OU)	ERM
0	8/7/14	Initial Issue	S Y Lo	I Cowan	Drawing No:	Odour_Peak.mxd		
					Date:	08/07/2014 Drawing Size: A4	Waste Metal Recovery, Processing and Recycling Facility Expansion	
					Drawn By:	SYL Reviewed By: IC		
					This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.		Environmental Resources Management ANZ	
							Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney	

Figure B.6 *Maximum predicted (over five years) Site contribution to annual average NO_2 concentrations (excluding background)*

Rev. N.	Date	Revision	Drawn by	Rev. by
0	8/7/14	Initial Issue	S Y Lo	L Cowan

Client: Seiland Parker
Drawing No: NO2_Annual.mxd
Date: 08/07/2014 Drawing Size: A4
Drawn By: SYL Reviewed By: IC

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Highest (over 5 years) Peak Odour Concentrations (OU)

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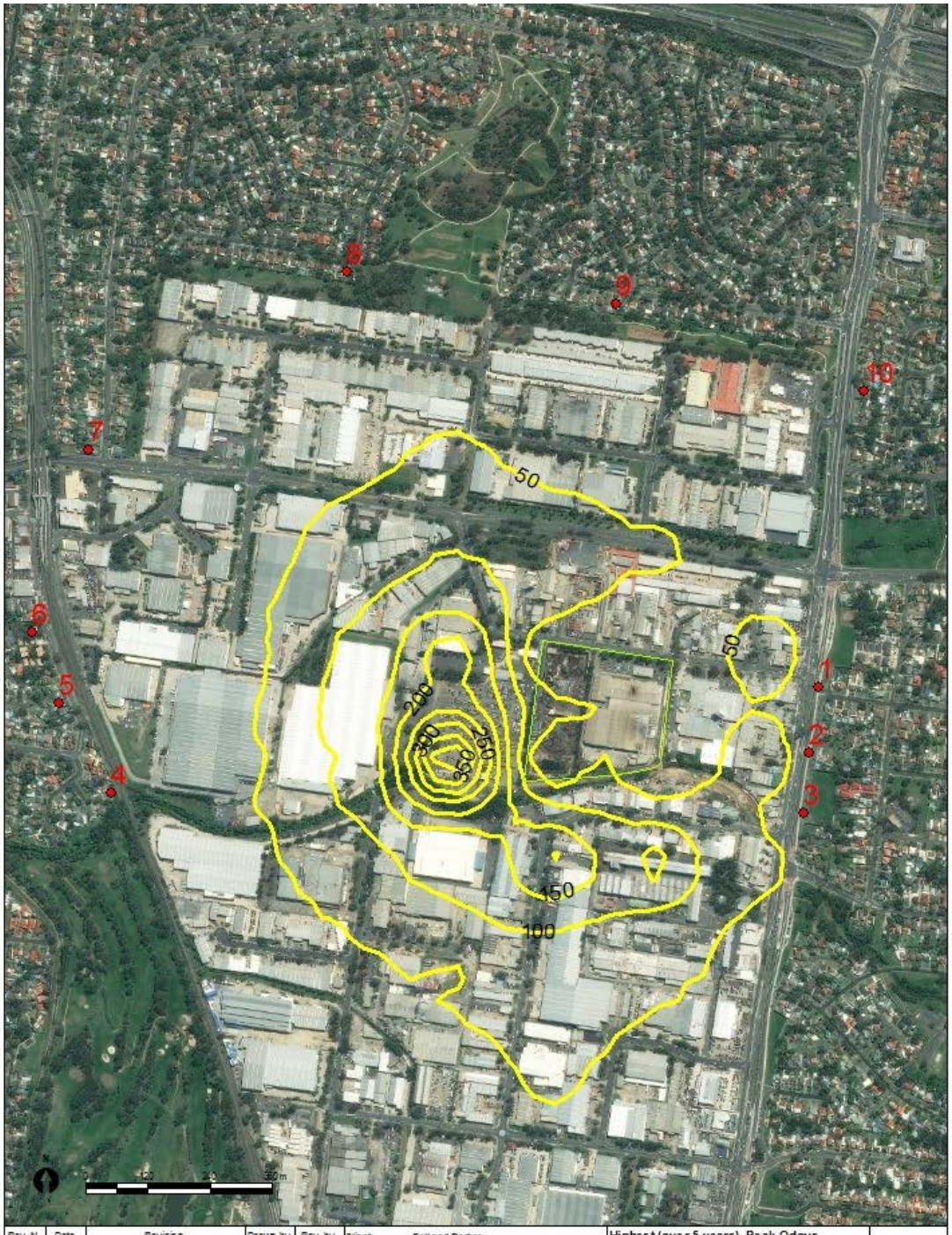
Figure B.7 *Maximum predicted (over five years) Site contribution to hourly average NO_2 concentrations (excluding background)*



Rev. N.	Date	Revision	Drawn by	Rev. by
0	8/7/14	Initial Issue	S Y Lo	L Cowen

Client: Selland Parker

Drawing No: NO2_1Hour.mxd

Date: 08/07/2014 Drawing Size: A4

Drawn By: SYL Reviewed By: IC

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Highest (over 5 years) Peak Odour Concentrations (OU)

Waste Metal Recovery, Processing and Recycling Facility Expansion

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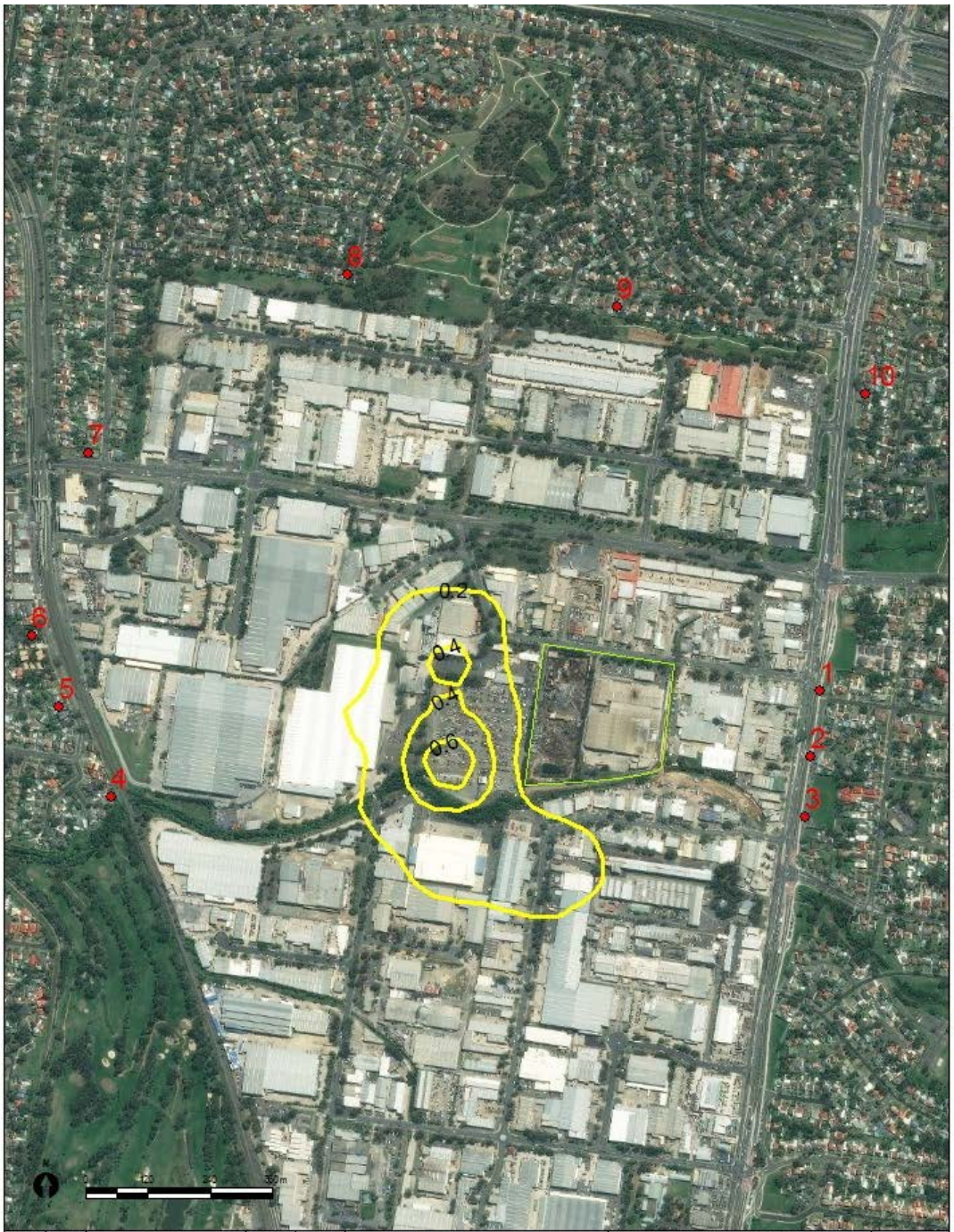
Figure B.8 ***Maximum predicted (over five years) Site contribution to hourly iron oxide fumes concentrations (excluding background)***



Rev. N.	Date	Revision	Drawn by	Rev. by
0	8/7/14	Initial Issue	S Y Lo	I Cowen

Client: Sell and Parker
Drawing No: FeOx_1 Hour.mxd
Date: 08/07/2014 Drawing Size: A4
Drawn By: SYL Reviewed By: IC

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Highest (over 5 years) Peak Odour Concentrations (OU)

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Figure B.9 Maximum predicted (over five years) Site contribution to hourly manganese and compounds concentrations (excluding background)

Rev. N.	Date	Revision	Drawn by	Rev. by
0	8/7/14	Initial Issue	S Y Lo	L Cowan

Client: Selland Parker
Drawing No: Mn_1Hour.mxd
Date: 08/07/2014 Drawing Size: A4
Drawn By: SYL Reviewed By: IC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Highest (over 5 years) Peak Odour Concentrations (OU)

Waste Metal Recovery, Processing and Recycling Facility Expansion

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Figure B.10 Maximum predicted (over five years) Site contribution to hourly copper dusts and mists concentrations (excluding background)

Rev. N.	Date	Revision	Drawn by	Rev. by
0	8/7/14	Initial Issue	S Y Lo	L Cowen

Client: Sell and Parker
Drawing No: Cu_1Hour.mxd
Date: 08/07/2014 Drawing Size: A4
Drawn By: SYL Reviewed By: IC

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Highest (over 5 years) Peak Odour Concentrations (OU)

Waste Metal Recovery, Processing and Recycling Facility Expansion

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Annex C

Odour Test Data

EML Air Pty Ltd
Report Number N92746

Emission Testing Report
ERM Australia Pty Ltd, Blacktown Plant

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Melissa Reddan BAppSc
Compliance Manager

Matthew Cook
Laboratory Manager

Document Information

Client Name:	ERM Australia Pty Ltd
Report Number:	N92746
Report Title:	Emission Testing Report
Date of Issue:	18 June 2014
Attention:	Dr Iain Cowan
Address:	ERM Australia Pty Ltd Level 3, Tower 3, World Trade Centre, 18-38 Siddeley Street DOCKLANDS VIC 3005

Sampling Information

Sampling Date:	June 2014
Sampling Team:	DH

Report Status

Format	Document Number	Report Date	Prepared By	Reviewed By (1)	Reviewed By (2)
Preliminary Report	-	-	-	-	-
Draft Report	-	-	-	-	-
Final Report	N92746	18 June 2014	JW/AD	MR	MC
Amend Report	-	-	-	-	-

Internal Reference: ad doc:n92746.doc

Amendment Record

Document Number	Initiator	Report Date	Section	Reason
Nil	-	-	-	-

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Appendices

Nil

1 EXECUTIVE SUMMARY

Tests were performed at the request of ERM Australia Pty Ltd to determine emissions to air as detailed below;

Table 1: Testing Summary

Location	Test Date	Test Parameters*
Hammer Mill	12 June 2014	Odour and character
Oxy Cutting Area (up wind)	12 June 2014	Odour and character
Oxy Cutting Area (down wind)	12 June 2014	Odour and character

* Flow rate, velocity, temperature and moisture were determined unless otherwise stated.

2 RESULTS

Table 2: Hammer Mill - Test Results

Date	12/06/2014	**Client**	Sell & Parker - (ERM Australia)		
Report	N92746	**Stack ID**	Hammer Mill		
Licence No.	-	**Location**	Blacktown	**State**	NSW
EML Staff	DH/ZP				
Process Conditions	Please refer to client records.				
Reason for testing:	Client requested testing to determine emissions to air				

Odour		Average	Test 1		Test 2	
Sampling date & Time			12/06/14	1102	12/06/14	1128
Analysis date & Time			13/06/14	1438	13/06/14	1444
Holding time				27 hours		27 hours
Dilution factor & Threshold			1	1000 ou	1	1600 ou
Butanol threshold	29 ppb					
Laboratory temp	20 °C		Concentration		Concentration	
Last calibrated	10/01/14	ou	ou		ou	
No. ITE's used			12		12	
Concentration		1300	1000		1600	
Lower Uncertainty Limit		900	470		750	
Upper Uncertainty Limit		2000	2200		3500	
Hedonic tone			Mildly Unpleasant/Distinct		Mildly Unpleasant/Distinct	
Odour character			Acidic		Acid	

Table 3: Oxy Cutting Area (Up Windl - Test Results

Date	12/06/2014	**Client**	Sell & Parker - (ERM Australia)		
Report	N92746	**Stack ID**	Oxy Cutting Area (Upwind)		
Licence No.	-	**Location**	Blacktown	**State**	NSW
EML Staff	DH/ZP				
Process Conditions	Please refer to client records.				
Reason for testing:	Client requested testing to determine emissions to air				

Odour		Average	Test 1		Test 2	
Sampling date & Time			12/06/14	1248	12/06/14	1322
Analysis date & Time			13/06/14	1451	13/06/14	1500
Holding time				26 hours		26 hours
Dilution factor & Threshold			1	940 ou	1	650 ou
Butanol threshold	29 ppb					
Laboratory temp	20 °C		Concentration		Concentration	
Last calibrated	10/01/14	ou	ou		ou	
No. ITE's used			8		12	
Concentration		790	940		650	
Lower Uncertainty Limit		540	430		300	
Upper Uncertainty Limit		1200	2000		1400	
Hedonic tone			Mildly Unpleasant/Distinct		Mildly Unpleasant	
Odour character			Metal		Metal	

Table 4: Oxy Cutting Area (Down Windl - Test Results

Date	12/06/2014	**Client**	Sell & Parker - (ERM Australia)		
Report	N92746	**Stack ID**	Oxy Cutting Area (Downwind)		
Licence No.	-	**Location**	Blacktown	**State**	NSW
EML Staff	DH/ZP				
Process Conditions	Please refer to client records.				
Reason for testing:	Client requested testing to determine emissions to air				

Odour		Average	Test 1		Test 2	
Sampling date & Time			12/06/14	1248	12/06/14	1322
Analysis date & Time			13/06/14	1421	13/06/14	1431
Holding time				26 hours		25 hours
Dilution factor & Threshold			1	540 ou	1	550 ou
Butanol threshold	29 ppb					
Laboratory temp	20 °C		Concentration		Concentration	
Last calibrated	10/01/14	ou	ou		ou	
No. ITE's used			12		10	
Concentration		550	540		550	
Lower Uncertainty Limit		370	250		250	
Upper Uncertainty Limit		800	1200		1200	
Hedonic tone			Mildly Unpleasant/Distinct		Mildly Unpleasant/Distinct	
Odour character			Smokey, Metal		Smokey,Metal	

3 PLANT OPERATING CONDITIONS

Unless otherwise stated, the plant operating conditions were normal at the time of testing. See ERM Australia Pty Ltd's records for complete process conditions.

4 TEST METHODS

Unless otherwise stated, the following methods meet the requirements of the NSW Office of Environment and Heritage (as specified in the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, January 2007). All sampling and analysis was performed by EML Air unless otherwise specified. Specific details of the methods are available upon request.

Table 5: Test Method Table

Parameter	Test Method	Method Detection Limit	Uncertainty*	NATA Accredited	
				Sampling	Analysis
Sample Plane Criteria	NSW TM-1	NA	-	✓	NA
Velocity	NSW TM-2	$2ms^{-1}$	7%	✓	NA
Temperature	NSW TM-2	0°C	2%	✓	NA
Flow rate	NSW TM-2	Location specific	8%	✓	NA
Moisture content	NSW TM-22	0.4%	8%	✓	✓
Odour	NSW OM-7	16ou	not specified	✓	✓

* Uncertainty values cited in this table are calculated at the 95% confidence level (coverage factor = 2)

5 QUALITY ASSURANCE/ QUALITY CONTROL INFORMATION

EML Air Pty Ltd is accredited by the National Association of Testing Authorities (NATA) for the sampling and analysis of air pollutants from industrial sources (Accreditation number 2732). Unless otherwise stated test methods used are accredited with the National Association of Testing Authorities. For full details, search for EML Air at NATA's website www.nata.asn.au.

EML Air Pty Ltd is accredited by NATA (National Association of Testing Authorities) to Australian Standard 17025 – General Requirements for the Competence of Testing and Calibration Laboratories. Australian Standard 17025 requires that a laboratory have a quality system similar to ISO 9002. More importantly it also requires that a laboratory have adequate equipment to perform the testing, as well as laboratory personnel with the competence to perform the testing. This quality assurance system is administered and maintained by the Quality Assurance Manager.

NATA is a member of APLAC (Asia Pacific Laboratory Accreditation Co-operation) and of ILAC (International Laboratory Accreditation Co-operation). Through the mutual recognition arrangements with both of these organisations, NATA accreditation is recognised world –wide.

A formal Quality Control program is in place at EML Air to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate; the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

6 DEFINITIONS

The following symbols and abbreviations may be used in this test report:

NTP	Normal temperature and pressure. Gas volumes and concentrations are expressed on a dry basis at 0°C, at discharge oxygen concentration and an absolute pressure of 101.325 kPa, unless otherwise specified.
Disturbance	A flow obstruction or instability in the direction of the flow which may impede accurate flow determination. This includes centrifugal fans, axial fans, partially closed or closed dampers, louvres, bends, connections, junctions, direction changes or changes in pipe diameter.
VOC	Any chemical compound based on carbon with a vapour pressure of at least 0.010 kPa at 25°C or having a corresponding volatility under the particular conditions of use. These compounds may contain oxygen, nitrogen and other elements, but specifically excluded are carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonate salts.
TOC	The sum of all compounds of carbon which contain at least one carbon to carbon bond, plus methane and its derivatives.
OU	The number of odour units per unit of volume. The numerical value of the odour concentration is equal to the number of dilutions to arrive at the odour threshold (50% panel response).
$PM_{2.5}$	Atmospheric suspended particulate matter having an equivalent aerodynamic diameter of less than approximately 2.5 microns (µm).
PM_{10}	Atmospheric suspended particulate matter having an equivalent aerodynamic diameter of less than approximately 10 microns (µm).
BSP	British standard pipe
NT	Not tested or results not required
NA	Not applicable
D_{50}	'Cut size' of a cyclone defined as the particle diameter at which the cyclone achieves a 50% collection efficiency ie. half of the particles are retained by the cyclone and half are not and pass through it to the next stage. The D_{50} method simplifies the capture efficiency distribution by assuming that a given cyclone stage captures all of the particles with a diameter equal to or greater than the D_{50} of that cyclone and less than the D_{50} of the preceding cyclone.
D	Duct diameter or equivalent duct diameter for rectangular ducts
<	Less than
>	Greater than
≥	Greater than or equal to
~	Approximately
CEM	Continuous Emission Monitoring
CEMS	Continuous Emission Monitoring System
DEC	Department of Environment & Conservation (WA)
DECC	Department of Environment & Climate Change (NSW)
EPA	Environment Protection Authority
FTIR	Fourier Transform Infra Red
NATA	National Association of Testing Authorities
RATA	Relative Accuracy Test Audit
AS	Australian Standard
USEPA	United States Environmental Protection Agency
Vic EPA	Victorian Environment Protection Authority
ISC	Intersociety committee, Methods of Air Sampling and Analysis
ISO	International Organisation for Standardisation
APHA	American public health association, Standard Methods for the Examination of Water and Waste Water
CARB	Californian Air Resources Board
TM	Test Method
OM	Other approved method
CTM	Conditional test method
VDI	Verein Deutscher Ingenieure (Association of German Engineers)
NIOSH	National Institute of Occupational Safety and Health
XRD	X-ray Diffractometry

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Annex J

Soil and Water Assessment

FINAL REPORT

Sell and Parker Pty Ltd

Waste Metal Recovery, Processing and Recycling Facility Expansion - 45 and 23-43 Tattersall Road, Kings Park, Blacktown

Soil and Water Management

14 March 2014

Reference: 0226308_SWMP_V4

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1 INTRODUCTION

1.1 SCOPE AND OBJECTIVES

Overall this Plan aims to ensure that runoff with the potential to impact on the beneficial uses of surface water offsite are retained and/or treated before directed offsite and that clean stormwater, such as rainfall on roof surfaces, are directed offsite with minimal treatment.

This Plan has been prepared to address the Director Generals Requirements (DGRs) relating to soil and water by providing:

- a detailed water balance for the development, outlining the measures to minimise water use and any potential for a sustainable water supply;
- wastewater predictions, and the measures that would be implemented to treat, reuse and/or dispose of this water;
- the proposed erosion and sediment controls during construction of the post fragmentation processing structure and any other proposed structures;
- the proposed stormwater management system; and
- consideration of the potential salinity, contamination, flooding and acid sulfate soil impacts of the development.

1.2 PROJECT LOCATION

Sell and Parker currently operate a waste metal recovery, processing and recycling Facility at 45 Tattersall Road (Lot 5 DP 7086) Kings Park, within the Blacktown local government area (LGA), NSW. Number 23-43 Tattersall Road (Lot 2 DP 550522) immediately adjoins 45 Tattersall Road to the east and is the proposed location for the expansion of the metal recycling operation. Access to the sites is provided by Tattersalls Road. Breakfast Creek is located immediately adjacent to the south of the two lots and to east of 23-43 Tattersall Road, with collected stormwater from 45 Tattersalls Road being discharged to the watercourse. To the west of 45 Tattersalls Road is a motor wreckers and to the east of 23-43 Tattersalls Road is a rock and earth lined drainage channel. The site locality is shown in *Figure 1.1 of Annex A*.

1.3 OVERVIEW OF THE PROPOSAL

In order to meet projected future demands in waste metal recycling it is proposed to increase annual waste metal recovery, processing and recycling at Sell and Parkers Blacktown metal recycling facility from the approved 90,000 tonnes per annum (tpa) to 350,000 tpa. To achieve this increased capacity it is proposed that the existing site at 45 Tattersalls Road be reconfigured and expanded on to the adjoining lot (23-43 Tattersall Road).

The expanded site would enable Sell and Parker to utilise the available plant capacity in order to better respond to increasing demands, including community expectations for efficient and effective metal resource recovery and recycling facilities.

1.3.1 *Changes from Exiting Development*

The changes to the proposed development, compared to existing operations, mainly involve the reconfiguration and expansion of the waste metal recovery and recycling facility on to the adjoining allotment to improve site safety and efficiency, improve traffic flow and reduce off-site traffic.

1.3.2 *Proposed Development*

In summary, the proposed development is as follows:

- the existing office at 45 Tattersall Road will be demolished and relocated to improve safety and improve access to the shredder. The office functions will be relocated to the existing office situated at the front of the expanded site (23-43 Tattersall Road) to isolate pedestrians from the operational activities on the site;

- car parking for staff and visitors will be increased and moved adjacent to the new office on the expanded site (on 23-43 Tattersall Road) and isolated from the processing area of the facility;

- the pre-shedder will be relocated away from the boundary to where the shear is currently located on 45 Tattersall Road and the shear will be relocated to 23-43 Tattersall Road;

- the existing post shredder non-ferrous recovery processing will be enclosed under roof to improve efficiency and reduce potential for noise and dust nuisance;

- parts of the existing building on 23-43 Tattersall Road will be demolished to make way for better circulation through the site;

- relocation of the floc material from adjacent boundary to inside a building in the centre of the site;

- additional post shredder processing will be introduced to further extract remaining recyclables (metals and plastics) from Floc material. This will involve conveying the Floc via an enclosed conveyor after shredding to inside one of the existing buildings on the site (the Post Shredder Processing facility). The additional processing and storage of all Floc will be located inside and hence reduce potential for noise and dust nuisance;

- the non-ferrous shed and non-ferrous processing will be relocated from the building on the existing site boundary to inside the remaining buildings on the expanded site to improve efficiency and reduce potential for noise and dust nuisance;

- the existing maintenance shed will be demolished and relocated to inside the existing Non Ferrous Shed. This will improve access to the shredder;

- the existing driveway entry at 23 -43 Tattersall Road will be used for retail non-ferrous customers so that they are kept isolated from the processing area of the facility;

- the current Sell and Parker entry driveway at 45 Tattersall Road will be widened so that two lanes of traffic can enter side by side at any time with two weighbridges installed so two customers can be served at the one time;

- the current exit driveway at 23-43 Tattersall Road will be widened and two weighbridges installed to handle more traffic volume;

- the current Sell and Parker exit driveway at No 45 Tattersall Road will be closed and excavated to provide additional finished goods storage;

- part of the existing sound barrier wall and some vegetation will be removed between the two lots; and

- a new truck wash facility will be installed within the existing building on the enlarged site.

A site layout plan for the proposed development is shown in *Figure 2.1* with additional plans accompanying the EIS.

1.3.3 Potential Contaminants

The activities on-site have the potential to generate the following contaminants:

- sediment (mud tracking, contaminated imported material);

- oil, gasoline and diesel fuel;

- transmission fluid, power steering fluid and brake fluid;
- machinery lubricants and grease;
- battery acid and solvents;
- mercury;
- lead;
- CFCs and other refrigerants;
- asbestos from brake shoes and clutches;
- tyres;
- PCB from foam rubber, carpets and plastic components;
- metals, including aluminium, cadmium, copper, iron and zinc;
- plastics; and
- transmission and oil filters.

Wastewater will arise from the following sources:

- petrol and diesel removed from cars prior to processing;
- oily water from storm water runoff; and
- sewage from amenities.

1.4 REGULATORY ISSUES

1.4.1 Water Act 1912

Section 10 of the *Water Act 1912* requires that:

> *(1) Any occupier of land whereon any work to which this Part extends (not being a joint water supply scheme) is constructed or used, or is proposed to be constructed or used, for the purpose of:*
>
> *(a) water conservation, irrigation, water supply or drainage, or*
>
> *(b) (Repealed)*
>
> *(c) changing the course of a river,*

May apply to the Ministerial Corporation in the form prescribed for a licence to construct and use the said work, and to take and use for the purposes specified in the application the water, if any, conserved or obtained thereby, and to dispose of such water for the use of occupiers of land for any purpose."

Implications for the Project

As the works are not expected to intersect any water tables, require the irrigation of any water (other than water sprays for dust suppression), or change the course of any rivers, approval pursuant to Section 10 of the *Water Act 1912* is not required.

1.4.2 Water Management Act 2000

The *Water Management Act 2000* (WM Act) incorporates the provisions of various Acts relating to the management of surface and groundwater in NSW, and provides a single statute for the regulation of water use and works that affect surface and groundwater, both marine and fresh. The WM Act is administered by the NSW Office of Water (NOW).

Areas of the State where water sharing plans have commenced and apply are subject to the WM Act. Where water sharing plans have not commenced or do not specifically apply, the provisions of the *Water Act 1912* continue to apply.

The *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011* applies to the site and therefore the provisions of the WM Act apply.

The *Water Management Act 2000* (WMA) was introduced to provide for a comprehensive singular piece of legislation to effectively manage and regulate access, and use of, the states water resources. The objectives of the WMA include:

- to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and the water quality; and
- to recognise and foster the significant social and economic benefits to the state that result from the sustainable and efficient use of water.

Chapter 3 part 3 of the WMA requires that approval be granted for works that are classified as "controlled activities" within waterfront land (generally being land within 40m of a waterway). A controlled activity is defined as:

(a) the erection of a building or the carrying out of a work (within the meaning of the Environmental Planning and Assessment Act 1979), or

(b) the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or

(c) the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or

(d) the carrying out of any other activity that affects the quantity or flow of water in a water source.

Section 344(1)(a) provides that:

1 A person must not:

(a) carry out a controlled activity in, on or under water front land otherwise than in accordance with a controlled activity approval.

The site is located in close proximity to tributaries of Breakfast Creek which eventually flows into the Hawkesbury River. Given that the development is considered state significant, under the EP&A Act the development is exempt from requiring a controlled activity approval from the NSW Office of Water.

1.4.3 Existing Environmental Protection Licence (EPL)

The site has an Environment Protection Licence (EPL) 11555 for the undertaking of the scheduled activity of scrap metal processing (0-100,000 tonnes processed).

Currently no surface water monitoring locations or discharge points are applicable to the site under EPL 11555.

Condition O7.1 of the EPL states that a Stormwater Management Scheme must be prepared for the development and must be implemented. Implementation of the Scheme must mitigate the impacts of stormwater runoff from and within the premises following the completion of construction activities. The Scheme should be consistent with the Stormwater Management Plan for the catchment. If a Stormwater Management Plan has not yet been prepared the Scheme should be consistent with the guidance contained in *Managing Urban Stormwater: Council Handbook* (available from the EPA).

2 SITE DETAILS

2.1 CLIMATE

Long term climate data is available from the Bureau of Meteorology network of automatic weather stations (AWS) located throughout the state. The weather stations utilised for the information within this report are listed in *Table 2.1*.

Table 2.1 Bureau of Meteorology Automatic Weather Stations referenced in this Report

Details	Purpose	
	Temperature data	**Rainfall data**
Name	Seven Hills (Collins St)	Quakers Hill Treatment Works
Number	67026	67076
Year opened	1950	1948
Status	Remains open	Remains open
Co-ordinates	Latitude: 33.77° S	Latitude: 33.74° S
	Longitude: 150.93° E	Longitude: 150.88° E
Elevation	50 m	25 m

2.2 TEMPERATURE

Temperature data from the Seven Hills (Collins Street) AWS reveals that for the period of collected data, on average:

- December is the warmest month of the year, with a mean temperature of 28.4 Degrees Celsius (°C); and
- the coolest months are June and July, with a mean temperature of 17.4°C (See *Table 2.2*).

Table 2.2 Monthly Temperature Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Temperature	28.3	27.7	27.0	24.1	20.0	17.4	17.4	18.6	21.4	23.8	26.3	28.4	23.4

1. Data sourced from Seven Hills (Collins Street) AWS (67026).

2.3 RAINFALL

Rainfall data from the Quakers Hill Treatment Works AWS reveals that for the period of collected data, on average:

- mean annual rainfall for the area surrounding the site is 921.5 millimetres (mm);

- September is typically the driest month with an average of 42.1mm; and
- February is typically the wettest month with an average of 113.3mm (See *Table 2.3*).

Table 2.3 Monthly Precipitation Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Rainfall	104.0	113.3	94.2	66.5	71.2	80.3	42.1	52.9	38.0	65.7	85.6	70.1	921.5

1. Data sourced from Quakers Hill Treatment Works AWS (67076)

2.4 LANDFORM AND ELEVATION

Lot 5 DP 7086 is a relatively flat site that drains to the south. The site runoff travels via overland flow and a network of pipe and inlet structures to the stormwater basin constructed in the southern portion of the site. The lot has been excavated into the landscape to allow for it to be sunk behind a noise wall in comparison to the elevation at street level. The site ranges from 41.7mAHD to 40.2mAHD before the dam excavation while the street level of Tattersalls Road is approximately 45mAHD. A sound mound is constructed at street level to approximately 45-47mAHD in height.

Lot 2 DP 550522 is also a relatively flat site that drains to the southwest of the site. The highest elevation is approximately 42mAHD in the northern carpark area of the site to the lowest point of around 40mAHD in the south western portion of the site (also a carpark). Tattersalls Road sits slightly higher than the site.

At present a vegetated mound travelling north-south separates the two lots. This will have to be removed to allow for the proposed expansion. Existing site contours and proposed contours are shown in the site drainage plans.

Ultimately runoff from both lots flows to Breakfast Creek to the south of the two lots. Breakfast Creek is a tributary to Eastern Creek which then merges with South Creek, flowing to the Windsor Reach of the Hawkesbury River. The Hawkesbury River flows to the South Pacific Ocean.

2.5 GEOLOGY

The lithology of the site comprises shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff (Clark and Jones, 1991). The formation is Bringelly Shale of the Wianamatta Group (undifferentiated), from the Middle Triassic period (Clark and Jones, 1991).

2.6 *SOIL LANDSCAPE*

The Blacktown soil landscape group usually occurs on gently undulating rises over Wianamatta Group shales. The ground slopes are usually less than 5%. The soils range from shallow to moderately deep (less than 1m thick) and are hard setting, mottled textured clay soils. The soils are typically poorly drained with low fertility, localised high plasticity and expansive subsoils.

2.7 *POTENTIAL ACID SULPHATE SOILS*

Potential acid sulphate soils (PASS) are naturally occurring sediments and soils containing iron sulfides (principally pyrite) and/or their precursors or oxidation products. The exposure of the sulfides to oxygen by drainage or excavation leads to the formation of actual acid sulphate soils (ASS) and generation of sulphuric acid which can have unacceptable environmental impacts, including acidification of waterways, major fish kills, habitat destruction, loss of agricultural productivity, geotechnical instability and corrosion of concrete and steel structures.

PASS are concentrated in coastal environments, typically within estuarine sediments of relatively recent (Holocene and Pleistocene) age and at elevations mostly less than 5m AHD. There is however potential for other acid sulphate materials (ASM) (e.g. rocks containing sulphide minerals) to have wider distribution in the landscape.

Assessment of the Australian Soil Resource Information System (CSIRO, 2006) mapping layer identified that the site has no known occurrence of Acid Sulfate Soil (ASS).

2.8 *SURFACE WATER HYDROLOGY*

Runoff from the site flows to Breakfast Creek to the south. Breakfast Creek is heavily disturbed ephemeral stream that flows through the industrial estate. The Creek is currently being reinstituted by local Council, involving realignment and lining with rock.

Stormwater runoff generated at Lot 5 DP 7086 (the existing site) currently reaches a stormwater basin in the southern portion of the site via overland flow and a network of inlets and underground pipes. This basin has a riser that acts a discharge point that is not licensed. The outlet for the riser is currently closed with a shut-off valve, with all captured stormwater to remain on-site.

At the proposed expansion site (Lot 2 DP 550522) the predominant source of runoff is generated from the roof space occupying the majority of the site. This runoff is assumed to flow to the adjacent rock and earth lined stormwater drain to the east that links down gradient to Breakfast Creek. The carpark in the northern portion of the site drains to a series of inlet pits that discharge to the adjacent drainage line to the east. The carpark in the southern portion of the site is presumed to drain to Breakfast Creek in the south.

2.9 *RECEIVING WATER QUALITY OBJECTIVES*

2.9.1 *NSW Water Quality and River Flow Objectives*

The NSW government has set up the NSW Water Quality and River Flow Objectives (WQRFO), which are agreed environmental values and long-term goals for NSW surface waters. The objectives are consistent with the agreed national framework for assessing water quality set out in the ANZECC 2000 Guidelines. Surface waters from the site enter Breakfast Creek, flows to Eastern Creek which ultimately flows to the Hawkesbury River. This catchment form part of the Hawkesbury River Catchment under the WQRFO.

At the time the environmental objectives were approved by the Government (September 1999) the Healthy Rivers Commission (HRC) had substantially completed public inquiries for the catchment of the Hawkesbury-Nepean River. The HRC recommended Water Quality Objectives in its Final Reports for these catchments. Government confirmed these Objectives in its response to the reports in Statements of Intent. The Statement of Joint Intent for the Hawkesbury Nepean River System (NSW Government 2001) identified the following Water Quality Objectives (WQOs) in *Table 2.4* that should be adopted as criteria for the initial phases of an adaptive management regime for water quality.

For other substances, the ANZECC guidelines should be adopted.

Table 2.4 Water Quality Objectives for Nutrients

Water Quality Indicator (all values µg/L)	Forested Areas and Drinking Water Catchment	Mixed Use Rural Areas and Sandstone Plateau	Urban Areas – Main Stream	Urban Areas – Tributary Stream	Estuarine Areas
Total Phosphorus					
NWQMS range	10-100	10-100	10-100	10-100	N/A
HRC recommendation	**50**	**35**	**30**	**~50**	**30**
Measured range (a)	7-50	10-740	10-100	50-360	15-30
Total Nitrogen					
NWQMS range	100-750	100-750	100-750	100-750	N/A

Water Quality Indicator (all values µg/L)	Forested Areas and Drinking Water Catchment	Mixed Use Rural Areas and Sandstone Plateau	Urban Areas – Main Stream	Urban Areas – Tributary Stream	Estuarine Areas
HRC recommendation	**700**	**700**	**500**	**~1000**	**400**
Measured range (a)	100-800	200-3200	400-2200	500-15,000	200-500
Chlorophyll-*a*					
NWQMS range	N/A	N/A	N/A	N/A	1-10
HRC recommendation	**7**	**7**	**10-15**	**~20**	**7**
Measured range (a)	-	2-7	3-20	2-70	5-9

(a). The values shown are the range of average (mean) values calculated for the sites in that region.

2.9.2 South Creek

The South Creek subcatchment encompasses South Creek and Eastern Creek that are downstream of Breakfast Creek and comprises most of the Cumberland Plain of Western Sydney.

The catchment is a shale-based catchment with no gorges or sandstone dominated landscapes. The majority of the streams are "meandering vertical" river channel types streams, which are under great threat as they are confined largely to the Cumberland Plain in the Hawkesbury Nepean catchment.

South Creek subcatchment is perhaps the most degraded subcatchment in the Hawkesbury Nepean. Hydrological and sediment regimes have been dramatically altered due to vegetation clearance and increasing urbanisation. Increasing impervious surfaces in the catchment are causing changes to hydrology which has greatly altered the geomorphology and ecology of the watercourses.

A number of major Sewerage Treatment Plants discharge into South Creek and these, along with stormwater from urban areas and agricultural runoff, contribute to the poor water quality of the streams.

The recovery potential of the catchment's streams is very low; however, there are some very important remnants of endangered vegetation along the riparian zones. The watercourses form extremely important habitat corridors although heavy woody weed invasion exists in the riparian zones (CMA Hawkesbury-Nepean, 2013).

2.9.3 Hawkesbury River

The Hawkesbury River in this location is under threat from a multitude of land use impacts. The river receives highly reduced flows due to extensive upstream impoundment for Sydney's drinking water. Licensed surface water extraction from this subcatchment is also high, supporting the most intensive and productive agricultural operations in the Sydney basin. The floodplains and riverbanks have been largely cleared for agriculture and recreational use, and riverbank erosion is a serious issue.

There are a number of major Sewerage Treatment Plants discharging into the Hawkesbury River subcatchment which impact on water quality and flow.

The Hawkesbury River has an extremely high social and economic value supporting significant agriculture, recreation and tourism industries in the subcatchment, and there is a very high level of community based environment activity zones (CMA Hawkesbury-Nepean, 2013).

3 GROUNDWATER

3.1 BACKGROUND

There have been no groundwater investigations completed on the site. Information provided in this report, in conjunction with information provided by the NSW Office of Water (NOW) has been considered by ERM in evaluating the current hydrogeological conditions at the site.

3.2 GROUNDWATER BORE SEARCH

A search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bore within approximately 1km of the site (refer *Table 3.1* below). The detailed groundwater bore logs and bore location plan are provided in *Annex A*.

The logs for boreholes drilled to the east of the site reported a shallow water bearing zone of silty clay between 1.5 and 6.5m below ground level (BGL). *Table 3.1* identifies the boreholes that are adjacent to the drainage line that travels parallel to the eastern boundary of the proposed development site (Lot 2 DP 550522) and eventually drains to Breakfast Creek. The boreholes to the northwest of the site did not report any water bearing zones or aquifer geology, though the standing water level for these wells was uniform at seven metres.

Table 3.1 Licensed Bores within One Kilometre of the site

Bore Reference	Distance / Direction from Existing site	Location	Authorised Purposes	Final Drilled Depth (m)	Standing Water Level (m)	Water Bearing Zones (m)	Aquifer Geology
GW112589	Approx. 500m to the NW	N 6263978 E 306101	Monitoring Bore	10.86	7.0	-	-
GW112588	Approx. 500m to the NW	N 6263990 E 306122	Monitoring Bore	12.44	7.0	-	-
GW112587	Approx. 500m to the NW	N 6263979 E 306140	Monitoring Bore	99	7.0	-	-
GW104235	Approx. 160m to the E[1]	N 6263690 E 306709	Monitoring Bore	6.2	2.6	2.6-6.2	Grey silty clay
GW112580	Approx. 165m to the E[1]	N 6263690 E 306716	Monitoring Bore	5.85	3.0	4.0-4.5	Clay
GW112581	Approx. 170m to the E[1]	N 6263645 E 306712	Monitoring Bore	5.3	2.3	2.0-2.5	Loose moist clay
GW112578	Approx. 275m to the E	N 6263678 E 306818	Monitoring Bore	5.8	2.5	1.5-2.5	Moist, light brown clay
GW112579	Approx. 180m to the E[1]	N 6263553 E 306704	Monitoring Bore	5.6	2.5	4.5-4.8	Grey/brown clay
GW104236	Approx. 170m to the E[1]	N 6263495 E 306688	Monitoring Bore	6.5	3.2	3.2-6.5	Medium to brown clay
GW104237	Approx. 210m to the E	N 6263493 E306726	Monitoring Bore	7.1	3.2	3.2-6.5	Grey silty clay
GW102688	Approx. 370m to the E	N 6263415 E306884	Monitoring Bore	5.55	2.5	2-5	Clay, Silty/Sandy

1. These groundwater wells are directly adjacent to the lot of proposed development (Lot 2 DP 550522)

3.3 GROUNDWATER ASSESSMENT

The proposed development does not require any activities such as significant excavation that would cause direct disturbance to groundwater. Adjacent groundwater wells indicated that the shallowest aquifer would be approximately two metres BGL. The site of the proposed development is already sealed with associated drainage installed such that limited infiltration rainwater occurs on the site. The Natural Resource Atlas indicated that the groundwater identified in wells adjacent to the site is saline. There are not expected to be any significant effects on regional groundwater as a result of the expanded site operations.

The EIS completed by ERM in 1999 reviewed to previous reports addressing contamination at the site:

- ADI Services (1995a), Environmental Site Investigation for 45-47 Tattersall Road, Blacktown, NSW, 3 November 1995; and
- ADI Services (1995b), Stage 2 Environmental Site Investigation, 45-47 Tattersall Road, Blacktown, NSW 8 December 1995.

The site history described in these reports indicated that there were several areas with potential for contamination:

- heavy metal contamination from boiler making activities;
- imported fill used to level the rear of the site;
- pesticides from previous farming activities;
- two underground storage tanks;
- two underground septic tanks;
- contamination from painting activities near the timber mill; and
- oil spillage.

The results of Stage 2 investigation (ADI Services 1995b), showed the following:

- concentrations of PAHs, OCPs, and OPPs in soils tested were below laboratory detection limits and the guideline criteria at the time;
- the validation results obtained during the removal of the underground tanks showed that all concentrations of TPH , BTEX and lead were either below detection limits or applicable guideline criteria at the time;

- there were some locations where concentrations of copper and zinc were above the ANZECC guidelines for unrestricted use. These were in surface soil samples only; and

- asbestos cement sheeting was detected in one sample in the north western corner of the site. This was recommended to be removed.

The area of expanded operations is currently operated by Dexion, a manufacturer of pallet racking, industrial and office storage equipment. Much of this site is comprised of hardstand surfaces and is enclosed with manufacturing sheds and warehouses.

The implications of the proposal in terms of *Principle 4* of the *NSW Groundwater Quality Protection Policy* (DLWC 1997), is discussed below:

- **Threat Factor:** The proposed development is an expansion of the existing metal recycling facility. Fuels and lubricants will be stored in appropriately bunded and roofed locations and refuelling will occur with drip trays and spill mats. The site is connected to the town water and wastewater network. Water for processing will be sourced from mains supplied water and water within the stormwater pond, as is current practice at the site and rain water tanks. The proposed expansion therefore poses limited inherent risk of groundwater quality impacts. No pumping of groundwater is proposed, therefore groundwater levels would not be lowered.

- **Vulnerability of the Groundwater System:** The NSW Natural Resource Atlas (2014) identifies that the vulnerability of the groundwater is low. There is no known groundwater use for drinking water supplies downstream of the site. The only potential for impact on the groundwater is from the potential contamination remaining in the soil/groundwater from previous activities occurring on the site when the concrete seal was not installed.

- **Beneficial Use of the Groundwater:** The beneficial use classification depends upon the quality of water present and the potential long-term value of the resource. The existing site currently drains to a sediment basin that is prohibited to discharge. The proposed expansion site drains to bioretention filter before discharging to Breakfast Creek. Downstream of the sites is the heavily disturbed Breakfast Creek. Breakfast Creek is currently being reinstituted by local Council, involving realignment and lining with rock, with additional vegetation planting proposed within the riparian zone.

Operational water supply for the site will be provided by:

- mains supplied town water;
- drawing water from the sediment basin; and
- potentially rain water captured form the rooves of the manufacturing sheds.

No groundwater will be extracted for the operation. The proposed expansion is unlikely to further impact groundwater supplies and consequently will not alter the current beneficial use of groundwater.

3.4 GROUNDWATER MONITORING

As the site will not be excavating material or extracting groundwater, it is not expected that the proposed site expansion will further impact the regional groundwater quality or quantity. As such it is not proposed to undertake a groundwater monitoring program on the site as a result of the proposed expansion.

4 SOIL AND WATER MANAGEMENT PLAN

4.1 INTRODUCTION

Proper planning for soil and water management is essential to ensuring that land disturbance associated with construction and the on-going operation of the site does not lead to significant detrimental impacts on the surrounding environment.

Landcom (2004) describes six general principles of effective soil and water management for land disturbance which are relevant to the site activities. The principles can be paraphrased as:

- assess the soil and water implications of a project at the planning stage;
- plan for erosion and sediment control and assess site constraints during the design phase and before any earthworks begin;
- minimise the area of soil disturbed and exposed to erosion;
- control water flows from the top of and through disturbed areas – divert up-slope 'clean' water away from disturbed areas and ensure concentrated flows are below erosive levels;
- rehabilitate disturbed lands quickly; and
- maintain erosion and control measures for the duration of the project and until the site is successfully rehabilitated.

In addition, programs should prioritise erosion control which is the most effective means of limiting adverse environmental impacts. Specific erosion controls should be targeted at 'high risk' areas, such as drainage lines that receive concentrated flows, steep or long slopes containing erodible materials, or areas that are not well protected by downstream pollution controls. Generally it is possible to stage the development in a way that reduces the erosion hazard.

4.2 EROSION HAZARD ASSESSMENT

The overall erosion hazard has been assessed as very low within the site based on the following assumptions that will, based on conservative estimates, limit the soil loss to less than 150 tonnes/hectare/year:

- the predominant nature of works requiring soil disturbance will be limited to small excavation areas required for the installation of stormwater conveyance pipes and inlet pits, installation of weighbridges, rain water tank, bioretention filter, refurbishment of stormwater basin and truck wheel wash;

- the aforementioned excavations will be self-contained – with any collected water to be dewatered in accordance with *Section 4.7.1*; and

- the majority of exposed surfaces on the site will be relatively flat (less than 3%) will ultimately be hard sealed with concrete.

The demolition activities on both sites are not considered likely to significantly add to the potential for erosion and sediment generation on the site.

4.3 SUMMARY OF SITE CONSTRAINTS AND CHARACTERISTICS

Table 4.1 summarises the key site characteristics that help to assess the erosion control and design management works.

Table 4.1 Site Constraints and Characteristics

Constraint / Characteristic	Description / Value
Rainfall	R-factor = 2500
Rainfall zone	Zone 4 (Conservative estimate based on Figure 4.9 in the Blue Book)
Slope gradients	Site is generally flat with a slight fall towards the south <5%.
Soil erodibility	K-factor = 0.038, typical value for the Blacktown Soil Landscape present at the site. Where the concrete will be disturbed to expose soils below this K-factor can be assumed.
Conservative estimate of soil loss[1]	Well under150 tonnes/ha/year
Soil loss class	1 – very low (refer Table 4.2 in the Blue Book)
Soil texture group	Assumed to be Type D – dispersive based on Blacktown Soil Landscape.
Soil hydrologic group	Group C – moderate to high runoff potential (refer Annex F in the Blue Book)

1. Assumptions in Section 4.3 Erosion Hazard Assessment, chiefly the small areas of soil to be exposed during the proposed redevelopment, nullified the requirement to estimate soil loss for the site as hazard is considered to be very low.

4.3.1 *Runoff Co-efficient*

Runoff coefficient is a term that relates catchment runoff as a proportion of rainfall depth for nominated storm events, and is generally expressed as a decimal.

Volumetric Runoff Coefficient (Cv)

This describes the total volume of runoff as a proportion of total rain depth for a nominated storm event and is commonly used to size sediment basins for Type F/D soils. In this plan C_v is used to estimate annual catchment runoff yields in association with a water balance for the site.

Information on long-term volumetric runoff coefficients from disturbed sites is scant however, so it is necessary to make an estimate. For mostly undisturbed rural catchments in this area an annual C_v of approximately 0.125 is used by the NSW Farm Dams Harvestable Rights calculator (NSW Office of Water). At disturbed sites, annual runoff is significantly greater than on undisturbed rural lands due to the shallow, compacted soils and minimal vegetative cover. A volumetric runoff coefficient of 0.9 was used in determining the catchment yield from the sealed site areas and manufacturing shed roofs.

Further description of these runoff coefficients and their use is provided in Annex F of Landcom (2004).

4.4 EROSION CONTROL

Erosion control measures to be implemented during construction activities are as follows:

- limit disturbance to two metres beyond the edge of any essential construction activity;
- plan construction works to limit the amount of disturbed area at any one time;
- provide a single stabilised site access point to each key construction area that is defined using sediment fence (downslope) and barrier fence/bund (upslope);
- coordinate work schedules, if more than one contractor is working on a site, so that there are no delays in construction activities which would cause disturbed land to remain unstabilised for longer than 2 weeks;
- progressively install stabilisation measures; such as sealing of access ways, to minimise exposed areas; and
- during windy weather unsealed roads will be kept moist (not wet) by sprinkling with water to reduce wind erosion.

Stabilisation is the key erosion control method throughout the operation of the site (primary through the implementation of the concrete sealing) and should be undertaken progressively throughout the construction process

4.5 DRAINAGE AND STORMWATER MANAGEMENT

The concept drainage and stormwater management for the site is shown in concept plans provided in *Annex A*.

4.5.1 Separate Clean and Dirty Catchments

The 'clean' water catchments on the proposed site are the roofed areas of the sheds and administration buildings and the carpark locations. Rainwater tanks are present on some of the existing sheds and will remain following the development and an additional rainwater tank (including a minimal 22,500L underground concrete tank to be established adjacent to Post Shredder Processing 'Building C'). The roof space of the Dexion building is currently a clean catchment, however the proposed development will require the removal of this roof to allow for the importation of the shear. This area will effectively become a 'dirty' catchment. To manage runoff generated in this location the existing concrete pavement will be resurfaced with select material to drain to three grated dish drains.

These dish drains will drain to the south via an underground pipe network to a pre-cast oil/water separator. The oil water separator will remove entrained hydrocarbons and total suspended solids (TSS) from the runoff. This oil/water separator will then discharge to a bioretention filter.

The carpark to the rear of the Lot 2 DP550522 will drain to a similar oil/water separator and then discharge to the bioretention filter.

The bioretention filter will be an additional treatment in the stormwater treatment train and will cover an area of approximately 380m². The bioretention filter will finally discharge into Breakfast Creek. The discharge pipe will be fitted with a non-return flap valve. This valve will be able to be closed shut in the event of a catastrophic spill or other unforeseen event that may require the prevention of collected stormwater from being discharged to the Creek.

The proposed stormwater management system for Lot 5 DP7086 will involve a proposed network of four pipes positioned form north to south parallel to the sites boundaries. Linking to one of these pipes will be an east west travelling pipe positioned between the proposed non-ferrous processing building (building 2) and the shredder.

During the site redevelopment Sell and Parker commit to cleaning and repairing existing pits and pipes and replace any damaged filter inserts on both lots as necessary.

4.5.2 Access Roads

Current access roads within both lots are sealed and will remain to be utilised in the site expansion. Some additional sections of access road will need to be constructed to link the two lots. These additional areas of access road will need to be constructed with consideration to site drainage to ensure ponding does not occur and that runoff generated flows to a control.

4.5.3 Oil/Water Separators

Two oil/water separators are proposed for the new drainage system within Lot 2 DP550522 and one on Lot 5 DP7086. Each oil/ grit separator would be a precast unit such as a Humesceptor or similar device. Based on the manufacturer's performance details removal rates of 80% for total suspended solids and 65-99% for hydrocarbons would be expected. The majority of metals would be removed with the suspended solids. Heavy metals in such run-off are generally associated with the suspended solids. Removal of a high proportion of the finer fraction of the suspended solids will also prevent heavy metals being exported from the site. The oil/grit separators will also provide for treatment of contaminated water generated during firefighting operations in the event of a fire occurring at the metal recycling facility.

To ensure that the pollutant removal performance is maintained regular cleaning of the units will be carried out. Each month a licensed contractor will remove the accumulated oils and sediment using an inductor truck. The performance of the unit will be monitored and the frequency of cleaning increased if required.

4.6 SEDIMENT CONTROL

4.6.1 Inlet Protection

Inlet protection is proposed to minimise the potential for sediment entrained runoff from entering the existing and proposed drainage network. The location of these protection measures is provided in the sediment control plan provided in *Annex A*. Standard Drawing 6-12 of Annex B displays the design characteristics.

4.6.2 Site Access Points

At present the ingress and egress to the sites are hard sealed so in the event that no disturbance is required to refurbish the site, should prove useful to mitigate against mudtracking from the site. Should exposure of soils be required to refurbish the site the ESCP recommends the use of a temporary construction access of rock. A truck wheel wash is to be constructed on the proposed egress to Lot 2 DP550522. Construction of this wheel wash will be the primary measure of controlling mudtracking during operation, and if staged appropriately during construction will prevent mudtracking during the refurbishment. See *Annex B*, Standard Drawing 6-14 Stabilised Access.

4.6.3 Wheel Wash

A Standard Design for a wheel wash (IECA, 2008) is provided in *Annex B*. Proprietary wheel wash facilities are also available and may be considered (client to undertake cost/benefit analysis), particularly given the availability of captured roof water rather than mains supplied water to circulate into the system.

The efficiency of a wheel wash is dependent on the regularity with which it is maintained. Regular removal of captured sediment and regular replacement of wash water will improve the efficiency of the wheel wash. Wash water should be directed through controls (such as triple interceptor pit) prior to being discharged to either the local stormwater mains or the bioretention filter.

4.6.4 Sediment Trap

The main sediment trap shown in the sediment control plan in Annex A is the Sediment fence. The sediment fence has been proposed for installation along the entire eastern and southern perimeters and the south western perimeter. Standard Drawing 6-8 in *Annex B* provides details on the erection of the fencing.

4.7 KEY EARTHWORKS ACTIVITIES

4.7.1 Installation of Services (Trenching)

The following erosion and sediment controls apply to trenching activities:

- schedule works for outside of forecast inclement weather and limit the disturbance to the shortest timeframe possible;
- divert upslope runoff leading to the trench;
- use common trenching for the various service and drainage connections;
- protect any nearby (downslope) drainage inlets with inlet protection, sandbags or sediment barriers until the trench line is rehabilitated;
- in the few locations on-site where this is applicable, remove and store vegetated topsoil (sod) so that it can be replaced on the trench to provide immediate erosion protection after backfilling is completed. Store topsoil separately from any subsoil overburden so that when the trench is to be refilled, the topsoil can be replaced above the subsoil;

- ensure trench widths are the minimum needed to safely install the services;
- organise service installations to enable progressive backfilling;
- when trenching parallel to site contours (across grade), soil from the excavation should be placed and compacted on the uphill side of the trench to form an earth bank. This is to prevent clean stormwater entering the trench (where after it must be managed as "dirty" water) by directing stormwater around and away from the open trench. This measure may be avoided where trenches are expected to be open for less than 24 hours and where the likelihood of rain is low;
- when trenching perpendicular or obliquely to site contours (down grade):
    - use sandbags as plugs or bulkheads across trench inverts to shorten the length of stormwater flow in the trench (so reducing erosion of soils in the trench);
    - ensure plugs, collars or trench stops are employed to control tunnel erosion after backfilling is completed;
    - provide cross banks at regular intervals to prevent concentrated water flows along the finished (backfilled) trenchline (where concreting over the backfilled trench will not be undertaken);
- backfill subsoil and compact to 95 per cent Standard Proctor. Replace topsoil and any sod to match surrounding ground levels. Provide an appropriate allowance for settling of uncompacted backfill material (e.g. 10%);
- after backfilling, remove excess or unsuitable spoil from the site; and
- stabilise the site, in the majority of cases by sealing with concrete, as soon as possible.

Dewatering of the Project Site

Areas of the project site may require dewatering during the lifetime of the construction activities. This may apply to low lying depressions becoming inundated following a significant storm event; to dewatering of open trenches following rainfall; or dewatering of open excavations to allow for service installation (trenching). This water has the potential to be contaminated with suspended sediment and therefore will be managed so that disposal does not contribute to water pollution.

When pumping dirty water out of construction areas the pump intake will be kept as close to the surface of pools as possible to avoid sucking sediments off the bottom.

Water should be used on site for dust suppression or may be discharged into the stormwater pond to allow for captured solids to settle.

4.7.2 Amelioration Works on the Existing Stormwater Basin

The existing sediment basin is to be dredged and cleaned. Given the potential for hydrocarbon contamination, it is recommended that verification sampling is undertaken on the basin soils following excavation works to ensure that any remnant contamination has been removed. The basin should then be clay lined to limit the potential for ground water contamination should contaminated stormwater be received in the future and to prevent the potential for future potential contaminated groundwater to be discharged from the basin.

All liquid removed from the basin is to be collected by a suitably licenced liquid waste contractor and appropriately disposed. Similarly the material excavated material from the basin should be appropriately disposed of to a licenced facility, following classification of the material in accordance with the Waste Classification guidelines. It is recommended that material excavated form the basin is immediately loaded onto trucks to be transported to the disposal facility to eliminate the requirement to store the material in stockpiles on the site.

4.7.3 Excavation of the Bioretention Filter

The following mitigation measures are proposed for the installation of the bioretention filter:

- schedule the excavation works for periods outside of forecast inclement weather;
- install sediment fence downslope of the disturbed area and the proposed stockpile location;
- all runoff generated upslope of the filter will be off hardstand areas and thus considered 'clean' so should be divert around the filter during construction;
- dewater any collected runoff in accordance with Section *4.7.1*; and
- stabilise the locality as soon as is practicable.

4.7.4 Stockpile Management

Excavated material will need to be stockpiled on-site and hence appropriately managed to prevent downstream sedimentation. Stockpile management is a simple 'at source' control that can significantly limit the generation of sediment entrained runoff. Locate the stockpiles outside of concentrated flow areas such as drains and away from stormwater inlet pits within the site. Upgradient diversion of runoff using sandbags is to be implemented to prevent upslope runoff encountering the stockpile. Given the low volume of material to be excavated erosion control in the form of covering the stockpiles (with black construction plastic for example) may be suitable, in the event of forecast inclement weather. Any excess stockpiled material to be removed from the site is to be sampled and analysed in accordance with the Waste Classification Guidelines and upon receipt of the analysis results, disposed of at an appropriately licenced facility. See *Annex B*, Standard Drawing 4-01 Stockpiles.

4.8 SITE MONITORING AND MAINTENANCE

Essential to an effective system of erosion and sediment control, is an adequate inspection, maintenance and cleaning program. Inspections, particularly during storms, will show whether devices are operating effectively. Where a device proves inadequate, it should be quickly redesigned to make it effective.

It is recommended that a delegated site representative undertake regular inspections of the erosion and sediment controls and to advise on necessary changes, to help ensure the success of the erosion and sediment control program. Inspections should be undertaken at least monthly, and always after significant rainfall events until final stabilisation of the site.

4.9 SURFACE WATER MONITORING

As part of the expanded Project, Sell and Parker will be seeking (following consent) alteration to the existing EPL to allow for discharges to Breakfast Creek from the stormwater basin on Lot 5 DP 7086. Such an alteration would require the allocation of a licensed discharge point (that is the existing riser outlet would have to be registered with the EPA). To allow discharge surface water quality parameters would need to be authorised by the EPA for Sell and Parker to meet prior to each proposed discharge. A licensed discharge point would require Sell and Parker to undertake water quality monitoring involving field and laboratory testing to ensure that discharge criteria are met prior to releasing the basin. Suggested analytes and concentrations that may be used in a licence variation Sell and Parker would have to submit to the EPA are provided in *Table 4.2*.

Table 4.2 ***Suggested Discharge Criteria for EPL Licence Variation to allow discharges to Breakfast Creek***

Pollutant	Units of Measure	Maximum Concentration Limit	Frequency of Testing	Sampling Method
pH	pH units	6.5 to 8.5	Daily during any discharge	Grab
Oil and grease	Observation	No visible presence	Daily during any discharge	Grab
Total Suspended Solids (TSS)	mg/L	50	Daily during any discharge	Grab

The potential for the site to meet this criteria will be improved upon refurbishment of:

- the site;
- the infrastructure leading to the pond; and
- the pond itself (removing current water, dredging and lining with clay).

Testing will verify if the water quality within the pond meets the criteria following the refilling of the pond after refurbishment.

4.10 RE-USE OF WATER FOR OPERATIONS

Water collected in the stormwater basin is currently being used for operations. This is proposed to continue as part of the expanded operations with water proposed to be used on hammermill and other operations, suitably screened and filtered to ensure water collected in the basin is suitable for use in operations and will have no impact to infrastructure, the surrounding environment or the health and safety of employees. The reuse of the stormwater within the site will minimise the likelihood for discharges given the likely large volume of water required on a daily basis for operational use associated with the proposed expansion.

4.11 POTENTIAL POLLUTANT MANAGEMENT

All potentially contaminating materials used or stored on the site (e.g. fuel, oils) should be prevented from entering the groundwater or surface water systems. At present drums of liquids are stored on commercially available bunding pallets in the workshop or within internally bunded shipping containers on the western fenceline. Free space within these storage areas will likely be utilised for additional chemicals associated with the increased production, or importing additional internally bunded shipping containers.

Bulk storage areas for fuels, oils and chemicals will be contained within an impervious bund to retain any spills of more than 110% of the volume of the largest container in the bunded area. Any spillage will be immediately contained and absorbed with a suitable absorbent material. Storage will comply with *AS 1940 1993 The Storage and Handling of Flammable and Combustible Liquids*.

Material Safety Data Sheets (MSDS) for all chemicals stored on-site are currently maintained by the Site Safety Officer and made available to site personnel. Site personnel will be informed of their location as a part of the site induction.

Refuelling is to take place in locations well away from drainage points. Drip trays should always be placed underneath the equipment being refuelled and a spill kit located in close proximity in the event of any spills. Provision of spill kits and training of site personnel in their use will ensure that in the event of any spills appropriate action can be taken rapidly to prevent and minimise impacts to surface waters or groundwater. Wherever possible, activities that have potential for spills will be located in areas that drain in such a way that spills will not migrate off-site; otherwise appropriate safeguards and spill containment facilities will be installed.

Additional trade waste receptacles will be provided for the safe and efficient storage of all construction and miscellaneous wastes, as necessary. Recyclable materials shall be separated and recycled where possible. Otherwise, disposable wastes will be removed from site regularly and disposed by approved means.

4.12 WATER BALANCE

The main activities using water on the site include:

- cooling within the shredder (the majority of which is expelled from the process as steam);
- washing of scrap metal in the raw material stockpile area;
- dust suppression within the conveyor;
- washdown of areas required for pedestrian and truck movements and work areas outside of stockpile locations;
- typical domestic water uses, such as flushing toilets, showering and hand washing facilities; and
- minimal volume for dust suppression on the site.

At present water is sourced from mains supplied potable water and reuse of collected runoff in the sediment basin. The increase in water use with the proposed expansion warrants on-going use of collected runoff in the stormwater basin for operation requirements, thus reducing the requirement on mains supplied potable water, as long as the water is of a quality such that impacts to site infrastructure, the surrounding environment and the health and safety of employees is avoided.

4.13 ESTIMATED WATER REQUIREMENTS

The limited information available on water use at the site makes it very difficult to accurately predict the estimated water requirements for the proposed expansion. Developing a correlation between water usage and production was difficult given the lack of production data and limited months of water usage data available. Water usage data sourced from billing information was collated to provide an overview of the water usage for the site, as shown in *Table 4.3*.

Table 4.3 Water Use Information

Bill Period	Kilolitres of Water Consumed	Total Days in Period and Number of Sundays/Public Holidays (PH)	Assumed Number of Working Days in Billing Period	Assumed Daily Consumption (kL/day)
11 May to 30 June 2012	2149	Total 50 (not incl. 11 May) 7 Sundays PH - 11 June	42	51.2
1 July to 6 August 2012	1589	Total 37 (incl. 06 August) 6 Sundays No PH	31	51.3
6 August to 5 November 2012	1005	Total 91 (not incl. 6 August, incl. 5 November) 13 Sundays PH - 1 October	77	13.05
5 November 2012 to 15 February 2013	6634	Total 102 (not incl. 5 November, incl. 15 February) 14 Sundays PH - 1, 25 and 26 January	85	78.1
15 February to 7 May 2013[1]	8733	Total 81 (not incl. 15 Feb, incl. 7 May) 12 Sundays PH - 29 and 30 March, 1 and 25 April	65	134.4

Bill Period	Kilolitres of Water Consumed	Total Days in Period and Number of Sundays/Public Holidays (PH)	Assumed Number of Working Days in Billing Period	Assumed Daily Consumption (kL/day)
7 May to 30 June 2013	4121	Total 54 (not incl. 7, incl. 30 June) 8 Sundays PH - 10 June	45	91.6
1 July to 26 July 2013	1983	Total 26 (incl. 1 and 26 July) 3 Sundays	23	86.2
26 July to 30 October 2013	8598	Total 96 (not incl. 26 July, incl. 30 October) 14 Sundays PH- 7 October	81	106.2

1. Pipe leak at front of property caused excess water usage was identified during the period of the 15 February to 7 May 2013. The issue was resolved within this period

An estimated average of 40 litres per person per working day is required for uses such as toilet and hand basin use, dishwashing, showering and drinking. Using this assumption the current 64 employees would consume an estimated 2,560 Litres/day (L/day). The predicted increase to 80 employees associated with the production increase would raise water usage rates to approximately 3,200L/day. Assuming 304 working days per year this equates to 972.8kL/year. This is a small percentage of the total daily water use on the site, with the remainder of water use on-site assumed to be for production purposes.

The conservative estimates provided in this report should be revised as more information, and production related water use information becomes available.

4.14 SUMMARY OF ESTIMATED ANNUAL WATER REQUIREMENTS AND CATCHMENT YIELDS FOR THE SITE

An estimate of average current water usage on-site has been calculated by adding all the daily water usage rates for each billing period (with the exception of the 15 February to 7 May 2013 period where a water leak at the front of the site skewed water usage rates) divided by the total number of billing periods. This yielded an average of approximately 68.24kL/day for a production rate of 90,000tpa. Production at 350,000tpa is a 3.89 times greater than the existing rate so this factor has been applied to the current estimated rate to estimate a predicted increased water usage rate of 265.4kL/day. Assuming an average number of site operational days of 304 days per year (by excluding Sundays and Public Holidays) this is approximately 80.68 Megalitres/year.

4.14.1 Catchment Yields

Rainwater Harvesting

The volume of runoff likely to be harvested from the roof space of the sheds and hardstand areas is calculated using the following formula:

Harvest volume (m^3) = Catchment Size (m^2) x Annual Rainfall (mm) x Runoff Coefficient ÷ 1000 (unit conversion factor)

The calculations were based on the assumption that a runoff coefficient of 0.9 (that is 90% of rainfall will produce runoff) for the roof space shown on client provided plans and hard stand area catchments.

The rainfall percentages for the different percentile years were applied to give an estimation of volumes available to be captured by the existing stormwater pond during dry, median and wet years, see *Table 4.4*.

Table 4.4 Catchment Yield for Stormwater Basin

Stormwater Basin Catchment Area		2.49ha
Percentile Rainfall Year	**Annual Rainfall**	**Catchment Yields (ML/annum)**
10%ile rain year	559.2	12.5
50%ile rain year	923.7	20.7
90%ile rain year	1268.2	28.4

Volumes available for capture for rainwater tanks determined from available roof space are shown on *Table 4.5*.

Table 4.5 Catchment Yield from Roof Space from Lot 2 DP550522

Roof Space Catchment Area		0.91ha
Percentile Rainfall Year	**Annual Rainfall**	**Catchment Yields (ML/annum)**
10%ile rain year	559.2	4.6
50%ile rain year	923.7	7.6
90%ile rain year	1268.2	10.4

Tanks for the collection of rainwater will need to be located as close as possible to the roofing system. The size of the tanks will need to be determined in consultation with the operations manager. Use of a series of tanks may be more space efficient than a single large tank. Options for underground tank installation may be investigated as a space saving method. Pumps and associated infrastructure will be required to distribute the water to the required areas.

Town supplied mains water or water from the stormwater basin can be used when tank supply is insufficient.

Overflow from the rain water tank system can be directed to the stormwater basin or off-site depending on tank location.

4.15 FUTURE WATER USE ON-SITE

Future water use on the site will likely continue by the use of mains supplied potable water. However given the significant volume of water likely to be required for the expanded operations, estimated at approximately 80.68ML/year, the beneficial reuse of water collected in the basin, as is current practice at the site, should continue as long as water is of a quality sufficient to minimise impacts to the processing infrastructure, the surrounding environment and the health and safety of employees. The stormwater basin has an estimated volume of 1,440m^3, a size that if the basin was empty prior to receiving rainfall would be suitable to capture a rainfall event up to 64mm.

From the preliminary calculations provided in this report it assumed that between 15% and 35% of the total water requirement on-site could potentially be supplied by the stormwater basin in dry years (10%ile rain year) and wet years (90%ile rain year) respectively with an average rainfall year potentially supplying 26% of the site water requirements.

Rainwater tanks would likely be best suited to providing water for personal use such as toilet flushing, reducing the requirement for mains supplied potable water. The option is available to use a system of rainwater tanks to capture the predicted roof rainwater, however the large size of tanks required, the likely excavations/preparatory works required to install the tanks in the space constrained site and the network of piping to distribute the water to the shredder may not be viable (compared to the more viable option of a single pipe required to distribute captured water from the stormwater basin to the shredder).

A cost benefits analysis is beyond the scope of this report, however would provide a clear indication as to whether the costs associated with installation of additional infrastructure such as underground tanks and pipework and the running of pumps/fuel costs etc. would be financially viable.

4.16 HARVESTABLE RIGHTS

Dams that are exempt from Harvestable right calculations include dams for the capture, containment and recirculation of drainage and/or effluent that conform to best management practice of are required by regulation to prevent the contamination of a water source.

Give that the biorention filter is a stormwater management structure to improve the quality of stormwater prior to entering a water course it is exempt from the harvestable rights calculations.

5 *CONCLUSION*

Currently water collected in the stormwater basin on the site is being used in operations. The increase in water use likely with the proposed expansion warrants on-going use of this water for operation requirements, thus reducing the requirement on mains supplied potable water, as long as the water is of a quality such that impacts to site infrastructure, the surrounding environment and the health and safety of employees is avoided. From the preliminary calculations provided in this report it assumed that between 15% and 35% of the total water requirement on-site could potentially be supplied by the stormwater basin in dry years (10%ile rain year) and wet years (90%ile rain year) respectively with an average rainfall year potentially supplying 26% of the site water requirements.

With the limited site disturbance required to establish the site the erosion and sediment controls suggested within this report, along with the key management strategy of planning ground disturbance works for outside of forecast inclement weather periods are considered sufficient to limit the potential for possible stormwater impacts.

Typical site operations are not expected to encounter or disturb acid sulphate soils, nor lower the water table on adjacent lands to expose acid sulphate soils to oxidation.

As the site will not be excavating material or extracting groundwater, it is not expected that the site operations will impact the regional groundwater quality or quantity. As such it is not proposed to undertake a groundwater monitoring program on the site.

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Annex A

Figures and Plans

PART -2 REFER SHEET D02

STORMWATER DRAINAGE CONCEPT PLAN(PART 1)

1:300

PART -1

EXST.PRESHREDDER TO REMAIN

APPROXIMATE SEWER LINE PLOTTED FROM SYDNEY WATER DIAGRAM

EXISTING RETAINING WALL TO BE REMOVED

P1 SL41.70 IL41.20 | P2 SL41.45 IL40.92 IL40.95 | P3 SL41.30 IL40.70 IL40.73 | P4 SL41.05 IL40.37 IL40.40 | P5 SL 41.00 IL40.19 IL40.16

Ø150 @ 0.74% | Ø225 @ 0.57% | Ø300 @ 0.74% | Ø300 @ 0.50% | Ø375 @ 1.08%

PEXT SL41.30 | PEXT SL41.40 | PEXT SL41.13 | PEXT SL41.50 | PEXT SL41.80 | PEXT SL41.72 | PEXT SL41.74 | PEXT SL41.69 | PEXT SL41.76 | PEXT SL41.70 | PEXT SL41.75 | PEXT SL42.12 | PEXT SL42.42

PEXT-1 SL41.95 | PEXT-2 SL40.90 | PEXT SL40.90 | PEXT SL41.70

RWT-1
SL42.00
POSITION OF PROPOSED RAINWATER TANK (UNDER GROUND)
TYPE : MULTIQUIP CONCRETE WATER TANKS
VOLUME = 22 500L(min).
DIAMETER = 3.5m(APPROX).
PUMP OUT SYSTEM & CONNECTIONS TO SERVICES BY OTHERS.

LOCATIONS & LEVELS OF THE EXISTING SERVICES TO BE CHECKED ON SITE AND CONFIRMED BEFORE COMMENCING ANY CONSTRUCTION. ANY DISCREPANCY TO BE NOTIFIED TO THE ENGINEER.

CLEAN & MAKE GOOD THE EXT.SW PITS & PIPES. BUILD THE EXISTING PITS TO THE DESIGN SURFACE LEVELS.

EXISTING PAVED AREA TO BE RAISED TO THE PROPOSAL FINISHED SURFACE/LEVEL.

RE-DIRECT THE EXISTING PIPE

PROVIDE NON RETURN FLAP VALVE

BENCH MARK CUT TOP KERB RL41.50

3/Ø150 SLOTTED LINE (600CTS) DRAINING TO PRG-1

PROPOSED RAIN GARDEN AREA-380.00m² TWL - 40.80

SEE DETAIL X | SEE DETAIL Y

EXISTING BBQ AREA & AWN TO BE REMOVED

PRG-1 SL40.45 2250 | RG-HW1 SL41.20 | RG-HW2 SL41.40 8000 8500

Ø600 @ 0.94% | Ø525 @ 0.75% | Ø525 @ 0.75% | IL39.47 | IL39.93 | IL39.89 | IL39.86 | IL39.82 | IL40.45 Ø600 @ 1.50% IL40.57 | IL40.60 | Ø600 @ 1.94%

PO & SA3 (HUMECEPTOR STC-3 Ø2290) SL41.00

PO & SA4 (HUMECEPTOR STC-5 Ø2290) SL41.55

OVERFLOW PIPE TO P24 | IL41.33 Ø225 @ 0.50% IL41.32

VERTICAL PIPE | DISH DRAIN (300mm WIDE) | DP SL42.00 | GRATED DRAIN | Ø225 @ 0.50%(SUSPENDED LINE)

P24 SL42.00 | P26 SL42.00 | P27 SL41.80

IL41.00 Ø450 @ 1.25% IL41.10 | Ø372 @ 0.74% | Ø450 @ 0.50% IL41.01 IL41.10

CREST RL 42.10 | CREST RL 42.10 | CREST RL 42.10 | CREST RL 42.10 | CREST RL 42.10

LINE OF EXISTING CONCRETE PAVEMENT

PROPOSED SHEAR

EXST.POST SHREDDER PROCESSING TO REMAIN (BUILDING "C") FFL RL 42.03

EXST.NON-FERROUS SHED TO REMAIN (BUILDING "A") FFL RL 42.04

EXST.NON-FERROUS SHED TO REMAIN (BUILDING "B") FFL RL 42.02

2 STOREY BRICK ADMINISTRATION BUILDING TO REMAIN (BUILDING "E") FFL RL 42.55

EXST.DANGEROUS GOODS STORAGE TO REMAIN (BUILDING "G")

EXST.METAL AWNING TO REMAIN (BUILDING "H")

EXST.TRUCK WASH TO REMAIN (BUILDING "F") FFL RL 42.02

NEW TRUCK WHEELWASH

NEW WEIGHBRIDGE | NEW WEIGHBRIDGE

NOTE:
EXISTING CONCRETE PAVED AREA TO BE RESURFACED WITH SELECTED MATERIAL TO DRAIN SURFACE DISCHARGE IN TO DISH DRAINS PROVIDED

EXISTING OUTLETS TO BE DISCONTINUED(TYP)

CLEAN & MAKE GOOD THE EXST.SW PITS & PIPES. REPLACE ANY DAMAGED FILTER INSERTS OR ANY OTHER COMPONENT AS NECESSARY(TYP)

EXISTING SW DISCHARGE NETWORK

BENCH MARK CUT TOP LINTEL RL43.84

INTERNAL TIPPING AREA | NON FERROUS PROCESSING | PUBLIC NON FERROUS DISH | CARPARK | STAFF PARKING AREA | CUSTOMER / VISITOR PARKING AREA | CASHIER WAITING AREA | AMENITIES | OFFICE | CONTAINERS | EXST SUB STATION TO REMAIN | EXST.SUB STATION TO REMAIN

BREAKFAST CREEK | TATTERSALL ROAD | CONCRETE FOOTPATH | CONCRETE KERB | BITUMEN | GRASS | LAWN | FENCED | CHANNEL | PATH | DRIVEWAY | VEHICLE ACCESS | WATERCOURSE | ROCK | BANK | BATTER | NEW COLOURBOND AND ELECTRIC FENCE | EXST.SUB STATION TO REMAIN | 204.215 (TO TITLE BANK) | 187° 21' 50" | 102 DP618065 | N°.21 "BOSTIK" METAL/CONCRETE PANEL BUILDING

(A) EASEMENT TO DRAIN WATER 21.50 WIDE AND VARAIBALE (DP643925)
(B) EASEMENT FOR TRANSMISSION LINE 20.115 WIDE (H478705)
(A) EASEMENT TO DRAIN WATER 7.315 WIDE (M899111)
(B) EASEMENT TO DRAIN WATER VARIABLE WIDTH (V409992)

BIO RETENTION WARNING SIGN AND NOTES

WARNING
BIO RETENTION AREA
STORMWATER MAY RISE IN THIS AREA DURING HEAVY RAIN

BIO-RETENTION WARNING SIGN
COLOURS:
TRIANGLE AND "WARNING" - RED
WATER - BLUE
FIGURE AND OTHER LETTERING - BLACK

BIO-RETENTION FILTER MEDIA REQUIREMENTS
PRIOR TO PLACEMENT, CERTIFICATION IS TO BE PROVIDED THAT THE BIORETENTION FILTER MEDIA HAS:
a) A MINIMUM HYDRAULIC CONDUCTIVITY AS DEFINED BY ASTM F1815–06 OF 250mm/hr (ACTUAL, NOT PREDICTED). (WHERE THIS CANNOT BE CERTIFIED AMENDED DESIGN RATES AND MUSIC MODELLING BASED ON HALF THE TESTED RATE WILL BE REQUIRED AND DRAINAGE PLANS AMENDED.)
b) A MAXIMUM HYDRAULIC CONDUCTIVITY AS DEFINED BY ASTM F1815–06 OF 400mm/hr(ACTUAL, NOT PREDICTED)
c) AN ORTHOPHOSPHATE CONTENT<50mm/kg , AND
d) A TOTAL NITROGEN CONTENT<1000mg/kg

TYP.HEAD WALL DETAIL
1:50

Sizing of Rock Outlet Pads

			POND-HW1	POND-HW2	RG-HW1	RG-HW2
Discharge l/s			607	151	249.5	433
Pipe dia.	mm	m	0.45	0.375	0.525	0.6
Outlet velocity	mm/sec		3.82	1.37	1.15	1.53
Minimum rock size (Fig 8.13)		m	0.4	0.2	0.2	0.2
Length of rockprotection		m	3.2	0.8	1.2	1.2
Say		m				
Width at the outlet		m	1.05	0.975	1.125	1.2
Width at the end of protection		m	2.33	1.295	1.605	1.68

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

DRAINAGE CONCEPT NOTES
1. DRAINAGE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ASSOCIATED ARCHITECTURAL DRAWINGS.
2. THIS CONCEPT PLAN SHALL BE USED FOR COUNCIL EVALUATION ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE.
3. FINAL DESIGN OF THE STORMWATER DRAINAGE SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE COUNCIL AND OTHER RELEVANT AUSTRALIAN STANDARDS.

SURVEY
LEVELS ARE TO AHD AND ARE TAKEN FROM DRAWING No. 59760
PREPARED BY LEAN LEACKENBY & HAYWARD SURVEYING CONSULTANTS.

Date	MAR 2014
Scale	1:300 UNO
Drawn	GP
Checked	LA
Certified	

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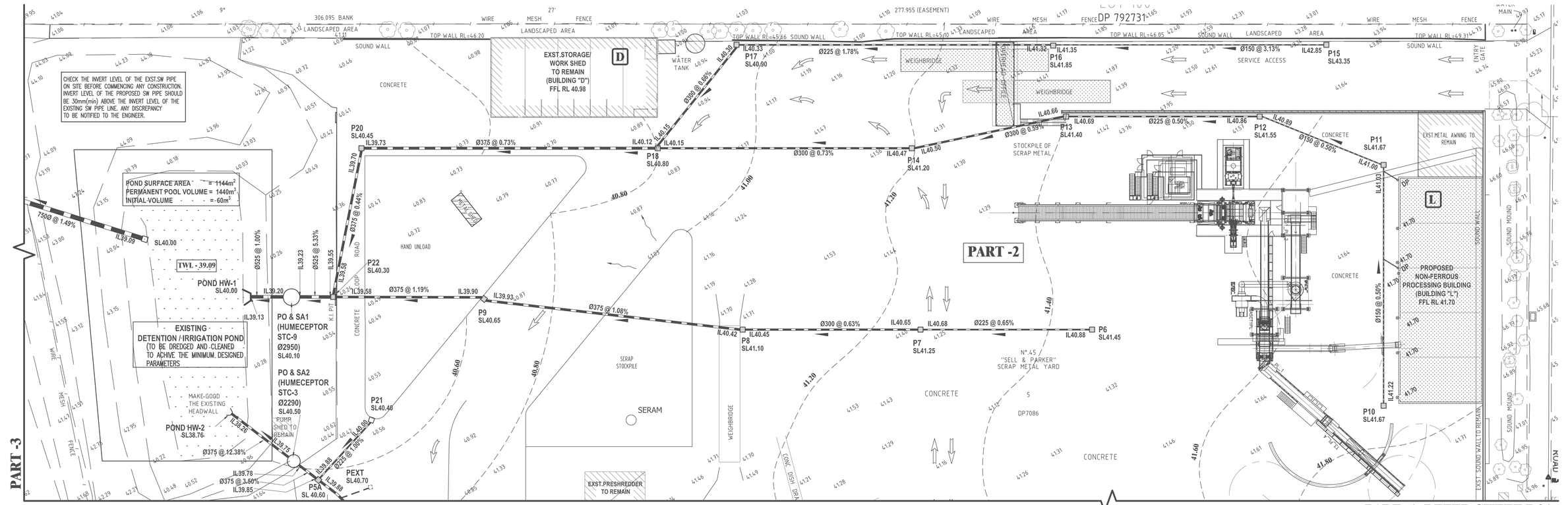
Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title	Activity Type:	Job No.:	Sheet No.:	Issue
STORMWATER DRAINAGE CONCEPT PLAN (PART 1)	DA	1049-13	D01	A

B1 SHEET

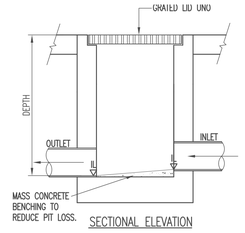


STORMWATER DRAINAGE CONCEPT PLAN(PART 2)

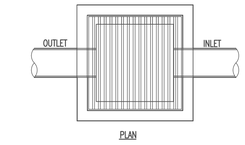
1:300

LEGEND:

- EXISTING CONTOUR
- PROPOSED DESIGN CONTOUR
- PROPOSED DESIGN LEVEL
- EXISTING LEVEL
- FFL — FINISHED FLOOR LEVEL
- SL — SURFACE LEVEL OF PIT
- IL — INVERT LEVEL
- RL — REDUCED LEVEL
- P1,P2.... — PITS OR SIMILAR
- DP — DOWN PIPES
- IE — INSPECTION EYE
- PROPOSED STORMWATER PIPE LINE
- EXISTING STORMWATER PIPE LINE
- S — SEWER PIPE LINE
- EXST. STORMWATER DRAINAGE PIT WITH CONCRETE LID
- EXST. STORMWATER DRAINAGE PIT WITH GRATE
- PROP. STORMWATER DRAINAGE PIT WITH CONCRETE LID
- PROP. STORMWATER DRAINAGE PIT WITH GRATE



SECTIONAL ELEVATION



PLAN

TYPICAL STORMWATER PIT

NTS

PIT SCHEDULE			
PIT/ NODE	DEPTH	*COVER SIZE	TYPE OF NODE/PIT COVER
	m	mm x mm (Min)	
P1	0.50	450X450	HEAVY DUTY TRAFFICABLE GRATE
P2	0.53	450X450	HEAVY DUTY TRAFFICABLE GRATE
P3	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P4	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P5	0.85	600X600	HEAVY DUTY TRAFFICABLE GRATE
P5A	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P O&SA-2	0.76	600X600	CONCRETE LID
P6	0.58	450X450	HEAVY DUTY TRAFFICABLE GRATE
P7	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P8	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P9	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P10	0.45	450X450	HEAVY DUTY TRAFFICABLE GRATE
P11	0.67	600X600	HEAVY DUTY TRAFFICABLE GRATE
P12	0.69	600X600	HEAVY DUTY TRAFFICABLE GRATE
P13	0.74	600X600	HEAVY DUTY TRAFFICABLE GRATE
P14	0.73	600X600	HEAVY DUTY TRAFFICABLE GRATE
P15	0.50	450X450	HEAVY DUTY TRAFFICABLE GRATE
P16	0.53	450X450	HEAVY DUTY TRAFFICABLE GRATE
P17	0.61	600X600	HEAVY DUTY TRAFFICABLE GRATE
P18	0.68	600X600	HEAVY DUTY TRAFFICABLE GRATE
P20	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
P22	0.76	600X600	HEAVY DUTY TRAFFICABLE GRATE
PO&SA1	0.88	2950mm dia.	CONCRETE LID
POND	0.91	600X900	CONCRETE LID
DP	-7.35	150mm dia	CAPPED AND SEALED CLEANING EYE
RWT	0.68	5650mm dia.	CONCRETE LID
P24	0.71	600X600	HEAVY DUTY TRAFFICABLE GRATE
P25	0.90	600X900	HEAVY DUTY TRAFFICABLE GRATE
PEXT1	0.95	-	HEAVY DUTY TRAFFICABLE GRATE
P26	0.90	600X900	HEAVY DUTY TRAFFICABLE GRATE
P27	0.93	600X900	HEAVY DUTY TRAFFICABLE GRATE
PO&SA4	0.98	2950mm dia.	CONCRETE LID
PEXT2	0.98	-	HEAVY DUTY TRAFFICABLE GRATE
PO&SA3	1.14	2950mm dia.	CONCRETE LID
PRG1	1.65	900X900	HEAVY DUTY TRAFFICABLE GRATE

Pits deeper than 1200mm shall be provided with Galv. step irons @ 300 mm staggered intervals.

Pits in trafficable areas must be cast insitu concrete, pre cast concrete or brick/block.

Where depth of pit exceeds 1500mm, walls and bottom to be reinforced in all directions with RF82 mesh at 30mm cover to inside face. Pits deeper than 2000mm shall be designed by a professional structural engineer.

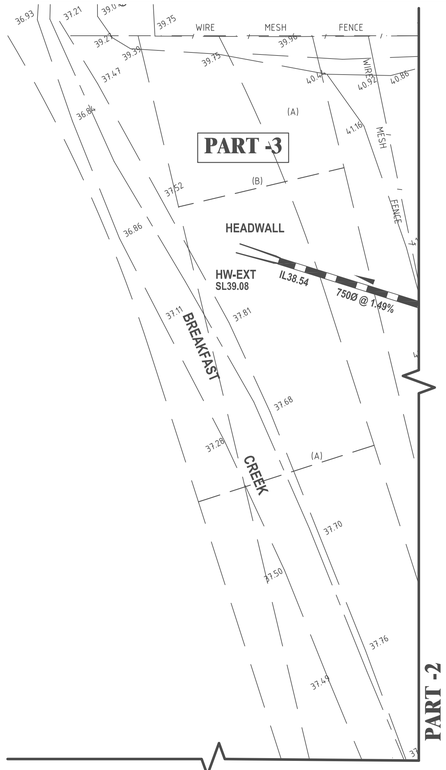
Maximum Weight of each individual hinged grate shall be 20 kg.

All grates over pits to be hinged and to be provided with Child locks.

For pits up to 1200X1200, grates must have same clear opening as internal dimension of pit.

Oil and Silt Arrestor (OSA) pit is to be installed as per manufacturer's specifications & guidelines.

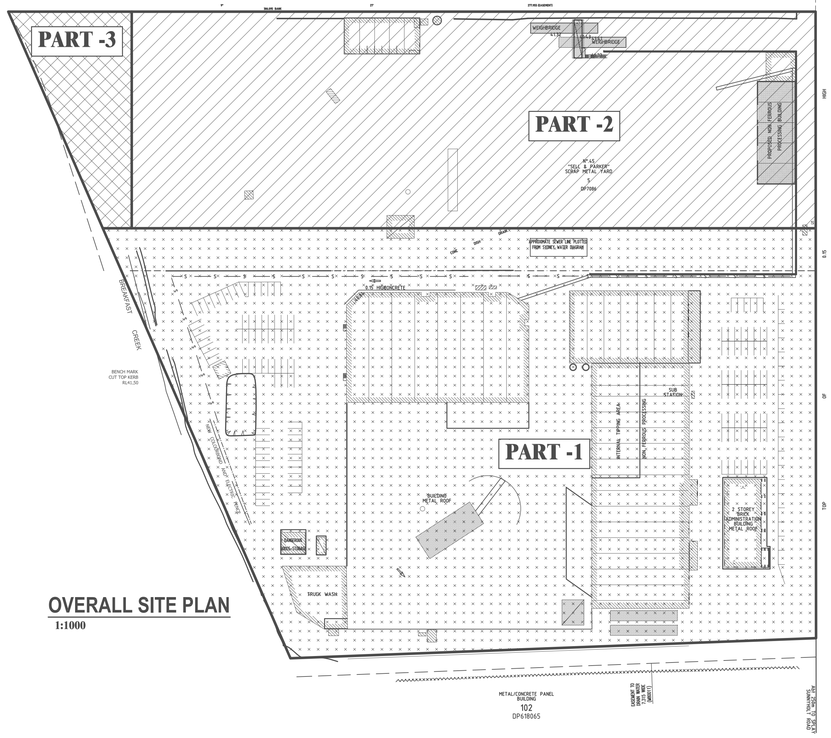
*Shown minimum cover size only. Pit size maybe adjusted according to size & number of inlet & outlet pipes.



PART -1 REFER SHEET D01

STORMWATER DRAINAGE CONCEPT PLAN(PART 3)

1:300



OVERALL SITE PLAN

1:1000

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

Date	MAR 2014
Scale	AS SHOWN
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Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title: STORMWATER DRAINAGE CONCEPT (PART 2 & 3) AND OVERALL SITE PLAN

Activity Type: DA

Job No.: 1049-13

Sheet No.: D02

Issue: A

B1 SHEET

SOIL CONSERVATION NOTES

A.1) PRIOR TO ANY CLEARING OR EXCAVATION AT THE PROJECT SITE. A TEMPORARY SEDIMENT TRAP ARRANGEMENT SHALL BE MADE TO ENSURE THE CAPTURE OF ANY WATER BORNE MATERIAL GENERATED FROM THE SITE.

2) PROVIDE SEDIMENT FENCE AS SHOWN ON PLAN.

3) PROVIDE TEMPORARY CONSTRUCTION EXIT PAD TO PREVENT TRANSMISSION OF SOIL FROM TRUCK TYRES TO PUBLIC ROADS AND DRAINAGE

4) STRIP AND STOCKPILE TOP SOIL (FOR FUTURE RESPREADING) IMMEDIATELY BEFORE STARTING BULK EARTHWORKS. BEFORE STRIPPING,CLEAR THE SITE OF DEBRIS, SLASH OR GRAZE THE SITE WHERE VEGETATIVE GROWTH IS DENSE

5) WHERE POSSIBLE DO NOT EXTEND LAND DISTURBANCE ACTIVITIES BEYOND 5.0M PREFERABLY 2.0M FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY.

6) A VEHICLE WHEEL WASH, CATTLE GRID, WHEEL SHAKER OR OTHER APPROPRIATE DEVICE, SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY SITE WORKS OR ACTIVITIES, TO PREVENT MUD AND DIRT LEAVING THE SITE AND BEING DEPOSITED ON THE STREET.

B. DURING CONSTRUCTION

1) SILTATION PROTECTION DESCRIBED ABOVE SHALL BE MAINTAINED DURING THE COURSE OF CONSTRUCTION.

2) NEWLY CONSTRUCTED PITS SHALL BE PROTECTED FROM ANY SEDIMENT ENTRY.

3) ONCE IN PLACE, NO SILTATION PROTECTION SHALL BE REMOVED WITHOUT COUNCIL APPROVAL.

4) AFTER EACH STORM, ALL SEDIMENT TRAPS SHALL BE CLEANED AND REPLACED(IF REQUIRED) TO COUNCIL'S SATISFACTION.

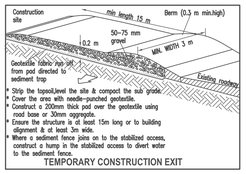
5) VEGETATION AND/OR EXISTING BUILDING STRUCTURES WILL BE CLEARED FROM THE CONSTRUCTION SITE ONLY OTHER AREAS TO REMAIN UNDISTURBED.

6) BUILDING OPERATIONS SUCH AS BRICK CUTTING, WASHING TOOLS OR BRUSHES & MIXING MORTAR ARE NOT PERMITTED ON PUBLIC ROADWAYS OR FOOT WAYS OR IN ANY OTHER LOCATIONS WHICH COULD LEAD TO THE DISCHARGE OF MATERIALS INTO THE STORMWATER DRAINAGE SYSTEM.

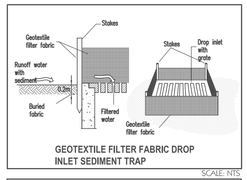
7) STOCKPILES OF TOPSOIL, SAND, AGGREGATE, SOIL OR OTHER MATERIAL SHALL NOT BE LOCATED ON ANY DRAINAGE LINE OR EASEMENT, NATURAL WATERCOURSE, FOOTPATH OR ROADWAY & SHALL BE PROTECTED WITH ADEQUATE SEDIMENT CONTROLS.

8) INSTALLATION OF GUTTERS, DOWN PIPES, AND THE CONNECTION OF DOWN PIPES TO THE STORMWATER DISPOSAL SYSTEM PRIOR TO THE FIXING OF THE ROOF CLADDING.

9) OTHER METHODS OF SEDIMENT CONTROL AS MAY BE REQ'D BY THE COUNCIL SHALL BE COMPLIED WITH.

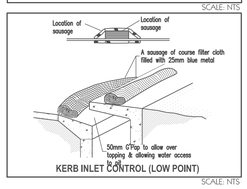


TEMPORARY CONSTRUCTION EXIT



GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP

SCALE: NTS



KERB INLET CONTROL (LOW POINT)

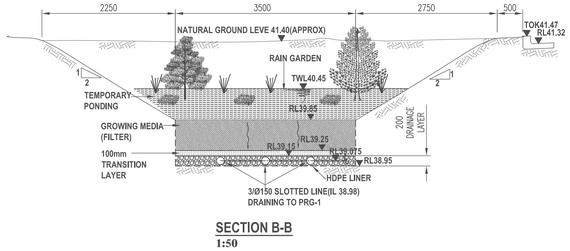
SCALE: NTS

SILT FENCE

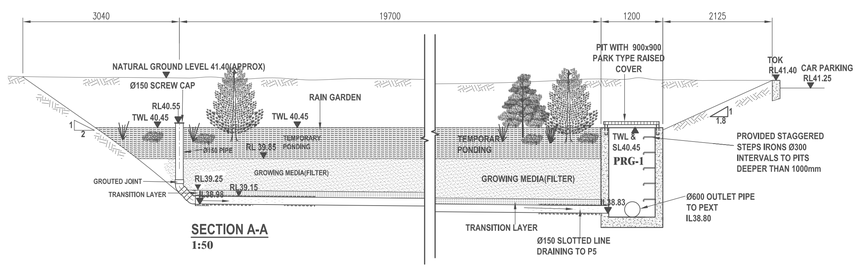
SCALE: NTS

LEGEND:

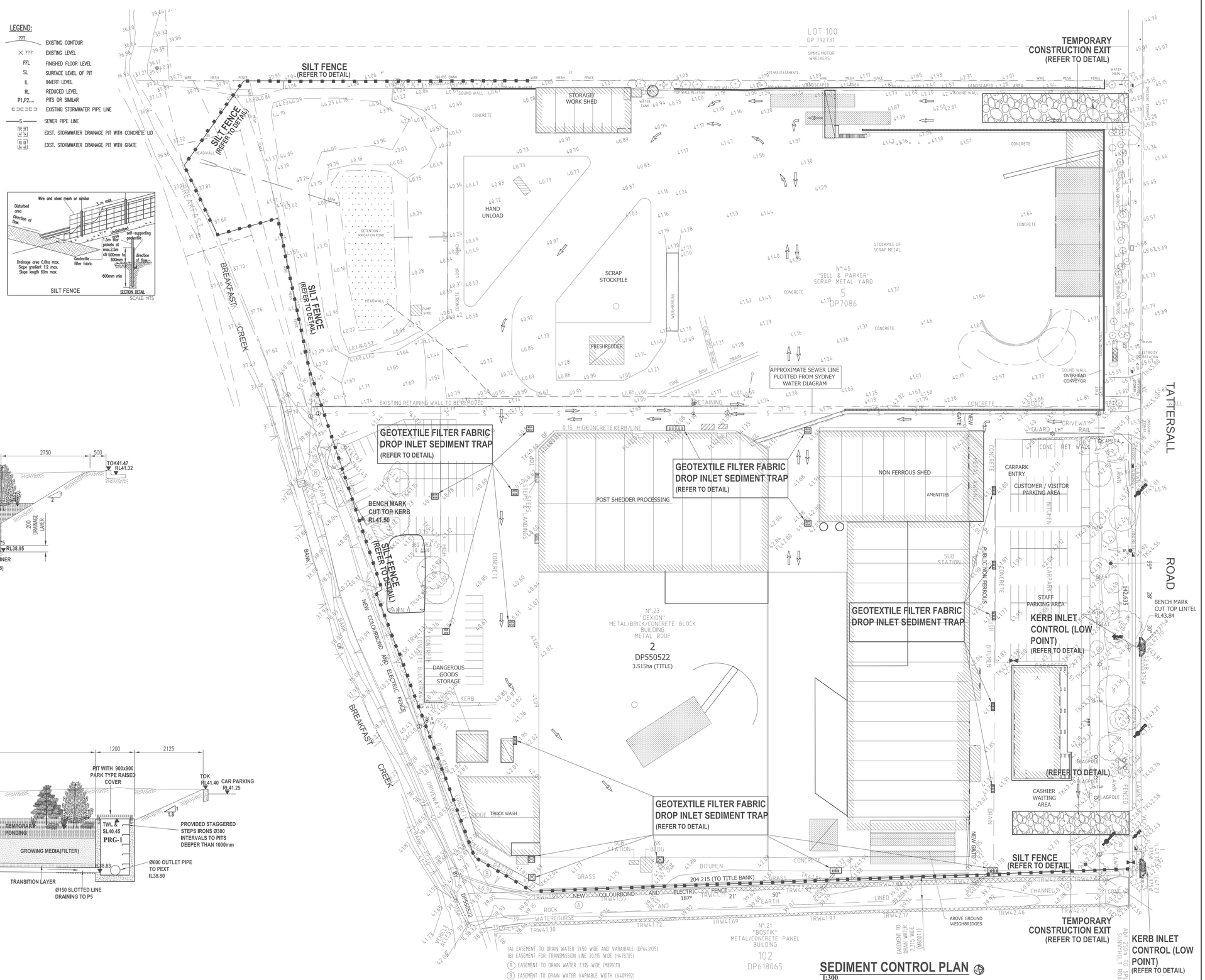
???	EXISTING CONTOUR
× ???	EXISTING LEVEL
FFL	FINISHED FLOOR LEVEL
SL	SURFACE LEVEL OF PIT
IL	INVERT LEVEL
RL	REDUCED LEVEL
P1,P2,...	PITS OR SIMILAR
	EXISTING STORMWATER PIPE LINE
S	SEWER PIPE LINE
	EXST. STORMWATER DRAINAGE PIT WITH CONCRETE LID
	EXST. STORMWATER DRAINAGE PIT WITH GRATE



SECTION B-B
1:50



SECTION A-A
1:50



SEDIMENT CONTROL PLAN
1:300

Issue	By	Description	Date
A	LA	FOR DA	06.03.14

Date	MAR 2014
Scale	AS SHOWN
Drawn	GP
Checked	LA
Certified	

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Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45 TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL

Project No.: P4144

Title: SEDIMENT CONTROL PLAN AND SECTION DETAILS

Activity Type: DA

Job No.: 1049-13

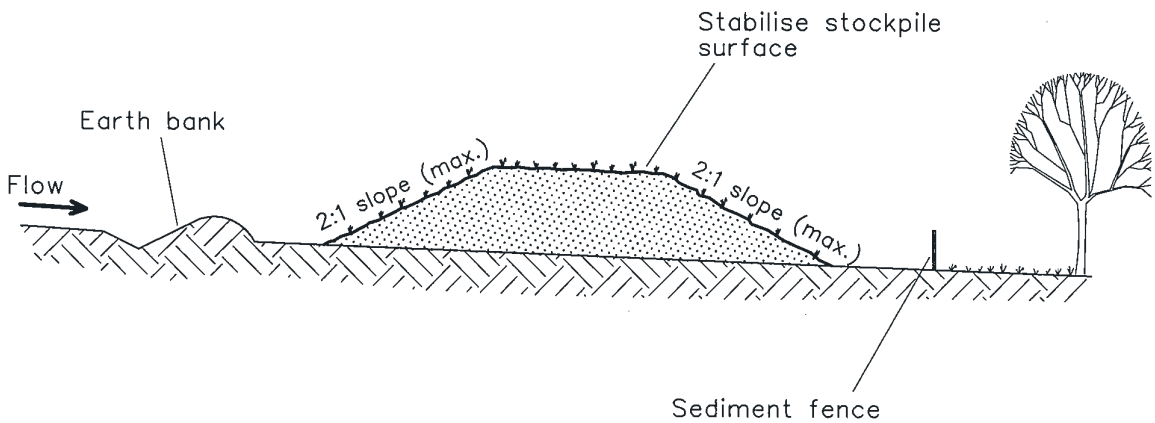
Sheet No.: D03

Issue: A

B1 SHEET

Annex B

Standard Drawings



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

SOURCE: Managing Urban Stormwater, Soils and Construction (Vol 1, 4th ed.)

INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION AND DIMENSIONAL DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.

2. CLEAR THE LOCATION OF THE WASH BAY, REMOVING STUMPS, ROOTS AND OTHER VEGETATION TO PROVIDE A FIRM FOUNDATION. CLEAR SUFFICIENT WIDTH TO ALLOW PASSAGE OF LARGE VEHICLES, BUT CLEAR ONLY THAT NECESSARY FOR THE EXIT. DO NOT CLEAR ADJACENT AREAS UNTIL THE REQUIRED EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE.

3. GRADE THE LOCATION OF THE WASH BAY SO THAT RUNOFF FROM THE UNIT WILL NOT FLOW INTO THE STREET, BUT WILL FLOW TOWARDS AN APPROPRIATE SEDIMENT-TRAPPING DEVICE.

4. PLACE AND COMPACT A 150mm THICK LAYER OF MINIMUM 50mm ROCK OVER THE ROADWAY BETWEEN THE WASH BAY AND THE SEALED STREET TO PREVENT TYRES FROM PICKING UP MORE SOIL AFTER THEY HAVE BEEN CLEANED.

5. FLARE THE END OF THE ATTACHED ROCK PAD WHERE IT MEETS THE PAVEMENT SO THAT THE WHEELS OF TURNING VEHICLES DO NOT TRAVEL OVER UNPROTECTED SOIL.

6. IF THE FOOTPATH IS OPEN TO PEDESTRIAN MOVEMENT, THEN COVER THE COARSE ROCK WITH FINE AGGREGATE OR GRAVEL, OR OTHERWISE TAKE WHATEVER MEASURES ARE NEEDED TO MAKE THE AREA SAFE.

7. IF A MECHANICAL VEHICLE-WASHING SYSTEM IS INSTALLED, PROVIDE A SUITABLE SOURCE OF POWER AND WATER SUPPLY.

8. IF THE VEHICLES ARE TO BE WASHED BY MANUAL HOSING, THEN ENSURE A HOSE (LONG ENOUGH TO REACH AROUND ANY VEHICLE LEAVING THE SITE) IS CONNECTED A SUITABLE PRESSURISED WATER SOURCE.

MAINTENANCE

1. INSPECT WASH BAYS PRIOR TO FORECAST RAIN, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF-PRODUCING RAINFALL, OR OTHERWISE AT FORTNIGHTLY INTERVALS.

2. IF SAND, SOIL, SEDIMENT OR MUD IS TRACKED OR WASHED ONTO THE ADJACENT SEALED ROADWAY, THEN SUCH MATERIAL MUST BE PHYSICALLY REMOVED, FIRST USING A SQUARE-EDGED SHOVEL, AND THEN A STIFF-BRISTLED BROOM, AND THEN BY A MECHANICAL VACUUM UNIT, IF AVAILABLE.

3. IF NECESSARY FOR SAFETY REASONS, THE ROADWAY SHALL ONLY BE WASHED CLEAN AFTER ALL REASONABLE EFFORTS HAVE BEEN TAKEN TO SHOVEL AND SWEEP THE MATERIAL FROM THE ROADWAY.

4. WHEN THE VOIDS BETWEEN THE ROCK BECOMES FILLED WITH MATERIAL AND THE EFFECTIVENESS OF THE ATTACHED ROCK PAD IS REDUCED TO A POINT WHERE SEDIMENT IS BEING TRACKED OFF THE SITE, A NEW 100mm LAYER OF ROCK MUST BE ADDED AND/OR THE ROCK PAD MUST BE EXTENDED.

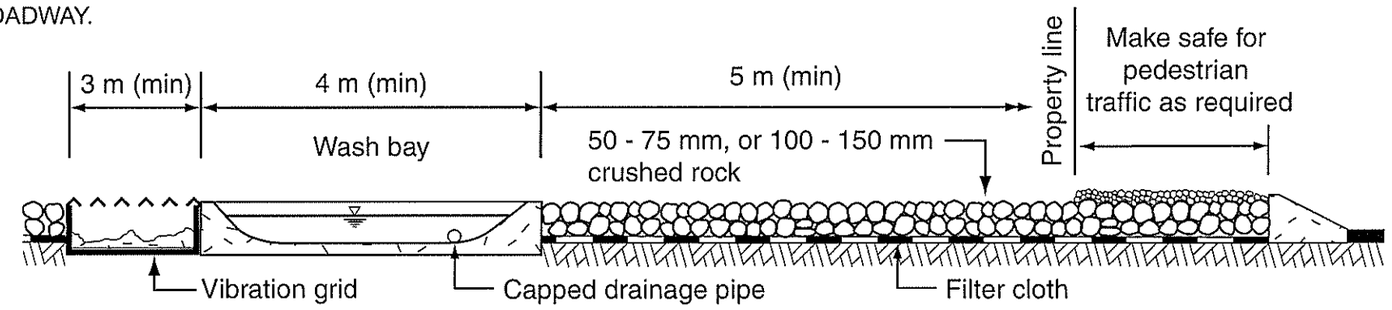
5. ENSURE ANY ASSOCIATED DRAINAGE CONTROL MEASURES ARE MAINTAINED IN ACCORDANCE WITH THEIR DESIRED OPERATIONAL CONDITION.

6. DISPOSE OF SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

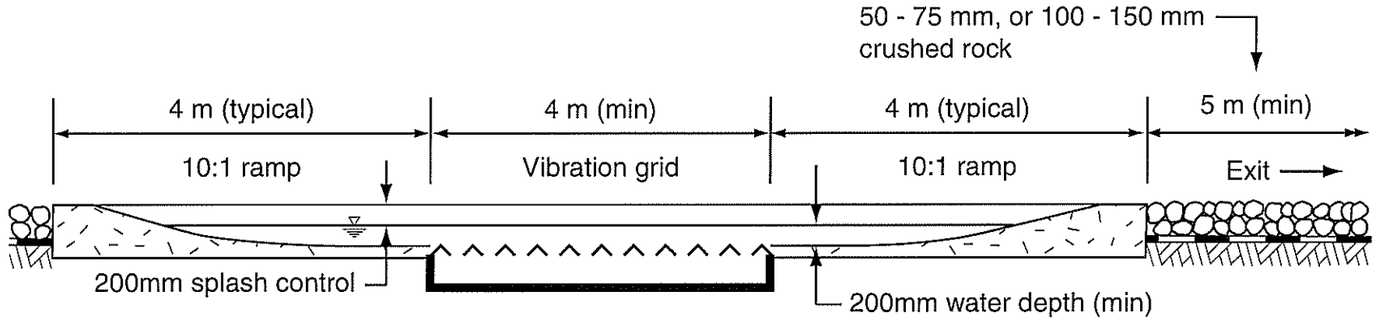
REMOVAL

1. THE WASH BAY SHOULD BE REMOVED ONLY AFTER IT IS NO LONGER NEEDED AS A SEDIMENT CONTROL DEVICE.

2. REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. RE-GRADE AND STABILISE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.



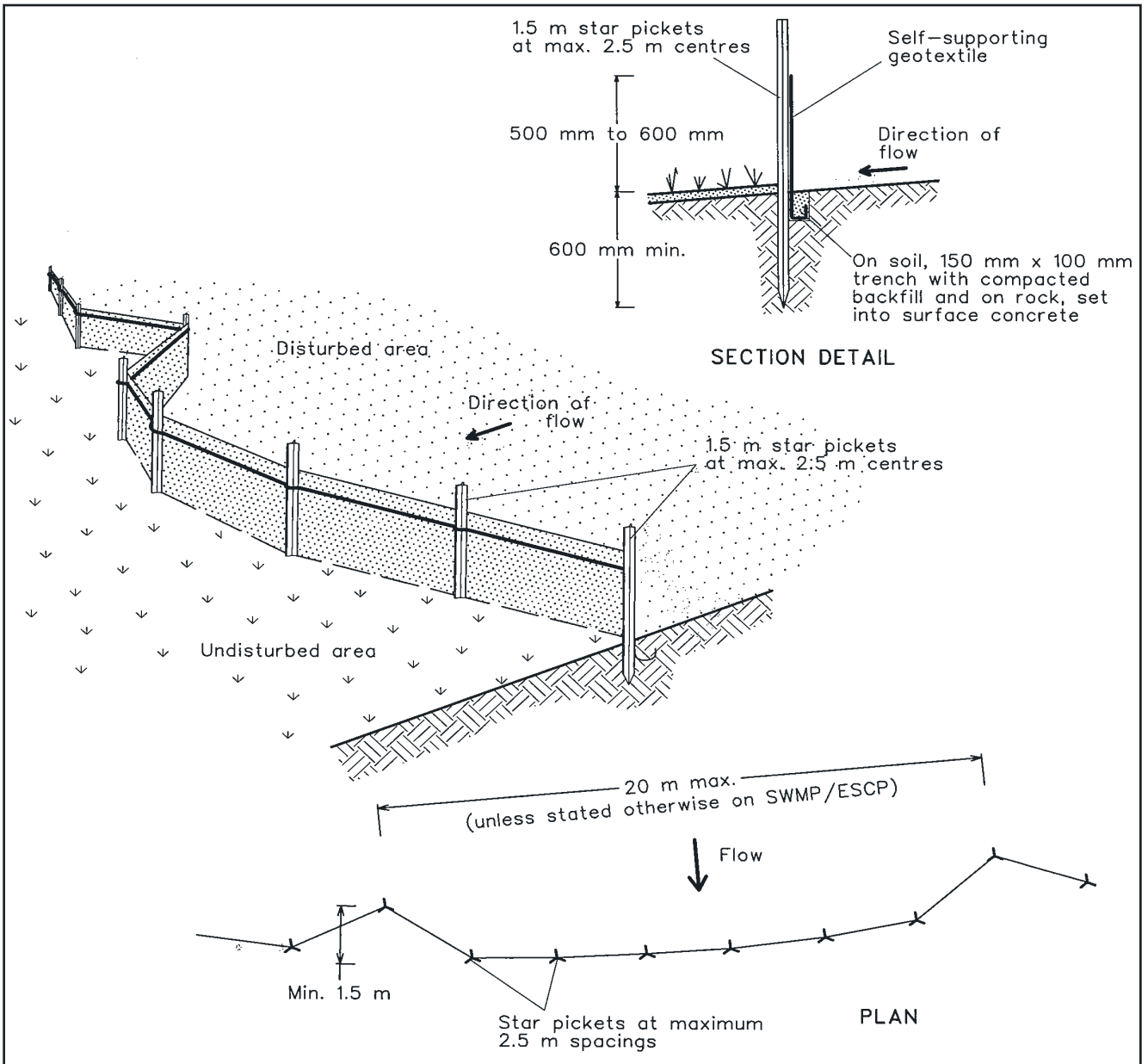
(a) Example of a low speed wash bay



(b) Example of a medium speed wash bay

Drawn:	Date:		
GMW	Apr-10	Construction Exit - Wash Bay	Exit-06

Catchments & Creeks Pty Ltd



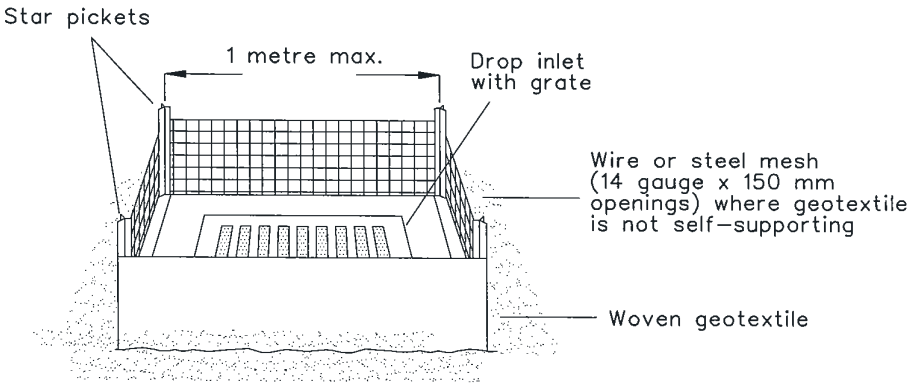
Construction Notes

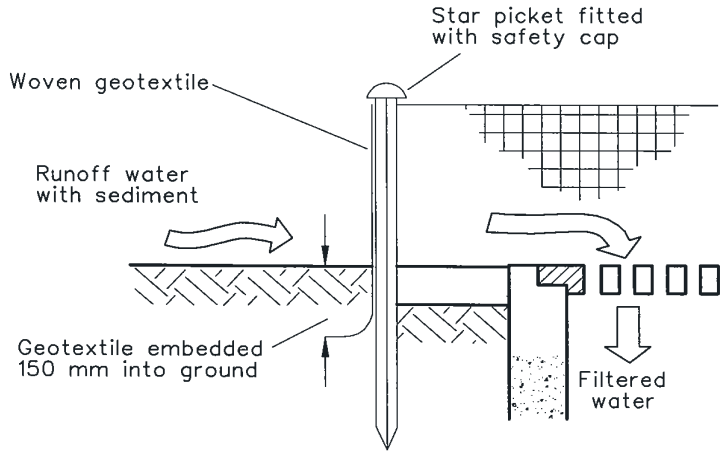
1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

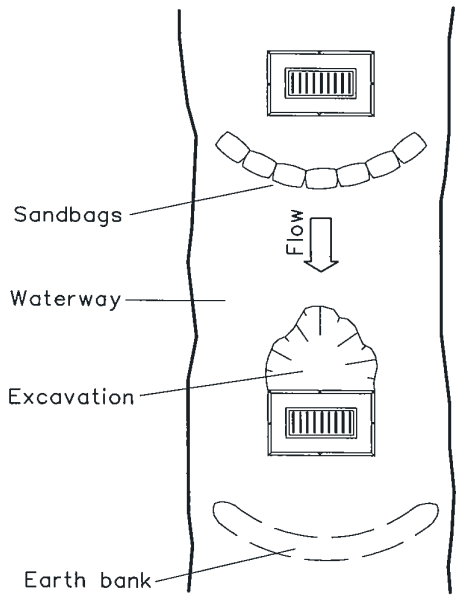
SEDIMENT FENCE

SD 6-8

SOURCE: Managing Urban Stormwater, Soils and Construction (Vol 1, 4th ed.)







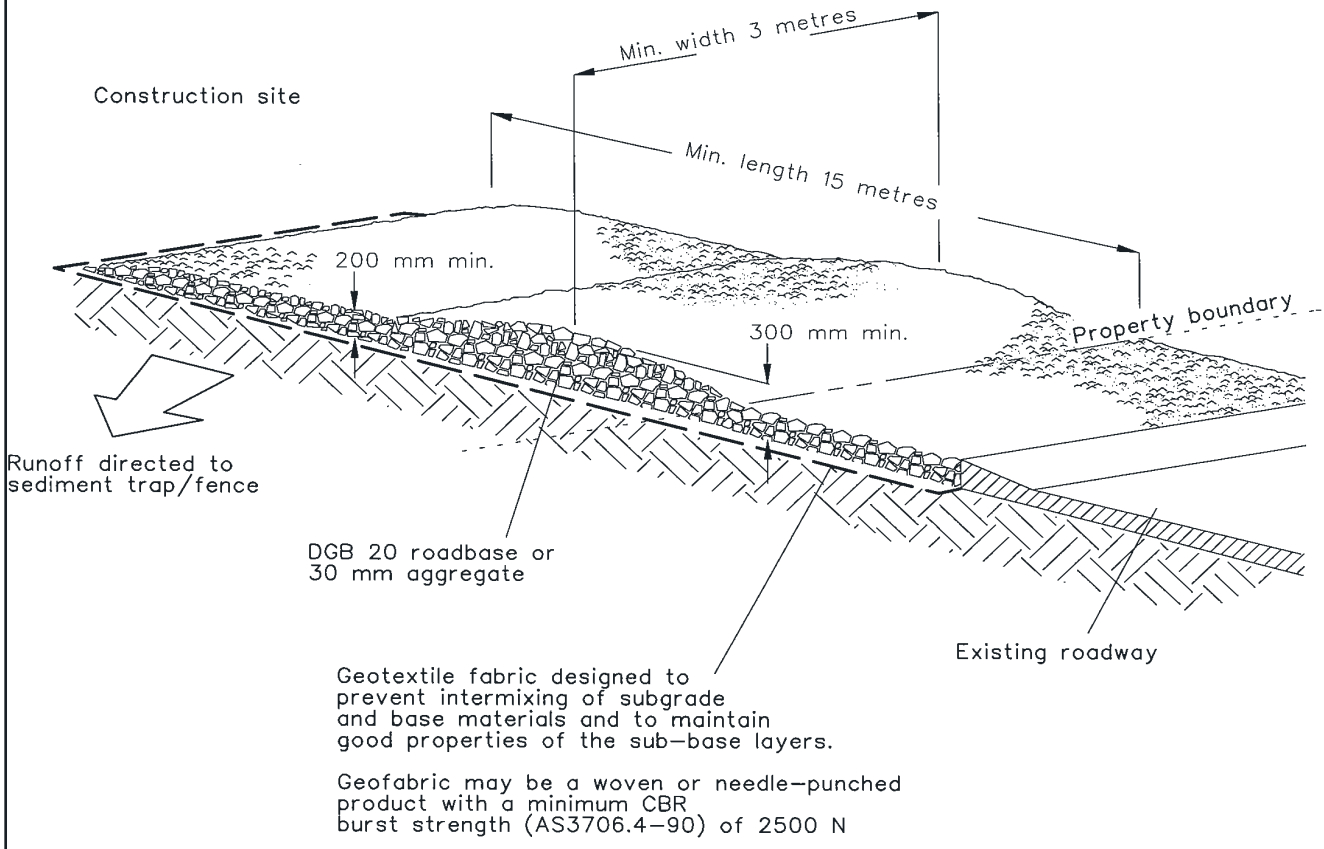
For drop inlets at non–sag points, sandbags, earth bank or excavation used to create artificial sag point

Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER SD 6-12

SOURCE: Managing Urban Stormwater, Soils and Construction (Vol 1, 4th ed.)



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS

SD 6-14

SOURCE: Managing Urban Stormwater, Soils and Construction (Vol 1, 4th ed.)

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Annex K

Phase I Environmental Site Assessment

FINAL REPORT

Sell and Parker

45 and 23-43 Tattersall Road, Kings Park

Phase I Environmental Site Assessment

July 2014

Reference: 0226308_Phase1ESA_Rp01

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1 INTRODUCTION

1.1 BACKGROUND

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned by Sell and Parker Pty Ltd (Sell and Parker) to undertake a Phase 1 Environmental Site Assessment (ESA) at two adjoining properties, owned by Sell and Parker, at 45 and 23-43 Tattersall Road, Kings Park, NSW (refer *Figure 1, Annex A*).

1.2 ASSESSMENT OBJECTIVES

The overarching objective for Sell and Parker is to assess and confirm the suitability of both properties for the ongoing land use zoning of "4A - Industrial – General" as described in the *Blacktown Local Environmental Plan 1988* (Blacktown LEP).

The objective of this Phase I ESA is to provide information regarding the environmental condition of both properties and potential contamination that may be present (specifically with regard to potential impacts to soil and groundwater). This Phase I ESA will form part of a broader Environmental Impact Statement (EIS) being prepared for the proposed expansion of the existing waste metal recovery, processing and recycling facility, currently located at 45 Tattersall Road. The expanded operations will encompass 23-43 Tattersall Road, immediately to the east of 45 Tattersall Road.

1.3 SCOPE OF WORKS

In order to meet the project objective stated above, ERM undertook the following scope of works:

- a walkover of each property on 19 June 2014 to visually identify potential sources of soil and groundwater impacts at each property;
- background database review, comprised of a review of publicly available information on each property where available, including:
    - relevant NSW Environment Protection Authority (EPA) information (Environment Protection Licence register, contaminated land registers);
    - Blacktown City Council (BCC) publically available information and Section 149(2) and (5) Certificate search;
    - NSW WorkCover dangerous goods search;
    - groundwater bore search information;
    - historical aerial photographs;
    - historical Certificates of Title, where available;

- environmental setting review, comprised of a review of available geological, hydrogeological and hydrological maps of the area in which the each property is located; and

- preparation of this Phase 1 ESA report.

The assessment was limited to the evaluation of potential soil and groundwater impacts and did not include occupational health and safety. No soil, groundwater, surface water or any other media have been sampled or analysed as part of this Phase 1 ESA.

1.4 LIMITATIONS

The findings of this report are based on the Scope of Work described above. ERM performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental auditing profession. No warranties, expressed or implied, are made.

Subject to the Scope of Work, ERM's assessment is limited strictly to identifying observable conditions associated with potential soil and groundwater environmental liability on the subject property and does not include evaluation of any other issues.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

This report is based upon information obtained by ERM, during a walkover of each property on 19 June 2014 in compilation with information from regulatory agencies. While normal assessments of data reliability have been made, ERM assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of ERM, or developments resulting from situations outside the scope of this project.

ERM is not engaged in environmental auditing and reporting for the purpose of advertising, sales, promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Sell and Parker acknowledges that this report is for the exclusive use of the client, its representatives and advisers and investors, lenders, underwriters and financiers who agreed to execute a reliance letter, and the client agrees that ERM's report or correspondence will not be, except as set forth herein, used or reproduced in full or in part for such promotional purposes, and may not be used or relied upon in any prospectus or offering circular.

2 PROPERTY DETAILS AND BACKGROUND INFORMATION

2.1 LOCATION

Both properties, 45 Tattersall Road (Lot 5 DP 7086) and 23-43 Tattersall Road (Lot 2 DP 550522) are located within the Kings Park industrial estate, Kings Park, NSW. Access to both properties is gained from Tattersall Road, which is primarily serviced by Vardys Road to the north and Sunnyholt Road to the east.

The location of each property is shown in *Figure 1*, *Annex A*.

Property identification details are included in *Table 2.1* and *2.2* below.

Table 2.1 Property Identification Details – 45 Tattersall Road

Location	45 Tattersall Road, Kings Park.
Formal Identification	Lot 5 DP 7086.
Description	Sell and Parker's existing waste metal recovery, processing and recycling facility.
Area	2.86ha.
Current Zoning (Blacktown LEP 1988)	4(a) Industrial – General.
Proposed Zoning (Draft Blacktown LEP 2013)	IN1 – General Industrial.
Ownership	Sell and Parker Pty Ltd.

Table 2.2 Property Identification Details – 23-43 Tattersall Road

Location	23-43 Tattersall Road, Kings Park.
Formal Identification	Lot 2 DP 550522.
Description	Occupied by Dexion for manufacturing of pallet racking, industrial and office storage equipment. (future expansion area of Sell and Parker's waste metal recovery, processing and recycling facility).
Area	3.24ha.
Current Zoning (Blacktown LEP 1988)	4(a) Industrial – General.
Proposed Zoning (Draft Blacktown LEP 2013)	IN1 – General Industrial.
Ownership	Sell and Parker Pty Ltd (currently leased by Dexion).

2.2 *CURRENT PROPERTY DESCRIPTION AND OPERATIONS*

Although both 45 and 23-43 Tattersall Road are owned by Sell and Parker, they are currently operated as separated businesses. Sell and Parker currently own and operate a waste metal recovery, processing and recycling facility at 45 Tattersall Road, while 23-43 Tattersall Road is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment.

The following sections provide a detailed description of each property and their current operations. The descriptions are based on a walkover undertaken by ERM on 19 June 2014 and information provided by Mr Nigel Fox, Sell and Parker's General Manager Property and Development.

The layout of each property is presented in *Figure 2, Annex A*. Images of each property collected during the walkover have been collated within the photographic log presented in *Annex B*.

2.2.1 *45 Tattersall Road*

Number 45 Tattersall Road is owned and operated by Sell and Parker. Existing operations at the facility include shearing, fragmenting and shredding of industrial scrap metal, demolition material and car bodies. The facility has approval and is licenced to handle up to 90,000 tonnes per annum (tpa).

45 Tattersall Road has a frontage of approximately 100 metres (m) to Tattersall Road, a depth of approximately 260 m, with a rear boundary adjacent to Breakfast Creek to the south. It has an area of approximately 2.86 hectares (ha).

45 Tattersall Road is cleared and developed. The key components of this property include:

- administration buildings;
- maintenance facilities;
- a stormwater detention dam;
- employee and visitor car parking;
- raw material stockpiles;
- metal recycling equipment (including a pre-shredder, shredder and shear);
- a waste enclosure;
- a product stockpile;
- a flock stockpile; and
- a rubber tyre loader.

Entry to this property is via Tattersall Road. A 4 m high boundary wall surrounds the northern, eastern and western boundaries (refer *Photographs 1, 2* and *4, Annex B*). The front wall is set back approximately 8 m from the front property boundary and provides a visual screen to the processing facility, whereby a landscaped mound has been planted. The southern boundary extends to the centre line of the creek (N. Fox 2014, pers. comm., 19 June), however the operational boundary is delineated by a wire fence running adjacent to Breakfast Creek (refer *Photograph 3, Annex B*). Breakfast Creek is currently being reconstructed by Blacktown City Council (BCC), involving realignment and lining with rock;.

The metal recovery operations are confined to the northern portion of 45 Tattersall Road, including stockpiled 'flock' material (recovered non-metallic material recovered) (refer *Photograph 5, Annex B*). There is a vehicle recovery area towards the western-centre of the property which involves puncturing and draining remaining fluids from scrap vehicles into Intermediate Bulk Containers (IBCs) (refer *Photograph 6, Annex B*) for disposal off-site. This area may pose a potential risk of spillages, although no obvious signs of significant spill were evident during the walkover.

The office at 45 Tattersall Road is in the centre of the property, with two weighbridges, one to the north, one to the south. The "Non-ferrous" processing building is located towards the southwest of the property. A Ferrous stockpile of scrap is located in the southern portion of the property that contained pooled surface water at the time of ERM's walkover (refer to *Photograph 7, Annex B*). A stormwater detention basin was located near the southern boundary and an oxygen /acetylene ("oxy")cutting area in the south eastern corner of the property. The layout of this property is presented in *Figure 2, Annex A*.

Number 45 Tattersall Road generally slopes from north to the south. Stormwater is contained in the stormwater detention basin towards the southern boundary, with no discharge permitted off-site. The stormwater detention basin is currently clay lined, with water pumped from centre to flush surface contaminants towards oil skimming system (N. Fox 2014, pers. comm., 19 June) (refer *Photographs 8, 9 and 10, Annex B*). Sell and Parker's General Manager Property & Development, Mr Nigel Fox, indicated that the detention basin will be improved in accordance with current Development Application to expand operations onto adjoining 23-43 Tattersall Road.

Visual inspection and discussions with Mr Fox, indicated that the majority of this property was covered with hardstand, even areas which appear as though they are not, such as the oxy-cutting area, are covered by buried concrete hardstand, to reduce spark risk (N. Fox 2014, pers. comm., 19 June). The only area that is not reportedly covered with hardstand is the area to the south which includes the stormwater detention dam.

The exposed hardstand areas were generally comprised of 5 x 4 m concrete pads with some cracks between them (refer *Photograph 11, Annex B*), but were generally in good condition. There were some minor stains visible, particularly around the vehicle processing area towards the western-centre of the property, but there was no visual evidence of major spillages noted during ERM's walkover.

Radiation monitors and alarms are present on-site to identify the presence of potentially radioactive materials arriving at the property. Visual inspections of materials entering the property undertaken by Sell and Parker personnel are also undertaken and waste tracking certificates are required to be presented upon delivery to identify potentially asbestos containing materials arriving at the property (N. Fox 2014, pers. comm., 19 June).

The walkover of this property revealed the following potentially contaminating materials stored on-site:

- small quantities of oils, spray paints and lubricants at entrance to non-ferrous building (refer *Photograph 12, Annex B)*;
- three, 210 litre drums, containing heavy duty degreaser and seven unlabelled IBCs, all of which were at least half full, containing unknown contents, in the non-ferrous building (refer *Photograph 13, Annex B)*;
- one IBC containing oil from machine maintenance operations and temporary storage of fuel and oil recovered from cars was stored in the liquid store, immediately outside to the north of non-ferrous building (refer *Photographs 14 and 15, Annex B)*.

The majority of the above materials were either stored on bunding or within a building with bunding.

Mr Fox indicated that he was not aware of any underground storage tanks (USTs) currently in place on-site at 45 Tattersall Road (N. Fox 2014, pers. comm., 19 June). The historical Dangerous Goods records (refer *Section 3.5* and *Annex E*) indicated that at least two former underground storage tanks (USTs) were previously located on-site at 45 Tattersall Road. However, the previous Stage 2 Environmental Site Investigation (ADI, 1995b) indicated three former USTs were removed and validated in 1995. Unless previously unknown USTs were present on-site, it is assumed that the removal of the three tanks in 1995, confirms the current understanding that no USTs remain on-site at 45 Tattersall Road.

2.2.2 23-43 Tattersall Road

Number 23-43 Tattersall Road is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment. It has a frontage to Tattersall Road of approximately 146 m and a variable depth ranging from approximately 200 m to 270 m. The property has an area of approximately 3.24 ha.

Entry to this property is via Tattersall Road. The office, car parking and landscaped areas are located along the northern boundary (refer *Photograph 16, Annex B*). A stormwater channel is located along the eastern boundary (refer *Photograph 17, Annex B*), while the southern operational boundary is delineated by a wire fence running adjacent to Breakfast Creek (refer *Photograph 18, Annex B*). The western boundary adjoins the 4 m high wall that separates this property from 45 Tattersall Road (refer *Photograph 19, Annex B*).

The walkover revealed that the majority of this property is covered with concrete hard stand. Some minor landscaped areas are present in the northern portion of the property and along the southern boundary (refer *Photographs 20 and 21, Annex B).* A waste compactor is present on a hardstand area in the south western corner of the property (refer *Photograph 22, Annex B).* A high voltage electrical substation is present along the eastern boundary of the property (refer *Photograph 23, Annex B*).

A bunded wash down area, used for washing down painting equipment, with underground sump was located in the south eastern portion of the property (refer *Photograph 24, Annex B*). Further information provided by Dexion has confirmed that the sump is concrete lined and contains wash down water comprising of water and phosphate based detergent, which is used to clean spray nozzles and risers associated with pre-treatment for painting. The sump holds approximately 16,000 L. Waste water is taken off-site by tanker and is disposed of by a licensed waste contractor. Dexion has confirmed that waste thinners, paint and oils are placed into separate 200 L drums and disposed of by a licensed waste contractor and are not disposed of in this sump.

The remainder of the property is largely comprised of a number of factory and warehouse buildings, comprising:

- the main manufacturing area (refer *Photograph 25, Annex B*), towards the northern portion of the property to the rear of the office;
- a covered breezeway, located to the rear of the manufacturing area, comprising the rolled aluminium processing area (refer *Photograph 26, Annex B*);
- a maintenance area (refer *Photograph 27, Annex B*) and press shop towards the north western corner of the property;

- warehouse 1 and 2, comprising general storage areas (refer *Photograph 28, Annex B*), located in the centre- south western portion of the property; and

- paint lines 1 and 2 located towards the eastern boundary of the property (refer *Photograph 29, Annex B*).

The above locations are depicted on *Figure 2, Annex A*.

The majority of factory and warehouse buildings appeared to be of modern build and did not appear to be asbestos containing, with the exception of the paint line 1 building towards the southeast, which had an asbestos warning label present which read as follows *"caution this building contains asbestos, no building works are to proceed without written authority"* (refer *Photograph 30, Annex B*). This building appeared older than the other warehouses.

During ERM's walkover, the following dangerous goods were noted to be stored on-site:

- Depot 1 – located in the south eastern portion of the property, comprising 12 bays of racking which contained three IBCs and drums including: paints, cleaners, thinners and coatings (refer *Photograph 31, Annex B*). Flammable Liquid (Class 3), Corrosive Liquid (Class 8) and Toxic Liquid (Class 6) warning labels were present;

- Depot 2 – located in an open area between warehouses towards the western side of the property, to the rear of the maintenance building, comprising six, 15 kg liquefied petroleum gas (LPG) canisters and one, 45 kg LPG canister (refer *Photograph 32, Annex B*);

- Depot 3 – located in an open area between warehouses towards western side of the property, outside the rear of the press shop, comprising a 4,500 L liquid argon above ground storage tank (AST), 1,500 liquid carbon dioxide AST tank and a 1,500 L oxygen AST (refer *Photograph 33, Annex B*);

- Depot 4 – located in the north western external corner of the maintenance area, comprising six, 8.75 m^3 above ground storage tanks (ASTs) labelled 'Argon shielding, non-toxic' (refer *Photograph 34, Annex B*);

- Depot 5 – located along the northern wall of the maintenance area, comprising 250 L of flammable liquid (no further details) (refer *Photograph 35, Annex B*);

- Depot 6 – located near open area in the covered breezeway between warehouses, comprised two 210 litre drums, within unknown contents (refer *Photograph 36, Annex B*);

- Depot 8 – located within paintline building, comprising two 'Dexion orange paint/coater'(refer *Photograph 37, Annex B*);

- Depot 9 – located within paintline building, comprised one IBC labelled phosphate (refer *Photograph 38, Annex B*); and

- Depot 10 – located within paintline building, comprised of six paint hoppers, approximately 1 x 1 x 0.5 metres with an estimated capacity of 500 litres (refer *Photograph 39, Annex B*).

Depot 7 – was not encountered during the walkover. However review of the Dangerous Goods Manifest supplied by Dexion indicates this depot comprises a flammable cabinet containing various products ranging from 160 litres to 650 litres.

The location of each dangerous goods depot is indicated on the Dexion Dangerous Goods Manifest, presented in *Annex E*.

A further eight 210 litre metal drums, of which six were labelled 'mixed waste oil' and two labelled 'contaminated waste, dry, sorbent, Grease and oily rags' were noted in an unbunded open ground area adjacent to kerb and guttering along the western boundary and not within a designated depot area. No obvious signs of leaks or spills (i.e. surface staining) were evident at the time of the walkover. Drums all appeared full and are expected to have been generated from the maintenance workshop area (refer *Photograph 40, Annex B*).

2.3 *ADJACENT LAND USES*

The existing waste metal recovery, processing and recycling facility is located at 45 Tattersall Road (Lot 5 DP 7086), Kings Park. Number 23-43 Tattersall Road (Lot 2 DP 550522) immediately adjoins 45 Tattersall Road to the east (refer *Figure 1* and *2*, *Annex A*). Access to both properties is gained from Tattersall Road, which is primarily serviced by Vardys Road to the north and Sunnyholt Road to the east.

Figure 10 shows both properties in the context of the surrounding locality.

Current land uses surrounding both properties are presented in *Table 2.3.*

Table 2.3 Current Land Uses Surrounding 45 and 23-43 Tattersall Road

Direction	Land Use
North	Tattersall Road is located immediately adjacent to the north of both properties, with further industrial premises beyond. Residential properties are located approximately 650 m to the north.
South	Breakfast Creek is located immediately adjacent to the south of both properties, with recycling premises' further south.
East	Immediately adjacent to the east of 45 Tattersall Road, is 23-43 Tattersall Road, with a formed stormwater drain and industrial development beyond 23-43 Tattersall Road. Sunnyholt Road is located approximately 260 m east of 23-43 Tattersall Road, with residential properties further to the east;

Direction	Land Use
West	45 Tattersall Road in immediately adjacent to the west of 23-43 Tattersall Road, with an auto parts industrial/recycling complex is located immediately adjacent to the west of 45 Tattersall Road. Further industrial development is located further west, with the Richmond railway line approximately 900 m to the west of 45 Tattersall Road with residential properties west of the railway line.

2.4 PREVIOUS INVESTIGATIONS

2.4.1 45 Tattersall Road

Response to EPA Regarding Site Stormwater Management and the Clean-up Notice (ERM 2013)

ERM was commissioned by Sell and Parker to provide a response letter to the NSW EPA following an investigation into the current stormwater management of their metal recycling facility located at 45 Tattersall Road. A letter was issued to Sell and Parker by the EPA on Tuesday 12 November 2013 following a site inspection on 11 November 2013 during which a liquid discharge was observed leaving the property and entering the adjacent Breakfast Creek. The letter required a written report in accordance with condition R3 of the EPL be submitted to the EPA. The letter stated that, '*…in particular, please provide all information and reports Sell and Parker has commissioned on the pond at the rear of the Premises*'.

Following the EPA site inspection and the issuance of the draft clean-up Notice on Tuesday 12 November 2013, Sell and Parker implemented a number of responsive actions, including:

- installation of additional riser pipe to reduce the likelihood of surface water discharges leaving the property;
- installation of plugs on outlets to Breakfast Creek; and
- initial skimming of the floating hydrocarbon.

ERM undertook a site walkover on 19 November 2013. The walkover found that the stormwater pond was impacted by what appeared to be a film of hydrocarbon on the water's surface. The film also exhibited a hydrocarbon-like odour. ERM found that the construction of the dam is such that there is presently 3 m of freeboard available to prevent overflow and subsequent discharge from the property as long as the riser height is maintained above the surface water level. ERM (2013) noted that the initial environmental control measures implemented by Sell and Parker addressed the immediate stormwater quality issues from the existing pond; however further detailed investigations and environmental protection measures will be required to prevent ongoing environmental incidents and longer term environmental

impacts. ERM (2013) recommended a range of short, medium and long term action to be implemented to achieve this.

Metal Recycling Facility at 45 Tattersall Road Kings Park Environmental Impact Statement (ERM 1999)

ERM was commissioned by Sell and Parker to prepare an Environmental Impact Statement (EIS) to accompany a Development Application to develop a metal recycling facility on the front (northern) portion of 45-55 Tattersall Road. The EIS included a review of previous contamination investigation undertaken by ADI Services as follows:

- *ADI Services (1995a), Environmental Site Investigation for 45-47 Tattersall Road, Blacktown, NSW, 3 November 1995*; and
- *ADI Services (1995b), Stage 2 Environmental Site Investigation, 45-47 Tattersall Road, Blacktown, NSW 8 December 1995*.

ERM did not have access to the above reports at the time of the preparation of this Phase I ESA and as such has relied on the information provided in the 1999 EIS (ERM, 1999).

The history described from the above ADI reports indicated that there were several areas with potential for contamination:

- heavy metal contamination from boiler making activities;
- imported fill used to level the rear of the property;
- pesticides from previous farming activities;
- two underground storage tanks;
- two underground septic tanks;
- contamination from painting activities near the timber mill; and
- oil spillage.

Consequently, ADI performed soil investigations in two stages. The first stage included the following

- soil sampling at 13 locations around the property to a maximum depth of 0.5 metres;
- compositing of soils into 6 composites;
- laboratory testing of the composite samples for metals (arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc), asbestos, organochlorine and organophosphate pesticides and polycyclic aromatic hydrocarbons;

The Stage 2 investigation followed due to initial investigation findings, such as concentrations of metal above ANZECC unrestricted use criteria and the presence of three underground storage tanks. This stage included the following:

- sampling at seven additional locations on the property to a maximum depth of 0.7 metres;
- laboratory testing of these samples for lead, copper and zinc;
- removal of three underground storage tanks; and
- sampling of the UST excavations and validation laboratory testing for total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl-benzene and xylene (BTEX).

These investigations reportedly showed the following:

- concentrations of PAHs, OCPs, and OPPs in soils tested were below laboratory detection limits and the guideline criteria of the time;
- the validation results obtained during the removal of the underground tanks showed that all concentrations of TPH , BTEX and lead were either below detection limits or applicable guideline criteria at the time;
- there were some locations where concentrations of copper and zinc were above the ANZECC guidelines for unrestricted use. These were in surface soil samples only; and
- asbestos cement sheeting was detected in one sample in the north western corner of the property. This was recommended to be removed.

The Stage 1 investigation also recommended that the septic tanks be removed. The Stage 2 investigation report stated that all metal concentrations were below the Dutch Proposed Intervention Values, with the exception of one sample. The Dutch Proposed Intervention Values were guidelines used to assess suitability for industrial use at the time of the investigations.

The ADI investigations were performed prior to the introduction and acceptance of current soil guidelines. The guidelines that are currently used are the National Environment Protection Council (2013) *National Environmental Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM 2013)*. These guideline are health based, and depend on the expected use of the property.

The ASC NEPM (2013) Health Investigation Levels (HILs) for Commercial / Industrial Use are the guidelines applicable to this property. Review of the laboratory results for metals from the ADI Reports presented in the 1999 EIS (ERM, 1999) indicate that all soil samples have concentrations below these guidelines.

2.4.2 23-43 Tattersall Road

Asbestos Condition Reinspection of 23 Tattersall Road Kings Park NSW 2148, Safe Environments Pty Ltd (2012)

This report detailed the results of a re-inspection survey for asbestos containing materials (ACM) at the property, undertaken on the 23 March 2012. The original survey was undertaken by Safe Environments Pty Ltd on 24 February 2011, but was not made available for review at the time of the preparation of this report. Safe Environments conducted a re-inspection survey of the previously identified ACM only, aiming to assess the general condition of the previously identified materials and provide the client with a workable Risk Assessment. Safe Environments did not conduct a full re-survey of the property during the reinspection and have not audited the previous survey provided by Safe Environment s Pty Ltd.

Fourteen separate areas previously identified to contain ACM were reinspected and three additional areas were identified to potentially contain ACM upon reinspection of the property. Safe Environments ranked the majority of the previously identified ACM as either "low risk" requiring regular inspection or "minor risk" requiring annual inspection. Of the three additional areas potentially containing ACM, two were confirmed or presumed to contain asbestos and ranked as "minor risk" requiring annual inspection and the third confirmed as not containing asbestos upon laboratory analysis. No items of "medium risk" or "high risk" were identified.

3 HISTORY

3.1 HISTORIC CERTIFICATE OF TITLES REVIEW

Prior uses of each property have been identified by review of Historical Title Search results for both properties (Lot 5, DP7086 and Lot 2 DP550522). The title search was conducted by Advance Legal Searchers Pty Ltd. Details of the search have been summarised in *Table 3.1,* and *3.2* below and are included in *Annex C.*

Table 3.1 Historical Title Search – Lot 5, DP7086 (45 Tattersall Road)

Date	Proprietor
	(Lot 5 DP 7086)
1996 – to date	Sell & Parker (Holdings) Pty Limited
1988 – 1996	Ronald Thomas Burton, builder
	(Lot 5 DP 7086 – CTVol 10439 Fol 218)
1966 – 1988	Ronald Thomas Burton, builder
	(Lot 5 DP 7086 – Area 7 Acres 0 Roods 13 ½ Perches – CTVol 2426 Fol 12)
1962 – 1966	Ronald Thomas Burton, builder
1959 – 1962	William Palmerston Burton, retired
1943 – 1959	Samuel Hanna Erwin, poultry farmer
	Lucy Erwin
1929 – 1943	Robert Imlay, fitter
	Rose Imlay
1913 – 1929	Charles Richard Webb, boilermaker
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1913	Lucia Sarah Tattersall, wife of grazier

Table 3.2 Historical Title Search – Lot 2, DP550522 (23-43 Tattersall Road)

Date	Proprietor
	(Lot 2 DP 550522)
2007 – to date	Sell & Parker (Holdings) Pty Limited
(2004 – to date)	*(lease to Dexion (Australia) Pty Limited, of 23 – 43 Tattersalls Road, Kings Park)*
2004 – 2007	Perpetual Trustee Company Limited
1988 – 2004	Dexion (Australia) Pty Limited
	(Lot 2 DP 550522 – CTVol 11667 Fol 174)
1971 – 1988	Dexion (Australia) Pty Limited
	(Lot 4 DP 7086 – Area 6 Acres 1 Rood 2 Perches – CTVol 2931 Fol 212)
1969 – 1971	Dexion (Australia) Pty Limited
1967 – 1969	Carmina Pty Limited
1959 – 1967	Monsanto Chemicals (Australia) Limited
1957 – 1959	Beetle- Elliot Pty Limited
1929 – 1957	Albert George Shaw, trapper
1920 – 1929	Edward John Campbell, farmer
1920 – 1920	Benjamin Heath, poultry farmer
	Hannah Bettridge Heath
1919 – 1920	Robert Dean, ironmonger

Date	Proprietor
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1919	Lucia Sarah Tattersall, wife of grazier
	(Lot 3 DP 7086 & Lot A DP 387453 – Area 9 Acres 2 Roods 32 ¾ Perches – CTVol 6860 Fol 4)
1969 – 1971	Dexion (Australia) Pty Limited
1967 – 1969	Carmina Pty Limited
1959 – 1967	Monsanto Chemicals (Australia) Limited
1957 – 1959	Beetle- Elliot Pty Limited
1956 – 1956	Materials Pty Limited
1954 – 1956	Arthur James Douglas, storeman
	(Lot 2 & 3 DP 7086 – Area 10 Acres 1 Rood 22 ¾ Perches – CTVol 2615 Fol 45)
1945 – 1954	Arthur James Douglas, farm hand
1944 – 1945	Annie McMahon, widow
1920 – 1944	Joseph McMahon, farmer
1925 – 1920	John Thomas Jennings, farmer
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1919	Lucia Sarah Tattersall, wife of grazier

Information obtained from the Historical Titles Search indicates that Lot 5, DP7086 (45 Tattersall Road) was likely initially used as farm land until 1913. Following this, the titles suggest the property may have been used for metallurgy / boiler making activities until the early 1940's and then poultry farming until the late 1950's. From the late 1950's until 1996 the titles suggest the property may have been used as a base for building / construction enterprises. The property has been owned and operated by Sell and Parker for the purposes of metal recycling since 1996.

Information obtained from the Historical Titles Search indicates that Lot 2, DP550522 (23-43 Tattersall Road) was likely initially used as farm land until the early to mid 1950's. From this time the property was owned by a range of chemical manufacturing companies until 1969, when it was purchased by Dexion, a manufacturer of domestic and commercial shelving, storage racking and exhibition stands. The property was purchased by Sell and Parker in 2007, however Dexion has continued operations until present under a lease agreement with Sell and Parker.

3.2 AERIAL PHOTOGRAPHY REVIEW

A review of historic aerial photographs was undertaken to assess visual indications of potential changes in land use at each property. The earliest available aerial photograph for each property was sourced, with selected aerial photos reviewed with a minimum of one photo per decade selected. The review can be summarised as follows:

- **1951 Black and White (aerial photo reference: 472-06-143) –** the northern portion of 45 Tattersall Road appears to be developed with a number of structures (possibly agricultural and/or commercial sheds) and yards present. A vegetated tributary of Breakfast Creek flows through the centre of 45 Tattersall, with the southern portion largely cleared but undeveloped, containing predominately grass land with scattered trees. The majority of 23-43 Tattersall Road also appears cleared with a vegetated drainage line running from near the centre of this property on the western boundary through to the north eastern corner. A number of structures (possibly a dwelling house and sheds) are clustered around the drainage line on the western boundary of number 23-43 Tattersall Road.

  Tattersall Road is present immediately to the north of both properties with open grazing land and a number of large (possibly agricultural and/or commercial sheds) to the north. Land immediately to the east of 23-43 Tattersall Road contains open grazing land and scattered vegetation. A number of smaller structures (possibly dwelling houses and small sheds) are also present. Sunnyholt Road is present further to the east with rural residential lots beyond. Breakfast Creek is present immediately to the south of both properties, with what appears to be grazing land, which is predominately cleared with some scattered vegetation, beyond. The tributary of Breakfast Creek that runs through both properties is present to the west of 45 Tattersall Road. Land to the west appears to be predominately cleared (except for riparian vegetation along Breakfast Creek and its tributary) with some scattered structures, most likely dwelling houses and small agricultural sheds. A railway line is present approximately 900 m to the west and a racecourse approximately 400 m to the south west.

  For further details please refer to *Figure 3, Annex A*.

- **1961 Black and White (aerial photo reference: 1049 26 046) –** additional building structures are present on the northern portion of 45 Tattersall Road. The vegetated tributary of Breakfast Creek continues to flow through the centre of 45 Tattersall Road. The southern portion of 45 Tattersall Road contains a new building structure. Number 23-43 Tattersall Road also appears largely unchanged since the previous photo.

  Tattersall Road is present immediately to the north of both properties with land beyond appearing relatively unchanged from the previous photo. Land immediately to the east of 23-43 Tattersall Road also appears relatively unchanged, however some further development has occurred adjacent to Sunnyholt Road. The rural residential area identified to the east of Sunnyholt Road in the previous photo has filled in with what appears to be large lot residential properties. Breakfast Creek remains present immediately to the south of both properties. A large commercial or industrial development is now present to the south, with scattered timber and grazing land beyond. The tributary of Breakfast Creek that runs through both properties remains present to the west of 45 Tattersall Road.

Land immediately to the west appears to have been developed further since the previous photo with a number of additional commercial/industrial sheds now present. A large industrial development is present approximately 700 m to the west. The railway line and racecourse identified in the previous photo remain present approximately 900 m and 400 m to the west and south west, respectively.

For further details please refer to *Figure 4, Annex A*.

- **1970 Black and White (aerial photo reference: NSW 1910 5028) –** both properties are now cleared of vegetation and the tributary of Breakfast Creek previously running through the centre of both properties is no longer clearly present**.** Number 45 Tattersall Road has additional commercial/industrial sheds built on it, particularly on the southern portion. Number 23-43 Tattersall Road is cleared but appears undeveloped (i.e. no built structures present).

  Tattersall Road is present immediately to the north of both properties, with additional commercial/industrial development now present to the north of Tattersall Road. Land further to the north appears largely unchanged since the previous photo. Much of the remaining vegetation immediately to the east has been cleared and some additional commercial/industrial structures have been built adjacent to Sunnyholt Road. The residential subdivision further east, beyond Sunnyholt Road has filled in further, with many additional dwellings constructed. Breakfast Creek remains present immediately to the south of both properties with the large commercial or industrial development further to the south expanded in size. The land immediately to the west has developed further with further clearing and commercial/industrial structures built on it. Some further development has occurred around the edges of the large industrial development approximately 700 m to the west. The railway line remains present approximately 900 m to the west and south west, but the race course identified in previous photos, approximately 400 m to the south west has been replaced by what appears to be the footprint for further industrial development.

  For further details please refer to *Figure 5; Annex A*.

- **1982 Colour (aerial photo reference: NSW 3242-173) –** both properties are now largely developed with what appear to be commercial / industrial sheds present on both lots. Commercial/industrial development now surrounds both properties to the north, east, south and west. The residential subdivision to the east of Sunnyholt Road is now fully established. Breakfast Creek remains to the immediate south of both properties. Some additional industrial development and infill residential development has occurred approximately 300 m and 700 m to the north, respectively.

  For further details please refer to *Figure 6; Annex A*.

- **1991 Colour (aerial photo reference: NSW 4038 07 124) –** both properties appear relatively unchanged from the previous photograph. Further industrial development has occurred to the north and north west. Other surrounding land uses remain unchanged.

- For further details please refer to *Figure 7, Annex A*.

- **1998 Colour (aerial photo reference: NSW 4453 08 037) –** the previously built structures at 45 Tattersall Road appear to have been removed and the property now appears to be being used as the metal recycling yard. The office building appears to be present near the centre of the property. The stormwater detention dam is present at the rear of 45 Tattersall Road. An additional warehouse building has been added to 23-43 Tattersall Road. Further industrial development has occurred to the north and north west. The remaining surrounding land uses are largely unchanged from the previous photograph.

  For details please refer to *Figure 8, Annex A*.

- **2004 Colour (Google Earth Pro Image 19-02-2004) –** 45 Tattersall Road appears to be set-up in a similar manner to its current day layout, with metal recycling equipment (including a pre-shredder, shredder and shear, office; ferrous stockpile and stormwater detention basin present). An additional warehouse building has been added to 23-43 Tattersall Road and appears to be set up in a similar manner to present day operations. Some further in-fill industrial development has occurred to the west. The remaining surrounding land used appear largely unchanged from the previous photo.

  Due to Copyright restrictions, a copy of the 2004 Google Earth Image was not able to be provided in ERM's standard figure template.

- **2014 Colour (Bing Maps)** – both properties appear unchanged from the 2004 image. Some minor areas of further in-fill industrial development has occurred to the west. The remaining surrounding land used appear largely unchanged from the previous photo.

  For further details please refer to *Figure 9, Annex A*.

3.3 BLACKTOWN CITY COUNCIL – PLANNING CERTIFICATE

The Blacktown City Council (BCC) Section 149 (2) and (5) Planning Certificates for both properties, 45 Tattersall Road (Lot 5 DP 7086) and 23-43 Tatersall Road (Lot 2 DP 550522), issued in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act) (refer *Annex D*), includes the following information regarding the each property:

- both properties are currently zoned 4A – Industrial – General, pursuant to *Blacktown Local Environmental Plan 1988*.

- at is meeting on 12 March 2014, BCC adopted a zoning of IN1 – General Industrial following submissions received on the *Draft Blacktown Local Environmental Plan (BLEP) 2013*. The adopted zone will come into effect once the new BLEP 2013 has been approved by the Minister for Planning and Environment and published in the NSW Government Gazette. This is expected to occur in mid-2014;

- within the meaning of the *Contaminated Land Management Act 1997* and *Contaminated Land Management Amendment Act 2008:*

  - neither property is declared to be significantly contaminated land;

  - neither property is subject to a management order;

  - neither property is subject to an approved voluntary management proposal;

  - neither property is subject to an ongoing maintenance order; and

  - neither property is subject to a Site Audit Statement within the meaning of the *Contaminated Land Management Act* 1997.

- BCC has adopted a policy on contaminated land which may restrict the development of land on both properties. The S149 Certificate states that "*The land contamination policy applies when zoning or land use changes are proposed on land which has previously been used for certain purposes or has the potential to be affected by such purposes undertaken on nearby lands. As such consideration of BCC's policy or the application of provisions under the relevant State legislation and guidelines is necessary*";

- BCC has not adopted any policies to restrict the development of either property by reason of the likelihood of landslip, bushfire, tidal inundation, subsidence or the occurrence of acid sulfate soils;

- BCC has adopted a Floodplain Management Policy which may restrict the development of land on both properties, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land.

- the Flood Risk Precinct Maps prepared under the above Policy indicate both properties partly lie within the Medium Flood Risk Precinct and partly within the High Flood Risk Precinct. The term Medium Risk Precinct is defined as land below the 100-year flood level that is not within a High Flood Risk Precinct. Thus is land that is not subject to high hydraulic hazard or where there are no significant evacuation difficulties. The term High Flood Risk Precinct is defined as the area of land below the 100-year flood event that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties.

- neither property is affected by the operation of section 38 or 39 of the *Coastal Protection Act 1979*;

- neither property is proclaimed to be located in a mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act 1961*;

- neither property is affected by any road widening or road realignment under the Division 2 of Part 3 of the *Roads Act 1993*, any environmental planning instrument;

- neither property includes or comprises a critical habitat within the meaning of the *Threatened Species Conservation Act 1995* or *Fisheries Management Act 1994;*

- neither property is within a conservation area;

- neither property has been granted biodiversity certification within the meaning of the *Threatened Species Conservation Act 1995*;

- BCC has not been notified of the existence of a biobanking agreement under the *Threatened Species Conservation Act 1995* for either property;

- BCC's Bush Fire Prone Land Map has identified both properties as being clear of any bush fire prone land;

- neither property is subject to a Property Vegetation Plan under the *Native Vegetation Act 2003*;

- neither property is subject of an order made under the *Trees (Disputes Between Neighbours) Act 2006; and*

- neither property is known to contain an item of environmental heritage under the protection of the Blacktown LEP 1988.

3.4 PREVIOUS DEVELOPMENT APPROVALS

BCC approved a metal recycling facility on the southern (rear) portion of 45 Tattersall Road in November 1996 (a copy of the consent is provided in *Annex E*). In 2001 the Land and Environment Court approved the establishment of a hammermill (also known as a fragmentiser or metal shredder) together with associated components with an approved handling capacity 60,000 tpa on the northern part of 45 Tattersall Road (a copy of the consent is provided in *Annex E*).

Condition 18 (Site Remediation) of the 1996 DA consent refers to "*approximately 30m³ (100m²) of zinc impacted soil, located beneath / around the saw mill building*", identified in the ADI Stage 2 Report. The Condition also states that the "*zinc impacted soil in to be removed completely from the site and the area validated by an approved consultant to Council's satisfaction prior to commencement of the metal recycling facility.*"

ERM did not have access to the ADI Stage 2 Report at the time of the preparation of this Phase I ESA, so it is unclear as to the exact location of the zinc impacted soils. However, information presented in the 1999 EIS (ERM, 1999) stated that the Stage 2 investigation report stated that all metal concentrations were below the Dutch Proposed Intervention Values, with the exception of one sample (refer *Section 2.4)*. The Dutch Proposed Intervention Values were guidelines used to assess suitability for industrial use at the time of the ADI investigations. When assessed against the current applicable guidelines (ASC NEPM (2013) Health Investigation Levels (HILs) for Commercial / Industrial Use) the laboratory results for metals from the ADI Stage 2 Report presented in the 1999 EIS (ERM, 1999) indicate that all soil samples have concentrations below these current guidelines.

Condition 54 (Soil Contamination) of the 2001 Land and Environment Court decision stated that '*all contaminated soil and other contaminated material excavated from the Site as part of the development must be removed from the Site and disposed of by a licensed contractor at a facility licensed under the Waste Minimisation and Management Act 1995. A report is to be prepared by a suitably qualified consultant detailing the contamination remediation measures required as part of the proposed excavation/construction works. Council may require remediation works and or removal of the soil and or groundwater, depending on the report's recommendations. Following this, an independent validation of the remediation works by an environmental consultant will be required and a report submitted to Council*".

It is unclear what contaminated soil or material this statement is referring to. At the time of the preparation of this Phase I ESA ERM was not made aware of any previous reports recommending or validating the removal of contaminated soil or material in respect to the 2001 development.

3.5 WORKCOVER RECORDS

A search of the Stored Chemical Information Database (SCID) and microfiche records held by WorkCover indicated the following dangerous goods stored at each property:

Table 3.3 Dangerous Goods Currently Stored at Each Property

Depot	Depot Type	Product	Capacity	DG Class and Sub-class	PG (where applicable)
45 Tattersall Road					
1	Above ground tank	Oxygen, refrigerated liquid	2,100m^3	2.2	
2	Exempt -Storage Area	LPG	45kg	2.1	
	Exempt -Storage Area	LPG	45kg	2.1	
23-43 Tattersall Road					
1	External roofed store	Paint / Phosphate	20,000L / 1,000L	3 / 8(6.1)	III / II
2	Cylinder store	LPG	1,600L	2.1	
3a	Above ground tank	Argon	4,500L	2.2	
3b	Above ground tank	Carbon Dioxide	1,500L	2.2	
3c	Cylinder in use	Oxygen	1,500L	2.2 (5.1)	
4a	Cylinder store	Acetylene / LPG	500L	2.1	
4b	Cylinder store	Oxygen	600L	2.2 (5.1)	
5	Flammable cabinet	Various	250L	3	III
6	Minor store	Diesel	400L	C1	
7	Flammable cabinet	Various	650L / 160L	3	III
8	Internal store	Paint	600L	3	III
9	Internal store	Phosphate	400L	8(6.1)	II
10	Internal store	Paint	600L	3	III

1. DG – Dangerous Goods
2. Packaging Group
3. LPG – Liquefied petroleum gas

The above search results indicate that a number of dangerous goods are stored, all above ground, at each property. No dangerous goods are currently stored in underground tanks according to NSW WorkCover's records.

The historical records indicate that an application for the installation of a 2,000 gallon (approximately 10,000 litres) leaded petrol tank in the northern portion of 45 Tattersall Road was made in 1969. The historical records indicate that this tank was filled and sealed in January 1989.

The historical application also shows the location of an existing tank (unknown size and contents) within the vicinity of where the new tank was to be installed. The plans supplied with the historical application indicate this existing tank was to be removed, but no details are supplied to confirm this in the WorkCover records. However, the previous Stage 2 Environmental Site Investigation (ADI, 1995b) indicated three former USTs were removed and validated in 1995. It is therefore assumed that the removal of the three tanks in 1995, confirms the current understanding that no USTs remain on-site at 45 Tattersall Road.

A copy of the record obtained from WorkCover is included in *Annex F*.

3.6 NSW EPA BACKGROUND REGISTER SEARCHES

A search of the New South Wales Environmental Protection Authority (EPA) various registers was undertaken:

- a search of the NSW EPA Contaminated Land Record and list of contaminated sites notified to the EPA indicated that neither property is listed on either the register or the list.

- the property immediately adjacent to the east of 23-43 Tattersall Road (currently occupied by Bostik Australia Pty Ltd), has an Ongoing Maintenance Order issued under Section 28 of the *Contaminated Land Management Act 1997* (CLM Act) in relation to the management of residual chlorinated solvent groundwater contamination. This property is located immediately down / cross (assumed) hydraulic gradient from 45 and 23-43 Tattersall Road;

- another property within the BCC Local Government Area (LGA), located at 27 Powers Road, Seven Hills, has been declared a remediation site under Section 21 of the CLM Act in relation to contaminated groundwater. This property is located down (assumed) hydraulic gradient from 45 and 23-43 Tattersall Road, approximately 4.6 km to the south east;

- no other properties were identified in the Blacktown City Council LGA that have been issued with a remediation order or designated as significantly contaminated under the CLM Act and not managed through a licence or notice under the *Protection of the Environment Operations (POEO) Act 1997*; and

- a search of the NSW EPA license registry showed that both properties are subject to an Environment Protection Licence (EPL), as follows:

    - EPL 11555 applies to 45 Tattersall Road for the undertaking of the scheduled activity of scrap metal processing (0-100,000 tonnes processed). Currently no surface water or groundwater monitoring locations or discharge points are applicable to the property under EPL 11555. Condition O7.1 of the EPL states that a Stormwater Management Scheme must be prepared for the development and must be implemented. Implementation of the Scheme must mitigate the impacts of stormwater runoff from and within the premises following the completion of construction activities. The Scheme should be consistent with the Stormwater Management Plan for the catchment. If a Stormwater Management Plan has not yet been prepared the Scheme should be consistent with the guidance contained in Managing Urban Stormwater: Council Handbook (available from the EPA); and

- EPL 974 applies to 23-43 Tattersall Road for the undertaking of Metal coating (0-100000 T coated) and Metal waste generation (>100 T generated or stored). Currently no surface water or groundwater monitoring locations or discharge points are applicable to the property under EPL 974.

Copies of search results are provided in *Annex G*.

3.7 GROUNDWATER BORE SEARCHES

A search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bores within approximately 1 km radius from the adjoining boundary between 45 and 23-43 Tattersall Road (refer *Table 3.4* below). The detailed groundwater bore logs and bore location plan are provided in *Annex H*.

Table 3.4 Licensed Bores within One Kilometre Radius of 45 and 23-43 Tattersall Road

Bore Reference	Distance / Direction from 45 Tattersall Road	Location	Authorised Purposes	Final Drilled Depth (m)	Standing Water Level (m)	Water Bearing Zones (m)	Aquifer Geology
GW112589	Approx. 500m to the NW	N 6263978 E 306101	Monitoring Bore	10.86	7.0	-	-
GW112588	Approx. 500m to the NW	N 6263990 E 306122	Monitoring Bore	12.44	7.0	-	-
GW112587	Approx. 500m to the NW	N 6263979 E 306140	Monitoring Bore	99	7.0	-	-
GW104235	Approx. 160m to the E[1]	N 6263690 E 306709	Monitoring Bore	6.2	2.6	2.6-6.2	Grey silty clay
GW112580	Approx. 165m to the E[1]	N 6263690 E 306716	Monitoring Bore	5.85	3.0	4.0-4.5	Clay
GW112581	Approx. 170m to the E[1]	N 6263645 E 306712	Monitoring Bore	5.3	2.3	2.0-2.5	Loose moist clay
GW112578	Approx. 275m to the E	N 6263678 E 306818	Monitoring Bore	5.8	2.5	1.5-2.5	Moist, light brown clay
GW112579	Approx. 180m to the E[1]	N 6263553 E 306704	Monitoring Bore	5.6	2.5	4.5-4.8	Grey/brown clay
GW104236	Approx. 170m to the E[1]	N 6263495 E 306688	Monitoring Bore	6.5	3.2	3.2-6.5	Medium to brown clay
GW104237	Approx. 210m to the E	N 6263493 E306726	Monitoring Bore	7.1	3.2	3.2-6.5	Grey silty clay
GW102688	Approx. 370m to the E	N 6263415 E306884	Monitoring Bore	5.55	2.5	2-5	Clay, Silty/Sandy

1. These groundwater wells are directly adjacent to the 23-43 Tattersall Road (Lot 2 DP 550522)

3.8 ANECDOTAL INFORMATION

Sell and Parker provided an annotated survey plan entitled "Annexure A – Plan Showing Restriction on the use of Land with Lot 5 in DP 7086 at Blacktown Parish of Prospect, County of Cumberland" (refer *Annex I*). The plans shows three surveyed cells, in the northern portion of 45 Tattersall Road, shaded yellow and marked "A" for the restriction on the use of land at this property. Anecdotal information provided by Sell and Parker's General Manager Property & Development, Mr Nigel Fox, indicated that these areas had been capped with a clay based fill and are now covered by concrete hardstand. Details of potential contamination or its source is not known. It is possible that these contaminated cells are related to the former USTs or possibly zinc impacted soils beneath or around a former saw mill building at this property, however, this has not been verified due to limited information available at the time of the preparation of this report. The existence of the contaminated cells has not been supported by other information sources, such as s149 Certificates or NSW EPA background register searches.

ERM understands that these cells are not located in an area that is proposed to be disturbed by redevelopment works and as such, they are not considered to pose a significant constraint to the proposed development. The Conceptual Site Model (CSM) (refer *Chapter 5*) shows that there is not a complete source-pathway-receptor (SPR) linkage in relation to these cells so long as they remain in an undisturbed state.

3.9 INTEGRITY ASSESSMENT

Although the historical information indicates some discrepancy in the number and location of former USTs at 45 Tattersall Road, the previous investigations undertaken by ADI Services in 1995 confirmed the presence of three former USTs, which were removed and validated in 1995. Information on the surveyed cells showing the restriction on the use of land within these areas at 45 Tattersall Road is also somewhat limited. It is possible that these contaminated cells are related to the former USTs at this property as it appears to be in the general vicinity, however, this has not been verified, as the locations of the cells do not appear on any other records.

The remaining data obtained has, in general, been found to be in agreement. It is therefore considered that the information provided in this historical assessment has an acceptable level of accuracy for the purposes of this preliminary assessment.

4 PROPERTY DESCRIPTION

4.1 TOPOGRAPHY

45 Tattersall Road is relatively flat and drains to the south. The lot has been excavated into the landscape to allow for it to be sunk behind a noise wall in comparison to the elevation at street level. The elevation of the this property ranges from 41.7 m Australian Height Datum (AHD) to 40.2 m AHD (not including the depth of the stormwater detention basin) while the street level of Tattersalls Road is approximately 45 m AHD. A concrete sound mound is constructed at street level to approximately 45-47 m AHD in height.

23-43 Tattersall Road is also relatively flat and drains to the southwest of the property. The highest elevation is approximately 42 m AHD in the northern carpark area to the lowest point of around 40 m AHD in the south western portion of the property (also a carpark). Tattersalls Road sits slightly higher than the property.

A vegetated mound orientated in a north-south direction, separates the two properties.

4.2 REGIONAL GEOLOGY AND SOIL LANDSCAPE

According to the 1:100,000 Geological Series Sheet 9030 (edition 1) dated 1991 for Penrith, the lithology of both properties comprises shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff (Clark and Jones, 1991). The formation is Bringelly Shale of the Wianamatta Group (undifferentiated), from the Middle Triassic period (Clark and Jones, 1991).

Review of the *Soil Landscapes of the Penrith 1:100,000 Sheet Map* 1:100,000 indicates both properties are located on the Blacktown soil landscape group, which usually occurs on gently undulating rises over Wianamatta Group shales. The ground slopes are usually less than 5%. The soils range from shallow to moderately deep (less than 1 m thick) and are hard setting, mottled textured clay soils. The soils are typically poorly drained with low fertility, localised high plasticity and expansive subsoils.

Assessment of the Australian Soil Resource Information System (CSIRO, 2006) mapping layer identified that both properties have no known occurrence of Acid Sulfate Soil (ASS).

4.3 REGIONAL AND LOCAL SURFACE WATER

Runoff from the both properties flows to Breakfast Creek to the south. Breakfast Creek is reported to be a heavily disturbed ephemeral stream that flows through the industrial estate. The creek is currently being reconstructed by Blacktown City Council, involving realignment and lining with rock.

Stormwater runoff generated at 45 Tattersall Road currently reaches a stormwater basin in the southern portion of the property via overland flow and a network of inlets and underground pipes. This basin has a riser that acts a discharge point that is not licensed. The outlet for the riser is currently closed with a shut-off valve, with all captured stormwater to remain on-site.

At 23-43 Tattersall Road the predominant source of runoff is generated from the roof space occupying the majority of the property. This runoff is assumed to flow to the adjacent rock and earth lined stormwater drain to the east that links down gradient to Breakfast Creek. The carpark in the northern portion of the property drains to a series of inlet pits that discharge to the adjacent drainage line to the east. The carpark in the southern portion of the property is presumed to drain to Breakfast Creek in the south.

Breakfast Creek is a tributary to Eastern Creek which then merges with South Creek, flowing to the Windsor Reach of the Hawkesbury River. The Hawkesbury River flows to the South Pacific Ocean.

4.4 REGIONAL AND LOCAL HYDROGEOLOGY

A search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bore within approximately 1 km of the property (refer *Table 3.4*). The detailed groundwater bore logs and bore location plan are provided in *Annex H*.

The logs for boreholes drilled to the east of 23-43 Tattersall Road reported a shallow water bearing zone of silty clay between 1.5 and 6.5 m below ground level (BGL). *Table 3.4* identifies the boreholes that are adjacent to the drainage line that travels parallel to the eastern boundary of 23-43 Tattersall Road and eventually drains to Breakfast Creek. The boreholes to the northwest of the property did not report any water bearing zones or aquifer geology, though the standing water level for these wells was uniform at seven metres. It is noted that the shales of the Wianamatta Group are characterised by saline groundwater due to marine deposition, are often low yielding and as such are not considered beneficial aquifers (Sydney Catchment Authority, 2012)

Observations of both properties during the sight walkover did not indicate the presence of groundwater wells at either property.

4.5 REGIONAL CLIMATE

Long term climate data is available from the Bureau of Meteorology network of automatic weather stations (AWS) located throughout the state. The weather stations utilised for the information within this report are listed in *Table 4.1*.

Table 4.1 Bureau of Meteorology Automatic Weather Stations referenced in this Report

Details	Purpose	
	Temperature data	**Rainfall data**
Name	Seven Hills (Collins St)	Quakers Hill Treatment Works
Number	67026	67076
Year opened	1950	1948
Status	Remains open	Remains open
Co-ordinates	Latitude: 33.77° S	Latitude: 33.74° S
	Longitude: 150.93° E	Longitude: 150.88° E
Elevation	50 m	25 m

4.5.1 Temperature

Temperature data from the Seven Hills (Collins Street) AWS reveals that for the period of collected data, on average:

- December is the warmest month of the year, with a mean temperature of 28.4 Degrees Celsius (°C); and
- the coolest months are June and July, with a mean temperature of 17.4°C (See *Table 4.2*).

Table 4.2 Monthly Temperature Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Temperature	28.3	27.7	27.0	24.1	20.0	17.4	17.4	18.6	21.4	23.8	26.3	28.4	23.4

1. Data sourced from Seven Hills (Collins Street) AWS (67026).

4.5.2 Rainfall

Rainfall data from the Quakers Hill Treatment Works AWS reveals that for the period of collected data, on average:

- mean annual rainfall for the area surrounding the properties is 921.5 millimetres (mm);
- September is typically the driest month with an average of 38 mm; and
- February is typically the wettest month with an average of 113.3 mm (See *Table 4.3*).

Table 4.3 Monthly Precipitation Data for Blacktown, NSW

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Rainfall	104.0	113.3	94.2	66.5	71.2	80.3	42.1	52.9	38.0	65.7	85.6	70.1	921.5

1. Data sourced from Quakers Hill Treatment Works AWS (67076)

4.6 WATER AND WASTEWATER

4.6.1 Water Supply

Both properties are connected to potable town water supply via connections from Tattersall Road.

Water collected in the stormwater detention basin at the rear of 45 Tattersall Road is currently also being used for operations at this property. This is proposed to continue as part of the expanded operations with water proposed to be used on hammermill and other operations. Sell and Parker have indicated that this water will be suitably screened and filtered to ensure water collected in the basin is suitable for use in operations and will have no impact to infrastructure, the surrounding environment or the health and safety of employees

4.6.2 Stormwater

Stormwater runoff generated at 45 Tattersall Road currently reaches a stormwater basin in the southern portion of the property via overland flow and a network of inlets and underground pipes.

At 23-43 Tattersall Road the predominant source of runoff is generated from the roof space occupying the majority of the property. This runoff is assumed to flow to the adjacent rock and earth lined stormwater drain to the east that links down gradient to Breakfast Creek. The carpark in the northern portion of the property drains to a series of inlet pits that discharge to the adjacent drainage line to the east. The carpark in the southern portion of the property is presumed to drain to Breakfast Creek in the south.

4.6.3 Wastewater

Both properties are serviced by a sewerage network. Current plans from Sydney Water indicate that a 525 mm vitrified clay sewer main runs along the northern portion of 23-43 Tattersall Road. This main then run along the western boundary of 23-43 Tattersall Road and connects with a 525 mm concrete sewer main at the rear of this property. This in turns connects to a 600 mm vitrified clay sewer and 750 mm concrete sewer main at the rear of 45 Tattersall Road.

4.7 *WASTE MANAGEMENT*

Operations at 45 Tattersall Road produce waste materials such as mixed plastics, particulates, glass and foam from car upholstery and building materials (flock material). Most waste emerges from the end of the non-ferrous and ferrous metals sorting conveyor. Additional solid waste is generated from the air quality controls which drop out particulates. Cleaned air then passes through a wet scrubber to remove fine dust. The resulting dust / water mixture is sprayed onto the main waste stream at the end of the non-ferrous metals sorting conveyor, and thus joins other waste in the stockpile / bunker for disposal.

Oils and lubricants generated following the maintenance of company vehicles and mobile equipment and machinery are stored in a bunded area in the workshop. Waste oil and lubricants are collected in 205L drums in bunded area ready for disposal. There are also minor quantities of office waste generated and disposed of in designated general waste bins that are collected regularly for disposal.

Operations at 23-43 Tattersall Road produces waste materials such as waste oils, fuels and paints. These liquid wastes are collected on-site with in waste drums and IBC's within bunded areas and disposed of appropriately through a liquid waste contractor. Other solid wastes, such as material packaging and offcuts are disposed of through general solid waste provisions. There are also minor quantities of office waste generated and disposed of in designated general waste bins that are collected regularly for disposal at an appropriately licenced landfill through BCC's waste collection service.

4.8 *UNDERGROUND SERVICES*

A 'dial before you dig' search was lodged on 13 June 2014 (Job No. 7524070). The following underground assets were identified by this search.

4.8.1 *Electricity*

Plans received from Endeavour Energy indicate there are underground electricity lines entering 23-43 Tattersall Road at two locations from Tattersall Road. One of these runs down the eastern boundary to a substation identified during the walkover outside the Paintline 1 building. A second underground cable runs from Tattersall Road to a substation, which appears to be near the entrance to the maintenance and press shop, but was not sighted during the walkover. Plans for 45 Tattersall Road, indicate three points along the northern boundary with Tattersall Road where underground cables are present. The Endeavour Energy plans also indicate that ACM may be present in some of these underground assets.

4.8.2 Gas

Plans received form Jemena Gas West indicate that a secondary gas main runs along the northern side of Tattersall Road to the north each property. The plans indicate a possible connection to each property from this secondary main at the eastern boundary of 23-43 Tattersall Road and western boundary of 45 Tattersall Road.

4.8.3 Telecommunications

Plans received from Optus indicate an Optus fibre running in an 'other' utility conduit along the southern side of Tattersall Road adjacent to most of the northern boundary of 23-43 Tattersall Road. The plans then indicate that fibre crosses the road and joins an Optus underground cable along the northern side of Tattersall Road.

A response was received from PIPE Networks, which indicated that PIPE Networks owned or operated telecommunications network infrastructure within vicinity of both properties. PIPE Networks indicated that the affected network infrastructure is contained within the Telstra duct network and can be found listed on the appropriate Telstra duct Network plans. At the time of preparation of this report, no plans had been received from Telstra.

4.8.4 Water/Sewer

Current plans from Sydney Water indicate that a 525 mm sewer main runs along the northern portion of 23-43 Tattersall Road and then along the western boundary of 23-43 Tattersall Road and connects with a 525 mm sewer main that runs to the rear of both 23-43 and 45 Tattersall Road (refer *Section 4.6.3).*

Underground services plans are provided in *Annex J.*

5 CONCEPTUAL SITE MODEL

Fundamental to the risk assessment process is the development of a Conceptual Site Model (CSM), which is the qualitative description of plausible mechanisms by which receptors may be exposed to contamination. For exposure to the identified receptors to be considered possible, a mechanism ('pathway') must exist by which contamination from a given source can reach a given receptor. A complete 'source-pathway-receptor' exposure mechanism is referred to as a 'SPR linkage'.

The potential SPR linkages are evaluated for completeness based on the existence of the following:

- a source of chemical contamination;
- a mechanism for release of contaminants from identified sources (e.g. volatilisation into air or dissolution into groundwater);
- a contaminant retention or transport medium (e.g. soil, air, groundwater etc.);
- potential receptors of contamination (e.g. groundwater, surface water, people); and
- a mechanism for chemical intake by the receptors at the point of exposure (ingestion, dermal contact, inhalation or a combination thereof).

Whenever one or more of these elements are missing, the SPR linkage is incomplete and the potential risk to the identified receptor is considered unlikely.

A CSM, showing the potential SPR linkages for both properties is presented in *Annex K.* The key findings of the CSM are summarised in the following sections.

5.1 SOURCE AREAS

Identified potential source areas (inclusive of operational sources as at time of ERM's Site walkover) were as follows:

45 Tattersall Road:

- potentially impacted soils from former operations at this property relating to boiler-making and construction (heavy metals, & ACM);
- potentially impacted soils from former operations at this property relating to construction and farmland use (OCPs, OPPs);

- potential "contaminated cells" (anecdotal evidence provided by Sell and Parker, possibly from former USTs or zinc impacted soil beneath or around former saw mill building);
- operational metal recycling equipment (pre-shredder, shredder, shear) and raw material stockpiles;
- operational maintenance workshop including oils, paints, degreasers (BTEX, TRH, PAHs, lead and other metals);
- IBCs & liquid waste from vehicles;
- operational stormwater retention dam (clay-lined) with oil-skimming system; and
- operational ASTs.

23-43 Tattersall Road

- potentially impacted soils from previous land-use such as farmland (OCPs & OPPs), TRH from former tanks;
- operational dangerous Goods Storage: Paints, cleaners, fuel and other flammable liquids (associated with DG Depots 1 and 5-10);
- operational dangerous Goods Storage: ASTs associated with DG Depots 2, 3 and 4;
- operational paint/washing concrete sump near Dangerous Good building;
- existing buildings with ACM; and
- operational paint stack and emissions from ventilation systems.

Off-site Sources

The main off-site sources identified were neighbouring properties (Bostik site to the east and scrap car yard to the west) and more distant sites associated with groundwater monitoring bores approximately 160-370 m to the east (hydraulically up-gradient) of both properties

5.2 *PATHWAYS*

Identified potential pathways at both properties include:

- direct contact;
- surface water via surface run-off into Breakfast Creek;
- groundwater constituents of concern mobilised through groundwater and within underground utility trenches;

- fugitive emissions to air;
- inhalation of asbestos fibres (predominately at 23-43 Tattersall Road); and
- deliberate emissions through stack and vent systems.

5.3 RECEPTORS

Identified potential receptors at both properties include:

- existing on-site workers;
- future site workers such as demolition / building contractors;
- intrusive maintenance workers (current and future);
- groundwater beneficial use: extraction bores off-site;
- off-site commercial workers and residences
- ecological receptors associated with Breakfast Creek; and
- future site workers, neighbours and off-site residents.

5.4 SPR LINKAGES

The CSM assessed the 'source-pathway-receptor' (SPR) linkages as either 'unlikely', 'potential' or 'complete'. Of 29 possible SPR linkages identified in the CSM, 17 were found to be unlikely due to incomplete linkages between source area and receptor. A further 11 were assessed as a potential SPR linkage, however, appropriate controls (such as Environment Protection Licence requirements or other management measure) were deemed to lessen the likelihood of a complete SPR linkage to an insignificant level.

Only one SPR linkage was initially identified as having the potential to form a complete SPR linkage. This was in regards to the wash down sump located towards the rear of 23-43 Tattersall Road, which poses the possibility of locally impacted soils and groundwater which may be disturbed and/or come in contact with future demolition / construction workers during future expansion works. Further information provided by Sell and Parker has confirmed that the sump is concrete lined and contains wash down water and a phosphate based detergent, which is used to clean spray nozzles and risers associated with pre-treatment for painting. Given the limited potential contaminants of concern, their low toxicity and the fact that the sump is concrete lined and in sound condition, it is considered unlikely that signification contamination associated with this sump has occurred. Appropriate management controls during redevelopment works, will be sufficient to reduce the likelihood of a potentially complete SPR linkage being established to an acceptable level.

6 CONCLUSIONS AND RECOMMENDATIONS

ERM completed a Phase I ESA of two adjoining properties owned by Sell and Parker at 45 and 23-43 Tattersall Road, Kings Park, NSW. The overarching objective for Sell and Parker was to assess the suitability of each property for ongoing industrial land use. The findings of this Phase ESA I will form part of a broader Environmental Impact Statement (EIS) being prepared for the expansion of the existing waste metal recovery, processing and recycling facility, currently located at 45 Tattersall Road.

Based on data obtained during the Phase 1 ESA, ERM concludes the following:

- the properties are formally known as Lot 5 DP 7086 (45 Tattersall Road); and Lot 2 DP 550522 (23-43 Tattersall Road);
- the properties have a combined total area of approximately 6.1ha, with 45 Tattersall Road being approximately 2.86ha in area and 23-43 Tattersall Road being 3.24ha in area;
- both properties are owned by Sell and Parker, however they are currently operated as separated businesses. Sell and Parker currently own and operate a waste metal recovery, processing and recycling facility at 45 Tattersall Road, while 23-43 Tattersall Road is currently occupied by Dexion, a manufacturer of pallet racking, industrial and office storage equipment;
- historical titles and aerial photographs indicate both properties were originally farm land and were progressively developed into commercial and industrial properties from the 1950's onwards;
- both properties are zoned "4A – Industrial – General", pursuant to *Blacktown Local Environmental Plan 1988* and "IN1 – General Industrial" under the *Draft Blacktown Local Environmental Plan 2013*;
- a search of WorkCover's Dangerous Goods records indicate that a number of dangerous goods are currently stored, all above ground, at each property. No dangerous goods are currently stored in underground tanks;
- the historical Dangerous Goods records indicate that at least two former underground storage tanks (USTs) were previously located on-site at 45 Tattersall Road, however, redevelopment works are not likely to disturb these areas;
- previous environmental investigations indicate that three historic USTs were removed in 1995, with validation results obtained during the removal showing that all concentrations of TPH , BTEX and lead were either below detection limits or applicable guideline criteria at the time. Review of the laboratory results for metals from the ADI Reports presented in the 1999

EIS (ERM, 1999) indicate that all soil samples reported concentrations below the current ASC NEPM 2013 Health Investigation Levels (HILs) for Commercial / Industrial Use;

- both properties operate in accordance with an Environment Protection Licence (EPL);
- an annotated survey plan provided by Sell and Parker shows three surveyed cells, in the northern portion of 45 Tattersall Road, shaded yellow and marked "A" for the restriction on the use of land at this property. Anecdotal information provided by Sell and Parker's Property General Manager, Mr Nigel Fox, indicated that these areas had been capped with a clay based fill and are now covered by concrete hardstand;
- ERM understands that these cells are not located in an area that is proposed to be disturbed by redevelopment works and as such, they are not considered to pose a significant constraint to the proposed development. The Conceptual Site Model (CSM) (refer *Chapter 5*) showsthat there is not a complete source-pathway-receptor (SPR) linkage in relation to these cells so long as they remain in an undisturbed state;
- 45 Tattersall Road is relatively flat and drains to the south. The lot has been excavated into the landscape to allow for it to be sunk behind a noise wall in comparison to the elevation at street level. 23-43 Tattersall Road is also relatively flat and drains to the southwest of the property;
- review of the regional geology indicates the lithology of both properties comprises shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff;
- review of the soil landscapes indicates both properties are located on the Blacktown soil landscape group, comprising Wianamatta Group shales;
- runoff from the both properties generally flows to Breakfast Creek to the south;
- a search of NSW Office of Water (NOW) registered groundwater bore licences identified 11 licensed bore within approximately 1km of both properties, all of which are registered as monitoring bores;
- the groundwater bore records indicate a shallow water bearing zone in silty clay between 1.5 and 6.5m below ground level (BGL) in the immediate vicinity of both properties;
- a Conceptual Site Model (CSM) was developed for both properties, which identified a number of potential contamination source areas, pathways and sensitive receptors;

- the CSM assessed the 'source-pathway-receptor' (SPR) linkages as either 'unlikely', 'potential' or 'complete'. Of 29 possible SPR linkages identified in the CSM, 17 were found to be unlikely due to incomplete linkages between source area and receptor. A further 11 were assessed as a potential SPR linkage, however, given the appropriate controls (such as Environment Protection Licence requirements or other management measures) in place, these were deemed to have an insignificant likelihood of a potentially complete SPR linkage; and

- only one SPR linkage was initially identified as having the potential to form a complete SPR linkage. This was in regards to the wash down sump located towards the rear of 23-43 Tattersall Road, which poses the possibility of locally impacted soils and groundwater which may be disturbed and/or come in contact with future demolition / construction workers during future expansion works. Given the limited potential contaminants of concern and the fact that the sump is concrete lined and in sound condition, it is considered unlikely that signification contamination has occurred. Appropriate management controls during redevelopment works, will therefore be sufficient to reduce the likelihood of a potentially complete SPR linkage being established to an acceptable level.

Although some potential for residual contamination remains, based on the results of this Phase I ESA and in particular the absence of potentially complete SPR linkages as presented in the CSM, along with the planned continued industrial land use at both properties, it is considered that further investigation is not required at this stage in order to facilitate the proposed redevelopment. As with any former industrial Site, a contingency for the appropriate management of potential unexpected contamination finds should be incorporated in the Construction Environmental Management Plan (CEMP) for the planned redevelopment of both properties.

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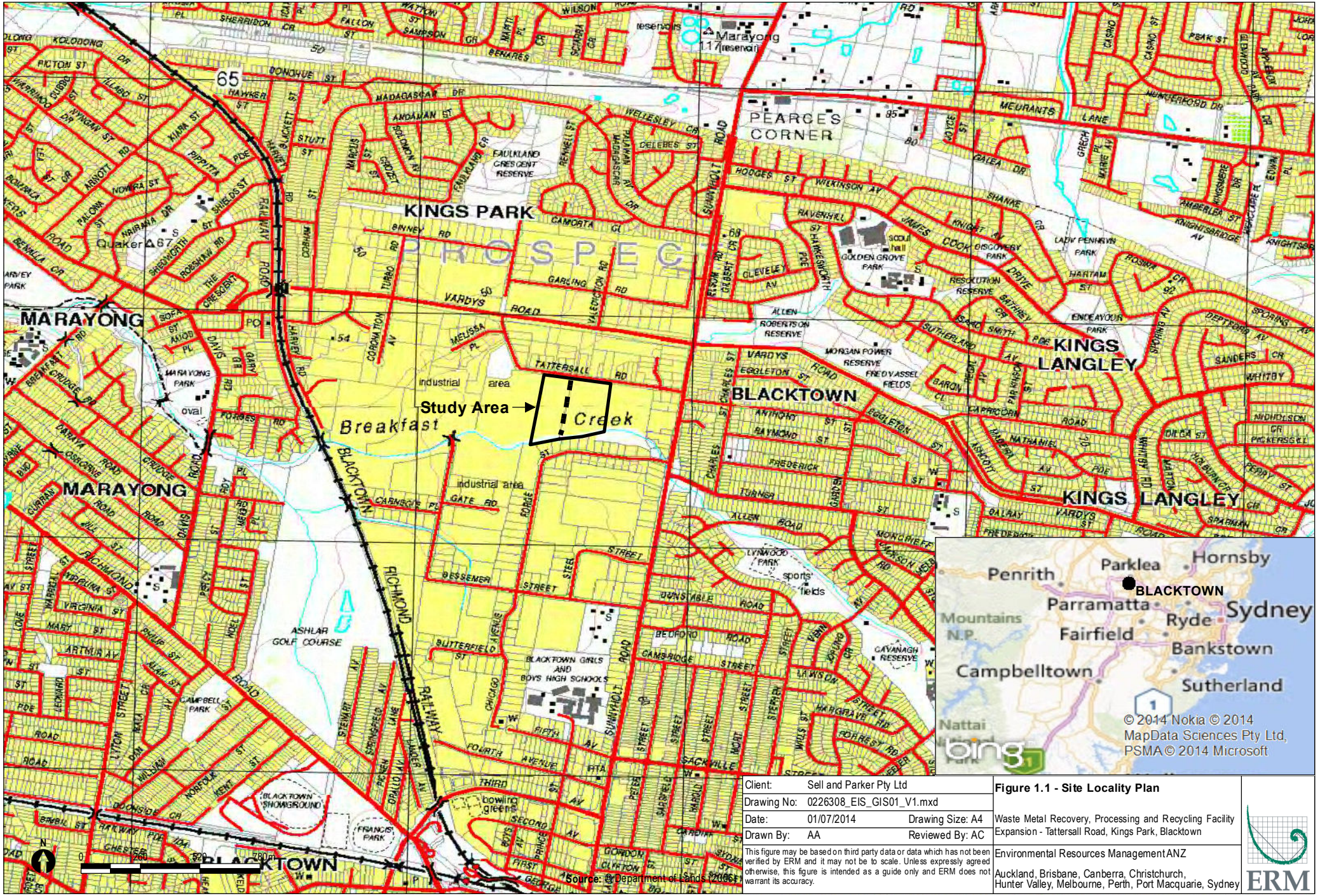
Annex A

Figures



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This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 1.1 - Site Locality Plan

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_Phase1ESA_GIS03_V1.mxd		
Date:	07/07/2014	Drawing Size:	A4
Drawn By:	NH	Reviewed By:	AC

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Figure 2 - Site Layout

Phase 1 Environmental Site Assessment - 45 and 23-43 Tattersall Road, Kings Park.

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Client:	Sell and Parker Pty Ltd	
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd	
Date:	07/07/2014	Drawing Size: A4
Drawn By:	NH	Reviewed By: AC

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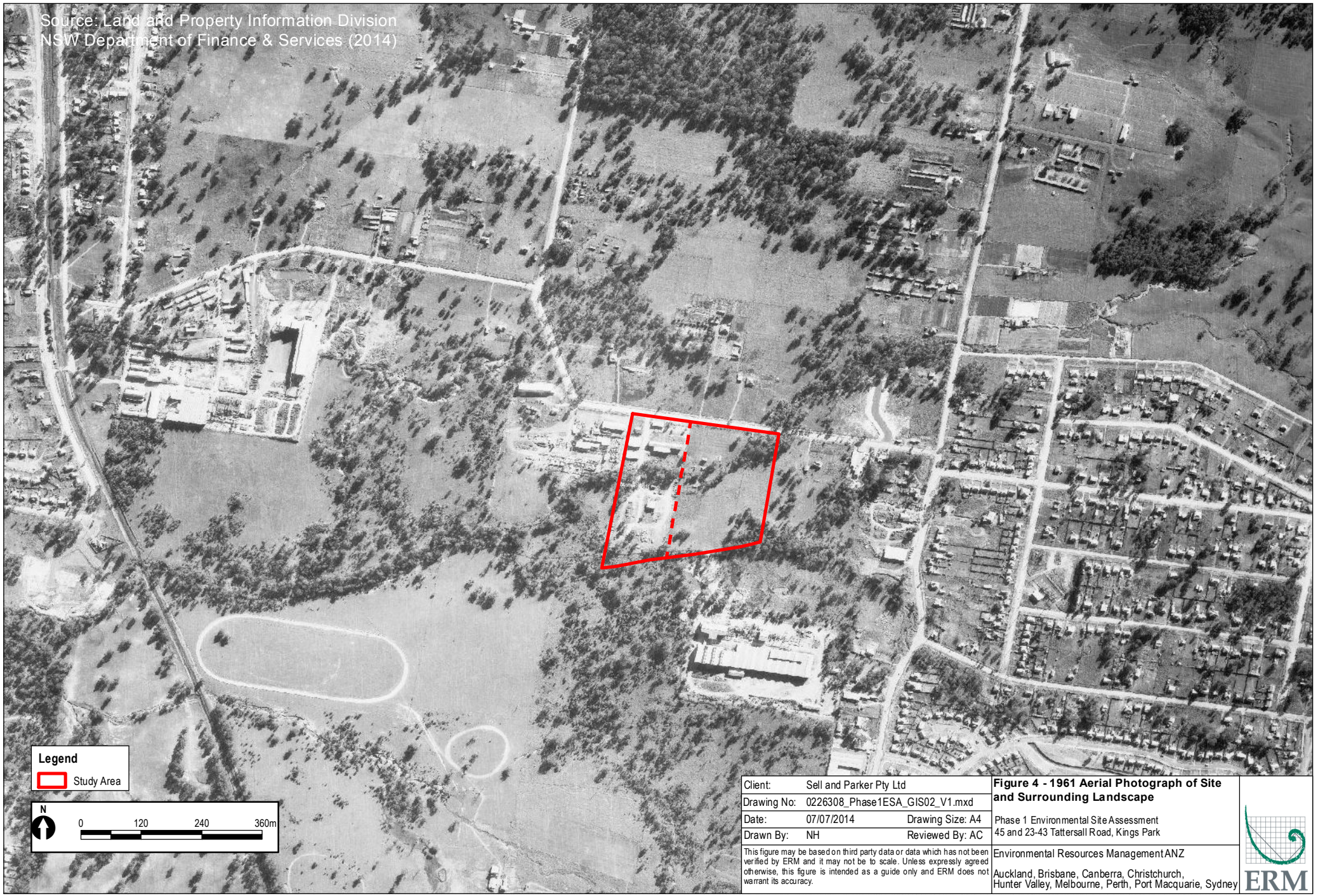
Figure 3 - 1951 Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch,
Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM



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Drawn By:	NH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 4 - 1961 Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd		
Date:	07/07/2014	Drawing Size: A4	
Drawn By:	NH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

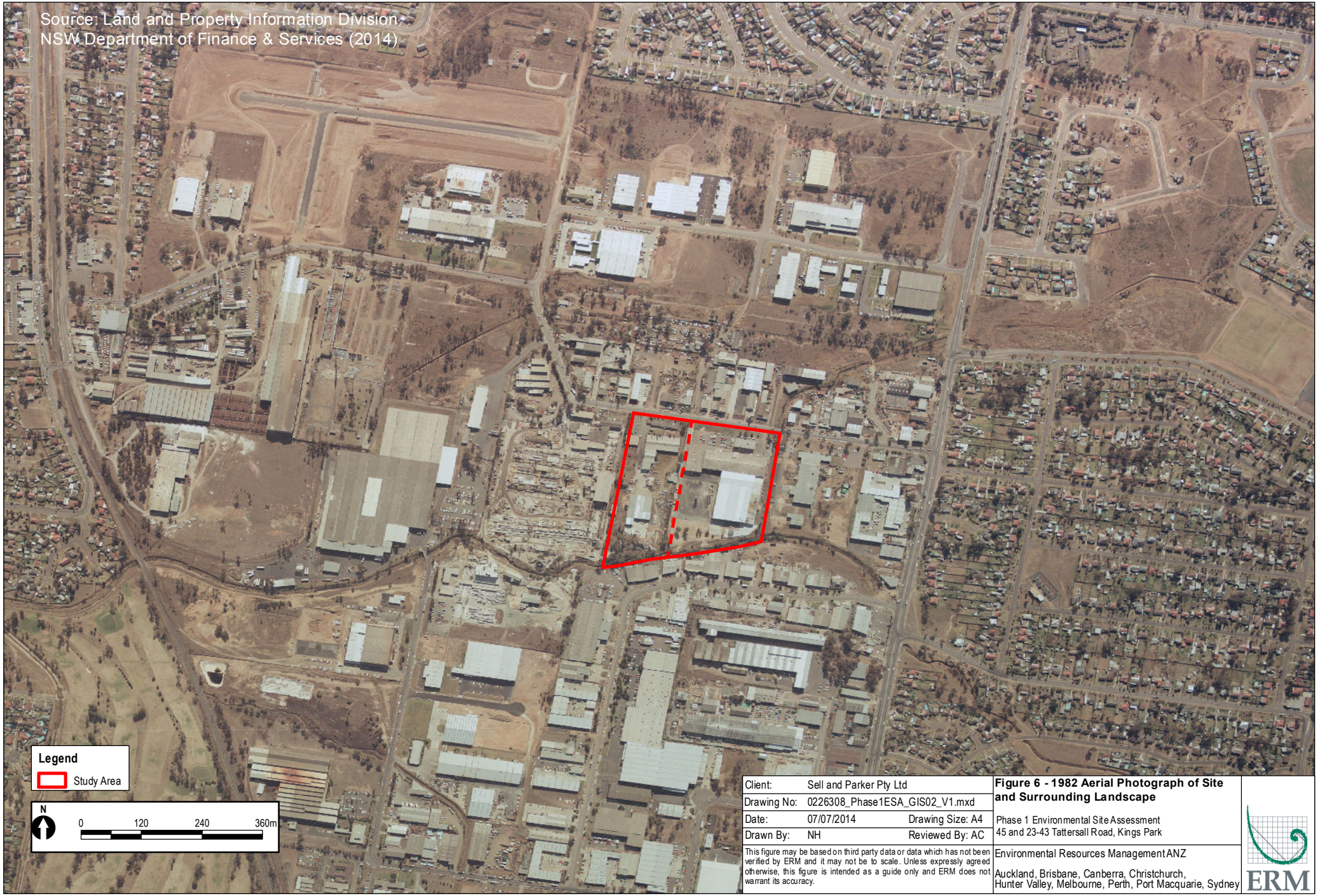
Figure 5 - 1970 Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM



Client:	Sell and Parker Pty Ltd	
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd	
Date:	07/07/2014	Drawing Size: A4
Drawn By:	NH	Reviewed By: AC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

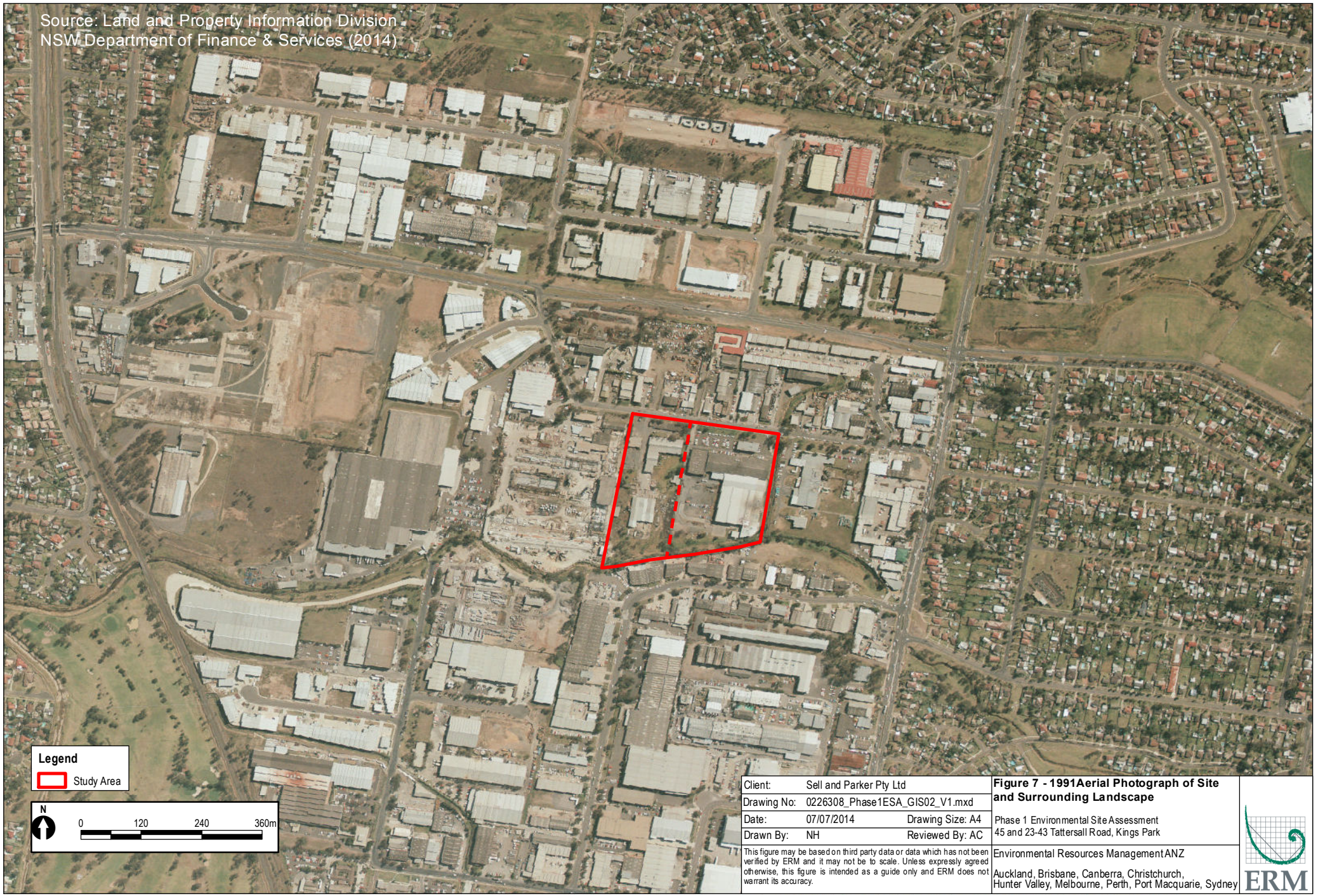
Figure 6 - 1982 Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM



Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd		
Date:	07/07/2014	Drawing Size: A4	
Drawn By:	NH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

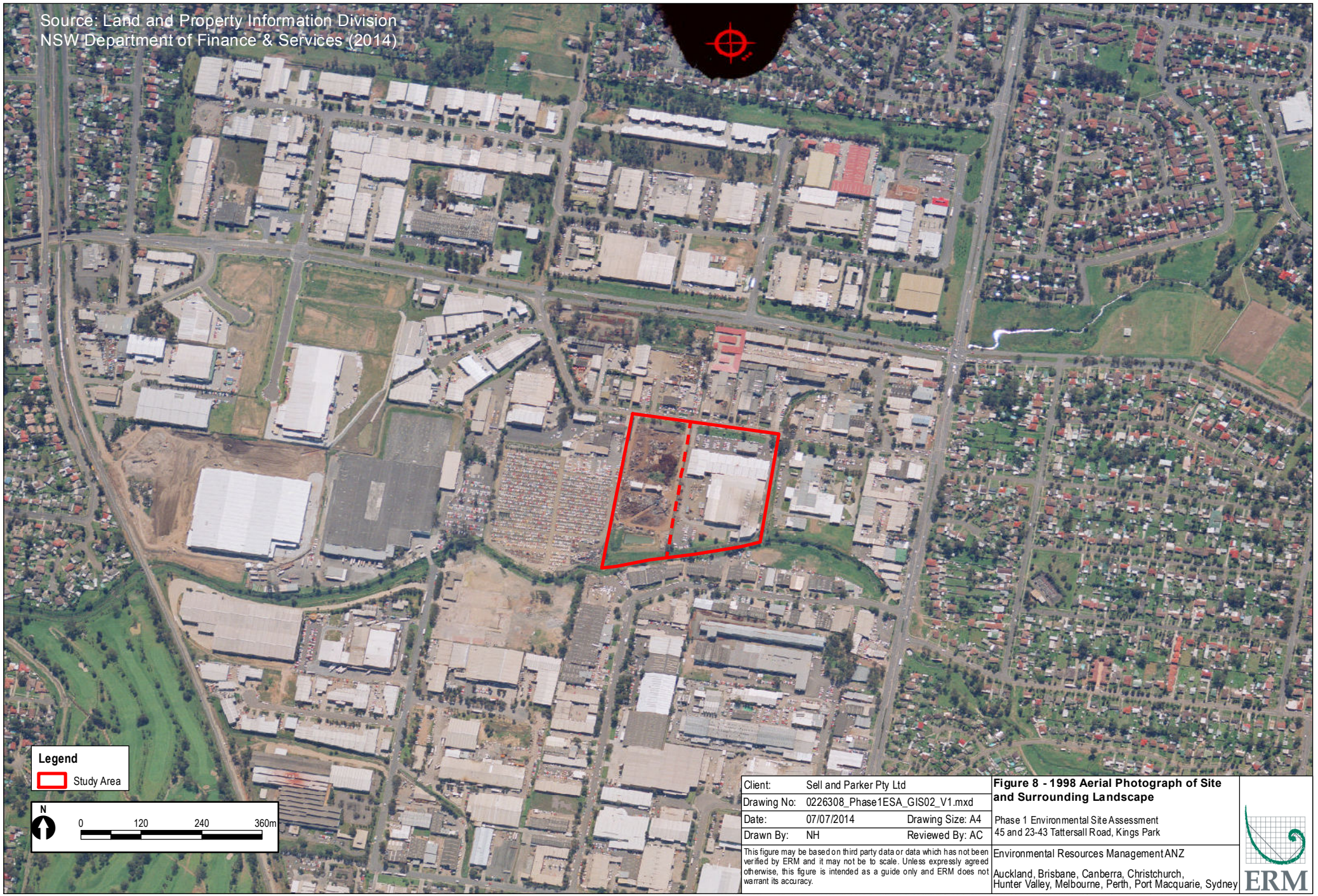
Figure 7 - 1991Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM



Client:	Sell and Parker Pty Ltd	
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd	
Date:	07/07/2014	Drawing Size: A4
Drawn By:	NH	Reviewed By: AC

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 8 - 1998 Aerial Photograph of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_Phase1ESA_GIS02_V1.mxd		
Date:	07/07/2014	Drawing Size: A4	
Drawn By:	NH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 9 - 2014 Aerial Photograph (Bing Maps) of Site and Surrounding Landscape

Phase 1 Environmental Site Assessment
45 and 23-43 Tattersall Road, Kings Park

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Annex B

Photographic Log

Photograph 1

Northern boundary of 45 Tattersall Road, looking south across Tattersall Road.

Photograph 2

Eastern boundary of 45 Tattersall Road, looking south.

Photograph 3

Southern boundary of 45 Tattersall Road, looking west along Breakfast Creek

Photograph 4

Western boundary of 45 Tattersall Road, looking south from site entry.

Photograph 5

Stockpiled 'flock' material (non-metallic material recovered from site) located in the northern portion of 45 Tattersall Road.

Photograph 6

Vehicle processing area located near the western-centre of 45 Tattersall Road. Some minor surface standing hardstand in this area.

Photograph 7

Ferrous stockpile of scrap located in the southern portion of 45 Tattersall Road that contained pooled surface water.

Photograph 8

Stormwater detention basin near southern boundary of 45 Tattersall Road. Pump flushing surface contaminants towards oil skimming system (refer Photograph 9).

Photograph 9

Oil skimming system at stormwater detention basin near southern boundary of 45 Tattersall Road.

Photograph 10

Oil water separator infrastructure at stormwater detention basin near southern boundary of 45 Tattersall Road.

Photograph 11

Example of hardstand areas at 45 Tattersall Road, with some cracks evident.

Photograph 12

Small quantities of oils, spray paints and lubricants at entrance to non-ferrous building located along the western boundary in the southern portion of 45 Tattersall Road.

Photograph 13

Intermediate bulk containers (IBCs) and 210 litre drums containing degreasers inside the non-ferrous building along the western boundary in the southern portion of 45 Tattersall Road.

Photograph 14

Temporary liquid storage immediately north of non-ferrous building *along the western boundary in the southern portion of 45 Tattersall Road.*

Photograph 15

Temporary oil storage recovered from cars in the liquid store along the western boundary in the southern portion of 45 Tattersall Road.

Photograph 16

View of northern boundary of 23-43 Tattersall Road, looking west along Tattersall Road.

Photograph 17

Eastern boundary of 23-43 Tattersall Road, looking north along stormwater channel.

Photograph 18

Southern boundary of 23-43 Tattersall Road, looking west adjacent to Breakfast Creek.

Photograph 19

Western boundary of 23-43 Tattersall Road, looking south along boundary with to 45 Tattersall Road.

Photograph 20

Hardstand car park and landscaped areas in northern portion of 23-43 Tattersall Road

Photograph 21

Car park and landscaped (picnic) area along southern boundary of 23-43 Tattersall Road.

Photograph 22

Pallets and waste compactor located near south western corner of 23-43 Tattersall Road.

Photograph 23

A high voltage electrical substation located along the eastern boundary of 23-43 Tattersall Road.

Photograph 24

A bunded wash down area with underground sump located in the south eastern portion of 23-43 Tattersall Road.

Photograph 25

External view of manufacturing area warehouse at 23-43 Tattersall Road.

Photograph 26

Internal view of covered breezeway building showing rolled aluminium processing area at 23-43 Tattersall Road.

Photograph 27

Internal view of maintenance area at 23-43 Tattersall Road.

Photograph 28

Internal view of warehouse 2 showing general storage area at 23-43 Tattersall Road.

Photograph 29

Internal view of paintline building at 23-43 Tattersall Road.

Photograph 30

Asbestos signage on the warehouse area in the south eastern portion of 23-43 Tattersall Road.

Photograph 31

Depot 1 – located in the south eastern portion of the site, comprising 12 bays of racking which contained three IBCs and drums including: paints, cleaners, thinners and coatings.

Photograph 32

Depot 2 – located, to the rear of the maintenance building, comprising six, 15kg liquefied petroleum gas (LPG) canisters and one, 45kg LPG canister.

Photograph 33

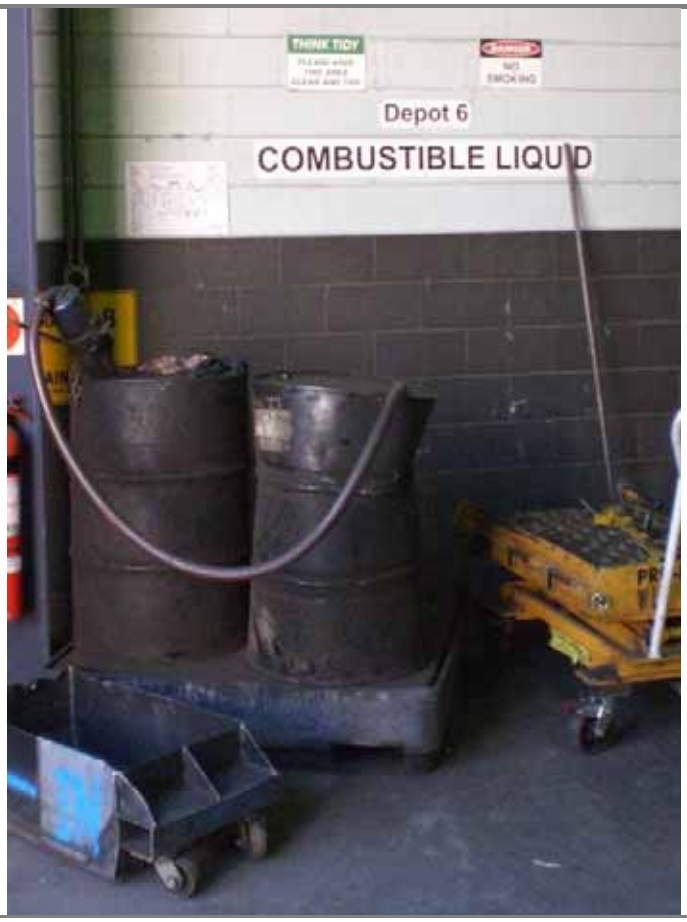
Depot 3 – located, outside the rear of the press shop, comprising a 4,500 litre liquid argon above ground storage tank (AST), 1,500 litre liquid carbon dioxide AST tank and 1,500 litre oxygen AST.

Photograph 34

Depot 4 – located in the north western external corner of the maintenance area, comprising six, 8.75 m3 above ground storage tanks (ASTs) labelled 'Argon shielding, non-toxic'

Photograph 35

Depot 5 – located along the northern wall of the maintenance area, comprising 250 litres of flammable liquid.



Photograph 36

Depot 6 – located near open area in the covered breezeway between warehouses, comprised two 210 litre drums, within unknown contents

Photograph 37

Depot 8 – located within paintline building, comprising two 'Dexion orange paint/coater'

Photograph 38

Depot 9 - located within paintline building, comprised one IBC labelled phosphate

Photograph 39

Depot 10 – located within paintline building, comprised of six paint hoppers

Photograph 40

Eight, 210 litre metal drums, labelled ‘mixed waste oil’ and ‘contaminated waste, dry, sorbent, Grease and oily rags’ in unbunded area along the western boundary and not within a designated depot area

Annex C

Historical Title Search

ADVANCE LEGAL SEARCHERS PTY LIMITED

(ACN 147 943 842)
ABN 82 147 943 842

PO Box 149
Yagoona NSW 2199

Telephone: +612 9644 1679
Mobile: 0412 169 809
Facsimile: +612 8076 3026
Email: alsearch@optusnet.com.au

13th June, 2014

ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LTD
PO Box 5711,
PORT MACQUARIE NSW 2444

Attention: Nathan Hegerty,

RE: **23-43 Tatterstalls Road, Kings Park**

Note 1:	**Lot 5**	**DP 7086**	(page 1)
Note 2:	**Lot 2**	**DP 550522**	(page 4)

Note 1:

Current Search

Folio Identifier 5/7086 (title attached)
DP 7086 (plan attached)
Dated 11th June, 2014
Registered Proprietor:
SELL & PARKER (HOLDINGS) PTY LIMITED

Title Tree
Lot 5 DP 7086

Folio Identifier 5/7086

Certificate of Title Volume 10439 Folio 218

Certificate of Title Volume 2426 Folio 12

Certificate of Title Volume 2127 Folio 216

****

Summary of Proprietors
Lot 5 DP 7086

Year	Proprietor
	(Lot 5 DP 7086)
1996 – todate	Sell & Parker (Holdings) Pty Limited
1988 – 1996	Ronald Thomas Burton, builder
	(Lot 5 DP 7086 – CTVol 10439 Fol 218)
1966 – 1988	Ronald Thomas Burton, builder
	(Lot 5 DP 7086 – Area 7 Acres 0 Roods 13 ½ Perches – CTVol 2426 Fol 12)
1962 – 1966	Ronald Thomas Burton, builder
1959 – 1962	William Palmerston Burton, retired
1943 – 1959	Samuel Hanna Erwin, poultry farmer Lucy Erwin
1929 – 1943	Robert Imlay, fitter Rose Imlay
1913 – 1929	Charles Richard Webb, boilermaker
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1913	Lucia Sarah Tattersall, wife of grazier

****

Note 2:

Current Search

Folio Identifier 2/550522 (title attached)
DP 550522 (plan attached)
Dated 11th June, 2014
Registered Proprietor:
SELL & PARKER (HOLDINGS) PTY LIMITED

Title Tree
Lot 2 DP 550522

Folio Identifier 2/550522

Certificate of Title Volume 11667 Folio 174

(a)	(b)
CTVol 2931 Folio 212	CTVol 6860 Folio 4
\	CTVol 2615 Folio 45

Certificate of Title Volume 2127 Folio 216

****

Summary of Proprietors
Lot 2 DP 550522

Year	Proprietor
	(Lot 2 DP 550522)
2007 – todate	Sell & Parker (Holdings) Pty Limited
(2004 – todate)	*(lease to Dexion (Australia) Pty Limited, of 23 – 43 Tattersalls Road, Kings Park)*
2004 – 2007	Perpetual Trustee Company Limited
1988 – 2004	Dexion (Australia) Pty Limited
	(Lot 2 DP 550522 – CTVol 11667 Fol 174)
1971 – 1988	Dexion (Australia) Pty Limited

See Notes (a) & (b)

Note (a)

	(Lot 4 DP 7086 – Area 6 Acres 1 Rood 2 Perches – CTVol 2931 Fol 212)
1969 – 1971	Dexion (Australia) Pty Limited
1967 – 1969	Carmina Pty Limited
1959 – 1967	Monsanto Chemicals (Australia) Limited
1957 – 1959	Beetle- Elliot Pty Limited
1929 – 1957	Albert George Shaw, trapper
1920 – 1929	Edward John Campbell, farmer
1920 – 1920	Benjamin Heath, poultry farmer Hannah Bettridge Heath
1919 – 1920	Robert Dean, ironmonger
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1919	Lucia Sarah Tattersall, wife of grazier

****

Note (b)

	(Lot 3 DP 7086 & Lot A DP 387453 – Area 9 Acres 2 Roods 32 ¾ Perches – CTVol 6860 Fol 4)
1969 – 1971	Dexion (Australia) Pty Limited
1967 – 1969	Carmina Pty Limited
1959 – 1967	Monsanto Chemicals (Australia) Limited
1957 – 1959	Beetle- Elliot Pty Limited
1956 – 1956	Materials Pty Limited
1954 – 1956	Arthur James Douglas, storeman
	(Lot 2 & 3 DP 7086 – Area 10 Acres 1 Rood 22 ¾ Perches – CTVol 2615 Fol 45)
1945 – 1954	Arthur James Douglas, farm hand
1944 – 1945	Annie McMahon, widow
1920 – 1944	Joseph McMahon, farmer
1925 – 1920	John Thomas Jennings, farmer
	(Part Portions 133 & 134 Parish Prospect – Area 278 Acres) Roods 34 ¼ Perches – CTVol 2127 Fol 216)
1911 – 1919	Lucia Sarah Tattersall, wife of grazier

****

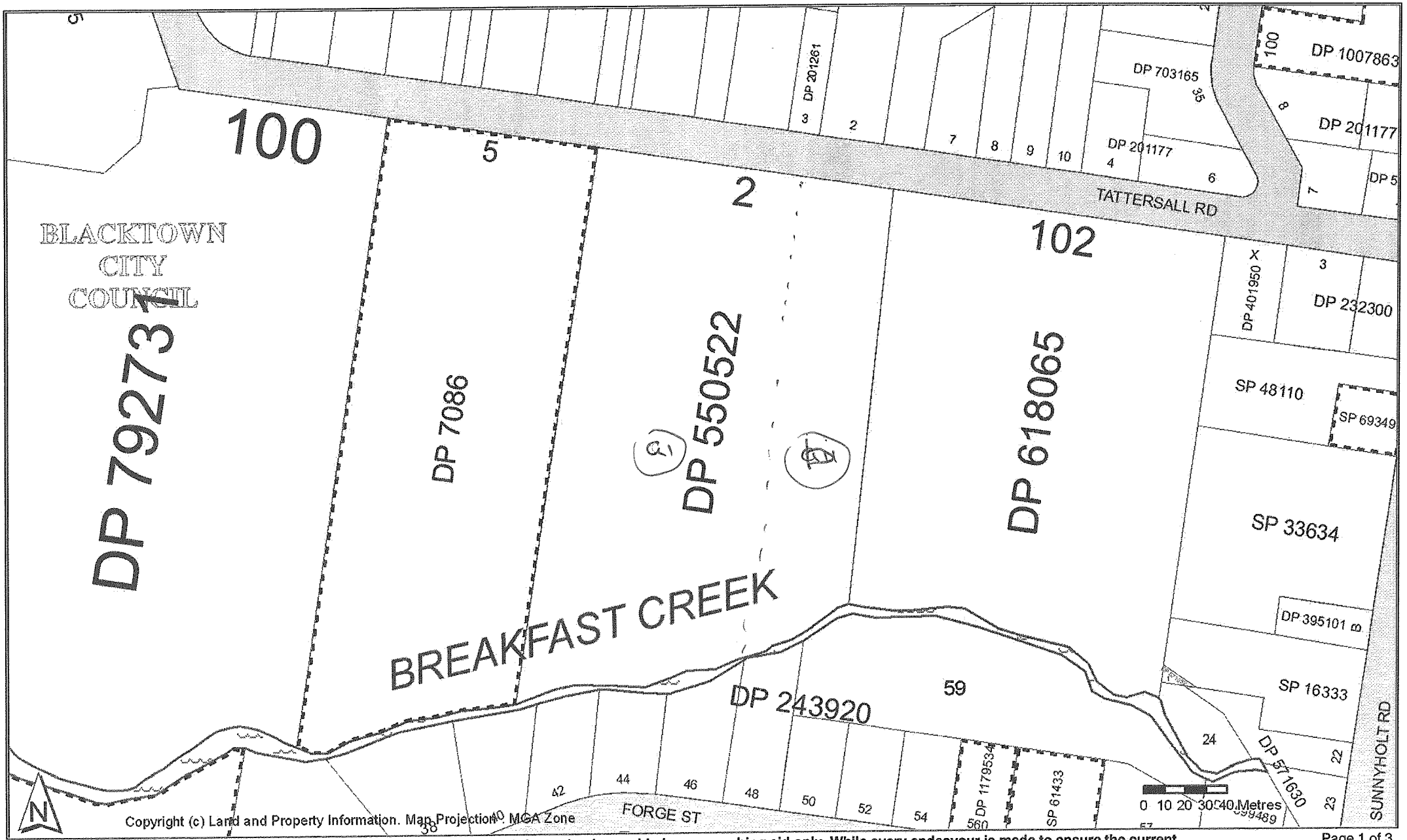
NSW Land & Property Information
A division of the Department of Finance & Services

Cadastral Records Enquiry Report

Ref : BOX 97 - KINGS PARK

Requested Parcel : Lot 2 DP 550522 **Identified Parcel** : Lot 2 DP 550522

Locality : KINGS PARK **LGA** : BLACKTOWN **Parish** : PROSPECT **County** : CUMBERLAND



Copyright (c) Land and Property Information. Map Projection: MGA Zone

Report Generated 12:10:24 PM, 12 June, 2014

Copyright © Land and Property Information ABN: 84 104 377 806

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGs Charting and Reference Maps.

Advance Legal Searchers Pty Ltd Phone: 02 9754 1590

LPI On-Line

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 5/7086

SEARCH DATE	TIME	EDITION NO	DATE
11/6/2014	4:18 PM	4	28/3/2012

LAND

LOT 5 IN DEPOSITED PLAN 7086
AT MARAYONG
LOCAL GOVERNMENT AREA BLACKTOWN
PARISH OF PROSPECT COUNTY OF CUMBERLAND
TITLE DIAGRAM DP7086

FIRST SCHEDULE

SELL & PARKER (HOLDINGS) PTY LIMITED (T O912900)

SECOND SCHEDULE (6 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 H478705 EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART OF THE LAND WITHIN DESCRIBED SHOWN AS 66 FEET WIDE IN THE PLAN WITH H478705
Z688968 TRANSFER OF EASEMENT TO PROSPECT COUNTY COUNCIL
3 I4081 EASEMENT TO DRAIN WATER 21.5 WIDE AND VAR AFFECTING PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN DP643925
4 O912901 MORTGAGE TO WESTPAC BANKING CORPORATION
5 DP1173700 EASEMENT FOR 2.75 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP1173700
6 DP1173700 EASEMENT FOR UNDERGROUND CABLES 1 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP1173700

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Req:R662281 /Doc:DP 0007086 P /Rev:19-Jul-1992 /Sts:OK.OK /Prt:11-Jun-2014 16:20 /Pgs:ALL /Seq:1 of 1
Ref:als /Src:T

A.23883-3.5.13

DP 7086 (13)

DP 7086

"A"

PLAN

OF SUBDIVISION OF

Part of Portions 133 and 134

Certificate of Title Vol. 2127 Fol. 216

Pish of Prospect County of Cumberland

Vol. 2127 Fol. 216

BLACKTOWN

Scale of Links

True Meridian

M.N.

Diagram

TATTERSALL (100Lks wide) ROAD

WALLER (100Lks wide) ROAD

BINGLE (100Lks wide) ROAD

SUNNY HOLT ROAD (100Lks wide)

Creek

Parish of Gidley

1	6A 1R 33¼P	
2	5A 0R 36 P	
3	5A 0R 26¾P	
4	6A 1R 2P	
5	7A 0R 13½P	
6	7A 3R 13¾P	
7	10A 1R 31P	
8	8A 0R 13P	
9	9A 2R 33¼P	
10	10A.	
11	9A 3R 13¾P	
12	9A 3R 3P	
13	9A 3R 0P	
14	15A 1R 27P	
15	11A 3R 17¼P	
16	10A 2R 2¾P	
17	8A 3R 38¾P	
18	8A 0R 17¾P	
19	10A 2R 38¾P	
20	10A 1R 1¼P	
21	14A 2R 24¾P	
22	9A 2R 37¼P	
23	9A 3R 0P	
24	9A 3R 3P	
25	9A 3R 6¼P	
26	9A 3R 13¾P	
27	9A 3R 23½P	
28	9A 3R 33¼P	

This is the plan marked 'A' referred to in the annexed declaration of E.H. Cowdery dated 2nd May 1913.

E.H. Cowdery J.P.

NOTE: Bearings are to True Meridian.

Azimuth from R. 2493 links Line A.B.

Date of Survey Nov. 1912

E.H. Cowdery
Licensed Surveyor

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 7086 CONTINUED

LINKS	METRES
833.52	163.65
965.39	182.66
995.96	186.19
936.05	188.71
1035.12	193.92
1103.	208.23
1119.12	221.69
1122.27	224.19
1123.73	225.76
1159.	226.92
1159.89	229.14
1159.82	260.82
1330.22	262.35
1359.4	267.176
1409.83	273.22
1421.58	288.33
1556.03	289.06
1523.	306.99
1663.6	309.4
1663.6	328.07
1678.5	335.67
1680.	335.82
1687.8	337.95
1696.78	341.65
1706.66	365.55
1710.66	383.77
1727.88	384.13
1752.	387.59
2281.88	387.96
2329.56	389.91
2316.26	394.01
2316.36	992.13
2946.39	992.39

DP 7086	LINKS	METRES
	2.25	0.46
	2.88	0.58
	4.53	0.92
	5.59	1.09
	5.99	1.25
	6.94	1.39
	7.38	1.48
	8.49	1.69
	9.05	1.80
	10.06	2.01
	12.93	2.58
	14.11	2.82
	15.31	3.05
	19.19	3.83
	25.95	5.18
	29.15	5.82
	29.32	5.85
	29.35	5.86
	29.55	5.90
	31.53	6.29
	38.89	7.76
	40.21	8.03
	43.39	8.66
	46.03	9.19
	46.74	9.33
	49.49	9.88
	50.53	10.08
	50.57	10.09
	50.58	10.10
	52.65	10.51
	53.77	10.73
	55.47	11.07
	58.13	11.60
	59.78	11.93
	61.78	12.33
	62.11	12.40
	62.89	12.55
	65.9	13.15
	67.8	13.53
	68.67	13.70
	70.83	14.13
	72.23	14.41
	73.57	14.68
	75.67	15.10
	81.67	16.30
	85.32	17.03
	92.58	18.47
	95.31	19.02
	96.49	19.25
	98.19	19.59
	100.42	20.04
	100.58	20.07
	100.61	20.07
	103.87	20.73
	105.63	21.07
	106.68	21.28
	107.59	21.46
	110.83	22.11
	117.59	23.46
	117.61	23.47
	123.83	24.70
	125.08	24.95
	132.59	26.45
	135.68	27.07
	135.86	27.11
	139.95	27.92
	145.93	29.11
	193.71	38.50

Advance Legal Searchers Pty Ltd Phone: 02 9754 1590

LPI On-Line

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
11/6/2014 4:22PM

FOLIO: 5/7086

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 10439 FOL 218

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
11/1/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/11/1990	DP643925	DEPOSITED PLAN	
26/6/1991	Z688968	TRANSFER	
5/1/1993	I4081	TRANSFER GRANTING EASEMENT	EDITION 1
11/4/1995	O154126	DISCHARGE OF MORTGAGE	EDITION 2
14/2/1996	O912900	TRANSFER	
14/2/1996	O912901	MORTGAGE	EDITION 3
28/3/2012	DP1173700	DEPOSITED PLAN	EDITION 4

*** END OF SEARCH ***

Req:R662390 /Doc:DL Z688968 /Rev:26-Aug-1997 /Sts:OK.OK /Prt:11-Jun-2014 16:28 /Pgs:ALL /Seq:1 of 7
Ref:ERM - Kings Park /Src:T

SEP 18 1995

STAMP DUTY $1.00 $1.00 35

OFFICE USE ONLY Z 688968 G

See Annexure A+B

TRANSFER

REAL PROPERTY ACT, 1900

T A 1 of 1 $ 41

	Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
DESCRIPTION OF LAND Note (a)	Refer to Annexure hereto Marked "A"	WHOLE	

TRANSFEROR Note (b): THE ELECTRICITY COMMISSION OF NEW SOUTH WALES

ESTATE Note (c): (the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of $6,300.00 and transfers ~~an estate in fee simple~~ all its estate and interest in Transmission Line Easements created by dealings referred to in annexure hereto and in the land above described to the TRANSFEREE marked with the letter "B"

TRANSFEREE Note (d): THE PROSPECT COUNTY COUNCIL of 10 Smith Street, Parramatta

OFFICE USE ONLY: See Annexure A+B

TENANCY Note (e): as joint tenants/tenants in common

PRIOR ENCUMBRANCES Note (f): subject to the following PRIOR ENCUMBRANCES 1. 2. 3.

DATE 16th April 1991

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (g):

Signed in my presence by the transferor who is personally known to me

R. W. Mackenzie
Signature of Witness

R.W. MACKENZIE
Name of Witness (BLOCK LETTERS)

PARK AND ELIZABETH STS. SYDNEY
Address and occupation of Witness

RESUMPTIONS OFFICER

Signed for THE ELECTRICITY COMMISSION OF NEW SOUTH WALES pursuant to a delegation made on 30th September, 1988 by me ANTHONY ROBERT TIMS, MANAGER/PROPERTY & SURVEY

Signature of Transferor

Note (g)

Signed in my presence by the transferee who is personally known to me

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

L. J. ANDREATTA
SOLICITOR FOR TRANSFEREE

TO BE COMPLETED BY LODGING PARTY Notes (h) and (i)

LODGED BY Malakers

Delivery Box Number 5vv F

LOCATION OF DOCUMENTS

CT	OTHER	
		Herewith.
		In L.T.O. with
		Produced by

OFFICE USE ONLY

Checked	Passed	REGISTERED - -19
Signed	Extra Fee	26 JUN 199

Secondary Directions

Delivery Directions: See Annexures A+B

#47 S

Caveats Q557811 + M591312 dealt pursuant to

Req:R662390 /Doc:DL Z688968 /Rev:26-Aug-1997 /Sts:OK.OK /Prt:11-Jun-2014 16:28 /Pgs:ALL /Seq:2 of 7
Ref:ERM - Kings Park /Src:T

"ANNEXURE A"

ANNEXURE TO TRANSFER Dated:

from THE ELECTRICITY COMMISSION OF NEW SOUTH WALES

to THE PROSPECT COUNTY COUNCIL

being a continuation of the description of land panel referred to on front of form

AFFECTED TORRENS TITLE REFERENCES		Whole or part	If part only give details	Location
Folio Identifier	Volume Folio			
101/604863	13961 17 now being	Whole		Marayong
22/244116	12021 250 now being	Whole		Marayong
10/244116		Whole		Marayong
11/244116	12021 239 now being			Marayong
12/244116		Whole		Marayong
23/202506	9054 164 now being	Whole		Marayong
22/202506	9054 163 now being	Whole		Marayong
21/202506	9054 162 now being	Whole		Marayong
20/202506		Whole		Marayong
32/202506	9054 173 now being	Whole		Marayong
14/202506		Whole		Marayong
13/202506	9054 154 now being	Whole		Marayong
12/202506		Whole		Marayong
11/202506		Whole		Marayong

.....
ANTHONY ROBERT TIMS
MANAGER/PROPERTY & SURVEY

Req:R662368 /Doc:CT 10439-218 CT /Rev:21-Jan-2011 /Sts:OK.SC /Prt:11-Jun-2014 16:26 /Pgs:ALL /Seq:1 of 2
Ref:als /Src:T

[redacted]

FICATE OF TITLE

ERTY ACT, 1900, as amended.

NEW SOUTH WALES

Appln. No. 8170

Prior Title Vol. 2426 Fol. 12

Vol. 10439 Fol. 218

RP. Edition issued 17-11-1966

K485282

CANCELLED

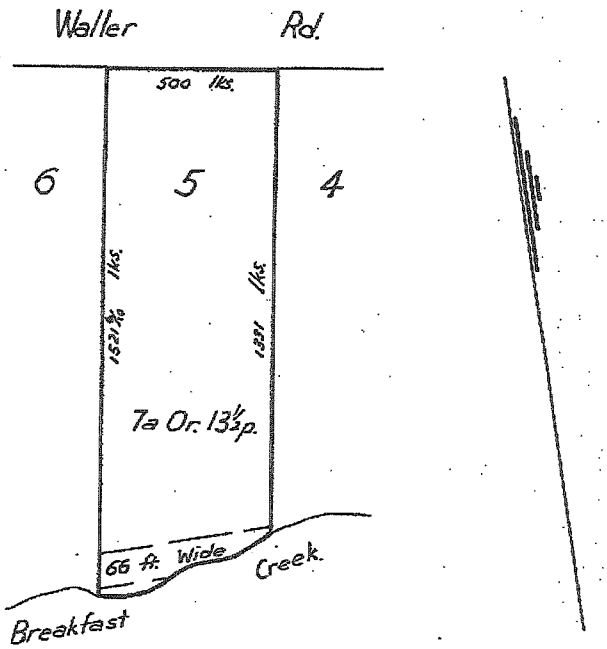
(Page 1) Vol. 10439 Fol. 218

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness S Vandine

Jawatson SEE AUTO
Registrar General.

PLAN SHOWING LOCATION OF LAND



K485282 L. W S

Scale : 4 chains to one inch.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 5 in Deposited Plan 7086 at Marayong in the Municipality of Blacktown Parish of Prospect and County of Cumberland being part of Portion 134 granted to Frederick Gerling on 31-8-1819.

FIRST SCHEDULE (Continued overleaf)

RONALD THOMAS BURTON of Bass Hill, Builder.

Jawatson
Registrar General

GRY

SECOND SCHEDULE (Continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Easement for Transmission Line created by Resumption No. H478705 affecting the part of land within described shown as 66 feet wide in the plan hereon.
3. ~~Mortgage No. K478844 to Commercial & General Acceptance Limited. Entered 26-10-1966.~~ Discharged K 86885

ET

Jawatson
Registrar General

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R662368 /Doc:CT 10439-218 CT /Rev:21-Jan-2011 /Sts:OK.SC /Prt:11-Jun-2014 16:26 /Pgs:ALL /Seq:2 of 2
Ref:als /Src:I

PT 1 , 17 V.C.N. Blight, Government Printer

Vol. 10439 Fol 218

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
Mortgage	L546365	11.11.1969	to Bank of New South Wales	11.12.1969	[signature]	Discharged	L647804	[signature]
Mortgage	L647805	11.11.1969	to Commercial & General Acceptance Limited	11.12.1969	[signature]	Discharged	M901339	[signature]
Mortgage	L698226	19.12.1969	to Commercial & General Acceptance Limited	13.11.1970	[signature]	Discharged	M901339	[signature]
Mortgage	M901340	4.9.1972	to Bank of New South Wales	27.9.1972	[signature]	Discharged	N928455	[signature]
Mortgage	N928456	28-6-1974	to A.G.C. (Advances) Limited	22-7-1974	[signature]	Discharged	V368283	[signature]
~~Caveat~~	~~R54971~~	~~2~~	~~by Her Most Gracious Majesty Queen Elizabeth the Second~~	29-11-1979	[signature]	Withdrawn	S339699	[signature]
V368284	Mortgage to Westpac Banking Corporation Registered 9-10-1984							

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

(Page 2 of 2 pages)

L546365 Kingsgate
L579565 Kingsgate
L698226
M901339 D
P5277420/M (N928455)
N928455 to M
R549071 Rel
S339699 w/x
V368283 Pw

Advance Legal Searchers Pty Ltd Phone: 02 9754 1590

LPI On-Line

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/550522

SEARCH DATE	TIME	EDITION NO	DATE
11/6/2014	4:19 PM	10	8/2/2007

LAND

LOT 2 IN DEPOSITED PLAN 550522
AT MARAYONG
LOCAL GOVERNMENT AREA BLACKTOWN
PARISH OF PROSPECT COUNTY OF CUMBERLAND
TITLE DIAGRAM DP550522

FIRST SCHEDULE

SELL & PARKER (HOLDINGS) PTY LIMITED (T AC900736)

SECOND SCHEDULE (5 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 M899111 EASEMENT TO DRAIN WATER APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE PIECE OF LAND SHOWN AS 7.315M WIDE WITHIN LOT 1 IN DP550522
3 V409992 EASEMENT TO DRAIN WATER AFFECTING THE LAND SHOWN AS PROPOSED EASEMENT TO DRAIN WATER VARIABLE WIDTH IN DP635965
4 AB76599 LEASE TO DEXION (AUSTRALIA) PTY LIMITED OF 23-43 TATTERSALL RD, KINGS PARK. EXPIRES: 15/2/2016. OPTION OF RENEWAL: 5 YEARS WITH A FURTHER OPTION OF 5 YEARS.
5 AC924033 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

UNREGISTERED DEALINGS: NIL

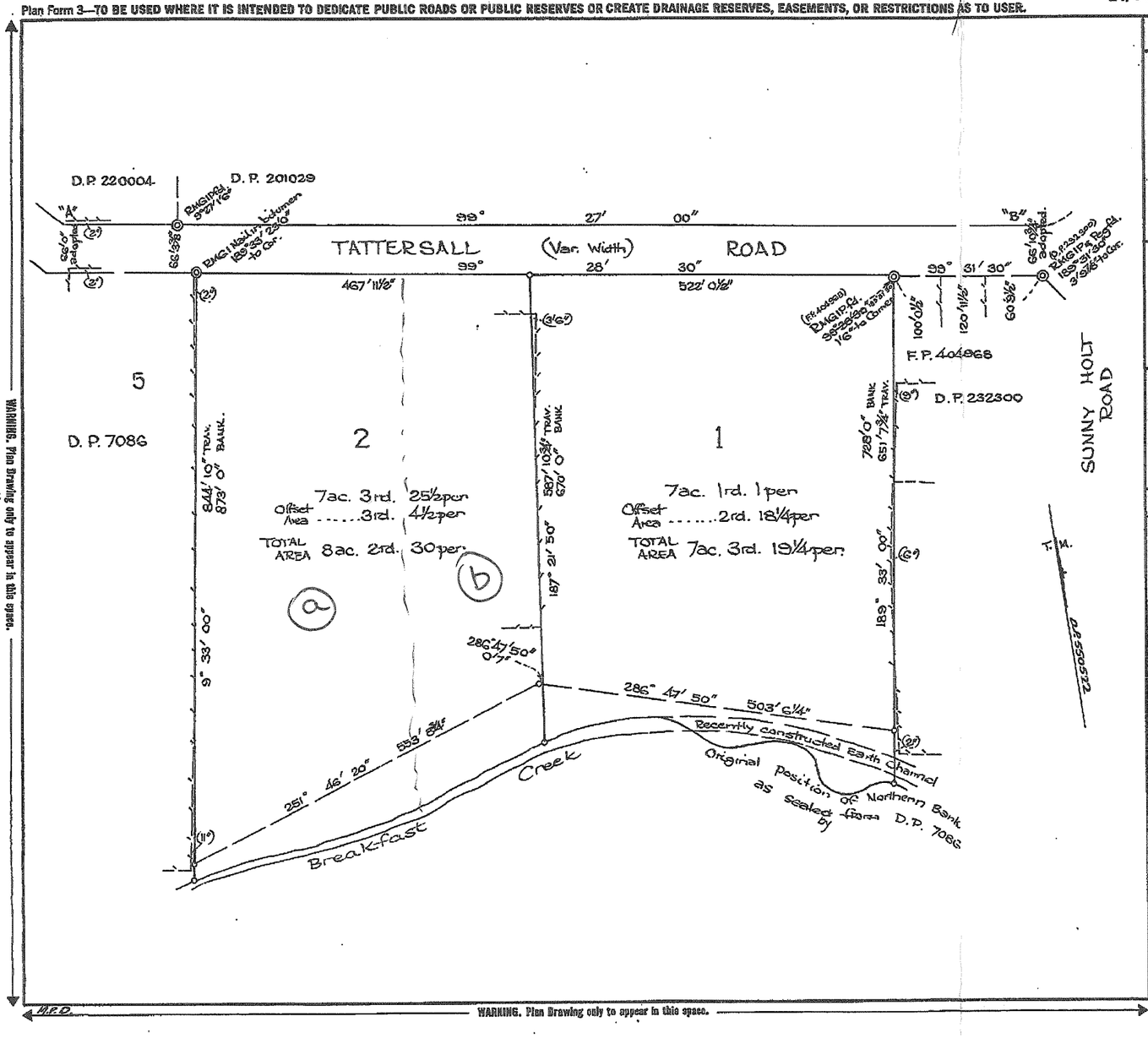
*** END OF SEARCH ***

Req:R662289 /Doc:DP 0550522 P /Rev:02-Sep-1992 /Sts:OK.OK /Prt:11-Jun-2014 16:21 /Pgs:ALL /Seq:1 of 1
Ref:als /Src:T

Plan Form 3—TO BE USED WHERE IT IS INTENDED TO DEDICATE PUBLIC ROADS OR PUBLIC RESERVES OR CREATE DRAINAGE RESERVES, EASEMENTS, OR RESTRICTIONS AS TO USER.

DP550522

* OFFICE USE ONLY.



WARNING. Plan Drawing only to appear in this space.

M.P.D.

D.P. 550522

Registered: 24.8.1971 N

C.A. №4728 of 30.4.1971

Title System: Torrens

Purpose: Subdivision

Ref. Map: C.C.C. 365

Last Plan: E.P. 387453 (D.P. 7086)
D.P. 7086

PLAN OF: SUBDIVISION of Lots 3 & 4 in D.P. 7086 & Lots A & B in E.P. 387453

Scale: 100 feet to an inch

Mun./Shire
City: BLACKTOWN
Locality: MARAYONG
Parish: PROSPECT
County: CUMBERLAND

This is sheet 1 of my plan is ___ sheets
Delete if inapplicable.

I, PAUL KEEN
C.H. MARTIN & CUTLER
of 14 JAMES ST. SYDNEY
a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan
is accurate and has been made *(1) by me (2) under my immediate supervision in accordance with the Survey Practice Regulations, 1933, and was completed on 1
16-7-71
Signature
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth. A—B
*Strike out either (1) or (2). †Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or public reserves or create drainage reserves, easements, or restrictions as to user.

S

SIGNATURES AND SEALS ONLY.

THE COMMON SEAL OF DEXION (AUSTRALIA) PTY LIMITED WAS HEREUNTO AFFIXED PURSUANT TO A RESOLUTION OF THE BOARD OF DIRECTORS AND IN THE PRESENCE OF:
..... DIRECTOR
..... SECRETARY

Council Clerk's Certificate.

I hereby certify that—
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) the requirements of section 345 of the †Metropolitan Water, Sewerage, and Drainage Act, 1924, as amended, †Hunter District Water, Sewerage, and Drainage Act, 1939, as amended,
have been complied with by the applicant in relation to the proposed ___ (insert "new road" or "subdivision") set out hereto.

Subdivision No. 4728

Date. 30th April, 1971 (Signature) ..... Council Clerk.

*This part of certificate to be deleted where the application is only for the opening of a new road or where the land to be subdivided is wholly outside the area of operations of the Metropolitan Water, Sewerage and Drainage Board and the Hunter District Water Board.
†Delete if inapplicable.

WARNING. CREASING OR FOLDING WILL LEAD TO REJECTION.

M D 0 1 2 A 1 A

SURVEYOR'S REFERENCE. 179/68

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 550522

FEET	INCHES	METRES
=	2	0.05
=	6	0.15
=	7	0.18
=	9	0.23
=	11	0.28
1	6	0.455
3	6	1.065
3	9 7/8	1.165
23	=	7.01
60	9 1/2	18.93
66	=	20.115
66	3 3/8	20.2
66	10 3/4	20.39
100	0 1/2	30.495
120	11 1/2	36.87
467	11 1/2	142.63
503	6 1/4	153.47
522	0 1/2	159.12
553	8 3/4	168.78
587	10 3/4	179.19
651	7 3/4	198.62
670	=	204.22
673	=	205.13
728	=	221.89
844	=	257.25
844	10	257.31
873	=	266.09

AC	RD	P	SQ M
=	2	18 1/4	2485
=	3	4 1/2	3149

AC	RD	P	HA
7	=	25 1/2	2,897
7	1	1	2,936
7	3	19 1/4	3,185
7	3	25 1/2	3.2
8	2	30	3,516

I, Jack Hayward Watson, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 23rd day of September, 1976.

J.H. Watson

Req:R662419 /Doc:DL AA432323 /Rev:23-Feb-2004 /Sts:NO.OK /Prt:11-Jun-2014 16:30 /Pgs:ALL /Seq:1 of 1
Ref:ERM - Kings Park /Src:T

Form: 07T
Licence: 03-10-174
Licensee: Abbott Tout

TRANSFER

New South Wales
Real Property Act 1900

AA432323M

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the collection of the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY

OFFICE OF STATE REVENUE Use Only

Office of State Revenue (N.S.W. TREASURY)

DUPLICATE No. 3323749
STAMP DUTY $2 —
TRANSACTION No. 1838290
ASSESSMENT DETAILS:

STAMP No. 1368
SIGNATURE
DATE 16-2-2004

(A) **TORRENS TITLE**

If appropriate, specify the part transferred
2/550522

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone
22N	Abbott Tout Solicitors DX 129 Sydney Ref: MMP: 5457751 C.B.A.

CODES
T
TW
(Sheriff)

(C) **TRANSFEROR**

Dexion (Australia) Pty Limited ABN 83 000 083 956.

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $14,150,000.00 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple.

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable): 1. 2. 3.

(H) **TRANSFEREE**

Perpetual Trustee Company Limited ACN 000 001 007.

(I) **TENANCY:**

DATE 16/2/2004
dd mm yyyy

(J) Certified correct for the purposes of the Real Property Act 1900 by the corporation named below the common seal of which was affixed pursuant to the authority specified and in the presence of the authorised person(s) whose signature(s) appear(s) below.

DEXION (AUSTRALIA) PTY. LIMITED
Common Seal
A. C. N.
000 083 956

Corporation:
Authority:

Signature of authorised person:

Name of Authorised Person: TREFOR CLAYTON
Office Held: Company Secretary & Director

Signature of authorised person:

Name of Authorised Person: MARTYN ISBELL
Office Held: Director

Certified for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatories name: Madeleine Perrignon
Signatories capacity: transferee's solicitor

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.
P:\prop\lto1.dot MMP - XP

Advance Legal Searchers Pty Ltd Phone: 02 9754 1590

LPI On-Line

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
11/6/2014 4:24PM

FOLIO: 2/550522

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11667 FOL 174

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
21/7/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
16/11/1992	E901774	MORTGAGE	EDITION 1
3/11/1993		AMENDMENT: LOCAL GOVT AREA	
1/9/1997	3372986	DISCHARGE OF MORTGAGE	
1/9/1997	3372987	MORTGAGE	EDITION 2
11/5/1999	5811871	DISCHARGE OF MORTGAGE	
11/5/1999	5811872	MORTGAGE	EDITION 3
16/2/2001	7409194	TRANSFER OF MORTGAGE	
19/1/2004	AA339781	DISCHARGE OF MORTGAGE	
19/1/2004	AA339782	MORTGAGE	EDITION 4
29/1/2004	AA364463	MORTGAGE	EDITION 5
19/2/2004	AA432321	DISCHARGE OF MORTGAGE	
19/2/2004	AA432322	DISCHARGE OF MORTGAGE	
19/2/2004	AA432323	TRANSFER	
19/2/2004	AA432324	MORTGAGE	EDITION 6
8/11/2004	AB76599	LEASE	EDITION 7
31/8/2006	AC567738	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 8
31/1/2007	AC900735	DISCHARGE OF MORTGAGE	
31/1/2007	AC900736	TRANSFER	EDITION 9
8/2/2007	AC924033	MORTGAGE	EDITION 10

*** END OF SEARCH ***

ERM - Kings Park PRINTED ON 11/6/2014

Req:R662377 /Doc:CT 11667-174 CT /Rev:03-Feb-2011 /Sts:OK.SC /Prt:11-Jun-2014 16:27 /Pgs:ALL /Seq:1 of 2
Ref:als /Src:T

11667/174

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900, as amended.

Vol. 11667 Fol. 174

Appln. No.8170

Prior Titles Vol.2931 Fol.212
Vol.6860 Fol. 4

Edition issued 16-9-1971

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED

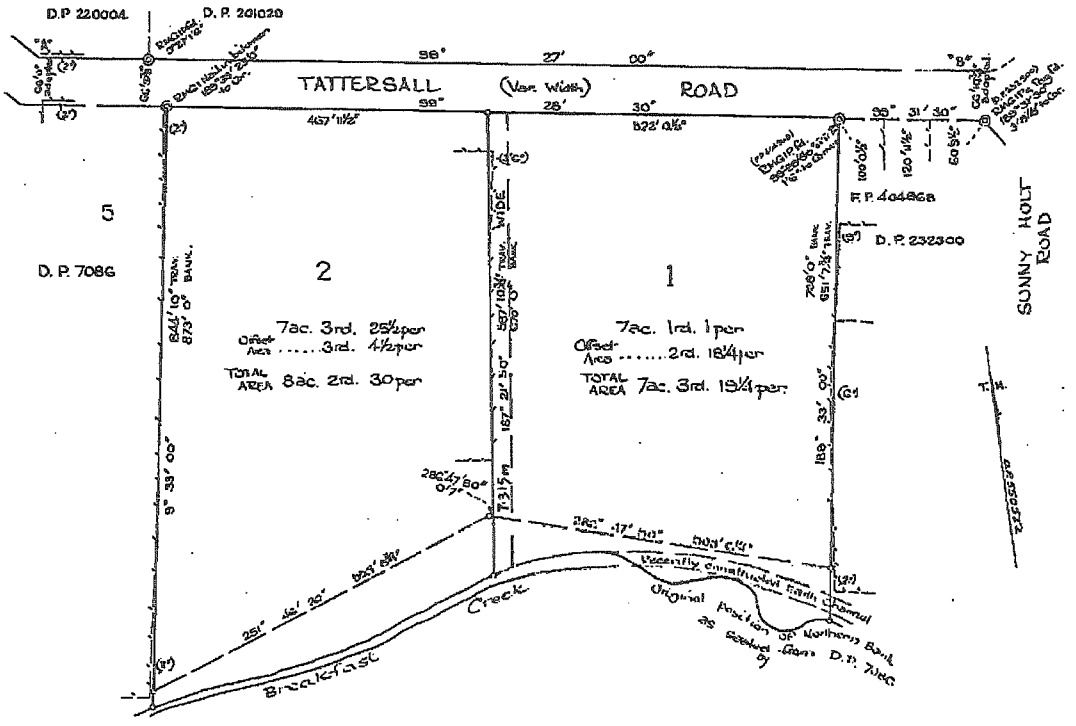
Witness J Barnes

Registrar General.

SEE AUTO FOLIO

(Page 1) Vol. 11667 Fol. 174

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 550522 at Marayong in the Municipality of Blacktown Parish of Prospect and County of Cumberland being part of Portion 134 granted to Frederick Garling on 31-8-1819.

FIRST SCHEDULE

DEXION (AUSTRALIA) PTY. LIMITED.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. ~~Caveat No. M298901 Entered 11-6-1974.~~ Withdrawn N583834

Registrar General

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Req:R662377 /Doc:CT 11667-174 CT /Rev:03-Feb-2011 /Sts:OK.SC /Prt:11-Jun-2014 16:27 /Pgs:ALL /Seq:2 of 2
Ref:als /Src:T

V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
CANCELLED SEE AUTO FOLIO					

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~MORTGAGE~~	~~M529514~~	~~26-11-1971~~	~~to Australia and New Zealand Banking Group Limited with the consent of Executors~~					
EWZ Transfer	M899111P	24-7-1972	Easement to Drain Water appurtenant to the land within described affecting the piece of land shown as "7.315 m. wide" within Lot 1 in the Plan hereon. Comprised in Certificate of Title Vol. 11667 Fol 173	6-4-1972 DP 550522 18-10-1972				
~~Mortgage~~	~~N603907~~	~~27.11.1973~~	~~to The Commercial Bank of Australia Limited.~~	~~13.12.1973~~		Discharged	P417352	
~~Mortgage~~	~~P417353~~		~~to The Commercial Banking Company of Sydney Limited.~~	~~22-9-1975~~		Discharged	V85274	
EW V409992	Transfer Easement to drain water affecting the land shown as proposed easement to drain water variable width in D.P.635965. Registered 17-12-1984.							

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

Annex D

Blacktown City Council S149 (2) and (5) Planning Certificates

Blacktown City Council

PLANNING CERTIFICATE UNDER SECTION 149

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Certificate No.: 14-4421
Date: 17 JUN 2014
Page: 1 of 12
Enquiries: s149 Clerk
Applicants Ref.: 0226308

Applicant NATHAN HEGERTY - ERM
PO BOX 5711
PORT MACQUARIE NSW 2444

Property LOT 2 DP 550522

23 TATTERSALL ROAD,

Suburb KINGS PARK Parish of Prospect

NOTE: **The land the subject of this Certificate is known to be located in the suburb of Kings Park. For all correspondence and property transactions this suburb name is to be used.**

PART A
PRESCRIBED INFORMATION PROVIDED PURSUANT TO SECTION 149(2) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: The following information is provided pursuant to Section 149(2) of the EP&A Act 1979, as prescribed by Schedule 4 of the *Environmental Planning and Assessment Regulation 2000*, and is applicable as of the date of this certificate.

1. NAMES OF RELEVANT PLANNING INSTRUMENTS AND DEVELOPMENT CONTROL PLANS

1.1 Environmental Planning Instruments

The abovementioned land is affected by the following environmental planning instrument and proposed environmental planning instrument/s (where applicable) which have been the subject of community consultation or on public exhibition under the Act.

Blacktown Local Environmental Plan 1988 **(Refer to Attachment A)**

Blacktown Local Environmental Plan 1988 specifies the purposes for which development may be carried out or are prohibited.

Draft Blacktown Local Environmental Plan 2013 **(Refer to Attachment B)**

Blacktown City Council has a draft City-wide Local Environmental Plan, known as Draft Blacktown Local Environmental Plan (BLEP) 2013, which will eventually replace the existing BLEP 1988. Draft BLEP 2013 has been prepared in accordance with the NSW State Government's Standard Instrument (Local Environmental Plans) Order 2006.

Draft BLEP 2013 specifies the purposes for which development may be carried out (either with or without the need for development consent) or which are prohibited in the zone proposed to apply to the land.

Under the exhibited version of Draft BLEP 2013 it was proposed to zone the land:

B7 - BUSINESS PARK

At its Extraordinary Meeting of 9 December 2013, Council resolved to adopt Draft BLEP 2013 subject to amendments, and to forward the amended plan to the NSW Government to be made law. Under the adopted version of Draft BLEP 2013, it is proposed to zone the land:

B7 - BUSINESS PARK

At its Ordinary Meeting of 12 March 2014, Council resolved to amend its Draft BLEP 2013 (adopted on 9 December 2013) for some properties located in the Business Park Precinct of the Blacktown City Centre. Under the amended version of Draft BLEP 2013, it is now proposed to zone the subject land:

IN1 - GENERAL INDUSTRIAL

1.2 Development Control Plans

The land is affected by Blacktown Development Control Plan (DCP) 2006.

This DCP provides general guidance for the development of land within the City of Blacktown.

1.3 Relevant State Environmental Planning Policies (SEPPs), including draft policies, or Regional Environmental Plans deemed to be SEPPs

State Environmental Planning Policy No. 1 - Development Standards

The policy requires that variations to development standards must meet the objectives of local plans and controls. It makes development standards more flexible. It allows councils to approve a development proposal that does not comply with a set standard where this can be shown to be unreasonable or unnecessary.

State Environmental Planning Policy No. 4 - Development Without Consent and Miscellaneous Complying Development

This policy permits minor development and activities on land without a development application or through alternative assessment. This policy should be read in conjunction with Councils controls for Exempt and Complying Development.

State Environmental Planning Policy No. 6 - Number of Storeys in a Building

This policy sets out a method for determining the number of storeys in a building, to prevent possible confusion arising from the interpretation of various environmental planning instruments.

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

This policy protects and preserves bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. The policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 22 - Shops and Commercial Premises

The policy permits within a business zone, a change of use from one kind of shop to another or one kind of commercial premises to another, even if the change of use is prohibited under an environmental planning instrument. Development consent must be obtained and the consent authority satisfied that the change of use will have no, or only minor, environmental effect.

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Land)

This policy states the Government's intention to ensure that urban consolidation objectives are met in all urban areas throughout the State. The policy focuses on the redevelopment of urban land that is no longer required for the purpose it is currently zoned or used and encourages local councils to pursue their own urban consolidation strategies to help implement the aims and objectives of the policy. Councils will continue to be responsible for the majority of rezonings. The policy sets out guidelines for the Minister to follow when considering whether to initiate a regional environmental plan (REP) to make particular sites available for consolidated urban redevelopment. Where a site is rezoned by an REP, the Minister will be the consent authority.

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

This policy provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must careful consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA). The Policy does not change the role of Councils as consent authorities, land zoning, or the designated development provisions of the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy No. 55 - Remediation of Land

This policy provides state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

This policy encourages the sustainable expansion of the industry in NSW. The policy implements the regional strategies already developed by creating a simple approach to identity and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

State Environmental Planning Policy No. 64 - Advertising and Signage

This policy aims to ensure that outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of high quality design and finish. The SEPP was amended in August 2007 to permit and regulate outdoor advertising in transport corridors (e.g. freeways, tollways and rail corridors). The amended SEPP also aims to ensure that public benefits may be derived from advertising along and adjacent to transport corridors.

State Environmental Planning Policy - Affordable Rental Housing 2009

This policy establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people.

State Environmental Planning Policy - Exempt and Complying Development Codes

This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy - Major Development 2005

The SEPP facilitates the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant sites for the benefit of the State. Schedule 3 of the SEPP identifies State significant sites and provides planning provisions for those sites. Note: This SEPP was formerly known as State Environmental Planning Policy (Major Projects) 2005.

State Environmental Planning Policy - Basix

This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX. The draft SEPP was exhibited together with draft Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004.

State Environmental Planning Policy - Infrastructure 2007

This policy provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

State Environmental Planning Policy - Mining, Petroleum Production and Extractive Industries 2007

This policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The policy establishes appropriate planning controls to encourage ecologically sustainable development.

State Environmental Planning Policy - Temporary Structures 2007

This policy provides for the erection of temporary structures and the use of places of public entertainment, while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

Sydney Regional Environmental Plan No. 9 - Extractive Industry Sydney Region

This plan aims to protect the viability of extractive resources in the Sydney Metropolitan Area by ensuring consideration is given to the impact of encroaching development.

2. ZONING AND LAND USE UNDER RELEVANT ENVIRONMENTAL PLANNING INSTRUMENTS

(a) Pursuant to Blacktown Local Environmental Plan (LEP) 1988 the land is zoned:

4(a) - INDUSTRIAL - GENERAL

(b) Extracts from Blacktown Local Environmental Plan 1988 which specify the purposes for which development may be carried out within the zone/s applying to the land the subject of this Certificate are at Attachment A.

Should you require further information about the permissibility of development and related development standards it is recommended that you consult a full copy of Blacktown Local Environmental Plan 1988. It should be noted that the Environmental Planning & Assessment Act 1979, as amended, changes the way in which Blacktown Local Environmental Plan 1988 and other State Government issued environmental planning instruments should be interpreted. Pursuant to the amended Environmental Planning & Assessment Act 1979 Council's development consent is now required for all development regardless of its zoning/s, other than "exempt development" and "complying development", as defined in Blacktown Local Environmental Plan 1988.

(c) Extracts from Blacktown Local Environmental Plan 1988 which specify the purpose for which development may not be carried out within the zone/s applying to the land the subject of this Certificate are at Attachment A.

(d) An extract of the planning instrument at Attachment A provides details of the purposes for which development is prohibited within the zone applying to the land.

(e) Blacktown Local Environmental Plan 1988 does not nominate minimum land dimensions for the erection of a dwelling-house. It is noted however that Blacktown Development Control Plan 2006 stipulates minimum areas for subdivision, integrated housing, dual occupancies and the like.

(f) The land does not include or comprise a critical habitat. Critical habitat refers to habitat that is critical to the survival of endangered species, populations or ecological communities. Areas of critical habitat are declared under Part 3 of the Threatened Species Conservation Act 1995 and Part 7A of the Fisheries Management Act 1994.

(g) The land is not within a conservation area.

(h) This land does not contain an item of environmental heritage under the protection of Blacktown Local Environmental Plan 1988.

3. COMPLYING DEVELOPMENT

Complying Development under the *General Housing Code* of the Codes SEPP may be carried out on the land, unless it is on part of the lot that is identified as within a flood storage area, a floodway area, a flow path, a high hazard area, or a high risk area.

Complying Development under the *Rural Housing Code* of the Codes SEPP may be carried out on the land, unless it is on part of the lot that is identified as within a flood storage area, a floodway area, a flow path, a high hazard area, or a high risk area.

Complying Development under the *Housing Alterations Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *General Development Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Commercial and Industrial Alterations Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Commercial and Industrial (New Buildings and Additions) Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Subdivisions Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Demolition Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Fire Safety Code* of the Codes SEPP may be carried out on the land.

Note: Despite the above provisions, if only part of a lot is subject to an exclusion or exemption under Clause 1.17A or Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 then complying development may be carried out on that part of the lot that is not affected by the exclusion or exemption.

Disclaimer: This information only addresses matters raised in Clauses 1.17A and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

4. COASTAL PROTECTION

The land is not affected by the operation of Sections 38 or 39 of the *Coastal Protection Act, 1979.*

5. MINE SUBSIDENCE

The land has not been proclaimed to be a mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act, 1961.*

6. ROAD WIDENING AND ROAD REALIGNMENT

Blacktown Local Environmental Plan 1988 and Blacktown Development Control Plan 2006 nominate preferred road patterns throughout the City.

The land is not affected by road widening/road realignment under Division 2 of Part 3 of the Roads Act 1993 and/or environmental planning instrument.

7. COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

Council has not adopted any policies to restrict the development of the land by reason of the likelihood of landslip, bushfire, tidal inundation, subsidence or the occurrence of acid sulphate soils. Although the Council has not adopted a specific policy to restrict development on bush fire prone land, it is bound by statewide bush fire legislation that may restrict development. In this regard, refer to point 11 below.

Council has adopted a policy on contaminated land which may restrict the development of this land. The land contamination policy applies when zoning or land use changes are proposed on land which has previously been used for certain purposes or has the potential to be affected by such purposes undertaken on nearby lands. Council's records may not be sufficient to determine all previous uses on the land, or determine activities that may have taken place on this land. Consideration of Council's policy and the application of provisions under the relevant State legislation and guidelines is necessary.

7A. FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

In respect of mainstream or backwater flood-related development controls, Council has adopted a Floodplain Management Policy which may restrict the development of the land subject to this Certificate, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land. The Flood Risk Precinct Maps prepared under the policy are based on the results of Engineering Flood Studies commissioned by Government Authorities and Council. These maps indicate that the land subject to this Certificate lies partly within the Medium Flood Risk Precinct and partly within the High Flood Risk Precinct. The term Medium Flood Risk Precinct is defined as land below the 100-year flood level that is not within a High Flood Risk Precinct. This is land that is not subject to a high hydraulic hazard or where there are no significant evacuation difficulties. The term High Flood Risk Precinct is defined as the area of land below the 100-year flood event that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties. Further details are provided in the NSW Government's Floodplain Development Manual and are available from Council. Council does not warrant that the information provided or made available to you is complete. Council strongly recommends that, in all cases, you seek independent professional advice to supplement your enquiries.

8. LAND RESERVED FOR ACQUISITION

Clauses 17, 17A and 18 of Blacktown Local Environmental Plan 1988 provide for the acquisition of certain land zoned 5(a), 5(b), 5(c), 6(a) or 6(c) by a public authority.

Draft Blacktown Local Environmental Plan 2013 makes provision for land included on the Land Reservation Acquisition Map to be acquired by a public authority.

9. CONTRIBUTIONS PLANS

Council currently levies contributions under Section 94 of the EP&A Act 1979 for facilities and services. The further development of the subject land may incur such contribution.

9A. BIODIVERSITY CERTIFIED LAND

The land has not been granted biodiversity certification within the meaning of the Threatened Species Conservation Act 1995.

10. BIOBANKING AGREEMENTS

Council has not been notified of the existence of a biodiversity agreement under the Threatened Species Conservation Act 1995.

11. BUSH FIRE PRONE LAND

The *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*, which came into force on 1 August 2002, introduced development provisions for bush fire prone land as shown on a Bush Fire Prone Land Map. "Bush fire prone land" is land that has been designated by the Commissioner of the NSW Rural Fire Service as being bush fire prone due to characteristics of vegetation and topography. The land the subject of this certificate has been identified on Council's Bush Fire Prone Land Map as being:

clear of any bush fire prone land

On land that is bush fire prone, certain development may require further consideration under Section 79BA or Section 91 of the EP&A Act 1979 and under Section 100B of the *Rural Fires Act 1997.*

12. PROPERTY VEGETATION PLANS

Land to which this Certificate applies is not subject to a Property Vegetation Plan under the provisions of the *Native Vegetation Act 2003.*

13. ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Land to which this Certificate applies is not the subject of an order made under the *Trees (Disputes Between Neighbours) Act 2006.*

14. DIRECTIONS UNDER PART 3A

Land to which this Certificate applies is not subject to the above.

15. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

Land to which this Certificate applies is not subject to the above.

16. SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

Land to which this Certificate applies is not subject to the above.

17. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

Land to which this Certificate applies is not subject to the above.

18. MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997 AND CONTAMINATED LAND MANAGEMENT AMENDMENT ACT 2008

(a) The land to which this certificate relates has not been declared to be significantly contaminated land at the date when the certificate was issued.

(b) The land to which the certificate relates is not subject to a management order at the date when the certificate was issued.

(c) The land to which this certificate relates is not the subject of an approved voluntary management proposal at the date when the certificate was issued.

(d) The land to which this certificate relates is not subject to an ongoing maintenance order as at the date when the certificate was issued.

(e) The land to which this certificate relates is not the subject of a site audit statement provided to the Council.

PART B
ADDITIONAL INFORMATION PROVIDED PURSUANT TO SECTION 149(5) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: When information pursuant to section 149(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 149(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

This advice is provided in accordance with Section 149(5) and 149(6) of the EP&A Act 1979:

The land is affected by a tree preservation control under Blacktown Local Environmental Plan 1988. A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, injured or wilfully destroyed, except with the consent of the Council.

The provisions of any covenant, agreement or instrument applying to this land purporting to restrict or prohibit certain development may be inconsistent with the provisions of a Regional Environmental Plan, State Environmental Planning Policy or Blacktown Local Environmental Plan 1988, in which case the provisions of any such covenant, agreement or instrument may be overridden.

The *Threatened Species Conservation Act 1995* provides for the conservation of threatened species, populations and ecological communities of animals and plants. The *Threatened Species Conservation Act* amended the *Environmental Planning and Assessment Act 1979* to require, amongst other things, that:-

(a) a critical habitat (as defined in the *Threatened Species Conservation Act 1995)* be identified in environmental planning instruments;

(b) consent authorities and determining authorities must, when considering proposed development or an activity, assess whether it is likely to significantly affect threatened species, populations and ecological communities, or their habitats, and, if a significant effect is likely, to require the preparation of a species impact statement in accordance with the requirements of the *Threatened Species Conservation Act 1995;*

(c) consent authorities and determining authorities must, when considering proposed development or an activity, have regard to the relevant recovery plans and threat abatement plans; and

(d) a regime for concurrence and consultation between consent authorities and determining authorities and the Minister administering the *Threatened Species Conservation Act 1995* or the Director-General of the National Parks and Wildlife be instructed to aid the assessment process under the *Environmental Planning & Assessment Act 1979.*

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* provides protection for items of national significance. The Act requires a separate Commonwealth approval to be obtained where an action is likely to have significant impacts on items of national environmental significance. Items of national environmental significance include, amongst other things, nationally threatened animal and plant species and ecological communitites. The Commonwealth Department of the Environment and Water Resources should be contacted for further advice.

General Manager

Per: _____

End of Certificate

Blacktown City Council

PLANNING CERTIFICATE UNDER SECTION 149

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Certificate No.:
Date:
Page:
Enquiries:
Applicants Ref.:

Our ref: BLEP 2013
File no: RZ-06-1982

17 June 2014

NATHAN HEGERTY - ERM
PO BOX 5711
PORT MACQUARIE NSW 2444

Dear Sir/Madam

Please find attached the 149(5) Planning Certificate you requested for Lot 2 DP 550522.

As mentioned in Clause 1.1 of the attached Certificate, Blacktown City Council has prepared a draft City-wide Local Environmental Plan, known as Draft Blacktown Local Environmental Plan (BLEP) 2013. Draft BLEP 2013 specifies proposed land use zones that apply across the City of Blacktown and the purposes for which development may be carried out (either with or without the need for development consent) or which are prohibited in the zone. Once Draft BLEP 2013 comes into force later in 2014 it will replace the existing BLEP 1988.

In January 2013 Council wrote to all landowners across the City to advise that Draft BLEP 2013 was on public exhibition for a period of 3 months. The purpose of the exhibition was to give the Blacktown community the opportunity to review and comment on the draft Plan before it comes into force.

After the close of the exhibition period Council Officers conducted a comprehensive assessment of over 600 formal written submissions received during the exhibition period. The issues raised in submissions were summarised and addressed in Council Report SD330109, and the report was presented to Council at an Extraordinary Meeting on Monday 9 December 2013. At this meeting Council adopted Draft BLEP 2013 subject to certain amendments arising from submissions, and resolved to forward the amended Plan to the Minister for Planning and Infrastructure to be finalised.

I wish to advise that the proposed zoning of the subject land has changed in response to submissions received during the exhibition period, and at its Ordinary Meeting of 12 March 2014, Council resolved to change the zoning of some properties located in the Business Park Precinct of the Blacktown City Centre. The following table identifies the exhibited zone and the adopted zone. The adopted zone will come into effect once the new LEP has been approved by the Minister for Planning and Infrastructure and published in the NSW Government Gazette. This is expected to occur in mid-2014.

Exhibited Zone	Adopted Zone
B7 - Business Park	IN1 - General Industrial

Should you require any further information regarding this matter, please contact Councils Team Leader Planning Policy on 9839 6216.

Yours faithfully,

Catherine Harris
Clerical Unit Co-ordinator

Council Chambers • 62 Flushcombe Road • Blacktown NSW 2148
Telephone: (02) 9839 6000 • Facsimile: (02) 9831 1961 • DX 8117 Blacktown
http://www.blacktown.nsw.gov.au • email: council@blacktown.nsw.gov.au
All correspondence to: The General Manager • PO Box 63 • Blacktown NSW 2148

Civil Lepadopt

NOTICE OF DISCLAIMER OF LIABILITY – Please see over

General Manager Per:

Zone IN1 General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- To minimise adverse impacts on the natural environment.

2 Permitted without consent

Nil.

3 Permitted with consent

Aquaculture; Building identification signs; Business identification signs; Depots; Food and drink premises; Freight transport facilities; General industries; Heliports; Industrial training facilities; Kiosks; Light industries; Neighbourhood shops; Roads; Warehouse or distribution centres; Vehicle sales or hire premises; Any development not specified in Item 2 or 4.

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Business Premises; Camping grounds; Caravan parks; Cemeteries; Commercial premises; Correctional centres; Ecotourist facilities; Educational establishments; Entertainment facilities; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health service facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations; Home occupations (sex services); Industries; Information and education facilities; Marinas; Open cut mining; Port facilities; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Residential accommodation; Restricted premises; Signage: Tourist and visitor accommodation; Veterinary hospitals; Wharf or boating facilities; Wholesale supplies.

ATTACHMENT A

EXTRACT FROM BLACKTOWN LOCAL ENVIRONMENTAL PLAN 1988

ZONE No. 4 (a) (GENERAL INDUSTRIAL ZONE)

1. **Objectives of zone**

The objectives are -

(a) to provide areas for accommodating both traditional and modern forms of industrial warehousing and like development outside areas used or zoned for residential or business purposes and so encourage economic and employment growth in Blacktown.

(b) to encourage the establishment of new industry and other compatible, large-scale activity in appropriate locations;

(c) to accommodate large industrial, warehousing and like developments such as auction rooms, plant and equipment hire establishments, timber yards and the like, but to prohibit offensive or hazardous industries;

(d) to enable development for the purposes of retailing only where it is associated with, and ancillary to, manufacturing purposes on the same land or where it serves the daily convenience needs of the local workforce;

(e) to enable development for the purposes of commercial offices only where it is associated with, and ancillary to, industrial, warehousing or like purposes on the same land or where it serves the daily convenience needs of the local workforce.

(f) to ensure permitted development creates areas which are pleasant to work in and are safe and efficient in terms of transportation and land utilisation;

(g) to enhance and improve the physical environment of the City of Blacktown by minimising disturbances caused by air pollutants, water pollutants, other pollutants and noise pollution; and

(h) to enable development for the purposes of community facilities such as child care facilities either in association with or independent of other permitted development to serve the needs of the workforce of the area.

2. **Development that does not require consent**

Nil.

3. **Development which requires consent**

Any purpose other than a purpose included in Item 2 or 4 of the matter relating to this zone.

4. **Prohibited**

Amusement centres; boarding houses; bulky goods retail establishments; caravan parks; commercial premises (other than those ancillary to and used in conjunction with a purpose permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); dual occupancy or dwelling-houses (other than those ancillary to and used in conjunction with a purpose permissible in the zone); exhibition homes; exhibition villages; group homes; hardware stores; hazardous industries; hazardous storage establishments; home activities; hospitals; housing for aged or disabled persons; institutions; integrated housing; intensive lot feeding of livestock; manufactured home estates; medium density housing; methadone dispensaries; mineral sand mines; mines; mixed businesses; motels; offensive industries; offensive storage establishments; professional consulting rooms; professional offices; recreation establishments; residential flat buildings; roadside stalls; rural industries; rural workers' dwellings; shops (other than those ancillary to and used in conjunction with manufacturing purposes permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); tourist facilities.

PART 3 - SPECIAL PROVISIONS

DIVISION 1 - Subdivision of Land

Subdivision generally

10. (1) A person shall not subdivide land to which this plan applies without the consent of the council.

(2) Land shall not be subdivided unless the boundaries of allotments so created correspond generally with the boundaries, if any, between zones as shown on the map.

(3) Notwithstanding the provisions of subclause (2), the council may consent to a plan of subdivision whereby the boundaries of allotments so created will not correspond with the boundaries between different zones as shown on the map but which, in the opinion of the council, depart from those boundaries only to a minor extent.

(4) Where, upon a registration of a plan of subdivision referred to in subclause (3), the boundary between land is determined in a different position from the boundary between different zones indicated on the map, land shall be deemed to be within the appropriate zone as determined by the council.

(5) The council shall not grant consent to the subdivision of any part of the land to which this plan applies unless the plan of subdivision makes provision for any proposed road on that part of the land shown by parallel broken lines on the map to be opened generally in the locations shown on the map.

Drainage

19. (1) Notwithstanding any other provision of this plan, a person shall not carry out development on land to which this plan applies unless the land is filled to a level satisfactory to the council.

(2) Where, in relation to the carrying out of development on land to which this plan applies, the council makes any requirements with respect to the drainage of land or the drainage of other land, a person shall not carry out that development except in accordance with those requirements.

Services

24. (1) The council may refuse consent to the carrying out of any development on any land within Zone No. 2 (a), 2 (b) or 2 (c) unless arrangements satisfactory to it are made (whether by the imposition of conditions under section 91 of the Act or otherwise) for the underground provision of an electrical system to that land and for the installation of such lamp standards as are approved by the council in relation to reticulation.

(2) The council may refuse consent to the carrying out of any development on any land within Zone No. 2 (a), 2 (b) or 2 (c) unless arrangements satisfactory to Telecom Australia are made by the owner of the land to which the development consent relates for the provision of underground telephone plant to that land.

(3) A person shall not carry out development on any land to which this plan applies unless arrangements satisfactory to the Water Board have been made with the Board for the provision of water services to the land.

(4) A person shall not carry out development on any land to which this plan applies unless arrangements satisfactory to -

(a) in the case of land within Zone No. 1 (a) or 1 (b), the council; or

(b) in the case of all other land, the Water Board,

have been made for the provision of sewerage services to that land.

(5) A person shall not carry out development on land shown edged heavy black on the map marked "Blacktown Local Environmental Plan 1988 (Amendment No. 10)" unless arrangements satisfactory to:

(a) the Water Board and the Council; or

(b) in the case of land within the Toongabbie Creek catchment as shown on the map marked "Drainage Catchments - Parklea Release Area", the Council,

have been made in relation to the drainage of that land.

(6) A person shall not carry out development on land shown edged heavy black on the map marked "Blacktown Local Environmental Plan 1988 (Amendment No. 10)" unless arrangements satisfactory to the Roads and Traffic Authority have been made by the developer with that Authority to make appropriate payment towards the cost of the arterial road network.

Tree preservation

25. (1) A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed; except with the consent of the council.

(2) In any proceedings for an offence arising under this clause, it shall be sufficient defence to prove that the tree ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed was dying or dead or had become dangerous.

(3) This clause does not apply to trees in a State forest or on land reserved as a timber reserve within the meaning of the Forestry Act 1916, or to trees required to be lopped in accordance with Regulation 38 or 39 of the Overhead Line Construction and Maintenance Regulations 1962, or to any trees which are under the control or management of the Water Board.

(4) This clause does not operate so as to require a consent to be given pursuant to this clause for the carrying out of development at a plant nursery if the development could lawfully be carried out at the plant nursery in the absence of this clause.

Covenants, agreements etc.

26. (1) For the purpose of enabling development to be carried out in accordance with this plan (as in force at the time the development is carried out) or in accordance with a consent granted under the Act, the operation of any covenant, agreement or instrument imposing restrictions on development, to the extent necessary to serve that purpose, shall not apply to the development.

(2) Nothing in the subclause (1) shall affect the rights or interests of the council under any registered instrument.

(3) Pursuant to section 28 of the Act, before the making of this plan, the Governor approved of subclauses (1) and (2).

Nuclear activities

30. Notwithstanding any other provision of this plan, a person shall not carry out development on land to which this plan applies for the purposes of -

(a) mining prohibited by the Uranium Mining and Nuclear Facilities (Prohibition) Act 1986;

(b) a nuclear facility, the construction or operation of which is prohibited under that Act; or

(c) a facility for the storage or disposal of radioactive waste material referred to in section 8(3)(b) of that Act, except pursuant to a licence under the Radioactive Substances Act 1957.

Advertisements

37. (1) The objectives of this clause are:

(a) to provide for a variety of outdoor advertisements which are compatible with the purpose for which the land is zoned and with the character of the area;

(b) to produce signage which is complementary in scale, form and location with the surrounding natural or built environment; and

(c) to ensure that outdoor advertising does not detract from the safety, efficiency or appearance of any public thoroughfare.

(2) When assessing applications made under this plan for the approval of advertisements:

(a) the council must consider both the objectives of this clause and the relevant zone objectives;

(b) the council must only grant consent if the applicant can demonstrate that:

(i) the advertisement will not detract from the amenity of the local environment because of its appearance, size, design, illumination or location, or as a result of the number and location of advertisements within the vicinity;

(ii) the size and likely impact of the advertisement is compatible with the size and design of the premises on which the advertisement is to be constructed and with the size and design of the surrounding buildings;

(iii) the advertisement will not detract from any items of scenic, historic, architectural, scientific or cultural interest;

(iv) appropriate setbacks, clearances and structural features are incorporated into the proposal to ensure safe pedestrian and vehicular traffic circulation; and

(v) the advertisement is not a flashing or moving sign.

Brothels

42A (1) Despite any other provision of this plan, development for the purpose of a brothel must not be carried out if the relevant premises are:

(a) within a straight line distance of 300 metres of land zoned for residential, commercial or public open space purposes; or

(b) adjacent to any property used or partly used for residential purposes; or

(c) near or within view from any school, church, hospital, child care centre, community facility or public open space or any place regularly frequented by children; or

(d) within 100 metres from a road zoned Special Uses - Arterial Road and Arterial Road Widening or Special Uses - Local Road and Local Road Widening.

(2) In determining an application to carry out development for the purpose of a brothel, the council must consider the following:

(a) the potential cumulative impact of like uses in a neighbourhood;

(b) whether the operation of the brothel is likely to cause disturbance in the neighbourhood when taking into account other brothels operating in the neighbourhood or other land uses within the neighbourhood involving similar hours of operation;

(c) whether or not the brothel is in keeping with or is likely to substantially alter the character of its locality; and

(d) whether the brothel is likely to put at risk members of the community or its clientele or service providers.

Service centres

47. (1) The council shall not grant consent to the carrying out of development for the purpose of a service centre in any zone unless it is satisfied that:

(a) there is a separation distance of at least 2 kilometres between the proposed service centre and any established service centre or service station, or proposed service centre or service station that has received development consent, except where any such established or proposed service centre or service station is located on the opposite side of the road within Zones Nos. 5(b) or 5(c) adjoining the proposed service centre; and

(b) the proposal would not result in unacceptable traffic delays or have a great impact on the operation of intersections in the vicinity, and provides safe access to and from the site, based on a comprehensive traffic study prepared by a suitably qualified person.

(2) In determining an application to carry out development for the purpose of a service centre, the council must consider the following:

(a) the potential cumulative impact of the proposed service centre on like uses such as service stations in the locality;

(b) whether the operation of and access to and from the service centre is likely to cause disturbance to residents or impinge on existing lawful uses in the vicinity; and

(c) whether or not the service centre is likely to substantially alter the character of its locality.

(3) Notwithstanding the provisions of subclauses (1) and (2), where the council is of the opinion that the local community is not likely to be provided with adequate convenience retail facilities in the foreseeable future, the council may grant consent to a service centre which is at variance with the criteria set out in subclauses (1) and (2).

Blacktown City Council

PLANNING CERTIFICATE UNDER SECTION 149

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Certificate No.: 14-4409
Date: 17 JUN 2014
Page: 1 of 12
Enquiries: s149 Clerk
Applicants Ref.: 0226308

Applicant NATHAN HEGERTY - ERM
PO BOX 5711
PORT MACQUARIE NSW 2444

Property LOT 5 DP 7086

45 TATTERSALL ROAD,

Suburb KINGS PARK Parish of Prospect

NOTE: **The land the subject of this Certificate is known to be located in the suburb of Kings Park. For all correspondence and property transactions this suburb name is to be used.**

PART A
PRESCRIBED INFORMATION PROVIDED PURSUANT TO SECTION 149(2) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: The following information is provided pursuant to Section 149(2) of the EP&A Act 1979, as prescribed by Schedule 4 of the *Environmental Planning and Assessment Regulation 2000*, and is applicable as of the date of this certificate.

1. NAMES OF RELEVANT PLANNING INSTRUMENTS AND DEVELOPMENT CONTROL PLANS

1.1 Environmental Planning Instruments

The abovementioned land is affected by the following environmental planning instrument and proposed environmental planning instrument/s (where applicable) which have been the subject of community consultation or on public exhibition under the Act.

Blacktown Local Environmental Plan 1988 **(Refer to Attachment A)**

Blacktown Local Environmental Plan 1988 specifies the purposes for which development may be carried out or are prohibited.

Draft Blacktown Local Environmental Plan 2013 **(Refer to Attachment B)**

Blacktown City Council has a draft City-wide Local Environmental Plan, known as Draft Blacktown Local Environmental Plan (BLEP) 2013, which will eventually replace the existing BLEP 1988. Draft BLEP 2013 has been prepared in accordance with the NSW State Government's Standard Instrument (Local Environmental Plans) Order 2006.

Draft BLEP 2013 specifies the purposes for which development may be carried out (either with or without the need for development consent) or which are prohibited in the zone proposed to apply to the land.

Under the exhibited version of Draft BLEP 2013 it was proposed to zone the land:

B7 - BUSINESS PARK

At its Extraordinary Meeting of 9 December 2013, Council resolved to adopt Draft BLEP 2013 subject to amendments, and to forward the amended plan to the NSW Government to be made law. Under the adopted version of Draft BLEP 2013, it is proposed to zone the land:

B7 - BUSINESS PARK

At its Ordinary Meeting of 12 March 2014, Council resolved to amend its Draft BLEP 2013 (adopted on 9 December 2013) for some properties located in the Business Park Precinct of the Blacktown City Centre. Under the amended version of Draft BLEP 2013, it is now proposed to zone the subject land:

IN1 - GENERAL INDUSTRIAL

1.2 Development Control Plans

The land is affected by Blacktown Development Control Plan (DCP) 2006.

This DCP provides general guidance for the development of land within the City of Blacktown.

1.3 Relevant State Environmental Planning Policies (SEPPs), including draft policies, or Regional Environmental Plans deemed to be SEPPs

State Environmental Planning Policy No. 1 - Development Standards

The policy requires that variations to development standards must meet the objectives of local plans and controls. It makes development standards more flexible. It allows councils to approve a development proposal that does not comply with a set standard where this can be shown to be unreasonable or unnecessary.

State Environmental Planning Policy No. 4 - Development Without Consent and Miscellaneous Complying Development

This policy permits minor development and activities on land without a development application or through alternative assessment. This policy should be read in conjunction with Councils controls for Exempt and Complying Development.

State Environmental Planning Policy No. 6 - Number of Storeys in a Building

This policy sets out a method for determining the number of storeys in a building, to prevent possible confusion arising from the interpretation of various environmental planning instruments.

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

This policy protects and preserves bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. The policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 22 - Shops and Commercial Premises

The policy permits within a business zone, a change of use from one kind of shop to another or one kind of commercial premises to another, even if the change of use is prohibited under an environmental planning instrument. Development consent must be obtained and the consent authority satisfied that the change of use will have no, or only minor, environmental effect.

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Land)

This policy states the Government's intention to ensure that urban consolidation objectives are met in all urban areas throughout the State. The policy focuses on the redevelopment of urban land that is no longer required for the purpose it is currently zoned or used and encourages local councils to pursue their own urban consolidation strategies to help implement the aims and objectives of the policy. Councils will continue to be responsible for the majority of rezonings. The policy sets out guidelines for the Minister to follow when considering whether to initiate a regional environmental plan (REP) to make particular sites available for consolidated urban redevelopment. Where a site is rezoned by an REP, the Minister will be the consent authority.

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

This policy provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must careful consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA). The Policy does not change the role of Councils as consent authorities, land zoning, or the designated development provisions of the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy No. 55 - Remediation of Land

This policy provides state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

This policy encourages the sustainable expansion of the industry in NSW. The policy implements the regional strategies already developed by creating a simple approach to identity and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

State Environmental Planning Policy No. 64 - Advertising and Signage

This policy aims to ensure that outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of high quality design and finish. The SEPP was amended in August 2007 to permit and regulate outdoor advertising in transport corridors (e.g. freeways, tollways and rail corridors). The amended SEPP also aims to ensure that public benefits may be derived from advertising along and adjacent to transport corridors.

State Environmental Planning Policy - Affordable Rental Housing 2009

This policy establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people.

State Environmental Planning Policy - Exempt and Complying Development Codes

This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy - Major Development 2005

The SEPP facilitates the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant sites for the benefit of the State. Schedule 3 of the SEPP identifies State significant sites and provides planning provisions for those sites. Note: This SEPP was formerly known as State Environmental Planning Policy (Major Projects) 2005.

State Environmental Planning Policy - Basix

This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX. The draft SEPP was exhibited together with draft Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004.

State Environmental Planning Policy - Infrastructure 2007

This policy provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

State Environmental Planning Policy - Mining, Petroleum Production and Extractive Industries 2007

This policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The policy establishes appropriate planning controls to encourage ecologically sustainable development.

State Environmental Planning Policy - Temporary Structures 2007

This policy provides for the erection of temporary structures and the use of places of public entertainment, while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

Sydney Regional Environmental Plan No. 9 - Extractive Industry Sydney Region

This plan aims to protect the viability of extractive resources in the Sydney Metropolitan Area by ensuring consideration is given to the impact of encroaching development.

2. ZONING AND LAND USE UNDER RELEVANT ENVIRONMENTAL PLANNING INSTRUMENTS

(a) Pursuant to Blacktown Local Environmental Plan (LEP) 1988 the land is zoned:

4(a) - INDUSTRIAL - GENERAL

(b) Extracts from Blacktown Local Environmental Plan 1988 which specify the purposes for which development may be carried out within the zone/s applying to the land the subject of this Certificate are at Attachment A.

Should you require further information about the permissibility of development and related development standards it is recommended that you consult a full copy of Blacktown Local Environmental Plan 1988. It should be noted that the Environmental Planning & Assessment Act 1979, as amended, changes the way in which Blacktown Local Environmental Plan 1988 and other State Government issued environmental planning instruments should be interpreted. Pursuant to the amended Environmental Planning & Assessment Act 1979 Council's development consent is now required for all development regardless of its zoning/s, other than "exempt development" and "complying development", as defined in Blacktown Local Environmental Plan 1988.

(c) Extracts from Blacktown Local Environmental Plan 1988 which specify the purpose for which development may not be carried out within the zone/s applying to the land the subject of this Certificate are at Attachment A.

(d) An extract of the planning instrument at Attachment A provides details of the purposes for which development is prohibited within the zone applying to the land.

(e) Blacktown Local Environmental Plan 1988 does not nominate minimum land dimensions for the erection of a dwelling-house. It is noted however that Blacktown Development Control Plan 2006 stipulates minimum areas for subdivision, integrated housing, dual occupancies and the like.

(f) The land does not include or comprise a critical habitat. Critical habitat refers to habitat that is critical to the survival of endangered species, populations or ecological communities. Areas of critical habitat are declared under Part 3 of the Threatened Species Conservation Act 1995 and Part 7A of the Fisheries Management Act 1994.

(g) The land is not within a conservation area.

(h) This land does not contain an item of environmental heritage under the protection of Blacktown Local Environmental Plan 1988.

3. COMPLYING DEVELOPMENT

Complying Development under the *General Housing Code* of the Codes SEPP may be carried out on the land, unless it is on part of the lot that is identified as within a flood storage area, a floodway area, a flow path, a high hazard area, or a high risk area.

Complying Development under the *Rural Housing Code* of the Codes SEPP may be carried out on the land, unless it is on part of the lot that is identified as within a flood storage area, a floodway area, a flow path, a high hazard area, or a high risk area.

Complying Development under the *Housing Alterations Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *General Development Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Commercial and Industrial Alterations Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Commercial and Industrial (New Buildings and Additions) Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Subdivisions Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Demolition Code* of the Codes SEPP may be carried out on the land.

Complying Development under the *Fire Safety Code* of the Codes SEPP may be carried out on the land.

Note: Despite the above provisions, if only part of a lot is subject to an exclusion or exemption under Clause 1.17A or Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 then complying development may be carried out on that part of the lot that is not affected by the exclusion or exemption.

Disclaimer: This information only addresses matters raised in Clauses 1.17A and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

4. COASTAL PROTECTION

The land is not affected by the operation of Sections 38 or 39 of the *Coastal Protection Act, 1979.*

5. MINE SUBSIDENCE

The land has not been proclaimed to be a mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act, 1961.*

6. ROAD WIDENING AND ROAD REALIGNMENT

Blacktown Local Environmental Plan 1988 and Blacktown Development Control Plan 2006 nominate preferred road patterns throughout the City.

The land is not affected by road widening/road realignment under Division 2 of Part 3 of the Roads Act 1993 and/or environmental planning instrument.

7. COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

Council has not adopted any policies to restrict the development of the land by reason of the likelihood of landslip, bushfire, tidal inundation, subsidence or the occurrence of acid sulphate soils. Although the Council has not adopted a specific policy to restrict development on bush fire prone land, it is bound by statewide bush fire legislation that may restrict development. In this regard, refer to point 11 below.

Council has adopted a policy on contaminated land which may restrict the development of this land. The land contamination policy applies when zoning or land use changes are proposed on land which has previously been used for certain purposes or has the potential to be affected by such purposes undertaken on nearby lands. Council's records may not be sufficient to determine all previous uses on the land, or determine activities that may have taken place on this land. Consideration of Council's policy and the application of provisions under the relevant State legislation and guidelines is necessary.

7A. FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

In respect of mainstream or backwater flood-related development controls, Council has adopted a Floodplain Management Policy which may restrict the development of the land subject to this Certificate, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land. The Flood Risk Precinct Maps prepared under the policy are based on the results of Engineering Flood Studies commissioned by Government Authorities and Council. These maps indicate that the land subject to this Certificate lies partly within the Medium Flood Risk Precinct and partly within the High Flood Risk Precinct. The term Medium Flood Risk Precinct is defined as land below the 100-year flood level that is not within a High Flood Risk Precinct. This is land that is not subject to a high hydraulic hazard or where there are no significant evacuation difficulties. The term High Flood Risk Precinct is defined as the area of land below the 100-year flood event that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties. Further details are provided in the NSW Government's Floodplain Development Manual and are available from Council. Council does not warrant that the information provided or made available to you is complete. Council strongly recommends that, in all cases, you seek independent professional advice to supplement your enquiries.

8. LAND RESERVED FOR ACQUISITION

Clauses 17, 17A and 18 of Blacktown Local Environmental Plan 1988 provide for the acquisition of certain land zoned 5(a), 5(b), 5(c), 6(a) or 6(c) by a public authority.

Draft Blacktown Local Environmental Plan 2013 makes provision for land included on the Land Reservation Acquisition Map to be acquired by a public authority.

9. CONTRIBUTIONS PLANS

Council currently levies contributions under Section 94 of the EP&A Act 1979 for facilities and services. The further development of the subject land may incur such contribution.

9A. BIODIVERSITY CERTIFIED LAND

The land has not been granted biodiversity certification within the meaning of the Threatened Species Conservation Act 1995.

10. BIOBANKING AGREEMENTS

Council has not been notified of the existence of a biodiversity agreement under the Threatened Species Conservation Act 1995.

11. BUSH FIRE PRONE LAND

The *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*, which came into force on 1 August 2002, introduced development provisions for bush fire prone land as shown on a Bush Fire Prone Land Map. "Bush fire prone land" is land that has been designated by the Commissioner of the NSW Rural Fire Service as being bush fire prone due to characteristics of vegetation and topography. The land the subject of this certificate has been identified on Council's Bush Fire Prone Land Map as being:

clear of any bush fire prone land

On land that is bush fire prone, certain development may require further consideration under Section 79BA or Section 91 of the EP&A Act 1979 and under Section 100B of the *Rural Fires Act 1997.*

12. PROPERTY VEGETATION PLANS

Land to which this Certificate applies is not subject to a Property Vegetation Plan under the provisions of the *Native Vegetation Act 2003.*

13. ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Land to which this Certificate applies is not the subject of an order made under the *Trees (Disputes Between Neighbours) Act 2006.*

14. DIRECTIONS UNDER PART 3A

Land to which this Certificate applies is not subject to the above.

15. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

Land to which this Certificate applies is not subject to the above.

16. SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

Land to which this Certificate applies is not subject to the above.

17. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

Land to which this Certificate applies is not subject to the above.

18. MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997 AND CONTAMINATED LAND MANAGEMENT AMENDMENT ACT 2008

(a) The land to which this certificate relates has not been declared to be significantly contaminated land at the date when the certificate was issued.

(b) The land to which the certificate relates is not subject to a management order at the date when the certificate was issued.

(c) The land to which this certificate relates is not the subject of an approved voluntary management proposal at the date when the certificate was issued.

(d) The land to which this certificate relates is not subject to an ongoing maintenance order as at the date when the certificate was issued.

(e) The land to which this certificate relates is not the subject of a site audit statement provided to the Council.

PART B
ADDITIONAL INFORMATION PROVIDED PURSUANT TO SECTION 149(5) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: When information pursuant to section 149(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 149(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

This advice is provided in accordance with Section 149(5) and 149(6) of the EP&A Act 1979:

The land is affected by a tree preservation control under Blacktown Local Environmental Plan 1988. A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, injured or wilfully destroyed, except with the consent of the Council.

The provisions of any covenant, agreement or instrument applying to this land purporting to restrict or prohibit certain development may be inconsistent with the provisions of a Regional Environmental Plan, State Environmental Planning Policy or Blacktown Local Environmental Plan 1988, in which case the provisions of any such covenant, agreement or instrument may be overridden.

The *Threatened Species Conservation Act 1995* provides for the conservation of threatened species, populations and ecological communities of animals and plants. The *Threatened Species Conservation Act* amended the *Environmental Planning and Assessment Act 1979* to require, amongst other things, that:-

(a) a critical habitat (as defined in the *Threatened Species Conservation Act 1995)* be identified in environmental planning instruments;

(b) consent authorities and determining authorities must, when considering proposed development or an activity, assess whether it is likely to significantly affect threatened species, populations and ecological communities, or their habitats, and, if a significant effect is likely, to require the preparation of a species impact statement in accordance with the requirements of the *Threatened Species Conservation Act 1995;*

(c) consent authorities and determining authorities must, when considering proposed development or an activity, have regard to the relevant recovery plans and threat abatement plans; and

(d) a regime for concurrence and consultation between consent authorities and determining authorities and the Minister administering the *Threatened Species Conservation Act 1995* or the Director-General of the National Parks and Wildlife be instructed to aid the assessment process under the *Environmental Planning & Assessment Act 1979.*

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* provides protection for items of national significance. The Act requires a separate Commonwealth approval to be obtained where an action is likely to have significant impacts on items of national environmental significance. Items of national environmental significance include, amongst other things, nationally threatened animal and plant species and ecological communitites. The Commonwealth Department of the Environment and Water Resources should be contacted for further advice.

General Manager

Per: _____

End of Certificate

Blacktown City Council

PLANNING CERTIFICATE UNDER SECTION 149

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Certificate No.:
Date:
Page:
Enquiries:
Applicants Ref.:

Our ref: BLEP 2013
File no: RZ-06-1982

17 June 2014

NATHAN HEGERTY - ERM
PO BOX 5711
PORT MACQUARIE NSW 2444

Dear Sir/Madam

Please find attached the 149(5) Planning Certificate you requested for Lot 5 DP 7086.

As mentioned in Clause 1.1 of the attached Certificate, Blacktown City Council has prepared a draft City-wide Local Environmental Plan, known as Draft Blacktown Local Environmental Plan (BLEP) 2013. Draft BLEP 2013 specifies proposed land use zones that apply across the City of Blacktown and the purposes for which development may be carried out (either with or without the need for development consent) or which are prohibited in the zone. Once Draft BLEP 2013 comes into force later in 2014 it will replace the existing BLEP 1988.

In January 2013 Council wrote to all landowners across the City to advise that Draft BLEP 2013 was on public exhibition for a period of 3 months. The purpose of the exhibition was to give the Blacktown community the opportunity to review and comment on the draft Plan before it comes into force.

After the close of the exhibition period Council Officers conducted a comprehensive assessment of over 600 formal written submissions received during the exhibition period. The issues raised in submissions were summarised and addressed in Council Report SD330109, and the report was presented to Council at an Extraordinary Meeting on Monday 9 December 2013. At this meeting Council adopted Draft BLEP 2013 subject to certain amendments arising from submissions, and resolved to forward the amended Plan to the Minister for Planning and Infrastructure to be finalised.

I wish to advise that the proposed zoning of the subject land has changed in response to submissions received during the exhibition period, and at its Ordinary Meeting of 12 March 2014, Council resolved to change the zoning of some properties located in the Business Park Precinct of the Blacktown City Centre. The following table identifies the exhibited zone and the adopted zone. The adopted zone will come into effect once the new LEP has been approved by the Minister for Planning and Infrastructure and published in the NSW Government Gazette. This is expected to occur in mid-2014.

Exhibited Zone	Adopted Zone
B7 - Business Park	IN1 - General Industrial

Should you require any further information regarding this matter, please contact Councils Team Leader Planning Policy on 9839 6216.

Yours faithfully,

Catherine Harris
Clerical Unit Co-ordinator

Council Chambers • 62 Flushcombe Road • Blacktown NSW 2148
Telephone: (02) 9839 6000 • Facsimile: (02) 9831 1961 • DX 8117 Blacktown
http://www.blacktown.nsw.gov.au • email: council@blacktown.nsw.gov.au
All correspondence to: The General Manager • PO Box 63 • Blacktown NSW 2148

Civil Lepadopt

NOTICE OF DISCLAIMER OF LIABILITY – Please see over

General Manager Per:

ATTACHMENT A

EXTRACT FROM BLACKTOWN LOCAL ENVIRONMENTAL PLAN 1988

ZONE No. 4 (a) (GENERAL INDUSTRIAL ZONE)

1. **Objectives of zone**

The objectives are -

(a) to provide areas for accommodating both traditional and modern forms of industrial warehousing and like development outside areas used or zoned for residential or business purposes and so encourage economic and employment growth in Blacktown.

(b) to encourage the establishment of new industry and other compatible, large-scale activity in appropriate locations;

(c) to accommodate large industrial, warehousing and like developments such as auction rooms, plant and equipment hire establishments, timber yards and the like, but to prohibit offensive or hazardous industries;

(d) to enable development for the purposes of retailing only where it is associated with, and ancillary to, manufacturing purposes on the same land or where it serves the daily convenience needs of the local workforce;

(e) to enable development for the purposes of commercial offices only where it is associated with, and ancillary to, industrial, warehousing or like purposes on the same land or where it serves the daily convenience needs of the local workforce.

(f) to ensure permitted development creates areas which are pleasant to work in and are safe and efficient in terms of transportation and land utilisation;

(g) to enhance and improve the physical environment of the City of Blacktown by minimising disturbances caused by air pollutants, water pollutants, other pollutants and noise pollution; and

(h) to enable development for the purposes of community facilities such as child care facilities either in association with or independent of other permitted development to serve the needs of the workforce of the area.

2. **Development that does not require consent**

Nil.

3. **Development which requires consent**

Any purpose other than a purpose included in Item 2 or 4 of the matter relating to this zone.

4. **Prohibited**

Amusement centres; boarding houses; bulky goods retail establishments; caravan parks; commercial premises (other than those ancillary to and used in conjunction with a purpose permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); dual occupancy or dwelling-houses (other than those ancillary to and used in conjunction with a purpose permissible in the zone); exhibition homes; exhibition villages; group homes; hardware stores; hazardous industries; hazardous storage establishments; home activities; hospitals; housing for aged or disabled persons; institutions; integrated housing; intensive lot feeding of livestock; manufactured home estates; medium density housing; methadone dispensaries; mineral sand mines; mines; mixed businesses; motels; offensive industries; offensive storage establishments; professional consulting rooms; professional offices; recreation establishments; residential flat buildings; roadside stalls; rural industries; rural workers' dwellings; shops (other than those ancillary to and used in conjunction with manufacturing purposes permissible in this zone or which serve the daily convenience needs of the workforce of the industrial area); tourist facilities.

PART 3 - SPECIAL PROVISIONS

DIVISION 1 - Subdivision of Land

Subdivision generally

10. (1) A person shall not subdivide land to which this plan applies without the consent of the council.

(2) Land shall not be subdivided unless the boundaries of allotments so created correspond generally with the boundaries, if any, between zones as shown on the map.

(3) Notwithstanding the provisions of subclause (2), the council may consent to a plan of subdivision whereby the boundaries of allotments so created will not correspond with the boundaries between different zones as shown on the map but which, in the opinion of the council, depart from those boundaries only to a minor extent.

(4) Where, upon a registration of a plan of subdivision referred to in subclause (3), the boundary between land is determined in a different position from the boundary between different zones indicated on the map, land shall be deemed to be within the appropriate zone as determined by the council.

(5) The council shall not grant consent to the subdivision of any part of the land to which this plan applies unless the plan of subdivision makes provision for any proposed road on that part of the land shown by parallel broken lines on the map to be opened generally in the locations shown on the map.

Drainage

19. (1) Notwithstanding any other provision of this plan, a person shall not carry out development on land to which this plan applies unless the land is filled to a level satisfactory to the council.

(2) Where, in relation to the carrying out of development on land to which this plan applies, the council makes any requirements with respect to the drainage of land or the drainage of other land, a person shall not carry out that development except in accordance with those requirements.

Services

24. (1) The council may refuse consent to the carrying out of any development on any land within Zone No. 2 (a), 2 (b) or 2 (c) unless arrangements satisfactory to it are made (whether by the imposition of conditions under section 91 of the Act or otherwise) for the underground provision of an electrical system to that land and for the installation of such lamp standards as are approved by the council in relation to reticulation.

(2) The council may refuse consent to the carrying out of any development on any land within Zone No. 2 (a), 2 (b) or 2 (c) unless arrangements satisfactory to Telecom Australia are made by the owner of the land to which the development consent relates for the provision of underground telephone plant to that land.

(3) A person shall not carry out development on any land to which this plan applies unless arrangements satisfactory to the Water Board have been made with the Board for the provision of water services to the land.

(4) A person shall not carry out development on any land to which this plan applies unless arrangements satisfactory to -

(a) in the case of land within Zone No. 1 (a) or 1 (b), the council; or

(b) in the case of all other land, the Water Board,

have been made for the provision of sewerage services to that land.

(5) A person shall not carry out development on land shown edged heavy black on the map marked "Blacktown Local Environmental Plan 1988 (Amendment No. 10)" unless arrangements satisfactory to:

(a) the Water Board and the Council; or

(b) in the case of land within the Toongabbie Creek catchment as shown on the map marked "Drainage Catchments - Parklea Release Area", the Council,

have been made in relation to the drainage of that land.

(6) A person shall not carry out development on land shown edged heavy black on the map marked "Blacktown Local Environmental Plan 1988 (Amendment No. 10)" unless arrangements satisfactory to the Roads and Traffic Authority have been made by the developer with that Authority to make appropriate payment towards the cost of the arterial road network.

Tree preservation

25. (1) A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed; except with the consent of the council.

(2) In any proceedings for an offence arising under this clause, it shall be sufficient defence to prove that the tree ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed was dying or dead or had become dangerous.

(3) This clause does not apply to trees in a State forest or on land reserved as a timber reserve within the meaning of the Forestry Act 1916, or to trees required to be lopped in accordance with Regulation 38 or 39 of the Overhead Line Construction and Maintenance Regulations 1962, or to any trees which are under the control or management of the Water Board.

(4) This clause does not operate so as to require a consent to be given pursuant to this clause for the carrying out of development at a plant nursery if the development could lawfully be carried out at the plant nursery in the absence of this clause.

Covenants, agreements etc.

26. (1) For the purpose of enabling development to be carried out in accordance with this plan (as in force at the time the development is carried out) or in accordance with a consent granted under the Act, the operation of any covenant, agreement or instrument imposing restrictions on development, to the extent necessary to serve that purpose, shall not apply to the development.

(2) Nothing in the subclause (1) shall affect the rights or interests of the council under any registered instrument.

(3) Pursuant to section 28 of the Act, before the making of this plan, the Governor approved of subclauses (1) and (2).

Nuclear activities

30. Notwithstanding any other provision of this plan, a person shall not carry out development on land to which this plan applies for the purposes of -

(a) mining prohibited by the Uranium Mining and Nuclear Facilities (Prohibition) Act 1986;

(b) a nuclear facility, the construction or operation of which is prohibited under that Act; or

(c) a facility for the storage or disposal of radioactive waste material referred to in section 8(3)(b) of that Act, except pursuant to a licence under the Radioactive Substances Act 1957.

Advertisements

37. (1) The objectives of this clause are:

(a) to provide for a variety of outdoor advertisements which are compatible with the purpose for which the land is zoned and with the character of the area;

(b) to produce signage which is complementary in scale, form and location with the surrounding natural or built environment; and

(c) to ensure that outdoor advertising does not detract from the safety, efficiency or appearance of any public thoroughfare.

(2) When assessing applications made under this plan for the approval of advertisements:

(a) the council must consider both the objectives of this clause and the relevant zone objectives;

(b) the council must only grant consent if the applicant can demonstrate that:

(i) the advertisement will not detract from the amenity of the local environment because of its appearance, size, design, illumination or location, or as a result of the number and location of advertisements within the vicinity;

(ii) the size and likely impact of the advertisement is compatible with the size and design of the premises on which the advertisement is to be constructed and with the size and design of the surrounding buildings;

(iii) the advertisement will not detract from any items of scenic, historic, architectural, scientific or cultural interest;

(iv) appropriate setbacks, clearances and structural features are incorporated into the proposal to ensure safe pedestrian and vehicular traffic circulation; and

(v) the advertisement is not a flashing or moving sign.

Brothels

42A (1) Despite any other provision of this plan, development for the purpose of a brothel must not be carried out if the relevant premises are:

(a) within a straight line distance of 300 metres of land zoned for residential, commercial or public open space purposes; or

(b) adjacent to any property used or partly used for residential purposes; or

(c) near or within view from any school, church, hospital, child care centre, community facility or public open space or any place regularly frequented by children; or

(d) within 100 metres from a road zoned Special Uses - Arterial Road and Arterial Road Widening or Special Uses - Local Road and Local Road Widening.

(2) In determining an application to carry out development for the purpose of a brothel, the council must consider the following:

(a) the potential cumulative impact of like uses in a neighbourhood;

(b) whether the operation of the brothel is likely to cause disturbance in the neighbourhood when taking into account other brothels operating in the neighbourhood or other land uses within the neighbourhood involving similar hours of operation;

(c) whether or not the brothel is in keeping with or is likely to substantially alter the character of its locality; and

(d) whether the brothel is likely to put at risk members of the community or its clientele or service providers.

Service centres

47. (1) The council shall not grant consent to the carrying out of development for the purpose of a service centre in any zone unless it is satisfied that:

(a) there is a separation distance of at least 2 kilometres between the proposed service centre and any established service centre or service station, or proposed service centre or service station that has received development consent, except where any such established or proposed service centre or service station is located on the opposite side of the road within Zones Nos. 5(b) or 5(c) adjoining the proposed service centre; and

(b) the proposal would not result in unacceptable traffic delays or have a great impact on the operation of intersections in the vicinity, and provides safe access to and from the site, based on a comprehensive traffic study prepared by a suitably qualified person.

(2) In determining an application to carry out development for the purpose of a service centre, the council must consider the following:

(a) the potential cumulative impact of the proposed service centre on like uses such as service stations in the locality;

(b) whether the operation of and access to and from the service centre is likely to cause disturbance to residents or impinge on existing lawful uses in the vicinity; and

(c) whether or not the service centre is likely to substantially alter the character of its locality.

(3) Notwithstanding the provisions of subclauses (1) and (2), where the council is of the opinion that the local community is not likely to be provided with adequate convenience retail facilities in the foreseeable future, the council may grant consent to a service centre which is at variance with the criteria set out in subclauses (1) and (2).

Zone IN1 General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- To minimise adverse impacts on the natural environment.

2 Permitted without consent

Nil.

3 Permitted with consent

Aquaculture; Building identification signs; Business identification signs; Depots; Food and drink premises; Freight transport facilities; General industries; Heliports; Industrial training facilities; Kiosks; Light industries; Neighbourhood shops; Roads; Warehouse or distribution centres; Vehicle sales or hire premises; Any development not specified in Item 2 or 4.

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Business Premises; Camping grounds; Caravan parks; Cemeteries; Commercial premises; Correctional centres; Ecotourist facilities; Educational establishments; Entertainment facilities; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health service facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations; Home occupations (sex services); Industries; Information and education facilities; Marinas; Open cut mining; Port facilities; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Residential accommodation; Restricted premises; Signage: Tourist and visitor accommodation; Veterinary hospitals; Wharf or boating facilities; Wholesale supplies.

Annex E

Previous Development Consents

42 TATTERSALL RD

Land and Environment Court
of New South Wales

CITATION :	**Sell & Parker Pty Limited v Blacktown Council [2001] NSWLEC 12**
PARTIES :	APPLICANT: Sell & Parker Pty Limited ACN 000 101 315 RESPONDENT: Blacktown City Council
FILE NUMBER(S) :	10204 of 2000
CORAM:	Lloyd J
KEY ISSUES:	Development Application :- whether hazardous industry - whether offensive industry - components of development not to be considered in isolation for the purpose of characterisation
LEGISLATION CITED:	Environmental Planning and Assessment Act 1979 s 91 and s 97 Environmental Planning and Assessment Regulation 1994 Sch 3 Protection of the Environment Operations Act 1997 State Environmental Policy No. 33 - Hazardous and Offensive Development Pt 2 and Pt 3 Blacktown Local Environmental Plan 1998
CASES CITED:	Rudman v Tweed Council, NSWLEC, Bignold J, 28 September 1993, unreported
DATES OF HEARING:	06/11/2000; 07/11/2000; 08/11/200; 09/11/2000; 10/11/2000; 05/02/2001 and 06/02/2001
DATE OF JUDGMENT:	11/05/2001
LEGAL REPRESENTATIVES:	APPLICANT: Mr N A Hemmings QC (Solicitor) SOLICITORS: Allen Allen & Hemsley RESPONDENT: Mr M J Craig QC SOLICITORS: Michell Sillar

IN THE LAND AND	**Matter No: 10204 of 2000**
ENVIRONMENT COURT	**Coram: Lloyd J**
OF NEW SOUTH WALES	**Decision date: 11 May 2001**

Sell & Parker Pty Limited

ACN 000 101 315

Applicant

v

Blacktown City Council

Respondent

JUDGEMENT

Description of the Proposed Development

1. This is an appeal under section 97 of the Environmental Planning and Assessment Act 1979 ("The EP&A Act") against the deemed refusal by the respondent, Blacktown Council ("the council") of a development application for a metal recycling facility. Following the filing of the appeal the council resolved to refuse the development application.

2. An amended statement of issues relied upon by the council lists twenty nine issues. It seems, however, that this is another example of the ingenuity of lawyers to say essentially the same things in a great number of ways. The basic issues which were raised at the hearing are discussed below.

3. The land to which the development applies is known as No. 45-54 Tattersall Road, Kings Park. The land has an area of about 2.91 hectares, having a frontage of about 100 metres to Tattersall Road, a depth of about 260 metres and a rear boundary adjacent to Breakfast Creek. The land has a fall of about 7.5 metres from Tattersall Road to Breakfast Creek.

4. On 27 November 1996 the council granted development consent for the establishment of a metal recycling facility on the central and southern (or rear) part of land. The development authorised by that consent is a metal shear facility, an office building, a weighbridge, storage bays, a stormwater detention dam and car parking. The approved development has been implemented and has, I understand, been in operation for about the last three years.

5. The present development application is for the establishment of a hammermill (also known as a fragmentiser or metal shredder) on the northern part of the land (near Tattersall Road), together with associated components. The development also proposes to make use of the existing administrative buildings, the existing maintenance facilities and the existing stormwater detention dam on the southern part of the land. The development also proposes some additional car parking on the southern part of the land and the extension of acoustical fencing and landscaping proposed for the northern part of the site onto the southern part as well.

6. The hammermill is designated development, being classified as a *"mineral processing or metallurgical works"* as described in Schedule 3 of the Environmental Planning and Assessment Regulation 1994. It is also integrated development within the meaning of section 91 of the EP&A Act, requiring approvals from the Environment Protection Authority ("the EPA") pursuant to the Protection of the Environment Operations Act 1997; and from the Department of Land and Water Conservation pursuant to the Rivers and Foreshores Improvement Act 1948, as part of the proposed development is within 40 metres of Breakfast Creek.

7. According to the Environment Impact Statement ("the EIS"), the development will enable the processing of 60,000 tonnes of raw material per annum. About 90 per cent of the raw material will be industrial scrap metal and demolition waste and the remaining 10 per cent will comprise car bodies. The annual output of the development will be 4,000 tonnes of ferrous material and 250 tonnes of non-ferrous material such as aluminium, copper and smaller quantities of other material such as lead.

8. The main component of the development is the hammermill (which is also variously described in the evidence as a fragmentiser or shredder). This is a fairly awesome

machine which breaks up the raw material which is fed into it at one end so that it emerges at the other end as fragmented or shredded pieces of metal suitable for re-processing.

9. The main components of the development are:

a) raw material stockpile with bunding and oil water separators;
b) rubber tyre materials handler to remove raw feed materials;
c) metal recycling plant equipment comprising:
    i) infeed conveyor;
    ii) hammermill;
    iii) air extraction system including cyclones, fans, wet scrubber and cascade;
    iv) drum magnet;
    v) shaker table;
    vi) pan feeder and trommel;
    vii) 2 eddy current separators;
    viii) picking station;
    ix) picking conveyor;
    x) discharge conveyor;
d) waste enclosure;
e) product stockpile;
f) rubber tyre loader;
g) aboveground hydrocarbon storage tank with storage capacity of 5,000 litres with secondary containment.

10. The materials handler will feed all material into the metal recycling plant at the southern end and the finished product will be emitted from the northern end. The metal recycling plant is 17 metres high and will cover an area of approximately 70 metres by 50 metres. It will be situated directly behind a proposed retaining wall and a screen wall which is 7.5 metres from the front property boundary along Tattersall Road.

11. The development includes excavation of the site by up to 4 metres commencing 7.5 metres from the northern boundary to accommodate the metal recycling plant and concreting of the entire site.

12. The development also includes:

a) three additional car spaces adjacent to the existing office building and nine car spaces on the south eastern corner of the site;

b) new access roadway and weighbridge at the southern end of the site adjacent to the proposed additional car spaces and existing maintenance building;

c) a wheel wash at the exit from the site to Tattersall Road;

d) landscaping around the perimeter of the site;

e) reinforced concrete retaining walls on the northern, western and eastern sides of the metal recycling facility;

f) four metres high fencing on the northern, eastern and western boundaries of the site; and

g) use of the existing office building for staff amenities including lunchroom, bathroom and office space.

13. The processing operation of the metal recycling facility is to be as follows:

a) cars and scrap metal are fed into the conveyors by a raw materials handler;

b) the feed conveyor feeds material into the hammermill which shreds material into fist-size pieces;

c) a draft fan extracts air from the hammermill and passes it through the cyclone to remove particulates, then through a wet scrubber to remove fine dust;

d) fragmented raw material is then carried on an inclined conveyor belt and dropped into a conveyor chute and undergoes a cleaning process;

e) cleaned fragmented material then runs through a drum magnet, which collects ferrous materials and drops them onto a picking conveyor where operators manually remove non-ferrous material. Non-ferrous material drops beneath he drum magnet;

f) materials then continue along the conveyor which off-loads the ferrous product into the product stockpile via an eddy current separator, which collects aluminium copper and brass in a skip. The remaining material proceeds through various sorting and collection processes;

g) remaining material constitutes waste product and proceeds into a brick bunker. Waste products typically comprise mixed plastics, particulates, glass and foam. Solid wastes such as mud and loose dirt also result.

Is the development permissible under the planning controls?

14. The first issue in the case is whether the development is prohibited within the relevant zone. The subject land is within Zone No. 4(a) General Industrial Zone under the Blacktown Local Environmental Plan 1998 ("the LEP"). Clause 9(3) of the LEP states:.

> *Except as otherwise provided by this plan, the consent authority shall not grant consent to the carrying out of development on the land to which this plan applies unless the consent authority is of the opinion that the carrying out of development is generally consistent with one or more of the objectives of the plan and one or more of the objectives of the zone within which the development is proposed to be carried out.*

15. The objectives of the zone include the following:

> ...
>
> *(b) to encourage the establishment of new industry and other compatible, large-scale activity in appropriate locations;*
>
> *(c) to accommodate large industrial, warehousing and the like developments such as auction rooms, plant and equipment hire establishments, timber yards and the like, but to prohibit offensive or hazardous industries;*
>
> ...
>
> *(f) to ensure permitted development creates areas which are pleasant to work in and are safe and efficient in terms of transportation and land utilisation*
>
> *(g) to enhance and improve the physical environment of the City of Blacktown by minimising disturbances caused by air pollutants, water pollutants, other pollutants and noise pollution;....*

16. The zoning table for the 4(a) Zone expressly allows, with development consent, an industry listed in Schedule 3 to the Environmental Planning and Assessment Regulation 1994, being designated development. The zoning table expressly prohibits hazardous industries and offensive industries within the 4(a) Zone.

17. A *"potentially hazardous industry"* is described in the LEP as follows:

> ***potentially hazardous industry*** *means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*
>
> *a) to human health, life or property; or*
>
> *b) to the biophysical environment*
>
> *and includes a hazardous industry and a hazardous storage establishment;*

18. A *"hazardous industry"* is defined in the LEP in the following terms:

> ***hazardous industry*** *means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impacts on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would pose a significant risk in relation to the locality:*
>
> *a) to human health, life or property; or*
>
> *b) to the biophysical environment,*

19. These two definitions are identical to the definitions of "*potentially hazardous indus*try" and *"hazardous industry"* in State Environmental Planning Policy No. 33 – Hazardous and Offensive Development ("SEPP 33").

20. Similarly, the definition of *"potentially offensive industry"* and *"offensive industry"* in the LEP are identical to those definitions in SEPP 33. Those definition are as follows:

> ***potentially offensive industry*** *means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.*
>
> ***offensive industry*** *means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impacts on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality.*

21. Part 2 of the SEPP 33 applies to hazardous industries and to offensive industries. It provides that in determining whether a development is a hazardous industry or an offensive industry, consideration must be given to current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development.

22. Part 3 of SEPP 33 applies to potentially hazardous and potentially offensive industries. It requires an applicant for such development to prepare in accordance with the current circulars or guidelines published by the Department of Planning, a preliminary hazard analysis and to submit the analysis with the development application (clause 12). In

determining an application to carry out such development the consent authority must consider (in addition to other matters specified in the EP&A Act or in an environmental planning instrument applying to the development):

a) *current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development; and*

b) *whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply; and*

c) *in the case of development for the purpose of a potentially hazardous industry - a preliminary hazard analysis prepared by or on behalf of the applicant; and*

d) *any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application); and*

e) *any likely future use of the land surrounding the development. (Clause 13)*

23. The applicant contends that the proposed development is not a hazardous industry nor an offensive industry, neither is it a potentially hazardous industry nor a potentially offensive industry. The council contends to the contrary.

24. The Department of Planning has published guidelines for the purpose of clause 12 of SEPP 33. The guidelines state that a preliminary hazard analysis should be prepared in accordance with a number of hazardous industry advisory papers prepared by the Department.

25. In *Rudman v Tweed Council* (NSWLEC, 28 September 1993, unreported) Bignold J held that the requirements of clauses 12 and 13 of SEPP 33 are properly to be regarded

as directory and not mandatory. His Honour further held that it follows that non-compliance with those requirements does not produce invalidity in the resultant action, at least if it can be shown that there has been substantial compliance with the requirements. The conclusion of Bignold J is supported by a reading of the guidelines and advisory papers themselves, with statements such as *"the PHA* [the preliminary hazard analysis] should *be prepared in accordance with Hazardous Industry Planning Advisory Paper No 6..."* (not *"must"* or *"shall"*). On the same basis it would seem that clause 8 of SEPP 33, which requires that consideration must be given to current circulars or guidelines published by the Department of Planning in determining whether a development is a hazardous or potentially hazardous industry, or an offensive or potentially offence of industry, is similarly a directory and not mandatory requirement.

26. Both clauses 8 and 12 of SEPP 33 refer to circulars published by the Department of Planning as well as to guidelines. In one such a circular dated 16 March 1992 the Secretary of the Department stated:

> *The PHA need not be an elaborate or extensive study. For simple cases, a brief analysis, sufficient to satisfy consent authorities that the location and controls are appropriate should suffice.*

This statement suggests again that substantial compliance with the relevant guidelines is sufficient.

27. If it can be said that the development is a potentially hazardous industry, then in the present case a hazard analysis substantially in accordance with the guidelines was prepared and was included as part of the EIS. Although called a *"preliminary risk assessment"* in the EIS it is, in substance, a preliminary hazard analysis which substantially complies with the above-mentioned circular and with the guidelines. Irrespective of the question of whether the development is a potentially hazardous industry or hazardous industry, there has, in my opinion, been substantial compliance with clause 12 of SEPP 33.

28. The applicant contends, however, that the development would not pose a significant risk

in relation to the locality and is thus neither a potentially hazardous industry nor hazardous industry.

29. The council, on the other hand, contends that the development is either a hazardous or an offensive industry and is thus prohibited in the General Industrial zone. The significant risks to the locality posed by the development are said by the council to result from explosions (mainly the emission of projectiles, airblast overpressure and noise); fires in stockpiles (with resultant explosions and the emission of radiant heat and toxins); contamination (from the entry onto the land of toxic and hazardous materials); and the emission of polluting discharges. The council further submits that if the Court determines that the development is not characterised as either hazardous or offensive it should nevertheless be refused on its merits because of its unacceptable environmental impacts and/or because of the failure of the applicant to adequately identify and assess the potential environmental impacts.

30. I have set out the relevant definitions (in pars [17]; [18] and [20] above). It seems to me that fundamental to the characterisation of the development is the answer to the question: what is *"the development"*?

31. The *"development"* in this case comprises the various components which I have set out (in pars [9] and [12] above), as described in the EIS. That is *"the development"* described in the application. The various components cannot, in my opinion, be considered in isolation from one another for the purpose of characterisation. To consider each component in isolation would be an artificial exercise and would corrupt the word *"development"* as used in the definitions which I have set out (in paras [17], [18] and [20] above).

32. In order to determine whether *"the development"* (which necessarily includes its various components) is within or without the definition of *"potentially hazardous industry"* or of *"hazardous industry"*, it is necessary to examine the whole proposal to determine whether it would pose a significant risk in relation to the locality. Similarly, in order to determine whether *"the development"* is within or without the definition of *"potentially offensive industry"* or *"offensive industry"*, it is necessary to examine the whole proposal to determine whether it would emit a polluting discharge in a manner

which would have a significant adverse impact on the locality.

33. In another way, in order to make the determination called for by the definitions it is necessary to examine the impact of the proposed development in the same way that the merits of the proposal are assessed. That is to say, in assessing the merits of the proposed development one can at the same time reach the determination called for by the definitions. Conversely, reaching the determination called for by the definitions involves an assessment of the merits of the proposal.

34. An assessment of the merits of the proposal leads me to the following conclusions. In my opinion *"the development"* is neither a potentially hazardous industry nor is it a hazardous industry. Neither is *"the development"* a potentially offensive industry nor is it an offensive industry. If the development as proposed (which necessarily includes its various components) were to operate without employing any additional measures to reduce or minimise its impact, it would not, in my opinion, pose a significant risk in relation to the locality, neither would it emit a polluting discharge in a manner which would have a significant adverse impact in the locality. I have also come to the view that the development is acceptable on the merits. I have come to these views for the following reasons.

35. The key component of the development, the hammermill, is so designed that if an explosion does occur it will not have any significant consequences or pose any significant risk in relation to the locality. The hammermill is to be manufactured and supplied by Lynxs Shredder Technology Limited of the United Kingdom and it has a number of design features which make it different from American-made machines as used by other metal recycling facilities in Sydney. These design features were described in evidence by Mr T A Christian, a director of Lynxs Shredder Technology Limited and designer of the Lynxs hammermill. Mr Christian has been involved in the design and installation of similar Lynxs machines overseas. He was the only expert witness who was experienced in the design, installation and operation of such machines. I have no reason to doubt his evidence, which was tested by a long and searching cross-examination.

36. Without repeating the technical details of the design, I am satisfied by the evidence that no uncontrolled ejection of fragments can occur even if operator error results in combustible substances being introduced into the hammermill. Apart from the structure of the machine being designed to withstand explosion pressures, there is incorporated in the design a dust extraction system and the addition of water to dampen the feed materials and diminish sparking during the shredding process, thus reducing the probability of the ignition of any volatile fumes resulting from any residual hydrocarbons left after inspection and preparation of the feed material.

37. The evidence of the council contradicting Mr Christian's evidence is less convincing. For example, Mr A Magrabi, a chemical and fire protection engineer who gave evidence for the council believed that the operating temperatures within the machine would be between 700 and 800 degrees Celsius (at which temperature the bearings would fail), whereas the design temperature is about 150 degrees Celsius. Moreover, Mr Magrabi had never seen a hammermill. I completely reject his evidence. I also prefer the evidence of Mr Christian to that of Dr Lozzi, senior lecturer in mechanical engineering at the University of Sydney and who was called by the council. Dr Lozzi's evidence seemed to be based on to some extent of his knowledge of a hammermill at a metal recycling plant operated by Simsmetal Limited at St Mary's, which has about five times the capacity of the proposed plant here, was made by a different manufacturer and does not possess a number of the design features of the proposed Lynxs plant.

38. The process to be adopted by the applicant involves the exclusion of dangerous goods, such as petrol, diesel oil or liquefied petroleum gas (LPG). LPG cylinders will be removed from the feed stock and then removed from the site. The storage and handling of unpurged cylinders will comply with the relevant Australian Standard. The proposed development includes the installation of a 5000 litre above ground tank for the storage of petrol, diesel oil and oil drained from the car bodies; and the storage of 1000 litres of hydraulic oil. The 5000 litre tank will be designed, installed and operated in accordance with the relevant Australian Standard. Car bodies will be handled in an upside-down position so that any fuel tanks (if present) can be discovered and removed before the car body is processed. Crushed or baled cars will not be accepted for processing. Fuel tanks will not be fed into the hammermill but will instead be processed at the presently

existing metal shear facility. As noted above, in the unlikely event of scrap metal containing volatile flammable material being inadvertently fed into the hammermill resulting in an internal explosion, the hammermill is designed to accommodate such an event without any risk to anyone on the outside.

39. Noise levels are predicted to be an L_{A10} of 68dB(A) at the property boundary. This is within the EPA's General Terms of Approval of a maximum L_{A10} of 70dB(A). Moreover, the noise will be non-impulsive. The plant incorporates a set of vibration isolating elements in its support structure so that there will be an imperceptible level of ground vibration at the property boundary. As to airblast overpressure in the event of an explosion within the plant, the development will comply with the EPA's General Terms of Approval that any such airblast overpressure levels must not exceed 120dB (linear peak) when measured at the property boundary. The council's acoustical consultant, Mr S E Cooper, accepts this as being an appropriate standard.

40. The dust generated by the development will arise mainly from the vehicle movements and the wet scrubber, and will be less than 0.1 gram per square metre per month (0.1gm/m^2/month) and the annual average increase in total suspended particulates and PM_{10} would be less than 1 microgram per cubic metre (1μg/m^3) at the nearest residences. These are very low values and unlikely to be perceptible to householders. Flock-type waste will not be stored in the open but in a skip in an enclosed building from which it will be transported from the site to landfill after first being covered. Enclosed conveyors over the waste stream and a two-stage end extraction system will result in no dust escaping from the plant when it is in operation.

41. The council argues that as a result of the sealing of the northern part of the site, the volume of run-off containing leachate with concentrations of dissolved metal will increase, to be treated in the existing stormwater detention pond. It is then said by the council that such contaminants will be discharged into Breakfast Creek and will enter the groundwater system. The evidence shows that the active groundwater system is at present at a depth of less than 3 metres below the surface of the land; the groundwater beneath the surface will discharge into Breakfast Creek whenever the water level in the Creek is lower than the groundwater; and copper, lead and zinc are at present in the groundwater beneath the site at concentrations which exceed the Australian and New

Zealand Environment and Conservation Council (1992) Guidelines ("ANZEC Guidelines") for the Protection of Freshwater Aquatic Ecosystems. It is said that the washing of scrap metal in the primary stockpile area could cause contaminants to a be washed into the system; and stormwater run-off from parts of the site could be contaminated with oils, grease, sediment and metals generated during the operation of the development.

42. The testing of groundwater samples shows, however, that dissolved metal concentrations in the groundwater which is flowing onto the site are higher than those in the groundwater flowing off the site. This suggests that the existing detention pond and the site generally appear to be acting to reduce the concentrations of dissolved metals in the groundwater. Notwithstanding the existing metal recycling activities on the land, the site appears to be acting generally to improve the quality of groundwater from the up gradient to the down gradient. Moreover, leachate testing of the stockpile materials shows that concentrations of dissolved metals would be significantly lower than those occurring naturally in the existing groundwater. The proposed development site is to be sealed. This will in turn minimise the potential for any leachate to infiltrate the underlying ground. The capacity of the detention pond is such that it is designed to cope with a one in ten-year storm event; its capacity was approved by the council's engineer (who was not called) and who has stated that it will cope adequately with the proposed development; and the Department of Land and Water Conservation has approved it.

Conclusion

43. I am thus led to the conclusion that the development as proposed in this case would not pose a significant risk in relation to the locality to human health, life or property, or to the biophysical environment. It is thus not a potentially hazardous industry. It follows that it is also not a hazardous industry. Similarly, I am led to the conclusion that the development would not emit any polluting discharge in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land. It is thus not a potentially offensive industry. It follows that it is also not an offensive industry.

44. The consequence of these conclusions is that the development is permissible with development consent. The discussion of the issues of merit which have led to these conclusions also shows that the development should be approved on merit, subject to the conditions which are attached to this judgment, most of which have been agreed to by the parties.

45. I should briefly indicate why those conditions which are disputed have been dealt with in the manner shown in the attached conditions.

Condition 2

46. Condition 2 provides: *"the life of this consent is limited to a period of 20 years from the date of this consent."* This condition is imposed so as to be consistent with condition 3: *"the development shall be carried out in accordance with the Environmental Impact Statement..."*. The EIS states that the estimated life of the facility will be 20 years. The condition does no more than impose as a condition on the development consent a statement contained in the EIS. I accept the council's submission that this condition is appropriate, so that if it is intended to continue the development beyond 20 years then advantage might be taken of any advance in the technology in that time.

Condition 3

47. The applicant seeks the inclusion of reference to figure 2.1, which is described in the development application plans as the existing site plan. The council opposes this because the plan is said by it to be not reflective of the state of affairs as they exist at the present time and it might otherwise be thought that consent is being granted to a modification of the existing development. I agree with the council's contention. In order to remove any possible dispute as to what is the subject of the consent there will be no reference to figure 2.1 in the condition.

Condition 9(d)

48. This calls for the submission of engineering plans and design specifications. The applicant has no objection to this, but objects to the review of the design. This condition does not, however, require that there be a review of the material; it only

requires that the drawings and specifications be furnished (so as to be included with or incorporated by reference in the construction certificate). This condition will be included.

Condition 9(e)

49. The parties have agreed on the amended condition in the form of the attachment hereto.

Condition 9(f)

50. This condition as sought by the council requires details of noise control and monitoring measures to be implemented during construction of the metal recycling facility to ensure that a level of 48 dB(A) L_{A10} will be achieved at all residences in accordance with Table 5.12 of the EIS. According to the council, what the condition seeks to do is to have identified for consideration the measures designed to ensure that the level is in fact met.

51. I do not think it is necessary to impose the condition. None of the acoustical engineers who gave evidence suggested that there would be any problem in meeting the nominated standard set out in the EIS. The condition is both onerous and unnecessary. It is deleted.

Condition 9(g)

52. The council seeks additional details in relation to the landscaping plan. The details sought by this condition are not included in the landscaping plan, neither are they included in the report of Dem Design which was tendered in evidence. In my opinion the additional information is both proper and necessary.

Condition 9(i)

53. This condition is in two parts. In the first part the council seeks to require that stormwater pollution controls be designed to meet the 95th percentile, five-day storm event. The need for this is said to arise from the uncertainty attaching to the capacity of the detention dam. The evidence shows, however, that stormwater pollution controls designed for the 75th percentile five-day storm would be appropriate. Both the EPA and the council's engineer have expressed satisfaction with the storage capacity of the

dam. I see no reason to adopt the standard sought by the council.

54. In the second part of the condition the council requires that waters in the post-construction phase which discharge into Breakfast Creek comply with the ANZEC Guidelines. The applicant argues, however, that the water in the dam meets drinking standard and is the same as the quality of the water in the creek and that the ANZEC Guidelines are excessive, onerous and cannot be met.

55. The evidence shows that stormwater goes through the ground and then into the detention dam, but the naturally occurring metals in the groundwater commonly exceed the ANZEC Guidelines. This is commonly the case throughout western Sydney. The minerality of the soil is a result of the weathering process of the underlying Wiaramatta shale. I thus accept the applicant's contention that, for this reason, the condition as proposed by the council cannot be met. Condition 9(i) is amended accordingly to reflect these conclusions.

Condition 9(j)

56. The council seeks to impose a condition that, as part of the Erosion and Sediment Control Plan described in Condition 9(h), provision be made for the modelling of storm water pollution and to specify what the model must show.

57. I note that an Erosion and Sediment Control Plan is required by condition 03.1 of the EPA's General Terms of Approval and that it must be prepared in accordance with the requirements for such plans outlined in the so-called "*Blue Book*": *Managing Urban Stormwater: Soils and Construction*. In the light of the expert evidence adduced during the hearing I see no reason to impose different or other requirements. This condition, in my opinion, is not required and is deleted.

Condition 9(k)

58. The council requires an assessment of the adequacy of the existing water quality control measures on the site, including details relating to the existing sedimentation dam. The evidence adduced during the hearing, however, did not disclose any shortcoming in the operation, capacity or effectiveness of the dam or of water control measures on the site.

In my opinion, this condition is unnecessary and is deleted.

Condition 9(l)

59. Both parties have agreed to the deletion of this condition.

Condition 10

60. The council seeks to supplement Condition 9(h) by requiring the applicant to consult it regarding design parameters for the Erosion and Sediment Control Plan and requiring the system to be design in accordance with certain publication nominated by it. This condition may have the effect, however, of altering the design parameters in the *"Blue Book"* referred to in Condition 9(h) and in condition O3.1 of the EPA's General Terms of Approval. I am not persuaded that this condition is either necessary or appropriate. It is deleted.

Condition 29

61. The council has sought to impose a condition to allow it to require additional erosion and pollution control measures in case the work is stalled and the site is left in an unfinished state, whether as consequence of liquidity problem on the part of the developer or otherwise. The applicant submits, however, that the council cannot reserve to itself the power to review conditions of the consent and such a condition would be *ultra vires*. I am inclined to agree with the applicant. The council's position would be protected in such an event by other remedies. Condition 29 is deleted.

Condition 36

62. This condition which the council seeks merely repeats the noise criterion set out in the EIS. I can see no objection to specifically stating the criterion in a condition.

Condition 37

63. The parties agreed to amending this condition to the form in which it now appears.

Condition 50

64. The parties agreed to the deletion of this condition.

Condition 53

65. The parties agreed to the amendment of this condition to the form in which it now appears.

Condition 54

66. This condition has been amended to reflect the parties' agreement to its form.

Condition 62

67. The council seeks to impose a condition requiring the applicant to obtain a licence from the EPA in relation to the discharge of waste waters into a watercourse; if the EPA does not require such discharges to be the subject of a licence then section 120 of the Protection of the Environment Operations Act 1997 must be complied with.

68. I agree with the applicant's contention that this condition is inappropriate. The Protection of the Environment Operations Act is administered by the EPA and the applicant must comply with that Act in any event. This condition is also deleted.

Condition 64(e)

69. The council seeks to impose a condition requiring a fire safety study to be carried out to its satisfaction and to the satisfaction of the NSW Fire Brigades and WorkCover NSW, such study to be carried out in accordance with the relevant guidelines produced by the Department of Urban Affairs and Planning for the assessment of hazardous industries.

70. I agree with the applicant's submission that this condition is unnecessary. The development application was referred to the NSW Fire Brigades which has expressed satisfaction with the operation and does not require a fire safety study. I see no reason why I should not accept the views of that body. The guidelines of the Department of Urban Affairs and Planning do not apply because the development is neither a hazardous industry nor a potentially hazardous industry. This condition is deleted.

Condition 71

71. This condition is amended as agreed to by the parties.

Condition 77

72. The parties agreed that this condition may be deleted.

Condition 78

73. The council seeks to verify the fact that no more than 10 per cent of the material processed comprises car bodies. It seeks by this condition to require the applicant to keep appropriate records and submit them to the council.

74. The applicant has no objection to the keeping of appropriate records, but objects to submitting them to the council for fear that its commercially sensitive records will became known to its trade competitors. The applicant proposes an alternative condition allowing officers of the council to inspect its records. I think that the applicant's approach is appropriate and reasonable. The applicant's alternative condition is adopted.

Condition 82(a)

75. The applicant agreed to accept this condition provided that the actual records do not have to be submitted to the council.

Condition 85

76. The parties agreed to this condition being amended in the manner in which it now appear.

Condition 88

77. This condition has been amended in the manner agreed to by the parties.

Condition 89

78. This condition is also amended in the manner agreed to by the parties.

Condition 102

79. This condition is amended to correct a reference to another condition.

Condition 103

80. This condition is amended to reflect what appears in table 3 in the report of Dr R Tonin (Exhibit D). The applicant objects to the fixing of any numerical standard, preferring a condition which requires compliance with the limits set out in the EPA Noise Control Manual and the Industrial Noise Policy 2000. In my opinion, however, the applicant should be held to what it says it can and will do.

Condition 111

81. The council accepts the alternative condition proposed by the applicant and which is now incorporated in this condition.

82. ***Conditions 112 and 113*** deal with dust suppression. The council requires a water truck capable of supplying a water spray at a rate of 1.5 *l*/m^2/hour to water unsealed traffic areas; and water spray for exposed material surfaces in the plant and stockpiles at a delivery rate exceeding 1.5*l*/m^2/hour.

83. The applicant submits that the delivery rate proposed by the council of 1.5*l*/m^2/hour is excessive and likely to cause run-off; the existing dry sweeper incorporates a vacuum extraction system and is satisfactory; and static dust supplement sprays are unnecessary

84. I agree with the applicant's submissions. The EIS shows that the dust-generating standards can be met without the additional measures supported by the council. The two conditions proposed by the council are therefore substituted by a single condition to reflect the current and satisfactory practice.

Condition 115

85. This condition has been amended in accordance with the parties agreement.

86. ***Conditions 117 and 126A*** are, by agreement, deleted.

Condition 131

87. The council seeks a condition requiring the applicant to prepare an emergency plan in accordance with the relevant guidelines. The guidelines apply, however, only where the development is a potentially hazardous industry. I thus accept the applicant's submission that there is no requirement for an emergency plan as sought by the council. This condition is deleted.

Condition 136

88. The parties have agreed on an amended condition which is accordingly included.

Condition 137

89. Similarly, the parties have agreed on an amended condition which is accordingly included.

Condition 140

90. The parties agreed to an amendment of this condition which is now in the agreed form.

Condition 147

91. The council seeks a cash bond or bank guarantee in the sum of $50,000 to ensure the effective establishment and maintenance of landscaping. The applicant opposes this but is prepared to consent to a bond or bank guarantee in the sum of $10,000.

There is no evidence to suggest what sum would be appropriate for such a purpose. There is nothing, however, to suggest that if the landscaping is not established and maintained, the council could not either prosecute the applicant or obtain an injunction from the Court to secure the observance of this or any other condition of consent. I would not have been inclined to require any bond or bank guarantee, but since the applicant agree to provide bond in the sum of $10,000 this is reflected in the condition.

92. ***Conditions 148, 149 and 151*** are deleted as agreed by the parties.

Orders

93. I make the following orders:

1. Appeal upheld.

2. Development consent is granted for a metal recycling facility and associated works at Nos. 45-54 Tattersall Road, Kings Park subject to conditions attached to these orders.

3. The exhibits, other than Exhibits A and B, may be returned.

I hereby certify that the preceding 93 paragraphs are a true copy of the reasons for judgment herein of the Honourable Mr Justice Lloyd

Associate

Dated: 11 May 2001

CONDITIONS OF DEVELOPMENT CONSENT

Sell & Parker Pty Limited v Blacktown City Council

Lot 5, DP 7086, 45-54 Tattersall Road, Kings Park
Metal Recycling Facility -
Hammermill and Associated Works

1. This consent authorises the use of the northern part of the Site for the following purposes, subject to compliance with all other conditions of this consent:

   METAL RECYCLING FACILITY (LYNXS SHREDDER AND ASSOCIATED COMPONENTS) WITH A MAXIMUM MASS FEEDSTOCK OF 60,000 TONNES PER ANNUM.

   THE ONLY RAW MATERIALS PERMITTED TO BE SHREDDED ARE GENERAL METAL SCRAP AND CARBODIES. UNDER NO CIRCUMSTANCES ARE ANY PRESSURISED VESSELS OR ANY VOLATILE OR EXPLOSIVE SUBSTANCES TO ENTER THE METAL RECYCLING FACILITY.

2. The life of this consent is limited to a period of 20 years from the date of this consent.

3. The development shall be carried out in accordance with the Environmental Impact Statement dated December 1999 prepared by Environmental Resources Management (the "**EIS**") and the Visual Impact Design by Dem design as amended by these conditions and the following plans:

Drawing No.	Dated	Council's File Enclosure No.
Figure 2.2 Proposed Layout	undated	29C
Figure 2.3 Site Layout	undated	29D
SK-1-Site Plan & Elevation	undated	189B
SK-2 Large Rigid Truck (12.5 metre) manoeuvring path	undated	
SK-3 Semi-trailer turning paths (19.0 metre)	undated	

N00699-2-BE-SECT Earthworks Plan & Sections (Concept)	July 00	194C
A1-R-2131-B	October 00	355C
A1-R-2132-B	October 00	355D
A1-R-2601-B	October 00	355E
A1-R-302-A	October 00	355F
219925-1B	19.8.00	352A
219925-2B	19.8.00	352B
219925-3B	19.8.00	352C
219925-4B	19.8.00	352D

4. In this development consent:

"Council" means Blacktown City Council.

"**EPA**" means the Environment Protection Authority of New South Wales.

"**DLWC**" means the Department of Land and Water Conservation.

"**Metal Recycling Facility**" means the metal recycling facility the subject of development application No. 99/7797.

"**Northern part of the Site"** means the part of the Site between the existing office building, maintenance shed and the Tattersall Road frontage.

"**Sedimentation Pond**" means the sedimentation pond located on the southern portion of the Site.

"**Site**" means the land known as Lot 5 DP7086 being 45-55 Tattersall Road Kings Park.

"**Southern part of the Site"** means the part of the Site to the south of the existing office building.

5. Any reference in this consent to a Construction, Compliance, Occupation or Subdivision Certificate is a reference to such certificates as defined by Section 109C of the Environmental Planning & Assessment Act 1979.

6. Separate approval is required for any ancillary activity not approved by this consent, including, without limitation, the erection of any advertising sign not being exempt development.

7. It is necessary to obtain a Construction Certificate (prior to construction of the approved development). A Construction Certificate may be issued either by Council or an appropriately accredited certifier. A separate application, complete with detailed plans and specifications, must be made for the Construction Certificate.

PRE-CONSTRUCTION CERTIFICATE MATTERS

Preamble

8. **The following conditions in this section of the consent must be complied with or addressed prior to the issue of any Construction Certificate relating to the approved development, whether by Council or an appropriately accredited certifier. In many cases the conditions require certain details to be included with or incorporated in the detailed plans and specifications which accompany the Construction Certificate.**

9. Prior to the issue of a construction certificate the following must be submitted to the Council or an appropriately accredited certifier:

   (a) Details of the location of the decommissioning pit for vehicles, together with particulars of the size of the pit and the appropriate environmental safeguards and stormwater control.

   (b) Details of external materials to be used on the waste enclosure. This is to include coloured samples in brochure form.

   (c) Details of the location of the wheel wash and shaker pads together with particulars of the design, wash water recovery and sediment removal.

   (d) Details of the design features of the Metal Recycling Facility which will prevent the emission and/or ejection of metal debris/dust fines and projectiles, including, without limitation, full manufacturer's details of the Metal Recycling Facility and all of its components (including engineering drawings and design specifications) particularly those which are designed for the purpose of minimising and containing explosions and the emission of projectiles, ensuring compliance with noise levels and controlling operational hazards.

   (e) Details of dust suppression and monitoring measures to be implemented during construction of the Metal Recycling Facility to achieve ambient air quality levels in accordance with the EPA Guidelines for Ambient Air Quality in respect of suspended particulate matter and dust deposition when measured at residential receptors.

(f) **DELETED.**

(g) The following additional detail regarding landscaping:

(i) Works required to ensure the stabilisation of any exposed soil areas.

(ii) Measures designed to ensure the survival of vegetation.

(iii) Provision for the planting of a combination of 35 litre, 75 litre, and 100 litre trees. All shrubs to be planted are to have minimum pot sizes of 200mm.

(iv) Details of the shade cloth to be erected on the Site, including, without limitation, the location, size and method of erection of the shade cloth. Shade cloths are to be used to augment the perimeter wall and fencing.

(v) Dense climber planting which is to be established along the entire length of the northern side of the 4.0m high wall.

(h) An Erosion and Sediment Control Plan ("**ESCP**") as required by condition 0.3.1 of the EPA's General Terms of Approval for the Site (attachment "B" of this consent). The ESCP must be prepared in accordance with Council's Soil Erosion and Sediment Control Policy and the state government's guidelines entitled Managing Urban Stormwater: Soils and Construction (Department of Housing). The ESCP must incorporate (without being limited to) plans and details of the proposed measures and information on general Site management, material handling practices, soil stabilisation, water control, stormwater pollution control, wind erosion control and access protection measures during the construction and operation of the development.

(i) Stormwater pollution control works, as part of the ESCP, shall be designed to the following standards in the 75th percentile, 5-day storm depth:

(a) throughout the construction phase, achieve stormwater discharges of less than 50 milligrams per litre total suspended solids;

(b) in the post construction, the site is to be operated to prevent pollution of receiving of waters (Breakfast Creek), in accordance with the provisions of the Protection of the Environment Operations Act 1997.

(j) **DELETED.**

(k) **DELETED.**

(l) **DELETED.**

Site Works and Drainage

10. **DELETED.**

Services

11. Information regarding the location of underground services may be obtained from the Sydney "Dial Before You Dig" service, telephone number 1100, fax number (02) 9806 0777. Enquirers should provide the street/road name and number, side of street/road and the nearest cross street/road.

12. The applicant is advised to consult with:

    (a) Sydney Water Corporation Limited

    (b) Integral Energy

    (c) Natural Gas Company

    (d) The relevant local telecommunications carrier

    regarding their requirements for the provision of services to the development and the location of existing services that may be affected by proposed works, either on Site or on the adjacent public road(s). All approved building construction plans will need to be submitted to and stamped by Sydney Water Corporation Limited as an indication that they comply with the Corporation's requirements. Sydney Water Corporation Limited may also require the applicant to obtain a Trade Waste Approval as part of the operation of the approved development. Enquiries should be made of the Corporation's requirements for the eventual operation of the approved use.

Suburb Name

13. The land the subject of this consent is known to be located in the following suburb. This suburb name is to be used for all correspondence and property transactions:
Suburb: BLACKTOWN

14. Any advertising of land sales in association with the approved development shall clearly indicate that the development is located in the following suburb. No other estate names are to be used in any advertisements or other promotional information:
Suburb: BLACKTOWN

Other Fees and Security Deposits

15. The following fee must be paid to Council's Maintenance Section pursuant to Sections 608 and 609 of the Local Government Act 1993. The fee is subject to periodic review and may vary at actual time of payment.

    (a) Vehicle Crossing Application and Inspection Fee: $176

16. Prior to the issue of a Construction Certificate, whether by Council or an appropriately accredited certifier, the following fee and bond are to be paid to Council. The fee and bond are subject to periodic review and may vary at actual time of payment.

Road inspection fee:	**$113**
Road maintenance bond:	**$4776**

Consistency with Approved Development Plans

17. Any Construction Certificate that may be issued in association with this development consent must ensure that any certified plans and designs are generally consistent (in terms of Site layout, Site levels, building location, size, external configuration and appearance) with the approved Development Application plans and in accordance with the conditions of the consent.

Compliance with Development Control Plan 1992

18. Except as otherwise approved, the design plans which accompany the Construction Certificate are to comply with the design criteria specified in Council's Development Control Plan 1992, Parts A and E.

Services and Service Authorities' Clearances

19. The following documentary evidence, if required, is to be obtained prior to the issue of any Construction Certificate.

(a) A Section 73 Certificate issued by the Sydney Water Corporation Limited or other evidence from the Urban Development Branch at the relevant Sydney Water Business Centre confirming that the Corporation does not object to the commencement of work on the basis of service availability.

(b) A written clearance from Integral Energy, stating that electrical services have been made available to the development or that arrangements have been entered into for the provision of services to the development.

Compliance with Building Code of Australia

20. All aspects of the building design shall comply with the applicable performance requirements of the *Building Code of Australia* so as to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity for the ongoing benefit of the community. Compliance with the performance requirements can only be achieved by:

(a) Complying with the deemed to satisfy provisions, or

(b) Formulating an alternative solution which :

(i) complies with the performance requirements, or

(ii) is shown to be at least equivalent to the deemed to satisfy provision, or

(c) A combination of (a) and (b).

Required Design Specification

21. All engineering works required by Part A must be designed and undertaken in accordance with the relevant aspects of the following documents, except as otherwise authorised by this consent:

(a) Blacktown City Council's Works Specification - Civil (Current Version)

(b) Blacktown City Council's Engineering Guide for Development (Current Version)

Content and Type of Construction Certificate

22. Any Construction Certificate issued in relation to this consent shall incorporate and address the design of those works required by Part A of this consent and any ancillary works necessary to make the construction effective.

Hydrocarbon Tank

23. All licences and approvals required by the NSW WorkCover Authority, the NSW Fire Brigade and the EPA will be obtained in respect of the 5000L hydrocarbon tank prior to its commissioning.

PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK

Notification to Council

24. At least 2 days prior to work commencing on the Site, Council must be informed, by the submission of Form 7 of the *Environmental Planning & Assessment Regulation 1994*, of the name and details of the Principal Certifying Authority (if applicable) and the date upon which the construction work is proposed to commence.

Toilet Facilities

25. Toilet facilities are to be provided, at or in the vicinity of the work Site on which work involved in the erection or demolition of a building is being carried out, at the rate of 1 toilet for every 20 persons or part of 20 persons employed at the Site.

Each toilet provided:

(a) must be a standard flushing toilet, and

(b) must be connected:

(i) to a public sewer, or

(ii) if connection to a public sewer is not practicable, to an accredited sewage management facility approved by the Council, or

(iii) if connection to a public sewer or an accredited sewage management facility is not practicable, to some other sewage management facility approved by the Council.

The provision of toilet facilities in accordance with this condition must be completed before any other work is commenced.

Signs on Building and Demolition Sites

26. A sign must be erected in a prominent position on part of the Site on which the erection or demolition of a building is being carried out:

(a) stating that unauthorised entry to the work Site is prohibited, and

(b) showing the name of the person in charge of the work and a telephone number at which that person may be contacted outside working hours.

This condition does not apply to:

(a) building work carried out inside an existing building, or

(b) building work carried out on premises that are to be occupied continuously (both during and outside working hours) while the work is being carried out.

Soil Erosion and Sedimentation Control

27. All measures specified in the ESCP and the Construction Certificate to control soil erosion and sedimentation are to be installed prior to the commencement of construction works. Infringement Notices, incurring a monetary penalty, may be issued by Council where measures are not implemented or maintained.

28. To prevent sediment being removed from the Site on construction vehicles during the construction of the approved development, a portable wheelwash or similar device for cleaning truck wheels shall be installed at the exit point from the Site.

29. **DELETED.**

30. Structural details of all retaining walls, prepared and/or certified by a professional engineer or other appropriately qualified person, shall be lodged with Council prior to commencement or construction of any retaining wall.

Waste Disposal

31. For the purposes of effective off Site waste management, waste building materials and excavated soil wastes/fill materials must be disposed of to approved waste disposal depots or to licensed landfill sites.

32. Receipts from the licensed landfills or waste depots in respect of waste disposed of in accordance with Condition 38 must be submitted to the Council within 14 days of the disposal of the waste.

DURING CONSTRUCTION

Compliance with the Building Code of Australia

33. All building work must be carried out in accordance with the provisions of the *Building Code of Australia.*

Demolition

34. Demolition of the office building on the Northern part of the Site must be in accordance with the requirements of the Blacktown City Council Local Approvals Policy.

Noise Control

35. The hours of work for any construction work which generates noise are 7am to 5pm, Mondays to Fridays and 7am to 3pm Saturdays inclusive, with no such work to be conducted at any time on a Sunday or Public Holidays.

36. Any noise generated during the construction of the development shall not exceed 48dB(A) L_{10} at all residences.

Dust

37. Dust suppression and monitoring measures must be implemented to ensure that ambient air quality levels are in accordance with the EPA Guidelines for Ambient Air Quality in respect of suspended particulate matter and dust deposition when measured at the boundaries of the Site. This monitoring should at least include 30 day dust deposition [maximum dust deposition not to exceed 2 grams per square metre per month (2 g/m^2/mth) above background to a maximum of 4 g/m^2/mth total solids].

Construction Inspections

38. Compliance Certificates may be issued for the following applicable stages of the building construction:

	Stage	Nominated Work
(i)	**Footing system -**	**placing concrete or covering.**
(ii)	**Stormwater drainage -**	**covering or backfilling.**
(iii)	**Completion -**	**occupation or use.**

Any Compliance Certificate issued for the above stages of construction shall certify that all relevant ancillary or dependent work has been undertaken in accordance with the *Building Code of Australia* and any other condition of this consent.

39. Any Compliance Certificate issued for the above stages of construction shall certify that all relevant ancillary or dependent work has been undertaken in accordance with the *Building Code of Australia* and any other condition of this consent.

40. Any additional Council inspection, beyond the scope of any Compliance Certificate package and which is required to verify the compliance of any work, will be charged at the individual inspection rate nominated in Council's Fees and Charges Schedule.

Building Materials and Wastes

41. Building and construction materials, plant and equipment are not to be placed or stored at any time on Council's footpath or roadway.

42. Suitable and effective builder's refuse and waste storage facilities are to be provided on the Site for the duration of construction works.

43. Roads adjoining the Site must be kept clean and free of materials excavated or transported from the Site.

Car Parking and Access

44. All required internal roads and car parking spaces are to be line-marked, sealed with a hard standing, all-weather material and maintained to a satisfactory useable standard.

45. All internal roads and other paved areas are to be graded to provide continuous surface drainage flow paths to approved points of discharge.

46. Entrance/exit points are to be clearly signposted and visible from both the street and the Site at all times.

47. Access to and parking for persons with disabilities is to be provided in accordance with Australian Standard 2890.1-1993.

Tree Protection and Landscaping

48. Barriers, tree guards and other measures employed to protect existing trees on Site are to be effectively maintained for the duration of construction works.

49. All landscaping is to be undertaken in accordance with approved plans/details. All turfed areas are to finish level with adjoining surfaces and shall fall evenly to approved points of drainage discharge.

50. **DELETED.**

Ancillary Works

51. The following ancillary works shall be undertaken, where required:

(a) the relocation of underground services where required by the positioning of new drainage and road infrastructure.

(b) the relocation of above ground power and telephone services.

(c) the matching of new infrastructure into existing or future designed infrastructure.

Public Safety

52. All works undertaken in a public place are to be maintained in a safe condition at all times. Council may at any time and without prior notification make safe any such works Council considers to be unsafe, and recover all reasonable costs incurred from the applicant.

Environmental Management

53. An Environmental Management Plan ("**EMP**") which addresses the following matters is to be prepared in respect of development on the Site and provided to Council 3 months prior to the commencement of operations associated with the Metal Recycling Facility:

(a) Environmental management procedures required to ensure compliance with the Protection of the Environment Operations Act 1997, the Waste Minimisation and Management Act 1995, the Dangerous Goods Act 1975, the Contaminated Land Management Act 1997 and the Rivers and Foreshores Improvement Act 1948 and all associated Regulations (and all Acts which amend, repeal or supplement this legislation).

(b) Responsibility of all employees of the Metal Recycling Facility in relation to prevention of pollution and training requirements (including, without limitation, the prevention of explosions, fires and the pollution of water, soil and air);

(c) Remediation of contaminated soil and water on the Site (including groundwater) in accordance with condition 64;

(d) The storage and handling of all waste either brought onto the Site or generated as part of the development (including, without limitation, details of the lawful off-site disposal of all waste);

(e) Procedures to prevent pollution of air, surface and ground water and soil;

(f) Response procedures and preventative measures in relation to pollution incidents;

(g) Compliance with the ESCP required as part of this consent, including without limitation, information in respect of the following matters:

(i) How the Sedimentation Pond will have sufficient capacity to service all development on the Site (including details of a maintenance schedule to ensure the regular removal of sediment from the Pond)

(ii) Details of how the sediment will be removed from the Pond

(iii) An assessment of the potential for hydraulic connectivity between the Sedimentation Pond and groundwater

(iv) Plans showing the lining of the Sedimentation Pond.

(h) The storage and handling of dangerous goods in accordance with the Dangerous Goods Act 1975, all associated regulations and the requirements of the NSW WorkCover Authority including without limitation the removal of volatile, explosive and hazardous materials from the feedstock; the triple rinsing of tanks and the removal of tanks from cars.

(i) The minimisation of the emission of noise and vibration to ensure compliance with the conditions of this consent;

(j) The establishment and implementation of a complaints register at all times;

(k) Details of an emergency evacuation plan.

Soil Contamination

54. All contaminated soil and other contaminated material excavated from the Site as part of the development must be removed from the Site and disposed of by a licensed contractor at a facility licensed under the Waste Minimisation and Management Act 1995. A report is to be prepared by a suitably qualified consultant detailing the contamination remediation measures required as part of the proposed excavation/construction works. Council may require remediation works and or removal of the soil and or groundwater, depending on the report's recommendations. Following this, an independent validation of the remediation works by an environmental consultant will be required and a report submitted to Council.

PRIOR TO ISSUE OF OCCUPATION CERTIFICATE

Road Damage

55. The cost of repairing any damage caused to Council's assets in the vicinity of the subject Site as a result of construction works associated with the approved development is to be met in full by the applicant/developer prior to the issue of an Occupation Certificate. Should the cost of damage repair work not exceed the road maintenance bond (see Part A of this consent) Council will automatically call up the bond to recover its costs. Should the repair costs exceed the bond amount a separate invoice will be issued to the applicant/developer in respect of these works.

Removal of Temporary Facilities

56. Any temporary toilet facilities provided during construction works are to be appropriately dismantled, disconnected and removed from the Site.

57. All temporary builder's signs or other Site information signs are to be removed upon the completion of Site works.

58. All temporary soil erosion controls employed during construction are to be removed and other permanent measures in accordance with the ESCP are to be implemented prior to the use or occupation of the development.

Works-As-Executed Plans

59. A work-as-executed plan (to a standard suitable for microfilming) prepared by a Chartered Professional Engineer or a Registered Surveyor must be lodged with Blacktown City Council when the engineering works (bulk earthworks) are complete.

Service Authorities

60. The applicant is to obtain a Trade Waste Approval from the Sydney Water Corporation Limited in relation to any discharges to the Corporation's sewerage system.

61. A final clearance is to be obtained from both Integral Energy and the Sydney Water Corporation if such clearance (in the form of a Notification of Arrangement or a Section 73 Certificate) has not previously been issued.

Discharges to Water

62. **DELETED.**

63. As the premises is a "Scheduled Premises" within the meaning of the Protection of the Environment Operations Act, 1997, an application for an environmental licence shall be made to the EPA. A copy of the licence is to be submitted to Council prior to the issue of the Occupation Certificate.

Fire Safety

64. The development must comply with the requirements of the NSW Fire Brigades including but not limited to the following:

(a) The hydrant system is to be extended to control and extinguish any fires.

(b) Details of how contaminated fire water is to be contained are to be provided to the Council.

(c) Clear, unhindered access is to be provided at all times for the NSW Fire Brigades vehicles at all times.

(d) At least a 1.0m clear access is to be provided between stockpiles and the Metal Recycling Facility and its components in the event of a fire hazard.

(e) **DELETED.**

65. A copy of the Stormwater/Management Scheme required by Condition O4.1 of the EPA's General Terms of Approval (held at Attachment "B" of this consent) shall be provided to Council prior to the issue of the Occupation Certificate.

OPERATIONAL MATTERS

Compliance with the general terms of approval of the EPA and DLWC

66. The development must be carried out in accordance with the general terms of approval of the EPA and the DLWC which are annexed and marked "A" and "B" respectively, as amended by the conditions of this consent. A copy of all reports and information required to be submitted to the EPA and DLAWC, must be submitted to the Council contemporaneously.

Hours of operation

67. The hours of operation of activities associated with the Metal Recycling Facility shall not be outside of the following nominated times:

Approved hours of operation:	Monday to Friday:	7.00am - 5.00pm
	Saturday:	7.00am – 3.00pm

No activities are to be conducted on the Site on Sundays or Public Holidays.

Restrictions on volumes of raw and processed materials

68. No more than 60,000 tonnes of raw scrap metal can be processed in the Metal Recycling Facility in any one year. The 60,000 tonne limit is inclusive of all material to be processed in the hammermill (including, without limitation, car bodies).

69. The only raw materials that can be processed in the hammermill facility is general metal scrap which contains no volatile or potentially explosive substances (including, without limitation, petrol tanks).

70. Each year, car bodies may comprise no more than 10% of raw material processed in the Metal Recycling Facility.

71. Each year, car bodies which are to be processed in the Metal Recycling Facility shall not comprise in excess of 10% of the raw materials stored on the Northern part of the Site.

Restriction on storage of materials

72. Car bodies which are to be processed in the Metal Recycling Facility must not be stored on the Southern part of the Site.

73. No goods, materials or trade wastes are to be stored at any time outside the building on either the internal vehicular driveway, car parking area, landscaping, footpath or other than in approved garbage receptacles.

Car parking and traffic

74. A minimum of 20 carparking spaces in total are to be provided on Site, each having minimum dimensions as follows:

(a) uncovered - 2.5m x 5.2m;

(b) parking for plant equipment - appropriately signposted, and linemarked;

(c) widen the entry driveway to 6.5 metres carriageway plus at least 300mm clearance to any structure;

(d) the queuing area is to be appropriately sign posted.

75. The internal driveway and parking areas are to be designed in accordance with Australian Standard 2890.1.

76. Soil and other material must not be deposited on roads adjoining the Site by vehicles entering or leaving the Site.

Enclosure of the Metal Recycling Facility

77. **DELETED.**

Requirement to keep records

78. Records must be kept of all scrap metal, including car bodies received for processing in the Metal Recycling Facility. In addition to the volumetric records from the vehicle weighbridges on the Site, records must be kept which particularise the type of scrap received, and the date on which it was received. These records must be made available to the Council officers for inspection annually following the commencement of the operation of the Metal Recycling Facility.

Video monitoring

79. Video surveillance equipment must be installed to record all raw material as it enters the Metal Recycling Facility.

80. Video recordings are to be on a "continuous tape" basis whereby the tape is retained in the event of an explosion or fire.

81. All video recording is to be kept for a period of 90 days except in the event of an explosion or fire in which case the video recording must be retained for 5 years and provided to the Council and the EPA upon request.

Inspection procedure

82. Prior to the commencement of the operation of the Metal Recycling Facility, an inspection procedure plan must be submitted to the Council detailing the following:

(a) How the type and tonnage of all scrap material (including car bodies) received each month for processing in the Metal Recycling Facility will be recorded;

(b) Inspection procedures to ensure that no volatile substance is processed in the Metal Recycling Facility;

(c) The installation of video monitoring equipment in accordance with the conditions of this consent;

(d) The keeping of written records of all materials which are received at the Site and processed in the Metal Recycling Facility;

(e) Procedures to be undertaken for:

(i) the safe removal from the Site of any explosive or volatile substance received at the Site:

(ii) the decommissioning of vehicles including, without limitation, details of the mechanisms for removal and draining of petrol tanks; and

(iii) the removal, storage and disposal of petrol, oil and all other fuels, fluids and substances removed from raw material received at the Site.

83. The development must be carried out in accordance with the inspection plan required to be submitted pursuant to condition 82.

Projectiles

84. No projectiles of any kind will be discharged from the Metal Recycling Facility.

Explosion prevention

85. No crushed cars can be received on the Site for processing in the Metal Recycling Facility except those vehicles inspected, treated and crushed by Sell & Parker.

86. All petrol tanks and LPG gas tanks must be manually removed from cars prior to the car being processing in the Metal Recycling Facility. Petrol tanks shall not be removed by way of a grab crane or any other mechanical device.

87. All petrol tanks must be drained of fuel and triple rinsed with water.

88. Petrol tanks removed from vehicles on Site must be stored in a separately bunded area in accordance with the requirements of the EMP referred to at condition 53.

89. Petrol tanks, LPG tanks, pressurised tanks or any tanks containing volatile substances shall not be processed in the Metal Recycling Facility.

90. All cars received on the Site will be separately stockpiled in the raw material stockpile area. Sufficient distances must be maintained between stockpiles of cars and other raw materials to allow Fire Brigade access in the event of a fire in either stockpile.

91. A separately bunded area will be provided for the purpose of draining of vehicle fuel tanks. This bunded area shall be located at a safe distance from the raw material stockpile area in accordance with the requirements of WorkCover NSW and the EPA. This bunded area shall not be located on the Southern part of the Site.

92. The bunded area referred to at condition 91 shall be roofed sufficiently to prevent the entry of stormwater into the bunded area. The design, construction and operation of the bunded area shall be in accordance with the EMP referred to at condition 53.

93. All LPG tanks, pressurised tanks or any tanks containing volatile substances removed from cars or any material that enters the Site must be placed in a separately bunded area and removed from the Site in accordance with the requirements of the EMP.

94. No material that may, either individually or in combination with another substance, cause an explosion if processed in the Metal Recycling Facility shall be processed in the Metal Recycling Facility.

95. A sign must be erected at the entrance way to the Site stipulating that the following substances must not be brought on to the Site:

(a) Flammable substances;

(b) Asbestos;

(c) Explosives;

(d) Radioactive materials;

(e) Toxic materials;

(f) Infectious materials.

96. All pressurised vessels received at the Site, including without limitation, LPG, butane and propane, shall be stored in accordance with the requirements of the Dangerous Goods Act 1975; the Dangerous Goods (General) Regulation 1999; the Occupational Health and Safety Act 1983; the Factories Shops and Industries Act 1962; the Workplace Injury Management and Workers' Compensation Act 1998; the Workers' Compensation Act 1987 and all associated Regulations (and all Acts which amend, repeal or supplement this legislation).

97. All decommissioned vehicles are to be kept in a separate storage area from vehicles which have not been decommissioned. Clear signage is to be erected on the Site distinguishing the separate storage areas.

98. All raw materials and processed materials are to be stored in separate storage areas at all times. Clear signage is to be erected on the Site distinguishing the separate storage areas.

Dust explosions

99. The water injection system in the Metal Recycling Facility is to be operational at all times that the metal recycling facility is in operation.

Noise

100. The noise amelioration works identified in all approved drawings and the EIS (as amended by these conditions) must be implemented and maintained.

101. Noise at the Site boundary of the premises must not exceed an $L_{A10(15minute)}$ noise emission criterion of 70dB(A).

102. Noise from all activities on the Site is to be measured on the adjoining premises within one metre of the boundary to determine compliance with condition 101.

103. The L_{10} residential noise boundary contribution from operations on the Site under isothermal conditions shall not exceed 50dB(A) at Sunnyholt Road and 44dB(A) at Camorta Close.

104. Within 90 days of the commencement of the development, noise measurements must be carried out showing compliance with the noise limits required pursuant to this consent. The results of the tests must be submitted to the EPA and the Council within 14 days of the tests being carried out.

105. If the noise measurements submitted to Council pursuant to condition 104 show a failure to comply with the noise limits at conditions 101 and 103, a noise mitigation plan must be submitted to the Council within 28 days of the submission of the noise measurements in accordance with condition 101 and 103. The noise mitigation plan must identify how compliance with these conditions will be achieved.

Overpressure

106. All air blast over pressure levels resulting from activities during the operation of the Metal Recycling Facility, including without limitation, explosions, must not exceed 120dBLin(peak hold) when measured at any boundary of the Site.

107. An air blast over pressure monitor must be installed at the boundary of the Site.

108. Records of all air blast pressure measurements in excess of 120dBLin (peak hold) must be submitted to Council in writing every 30 days following the commencement of the operation of the metal recycling facility. Information in relation to the cause, date and time of all air blast pressure measurements must be included in this report.

109. In the event that air blast over pressure levels from the operation of the Metal Recycling Facility exceed 120dBLin (peak hold), a plan of management must be submitted to the EPA and the Council within 14 days identifying how compliance with the maximum permissible air blast over pressure level will be achieved.

110. The over pressure monitoring system must be capable of measuring and reporting to a limit not less than 165dB(Lin).

Soil and Water Management

111. Soil and water management measures identified in the ESCP must be introduced and be effectively maintained to the satisfaction of the Council. Plans and details of the proposed measures must be submitted to the certifying authority with any application for a construction certificate. The plans should describe procedures for erosion control, surface and subsurface drainage and stabilisation structures as well as a schedule for any necessary phasing of these works.

Dust Suppression

112. A dry sweeper incorporating a vacuum extraction system is to be used to remove dust and other particles from the sealed traffic areas of the operation.

113. **DELETED.**

114. In periods of high wind (>8 metres per second), it will be necessary to reprogram dust generating activities which cannot be adequately controlled by water or other means and may cause nuisance to people or property.

115. During operation of the proposed metal recycling facility operations an air quality monitoring network must be established to the satisfaction of EPA and Council. This monitoring should at least include 30 day dust deposition [maximum dust deposition not to exceed 2 grams per square metre per month (g/m^2mth) above background to a maximum of 4 g/m^2mth total solids].

Car Parking and Access

116. All car parking spaces and internal roads shall be properly maintained and in a condition which is free of dust.

117. **DELETED.**

118. All vehicles are to enter and leave the Site in a forward direction, and all on-Site traffic is to be one-way. Appropriate directional signage is to be erected and kept in a well-maintained condition and should be clearly visible.

119. Both driveways shall be widened to 8.0m for at least the first 10.0m measured from the kerbline of Tattersall Road, with the addition of a 4.0m radius kerb return on the inside of each driveway (one side only).

120. The exit driveway is to be at least 6.0m sealed width, with additional side clearances for at least 0.3m.

121. A directional control signposting system must be installed to the satisfaction of Council.

122. Raw material stockpiles are not to be any closer than 30m from the northern kerb of the weighbridge access road or any location where the stockpiled material would affect the proposed circulation system, with stockpiling also to not prevent vehicular access to the material stockpile.

123. Signs shall be erected to prevent drivers entering the Site by way of the exit driveway.

124. A dynamic sign to be placed on the entry driveway approximately 110 metres from the front boundary of the Site. The sign shall direct drivers to the first available vacant weighbridge.

125. All loading and unloading operations are to take place at all times wholly within the confines of the Site.

126. No vehicles are to queue on Tattersall Road in connection with deliveries of material to the Site.

126A. **DELETED.**

Hydrocarbon Tank

127. The installation of the 5000L hydrocarbon tank referred to at Figure 2.3 of the EIS will be certified by an appropriately qualified environmental engineer.

Landscape Maintenance

128. All landscaped areas are to be maintained at all times in a suitable manner.

Use of Premises

129. The use of the approved development shall, at all times, be conducted in a manner consistent with the terms and conditions of this consent.

Emergency Procedures

130. Instructions concerning procedures to be adopted in the event of an emergency are to be clearly displayed on the premises for both public and staff information at all times to the satisfaction of Council, prior to commencement of the use.

131. **DELETED.**

Other Matters

132. A maximum of 6 skip bins are permitted to be kept on the Northern part of the Site and are to be stored on the location shown on the approved plans at all times.

133. A separate storage area which is bunded is to be provided for the storage of hazardous materials. This area will be maintained in accordance with the requirements of the New South Wales WorkCover Authority and the Dangerous Goods Act 1975 and all associated regulations.

134. All metal cutting/grinding activities are to be undertaken at a safe distance from any dangerous goods stored on the Site and comply with the requirements of the New South Wales WorkCover Authority and the Dangerous Goods Act 1975 and all

associated regulations.

135. Unhindered access for all service/trade waste vehicles is to be maintained at all times. In particular, this applies to the waste enclosure on the north-western part of the Site, and the dangerous goods storage area.

136. The 4.0m high wall and all fencing is to be maintained in a satisfactory manner. No advertising is permitted on the wall fronting Tattersall Road.

137. No stockpile on the Northern portion of the premises is to exceed 7.0m in height. Permanent markings are to be placed on the inner side of the wall along the northern boundary of the premises to Tattersall Road to monitor the height. This marking is to run along the entire wall and be clear and visible at all times.

138. The Metal Recycling Facility and its components are to be provided with the necessary design features which will prevent any fallout of projectiles and/or debris. These features are to be employed at all times during the operation of the Metal Recycling Facility. These features are to be kept in a proper working order, and the Metal Recycling Facility is not to be operated without these additional safety measures.

139. A copy of the acoustical report required by condition L3.3 of the NSW Environment Protection Authority's General Terms of Approval (held at Attachment "B" of this consent) is to be provided to Council upon its preparation. Any components not previously identified as a noise source in the EIS are to be assessed. In addition to this, any noise emissions from existing structures or operations on the Site and any impact of this noise or employees working on the Site are to be assessed. A copy of the report detailing the noise mitigation measures are to be submitted to Council.

140. Within 90 days of commissioning of the Metal Recycling Facility a compliance certificate from an accredited acoustic consulting engineer shall be submitted to Council and the EPA setting out the results of monitoring and confirmation of compliance of the boundary criterion and the sound level pressure contribution at residential receivers.

141. Validation reports on the ongoing performance of the water quality control measures shall be provided to Council within six months of commencement of operation of the Metal Recycling Facility. Monitoring data is thereafter to be provided to Council at six-monthly intervals.

142. All plant and equipment powered or propelled by internal combustion or diesel engines used on the Site must be properly maintained to ensure exhaust emissions comply with the Protection of the Environment (Operations) Act.

Nuisance

143. Spillage of light, if any, shall be controlled so as not to cause nuisance to the amenity of adjoining land.

144. If artificial lighting is proposed full details are to be submitted indicating the manner in which adjoining properties are to be protected.

145. If an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the *Protection of the Environment Operations Act 1997*.

PART A - ENGINEERING WORKS

Drainage Works

146. Drainage from the Site must be connected into:

(a) the existing Site drainage system.

Other Matters

147. Landscaping Bond – a cash bond or bank guarantee in the sum of $10,000 is to be lodged with Council to ensure the effective establishment and maintenance of landscaping. The bond or guarantee is to be lodged prior to the release of the Construction Certificate and will be returned on the following basis:

(a) 50% on completion of landscaping to Council's satisfaction;

(b) 25% six months after the completion date of the landscaping, subject to Council being satisfied that the maintenance program is proceeding satisfactorily;

(c) 25% residue to be refunded twelve months after completion, subject to satisfactory maintenance of the landscape area.

148. **DELETED.**

149. **DELETED.**

150. Restoration of Public Roads – restoration of public road and associated works required as a result of the development shall be carried out by Council and all costs shall be paid by the applicant.

151. **DELETED.**

BLACKTOWN CITY COUNCIL

NOTICE OF DETERMINATION

OF A DEVELOPMENT APPLICATION
UNDER THE ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT 1979 (SECTION 92)

APPLICANT
BLH CONSULTING
C/- SELL & PARKER HOLDINGS P/L
PO BOX 99
WATERLOO 2017

DETERMINATION No. 1 4 6 6 4

File No: DA-96-305

TN.AR0111.NOV

PROPERTY DESCRIPTION
H/N 45, LOT 5, DP 7086, TATTERSALL ROAD, KINGS PARK

DEVELOPMENT
METAL RECYCLING FACILITY

DETERMINATION
Pursuant to Section 92 of the Act Council advises that the Development Application has been determined by:

- GRANTING OF CONSENT SUBJECT TO THE CONDITIONS ATTACHED ON THE FOLLOWING PAGES

BY DELEGATED AUTHORITY - DIRECTOR, DEVELOPMENT SERVICES

RIGHT OF APPEAL
SECTION 97 OF THE ACT CONFERS ON AN APPLICANT WHO IS DISSATISFIED WITH THE DETERMINATION OF A CONSENT AUTHORITY A RIGHT OF APPEAL TO THE LAND AND ENVIRONMENT COURT.

NOTE: This Consent is generally valid for a period of 5 years effective from the date of this notice, unless specified otherwise by Sections 93 and 99 of the Act, or by conditions.

TERRY McCORMACK
A/GENERAL MANAGER
per:

DATE: 27 NOV 1996

Pursuant to Clause 81 of the Environmental Planning and Assessment Regulation 1994, notice of this determination will be published in a newspaper circulating in the local area. In accordance with Section 104A of the Environmental Planning and Assessment Act 1979, any person may question the validity of this consent in legal proceedings commenced in the Land and Environment Court within 3 months of the date of publication of the notice.

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

1. The use or occupation of the approved development shall not commence until such time as all conditions of this development consent have been complied with. The use or occupation of the development prior to compliance with all conditions of development consent may make the applicant/developer liable to legal proceedings.

2. Development is to take place in accordance with the following drawings subject to compliance with any other conditions of this consent.

Drawing No.	Dated	Council's File Encl. No
N00699-C-01 (Civil Works - Concepts)	30.8.96	26G
96.031.2/2 (Section Through Yard)	30.7.96	16D
96.031.½ (Site Plans & Floor Plans)	28.5.96	15A
96.031.1 (Site Plans & Floor Plans Also Incorporating Dust Suppression Details)	27.8.96	34B

NOTE: The abovementioned Civil Works concept plan, and site plans and floor plans shall be amended on the building application to show a minimum scaled dimension of 50m from the "truck ring road" surrounding the facility and the irrigation pump shed to the top of the Breakfast Creek bank.

NOTE: The applicant/developer shall also comply with the dust suppression report prepared by "Hydro-plan", dated 28th August, 1996 and entitled "Preliminary Technical Report - Automatic Pumping and Spray Irrigation System for Dust Suppression for Open Scrap Metal Yard Section of 45 Tattersall Road, Blacktown" at Council's file enclosure 34A.

3. Compliance with the following building requirements:

   A. The submission of a Building Application complying with existing the Local Government Act, 1993 (also to include details of building demolition).

   B. No approval for advertising signs is given by this consent and a separate application is to be made and Council's approval obtained prior to the erection of any signs.

TN.AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664
File No. DA-96-305

CONDITIONS OF APPROVAL

C. A proposed erosion and sedimentation control plan shall be submitted with the Building Application.

D. Submission of an hydraulics layout for the existing building including water supply, sewerage service and roofwater drainage and the correction of any defects or encroachments to the satisfaction of the Director, Development Services.

4. Compliance with the following engineering requirements at Attachment "A".

5. A Section 73 Certificate issued by the Sydney Water Corporation Limited is to be submitted with the required Building Application. Approved building plans will not be released until this certificate has been submitted.

6. Compliance with the requirements of :
   - A. NSW Environment Protection Authority; ✓
   - B. Integral Energy; Seen
   - C. Telstra; ✓
   - *D. Hawkesbury Nepean River Catchment Management Trust; and ✓
   - *E. Department of Land & Water Conservation. ✓

   Possible Area.

   NOTE: See Attachment "A" Condition H to this consent.

7. Car Parking and Access
   - A. 10 off street car parking spaces are to be provided on site.
   - B. Each right angle car parking space is to be a minimum of 5.2 x 2.5m.
   - C. All car parking spaces are to be line-marked and sealed with a hard standing all weather material, and maintained to the satisfaction of Council's Director, Development Services.
   - D. All internal roads shall be constructed of hard standing, all-weather material and shall be maintained to the satisfaction of Council at all times.
   - E. All carparking spaces and internal roadways, storage and manoeuvring areas shall be kept in a dust free manner at all times.

8. Off street car parking is to be encouraged by the placement of prominent signs indicating its availability.

9. Entrance/exit points are to be clearly signposted and visible from both the street and the site at all times.

TN_AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

CONDITIONS OF APPROVAL

10. All loading and unloading operations are to take place at all times wholly within the confines of the site.

11. Landscaping

A. Separate detailed landscaping plans are to be submitted to and approved by Council.

B. Landscaping is to extend along the entire western and eastern boundaries of the subject site to a minimum width of 3m, and also across the full Tattersall Road frontage of the site.

C. A minimum 3m wide densely landscaped area shall be created immediately to the north of the proposed office and carparking area, extending in each direction to the trucking road.

D. There shall be a minimum of 50m distance from the top of the existing Breakfast Creek bank to the truck ring road and proposed irrigation pumping shed. This 50m distance shall be heavily landscaped and all details of landscaping should be prepared by a qualified landscape architect to the satisfaction of Council's Landscape Architect. Approved building plans will not be released until Council's Landscape Architect is satisfied with those plans.

E. Such landscaping is to include suitable species (including ground covers, shrubs and trees) which, at maturity, will provide a dense screen of vegetation at least 10 m high, along the southern, eastern and western site boundaries of the site, and in front of the proposed office and parking. In this regard, advanced, fast growing tree species should be planted. Landscaping plans should include details of species and common name, mature growth height and estimated growth time.

F. Landscaping is to be completed to the satisfaction of the Director, Development Services prior to the use or occupation of the development and is to be maintained at all times to the satisfaction of the Director, Development Services.

12. No filling or earthworks carried out on the site shall interfere with the existing natural drainage system unless approved by Council.

13. That part of the site shown upon the approved drawings as not being related to the metal recycling facility shall not be redeveloped without the prior consent of Council.

14. Spillage of light, if any, shall be controlled so as not to cause nuisance to the amenity of adjoining land.

TN_AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

15. If an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the Noise Control Act, 1975.

16. The emission of noise from the site shall not exceed the relevant standards of the NSW Environment Protection Authority (noise as measured at the boundaries of the relevant industrial and nearby residential properties).

17. The hours of operation of the metal recycling facility are limited to:
    7a.m. to 5p.m. Monday to Friday
    7a.m. to 12 midday on Saturday
    Any alterations to these hours would require the separate approval of Council.

18. Site Remediation

    Page 12 of the "Stage 2 Environmental Site Investigation" Report prepared by ADI Services refers to approximately 30 m^3 (100 m^2) of zinc impacted soil, located beneath/around the saw mill building.

    This zinc impacted soil is to be removed completely from the site and the area validated by an approved consultant to Council's satisfaction prior to commencement of the Metal Recycling Facility.

19. Storage

    Scrap metal shall not be stored in mounds of a height exceeding 7.5 m above existing ground level.
    In this regard a permanent marker pole showing 2.5 m, 5.0 m x 7.5 m height above ground level is to be erected within the metal storage area so as to be visible from all parts of the storage area. Full details to be provided on the Building Application.

20. In addition to Condition 11C above a screen wall of suitable height is to be erected on both sides of the proposed office, and extending west and east to the truck ring road, to screen the scrap metal piles from Tattersall Road. This wall may form part of the office and could be constructed as a "mock wall". Full details of wall height, materials of construction and external finishes to be submitted with the Building Application.

21. The sheering installation shall be set in the site bedrock and mounted on absorption pads to minimise noise emission.

TN.AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is to the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per

DATE: 27 NOV 1996

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BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

CONDITIONS OF APPROVAL

22. The development and operation of the metal recycling facility shall generally be carried out in accordance with the Statement of Environmental/Effects prepared by Axis Environmental Consultants Pty Ltd, dated July 1996 and located at Council's file enclosure 10A.

TN.AR0111.NOV

These conditions are imposed for the following reasons:

(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.

(b) To ensure that no injury is caused to the amenity of the area.

(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

ATTACHMENT "A" - ENGINEERING CONDITIONS

A. The following amount must be paid upon submission of Engineering Plans for approval

Design Checking and Inspection Fee $414

The amounts mentioned above is valid until 30th June, 1997 after which it is payable at the rate applicable at the time of payment.

B. Erosion, sediment control and re-vegetation measures must be provided prior to any construction activity and maintained during the construction and maintenance period. Details (which may include a written strategy) must be lodged with the engineering plans.

C. Existing vegetation must be left undisturbed except where drainage lines and filling works are proposed.

D. Re-vegetation must be applied to disturbed areas as soon as practical after completion of the earthworks or as directed by Council and must be established prior to Council's final inspection of the engineering works. All open drains must be turfed to the satisfaction of Council's Engineer.

E. Prior to the commencement of any earthworks the site must be inspected by Council's representative and the applicant's representative to identify and appropriately mark:-

(i) The trees to be retained.
(ii) All areas to be left undisturbed and cordoned off.

F. Drainage from the site must be connected into Council's existing drainage system to the satisfaction of the Director, Development Services. Details must be submitted to and approved by the Development Services Engineer prior to commencement of building construction/and the construction of the drainage line must be completed prior to commencement of building construction. Where drainage involves the provision of drains across land owned by others evidence of the creation of necessary easements must be lodged with Council prior to release of the building permit.

G. Details of bank stabilisation and protection measures are to be submitted in conjunction with the engineering plans for approval by Council's Catchment and Drainage Design Section and Development Engineers.

H. Prior to approval of engineering plans by Council the proposal is to be forwarded to the NSW Environment Protection Authority and the Hawkesbury Nepean River Catchment Management Trust for written comments regarding the proposal, and in particular the operating and design details of the recycled water pond to be used for dust suppression.

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 1996

11:08 96, 82 VON 963 P08 +0263416 49 BLH CONSULTING

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

I. A separate application must be lodged with Council for the construction of the industrial vehicular footway crossing with minimum width of 6.0 metres servicing this development. This application will be subject to payment of the appropriate Crossing Inspection Fee, and inspections arranged through Council's Engineering Clerk on phone 9839.6367. The crossing is to be constructed in accordance with Council Plan A(BS)61S.

J. Prior to commencement of construction of footway crossings a clearance must be obtained from Telstra and Integral Energy that all necessary ducts have been provided under the proposed crossing.

K. Finished levels of all internal works at the road boundary of the property must be 4% above the top of the kerb/near edge of the existing concrete path paving.

L. Redundant gutter crossing must be replaced with integral kerb and gutter. The footway area must be restored by turfing to the satisfaction of the Director, Development Services.

M. Work required by this Notice MUST NOT be commenced until engineering plans showing full design details have been approved by the Development Services Engineer. Designs must be in accordance with the current edition of Council's "Engineering Development Guide" and works must be in accordance with the current edition of Council's "Works Specification Subdivisions/Developments". Engineering submissions must be accompanied by Form SEA.10, a copy of which can be found in the "Subdivision Guide Engineering". Council's Development Engineers are available for consultation between 10.00am and 12.00noon weekdays.

N. Seven days written notice must be given of the commencement of the engineering works and must be accompanied by evidence of the contractor's Public Liability and Workers Compensation Insurances.

O. All Engineering work required by the Director, Development Services MUST be inspected, by Council's Engineering Development Overseer who can be contacted by phoning 9830-9715 between 7.00am & 8.00am or 12.30pm & 1.30pm). 24 hours notice must be given. Fees must be paid prior to contact.

P. An application for practical completion shall be accompanied by Form SEW20, a copy of which will be sent with the approved engineering plans. A copy can also be found in the "Subdivisions Guide Engineering".

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per:

DATE: 27 NOV 96

11:08 96, 82 NOV 963 P09 BLK COUNSELLING

BLACKTOWN CITY COUNCIL
NOTICE OF DETERMINATION
OF A DEVELOPMENT APPLICATION

UNDER THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (SECTION 92)

DETERMINATION No. 14664

File No. DA-96-305

Q. A work-as-executed plan (to a standard suitable for microfilming) under the hand of a Chartered Professional Engineer or a Registered Surveyor must be lodged when the engineering works are complete. In addition a certificate in Council's standard format shall be submitted by a Registered Surveyor indicating that all pipelines and associated structures lie wholly within any easements required by the engineering works.

TN.AR0211.NOV

These conditions are imposed for the following reasons:
(a) To ensure compliance with the terms of the relevant Environmental Planning Instruments.
(b) To ensure that no injury is caused to the amenity of the area.
(c) Council considers that the circumstances of the case are such that it is in the public interest that they be imposed.

TERRY McCORMACK
A/GENERAL MANAGER

per

DATE: 27 NOV 1996

+0263416 49 BLH CONSULTING
963 P10 NOV 28 '96 08:12

Annex F

WorkCover Dangerous Goods Search

NSW GOVERNMENT | WorkCover

WorkCover NSW
92-100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
WorkCover Assistance Service 13 10 50
DX 731 Sydney workcover.nsw.gov.au

Our Ref: D14/075523
Your Ref: Nathan Hegarty

24 June 2014

Attention: Nathan Hegarty
Environmental Resources Management Australia Pty Ltd
PO BOX 5711
Port Macquarie NSW 2444

Dear Mr Hegarty,

RE SITE: 45 Tattersall Rd Kings Park NSW

I refer to your site search request received by WorkCover NSW on 17 June 2014 requesting information on licences to keep dangerous goods for the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licence 35/000935 & 35/034407 relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID).

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

Brent Jones
Senior Licensing Officer
Dangerous Goods Notification Team

Environmental Resources Management Australia			
Referred to:	N11	Ref. No.	
Date received	26-6-14		
Checked by:			
Accepted by ..... Project Director / Manager		Date:	

NSW GOVERNMENT | WorkCover

WorkCover NSW
92-100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
WorkCover Assistance Service 13 10 50
DX 731 Sydney workcover.nsw.gov.au

Our Ref: D14/075523
Your Ref: Nathan Hegarty

24 June 2014

Attention: Nathan Hegarty
Environmental Resources Management Australia Pty Ltd
PO BOX 5711
Port Macquarie NSW 2444

Dear Mr Hegarty,

RE SITE: 23-43 Tattersall Rd Kings Park NSW

I refer to your site search request received by WorkCover NSW on 17 June 2014 requesting information on licences to keep dangerous goods for the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licence 35/005193 relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID).

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

Brent Jones
Senior Licensing Officer
Dangerous Goods Notification Team

Environmental Resources Management Australia
Referred to: NH Ref. No.
Date received 26-6-14
Checked by:
Accepted by: ..... Date: .....
Project Director / Manager

WorkCover NEW SOUTH WALES

RECEIVED
SERVICE
13 MAR 2006
WORKCOVER
NEW SOUTH WALES

DECLARATION

To be completed where notifiable amounts of Dangerous Goods are not stored.

I CHRISTOPHER COUNTER (name), of SELL & PARKER PTY LTD PO BOX 755 MATRAVILLE 2036 (address)
declare that I do not store and handle Dangerous Goods at premises 35/034407,
site 45 TATTERSALL RD, BLACKTOWN 2148
in quantities that exceed or are likely to exceed the manifest quantity in the Table to Schedule 5 of the Occupational Health and Safety Regulation 2001.

.....Signature

6.3.06 .....Date

SELL AND PARKER PTY. LIMITED

This declaration is to be returned with your licence to :

WorkCover New South Wales
Dangerous Goods Notification Team
LOCKED BAG 2906, LISAROW NSW 2252

Dangerous Goods Licensing
ph (02) 4321 5500 fax (02) 9287 5500

Attn: CHRIS COUNTER
Licensee: **SELL & PARKER PTY LIMITED** ACN 000 101 315
P O BOX 755
MATRAVILLE NSW 2036

LICENCE FOR THE KEEPING OF DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATIONS THEREUNDER

Licence Number 35/034407 **Expiry Date** 23/03/2006 **No. of Depots** 2

Licensee Contact CHRIS COUNTER Ph. 02 9319 2633 Fax. 02 9699 2251

Premises Licensed to Keep Dangerous Goods
SELL & PARKER PTY LIMITED
45 TATTERSALL RD BLACKTOWN 2148

Nature of Site METAL AND MINERAL WHOLESALING

Major Supplier of Dangerous Goods LINDE

Emergency Contact for this Site BRIAN DENNIS (A/H: 0417 621 263) Ph. 02 9621 2633

Site staffing 11 HRS 6 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	**ABOVE-GROUND TANK**	**Class 2.2**	**2100 M3**
	UN 1073 OXYGEN, REFRIGERATED LIQUID		2100 M3
2	**EXEMPT - STORAGE AREA**	**Class 2.1**	**90 KG**
	UN 1075 PETROLEUM GASES, LIQUEFIED		45 KG
	UN 1075 PETROLEUM GASES, LIQUEFIED		45 KG

31/10/05

= ABOUT 5000 LT ACCORDING TO STEVE LINDE

PLEASE RETAIN AS PROOF OF LICENCE
Issued by Workcover Authority of New South Wales on 2 March 2005

Level 2 .

WorkCover New South Wales, 400 Kent Street, Sydney 2000. Tel: 9370 5000 Fax: 9370 5999 ALL MAIL TO G.P.O. BOX 5364 SYDNEY 2001

Licence No. 35/034407

APPLICATION FOR RENEWAL
OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

WORKCOVER NEW SOUTH WALES

DECLARATION: Please renew licence number 35/034407 to 24/03/2003 . I confirm that all the licence details shown below are correct (amend if necessary).

..... CHRIS COUNTER 14.3.02

(Signature) *(Please print name)* *(Date signed)*

for: SELL & PARKER PTY LTD

*THIS **SIGNED** DECLARATION SHOULD BE **RETURNED TO: (please do not fax)***

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 25 February 2002

RECEIVED SERVICE CENTRE 15 MAR 2002 WORKCOVER NEW SOUTH WALES

Licence Number 35/034407 **Expiry Date** 24/03/2002 ✓

Licensee SELL & PARKER PTY LTD ACN 000 101 315 ✓
~~SELL & PARKER METAL MERCHANTS~~ ✗
PTY LTD ✗

Postal Address: SELL & PARKER ~~METAL MERCHANTS~~ P O BOX 1087 WATERLOO NSW 2017

Licensee Contact CHRIS COUNTER Ph. 02 9319 2633 Fax. 02 9699 2251 ✓

Premises Licensed to Keep Dangerous Goods
SELL & PARKER PTY LTD ~~SELL & PARKER METAL MERCHANTS~~ ✗
45 TATTERSALL RD BLACKTOWN 2148

Nature of Site METAL AND MINERAL WHOLESALING ✓

Major Supplier of Dangerous Goods BOC ✓

Emergency Contact for this Site BRIAN DENNIS (A/H: 0417 621 263) Ph. 02 9621 2633 ✓

Site staffing 11 HRS 6 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot		Qty
1	**ABOVE-GROUND TANK**	**Class 2.2**	✓	**2100 M3**
	UN 1073 OXYGEN, REFRIGERATED LIQUID			2100 M3
2	**EXEMPT - STORAGE AREA**	**Class 2.1**	✓	**90 KG**
	UN 1075 PETROLEUM GASES, LIQUEFIED			45 KG
	UN 1075 PETROLEUM GASES, LIQUEFIED			45 KG

Application for Licence to Keep Dangerous Goods

WorkCover NEW SOUTH WALES

Expy. 24/3/2007.

Application for ☒ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

PART A – Applicant and site information

See page 2 of Guidance Notes.

1 Name of applicant: Sell & Parker Pty Ltd — ACN: 000 101 315

2 Postal address of applicant: PO Box 1087 — Suburb/Town: Waterloo — Postcode: 2017

3 Trading name or site occupier's name: Sell & Parker Metal Merchants

4 Contact for licence inquiries
Phone: 9319 2633 — Fax: 9699 2251 — Name: Chris Counter

5 Previous licence number (if known): 35/ - 034407

6 Previous occupier (if known): -

7 Site to be licensed
No: 45 — Street: Tattersall Road
Suburb / Town: Blacktown — Postcode: 2148

8 Main business of site: Scrap Metal Merchants

9 Site staffing: Hours per day: 11 — Days per week: 6

10 Site emergency contact
Phone: Site Office: 9621 2633 / After Hours: 0417 621 263 — Name: Brian Dennis

11 Major supplier of dangerous goods: BOC Gases

12 If a new site or for amendments to depots – see page 4 of Guidance Notes.
Plan stamped by: Name of Accredited Consultant: Laurel Cooper — Date stamped: 14/03/00

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant: C S Counter. — Printed name: CHRISTOPHER COUNTER — Date: 20.3.00

SELL AND PARKER PTY. LIMITED

Please send your application, marked *CONFIDENTIAL*, to: **Dangerous Goods Licensing, WorkCover NSW, Level 3, GPO Box 5364, SYDNEY NSW 2001**

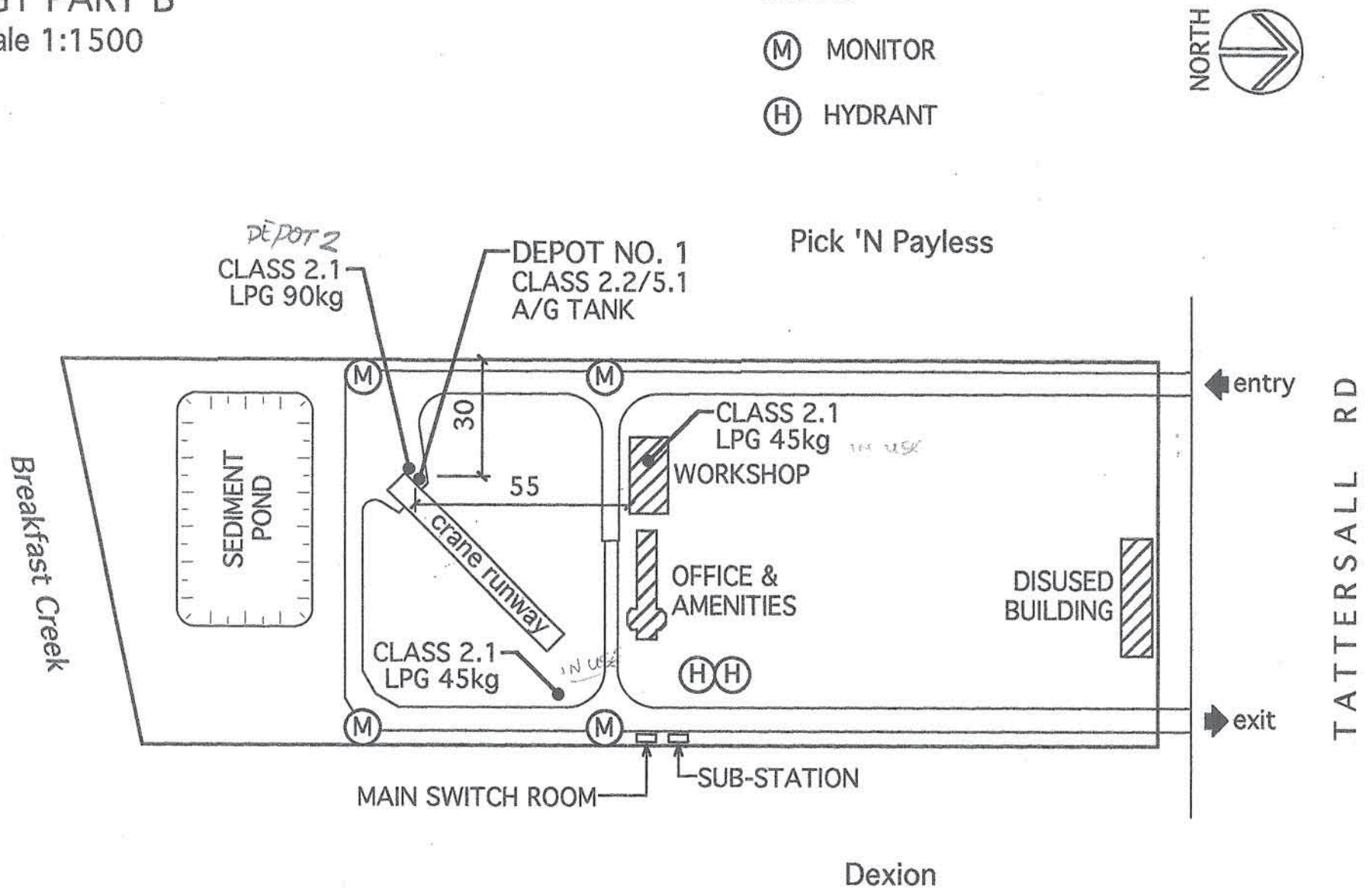
DG1 PART B

Scale 1:1500

LEGEND

(M) MONITOR

(H) HYDRANT



What is a depot? See page 5 of the Guidance Notes.

PART C – Dangerous Goods Storage *Complete one section per depot.*

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
1	Aboveground Tank	2.2/5.1	2,100 m3

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1073	Oxygen, Refrigerated Liquid	2.2/5.1		Liquid Oxygen	2,100	m3

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
2.	EXEMPT STORAGE AREA	2.1	90kg.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1075	LPG	2.1			45kg	
1075	LPG	2.1			45	kg

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

DEPARTMENT OF INDUSTRIAL RELATIONS
1 OXFORD STREET, P.O. BOX 847, DARLINGHURST 2010, N.S.W.
TELEPHONE: 266 8111 (DX22, SYDNEY)

935

TO BE PAID

INSPECTORS NOTICE

APPLICATION FOR
LICENCE FOR THE KEEPING OF DANGEROUS GOODS
UNDER AND SUBJECT TO THE PROVISIONS OF THE
DANGEROUS GOODS ACT, 1975
AND REGULATIONS THEREUNDER.

DEPOT TYPE	PRODUCT	UNITS (ABT)	CLASS	FEE
1 U/G TANK	FLAMMABLE LIQUID	10,000	3	$D

Filled & sealed

Laced by

CANCELLED
Deleted
19 JAN 1989

DECLARATION: I certify that the details shown are correct (amend if necessary) and forward herewith fee of $ .....(Signature) .....(Date) .....

APPLICANT
BURTON BLDG CORP P/L
45 TATTERSALLS RD
BLACKTOWN 2148

AMOUNT PAYABLE
$15.00

PREMISES TO BE LICENSED OR REGISTERED IF NOT AS ABOVE

35 0009356 LICENCE/REG. No. 15 SEPT 84 NEXT EXPIRY

HCS.

EXPLANATORY

Inflammable Liquid-

Mineral Oil - includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.
Mineral Spirit - includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods -

Class 1 - acetal, acetaldehyde, acetone, acrolein, amyl mercaptan, butyl acetate, butyl mercaptan, butyl propionate, crotonaldehyde, dichloro-ethylene, diethylketone, dioxane, diethylamine, dimethyl hydrozine, dipropylamine, divinyl ether, dipropyl ether, ethyl acetate, ethyl acrylate, ethyl chloride, ethyl ether, dichloroethane (ethylene dichloride), ethyl mercaptan, ethyl methacrylate, ethyl methyl ether, ethyl propyl ether, ethyl propionate, methyl propyl ketone, methyl acetate, methyl acrylate, methylal, methyl ethyl ether, methyl ethyl ketone, methyl methacrylate, methyl vinyl ketone, methyl vinyl acetate, piperidine, propanal, propyl acetate, propylamine, propylene oxide, pyridine, tetrahydrofuran, thiophene, triethylamine, valeraldehyde, vinyl acetate, vinyl allyl ether, vinyl butyl ether, vinyl butyrate, vinyl cyanide (acrylonitrile), vinylidene chloride, vinyl ethyl ether, vinyl propyl ether, vinyl propionate, any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit, manufactured products, containing organic solvents, having a true flashing point of less than 73 degrees Fahrenheit.

Class 2 - acetic acid, acetyl acetone, acetic anhydride, allyl alcohol, amyl acetate, amyl alcohol, butyl alcohol, butyl methacrylate, chlorobenzene, cyclohexanone, dibutyl ether, dibutyl ketone, dipentene, epichlorohydrin, ethanol (ethyl alcohol), ethyl benzene, ethylene diamine, furfural, mesityl oxide, methyl alcohol, methyl amyl ketone, methyl butyl ketone, pine oil (having a flashing point below 150°F), propyl benzene, propanol, vegetable turpentine, vinyl benzene (styrene monomer), any liquid containing more than 50 per centum ethyl alcohol, manufactured products, containing organic solvents, having a true flashing point of 73 degrees Fahrenheit and above but not exceeding 150 degrees Fahrenheit.

Class 3 - nitro-cellulose moistened with an alcohol, nitro-cellulose product.

Transfer & renew A935 to 15/9/70.

Class 4 - compressed or dissolved acetylene contained in a porous substance.

Class 5 (A) - liquefied inflammable gases (liquefied petroleum gas, vinyl chloride, ethylene chloride, ethylene oxide, butadine, methylamine, dimethylamine and trimethylamine).

Class 9 - Carbon disulphide, ethyl nitrite.

DIRECTIONS

Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Department of Mines, Sydney, and must be accompanied by the prescribed fee, as set out in Regulation 7.

1. Name in full of occupier — BURTON BUILDING CORPORATION PTY LTD
2. Occupation — Builders.
3. Locality of the premises in which the depot or depots are situated — No. or Name 45; Street TATTERSALLS RD; Town BLACKTOWN; Factory; Postcode 2148
4. Nature of premises (Dwelling, Garage, Store, etc.) — 16/9.

5. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time

~~PLEASE ATTACH PLANS OF PREMISES.~~

Depot No.	Construction of depots*			Inflammable liquid		Dangerous goods					
	Walls	Roof	Floor	Mineral Spirit gallons	Mineral Oil gallons	Class 1 gallons	Class 2 gallons	Class 3 lb	Class 4 cu ft	Class 5 A water gallons	Class 9 gallons
1	Underground Tank.			2000.							
2											
3											
4											
5											
6											
7											
8											
9											
10											

PUBLIC REVENUE A/c
6-50
18/12/69
(Date)
Receipt No. 15 51

* If product is kept in tanks describe depots as underground or aboveground tanks.

BURTON BUILDING CORPORATION PTY.
Signature of Applicant — Secretary
Postal Address — 45 TATTERSALLS RD
BLACKTOWN.

Date of Application 16. 12. 1969.

Person to Contact re Installation ERROL GOOD. Phone No.: 622833

EQUIPMENT REQUIRED

Product	Single/Dual	Manual/Meter	No.	Tanks	No.
1. SUP. M/S	—	—	—	2000 G. U/G	1
2.					
3.					

ELECTRIC METER PUMPS: SPECIAL DETAILS

Is electrical power connected? ..... A.C. or D.C. ..... Voltage (Refer to Switchboard) .....

Distance from Pump to Switchboard .....

Is power available at pump? (Conversion Manual to Meter) .....

NOTE: G.F. assumes obligation to CONNECT to switchboard only. Be certain client understands meter pump CANNOT BE INSTALLED UNLESS SWITCHBOARD CAPACITY IS SUFFICIENT. Each pump whether single or dual must have its own circuit fuse: Single 4½ Amps. — Dual 9 Amps.

Be certain client understands HE must arrange for any necessary adjustments to the switchboard.

GENERAL DETAILS

Distance from Pump Block to Tank/s 12 FT. Distance from Tank/s to Fill Point/s DIRECT FILL

(Explosives Regulations provide that the Fill Point cannot be inside a building or within 5 feet of a doorway or window.)

Distance from Tank/s to Nearest Wall 20 FT. Height of Wall 30 FT.

Will Tank/s be inside Building? NO If so, under what surface (wood, concrete, etc.)? —

If Tank/s to be outside building describe present surface (Earth, Concrete, gravel, etc.) EARTH — LAWN.

Excavation for Tank/s — Describe type of soil (sand, clay, rock, etc.) SAND & CLAY.

If local labour available for excavations (Country Only) state contractor's name and address .....

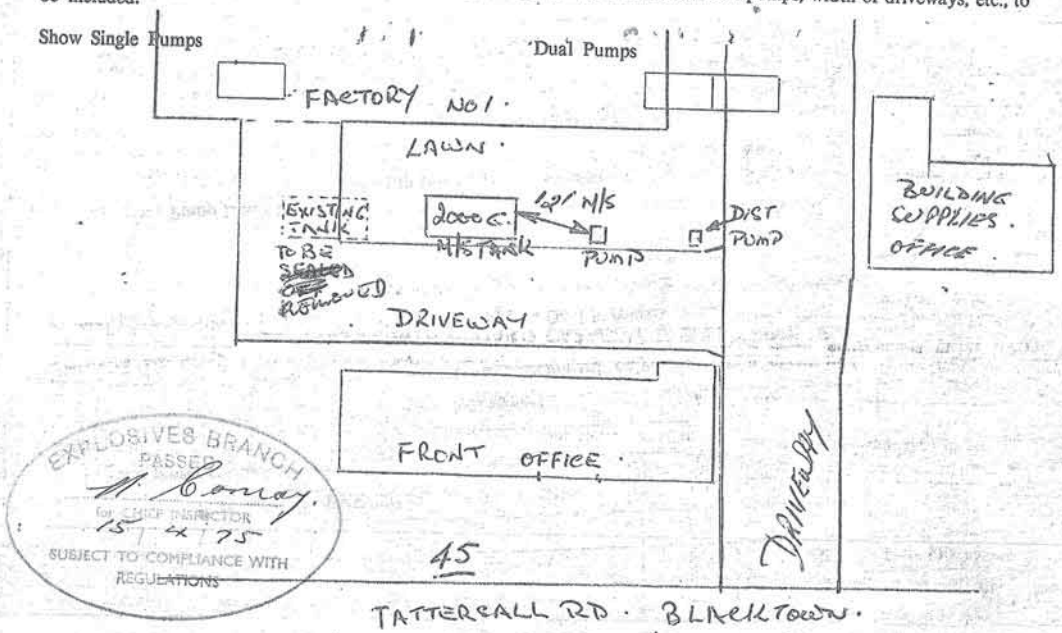
LOCAL COUNCIL REQUIREMENTS

Name of Municipality BLACKTOWN.

Has Council Permit been obtained? YES.

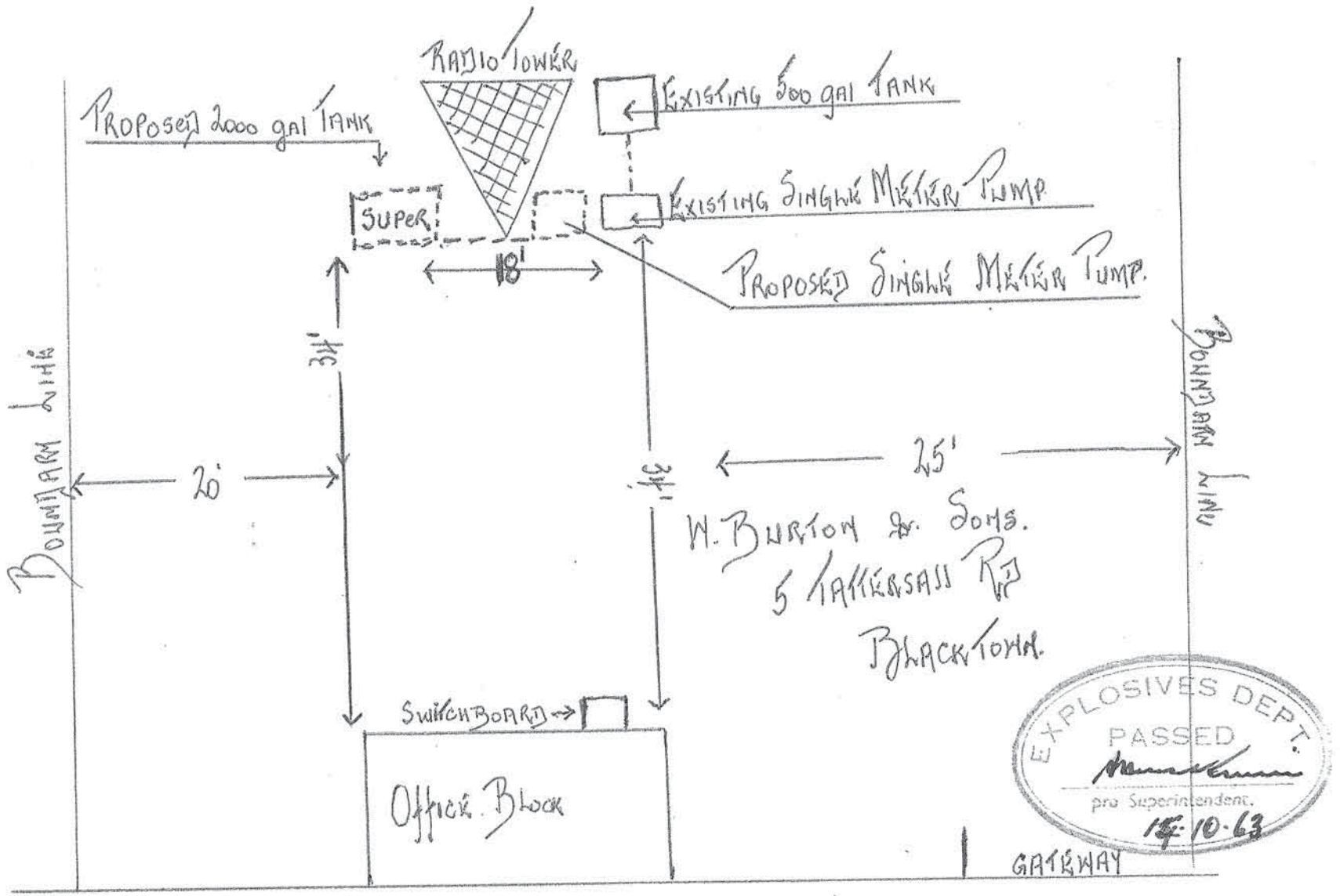
Are there any special council requirements? NO. MINES APPROVAL.

Prepare below Sketch Plan of Driveway Area showing details of Pump, Tank and Fill Point including location of other Company Pumps in relation to the Building. Frontages of property, distance between pumps, width of driveways, etc., to be included.



EXPLOSIVES BRANCH PASSED M. Conway for CHIEF INSPECTOR 15/4/75 SUBJECT TO COMPLIANCE WITH REGULATIONS

District Supervisor .....



TALLEGALLA RD BLACKTOWN

CONTACT FOR NOTIFICATION INQUIRIES

Title: Mr / Miss / Ms / Mrs / Other (please specify) MR **Family name** SALSKI
Given name ROBERT **Other names** ANDREW
Business phone 9830-5153 **Business fax number** 9830-5014
Business email address BOB.SALSKI@DEXION.COM.AU.

Previous Licence Number or Acknowledgement Number (if known)
35/ 005193

Previous Occupier (if known)

Site on which dangerous goods are to be kept
Number 23 Street TATTERSALL ROAD.

Suburb/Town/Locality KINGS PARK N.S.W. Postcode 2148

Nearest cross Street SUNNYHOLT RD

Lot and DP if no street number

Is the site staffed? If yes state number of employees 90

Site staffing: Hours per day 16 Days per week 5

Site Emergency Contact
Phone number (02) 983-5153 **Name** BOB. SALSKI

Nature of site (eg petrol station, warehouse etc)
MANUFACTURING FACTORY + WAREHOUSE

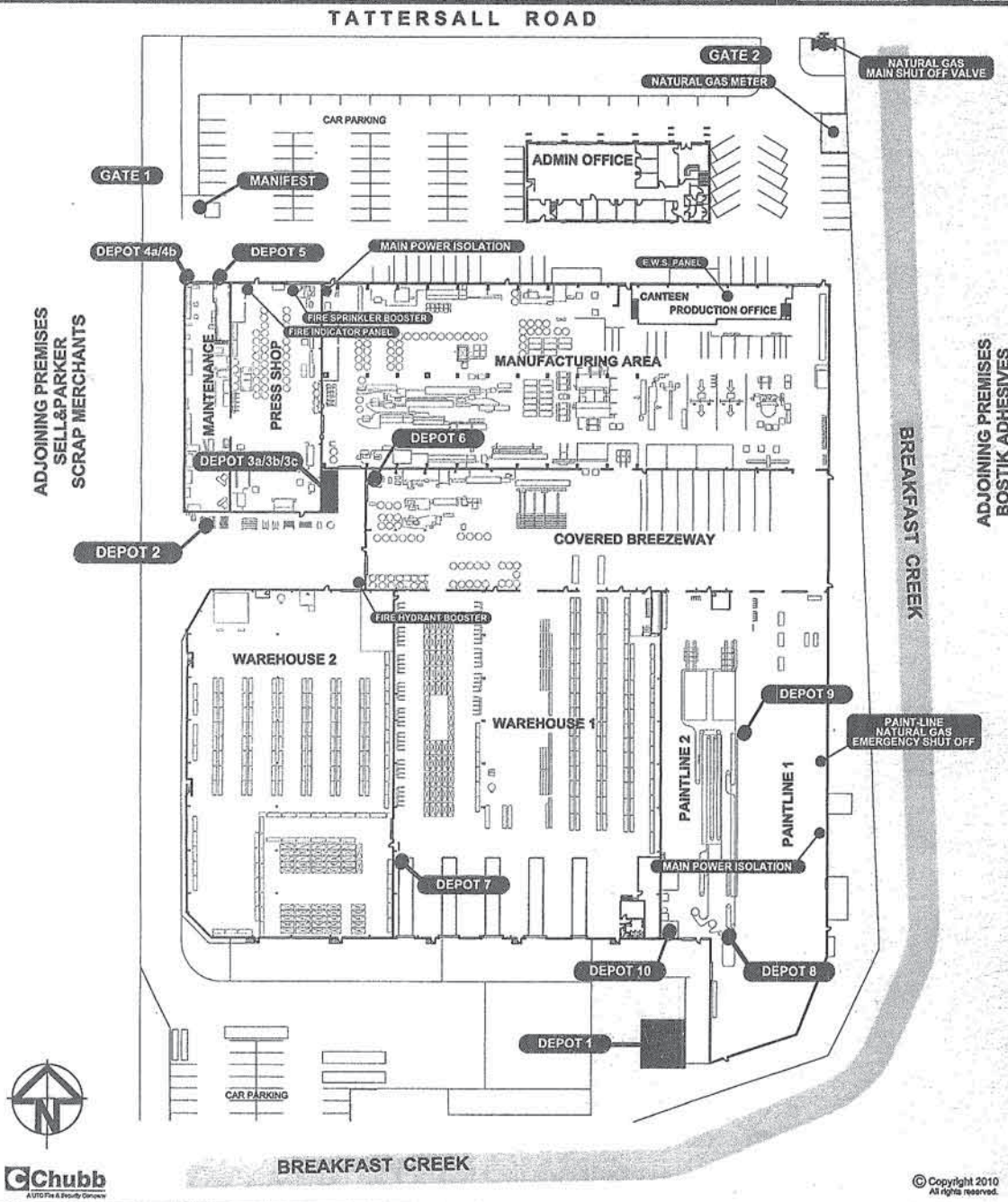
Nature of primary business activity
STRUCTURAL METAL PRODUCT MANUFACTURING.

ABN Number (if any) Website details (if any) WWW.DEXION.COM.AU.

What is the ANSZIC code most applicable to your business? (see guide for list of codes and further information)
Code 274 Description STRUCTURAL METAL PRODUCT MANUFACTURING.

Attach a site sketch(s) of the premises. Refer to the Guide GDG01 for information on the requirements for the site sketch.

Attach a legible photocopy page from a local Street Directory or other map showing the locality of the premises. Mark the location of the premises with an X.



DANGEROUS GOODS MANIFEST

DEXION®

23 TATTERSALL ROAD, KINGS PARK NSW 2148

DANGEROUS GOODS LEGEND

2.1	FLAMMABLE GASES (LP GAS)	5.1	OXIDIZING SUBSTANCES
2.2	NON FLAMMABLE NON TOXIC GASES	6.1	TOXIC SUBSTANCES
3	FLAMMABLE LIQUIDS	8	CORROSIVE SUBSTANCES

PRINTED: 3rd MAY 2010

DANGEROUS GOODS MANIFEST

DEPOT No.	DEPOT DESCRIPTION	PRODUCT	CAPACITY	CLASS	PG
1	External Roofed Store	Paint / Phosphate	20,000 Litre / 1000 Litre	3 / 8(6.1)	III / II
2	Cylinder Store	LPG	1,600 Litre	2.1	
3a	Above Ground Tank	Argon	4,500 Litre	2.2	
3b	Above Ground Tank	Carbon Dioxide	1,500 Litre	2.2	
3c	Cylinder In Use	Oxygen	1,500 Litre	2.2 (5.1)	
4a	Cylinder Store	Acetylene / LPG	500 Litre	2.1	
4b	Cylinder Store	Oxygen	600 Litre	2.2 (5.1)	
5	Flammable Cabinet	Various	250 Litre	3	III
6	Minor Store	Diesel	400 Litre	C1	
7	Flammable Cabinet	Various	650 Litre / 160 Litre	3	III
8	Internal Store	Paint	600 Litre	3	III
9	Internal Store	Phosphate	400 Litre	8 (6.1)	II
10	Internal Store	Paint	2,500 Litre	3	III

Chubb
A UTC Fire & Security Company

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All rights reserved.

List the dangerous goods that will be stored and/or processed on these premises (refer to Guide GDG01). Copy this page and attach additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
4A	CYLINDER STORE	2.1	500L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1075	PETROLEUM GASES LIQUIFIED	2.1		LPG.	2WE	500	L.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
9	ROOFED STORE	8	400 L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
2922	CORROSIVE LIQUID, TOXIC NOS	8(6.1)	II	PHOSPHATE	2XE	100	L.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
8	ROOFED STORE	3	600 L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1263	PAINT	3	III	PAINT	3Y	600	L.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

List the dangerous goods that will be stored and/or processed on these premises (refer to Guide GDG01). Copy this page and attach additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
1	ROOFED STORE	3	21,000 L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1263	PAINT	3	III	PAINT	3Y	20,000	L.
2922	CORROSIVE LIQUID TOXIC, NOS	8(6.1)	II	PHOSPHATE	2XE	1,000	L.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
10	ROOFED STORE	3	2500 L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1263	PAINT	3	III	PAINT	3Y	2500	L

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
2	CLYINDER STORE	2.1	1600 L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1075	PETROLEUM GAS LIQUEFIED	2.1		LPG	2WE	1600	L.

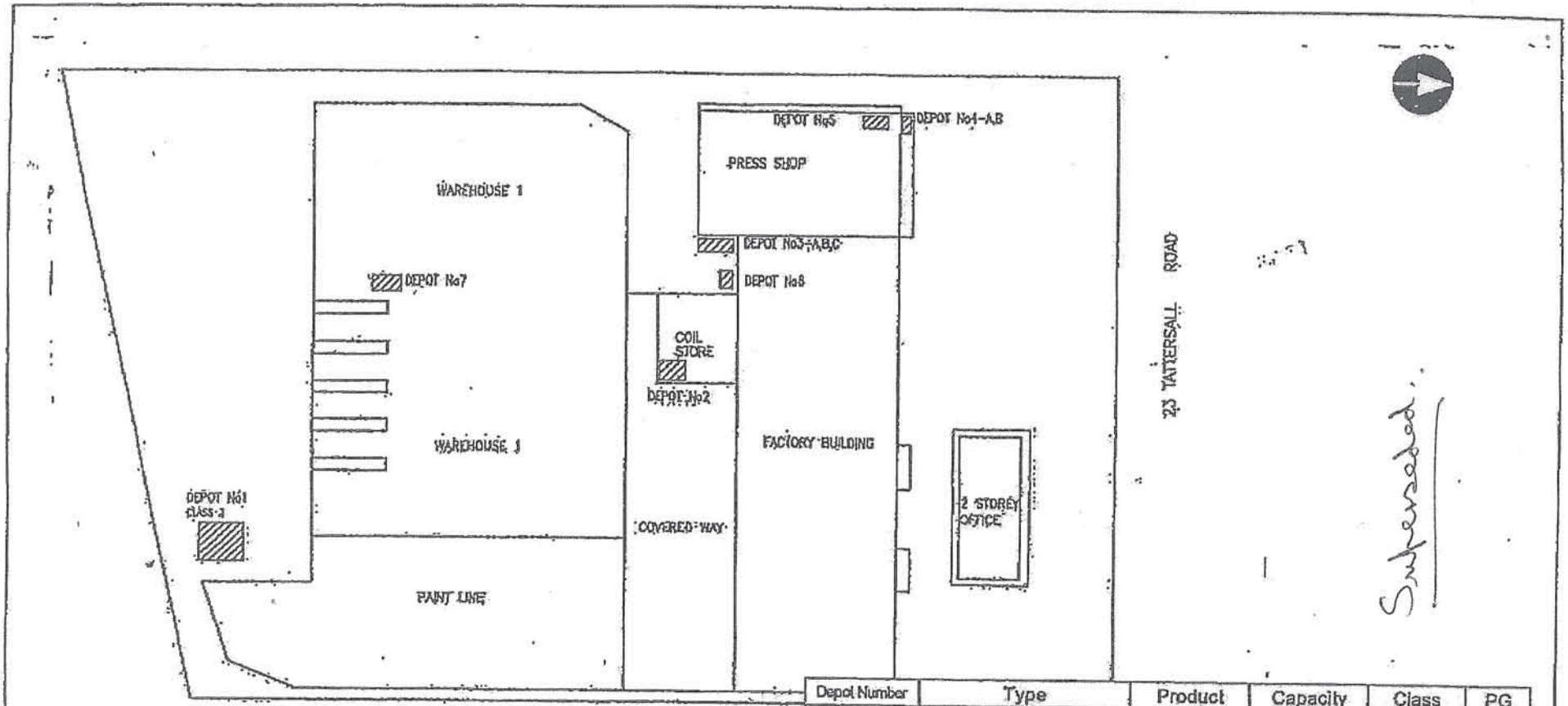
Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
3A	ABOVE GROUND TANK	2.2.	4500 L.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1951	ARGON REFRIGERATED LIQUID	2.2	2RE	ARGON		4500	L.

ot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
B.	ABOVE GROUND TANK	2.2.	1500 L.

mber	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
2187	CARBON DIOXIDE REFRIGERATED LIQUID	2.2		CARBON DIOXIDE	2RE	1500	L.

001/001
15/07 2003 TUE 10:48 FAX WORK COVER

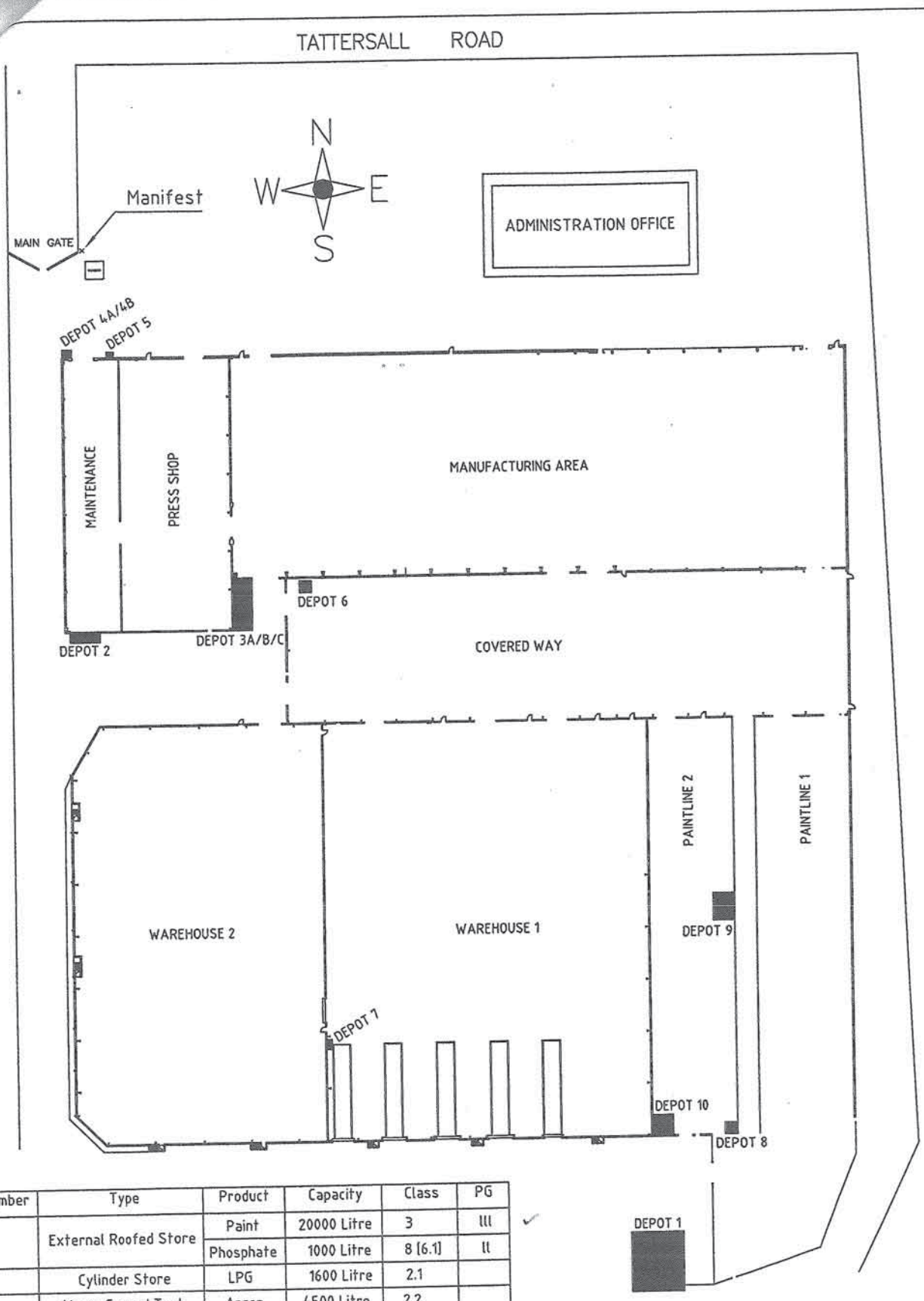


Depot Number	Type	Product	Capacity	Class	PG
1 ✓	External Roofed Store	Paint	20000 Litre	3	II / III
2 ✓	Cylinder Store	LPG	1600 Litre	2.1	
3a ✓	Above Ground Tank	Argon	25000 litre	2.2	
3b ✓	Above Ground Tank	Carbon Dioxide	1000 Kg	2.2	
3c ✓	Cylinders in use	Oxygen	1500 litre	2.2 (5.1)	
4a ✓	Cylinder Store	Acetylene/ LPG	500 litre	2.1	
4b ✓	Cylinder Store	Oxygen	2000 litre	2.2 (5.1)	
5	Flammables Cabinet	Various	250 Litre	3	II / III
6	Minor store	Diesel	400 Litre	C1	
7	Flammables Cabinet	Various	650 Litre	3	II / III

Depot (Title) 2, 3a, 3b, 3c, 4a, 4b, 5, 6, 7.
for (Quantity) as per table
of DG Class as per table and PG as per table
as shown in this plan
conforms with the Dangerous Goods Act 1975
and Australian Standard(s) AS 1940 - 1993
1596 - 2002
4332 - 1995
Signature
Date: 9/5/03
Name (printed) DAVID MOORE

Refer also to Moore Consulting Engineers Inspection Report 13/2/2003 and Dexion Australia Dangerous Goods Follow up report of 2/4/2003. Re Dimensional issue and Fire equipment changes.

MOORE MANAGEMENT	NOT TO SCALE	Drawing No 30024-1 A 9-5-2003	Dexion Australia 23 Tattersalls Rd, Blacktown DG Plan
Engineers for Hazardous Industry			



Depot number	Type	Product	Capacity	Class	PG
1	External Roofed Store	Paint	20000 Litre	3	III
		Phosphate	1000 Litre	8 [6.1]	II
2	Cylinder Store	LPG	1600 Litre	2.1	
3a	Above Ground Tank	Argon	4500 Litre	2.2	
3b	Above Ground Tank	Carbon Dioxide	1500 Litre	2.2	
3c	Cylinder in use	Oxygen	1500 Litre	2.2[5.1]	
4a	Cylinder Store	Acetylene/LPG	500 Litre	2.1	
4b	Cylinder Store	Oxygen	600 Litre	2.2[5.1]	
5	Flammables Cabinet	Various	250 Litre	3	III
6	Minor Store	Diesel	400 Litre	C1	
7	Flammables Cabinet	Various	650 Litre	3	III
8	Internal Store	Paint	600 Litre	3	III
9	Internal Store	Phosphate	400 Litre	8 [6.1]	II
10	Paint Mixing Room	Paint	2500 Litre	3	III

DG–PLAN

ORIGINATOR: SNG	DIMENSIONS IN MM	DO NOT SCALE	DRAWING No. DG–001/A
ORIGINAL DATE: 13/1/2009	COPYRIGHT RESERVED	A3 SCALE	
DRAWING ISSUE CONTROL: This drawing must not be used for manufacture unless the current issue 'Checked' box is initialled.	This drawing is the property of Dexion (Australia) Pty Limited. It must not be copied without prior written consent. The information shown on it is to be regarded as confidential and must not be disclosed to any third party.		DEXION® DEXION (AUSTRALIA) PTY LIMITED A.C.N. 000 053 955 A member of the 'Constructor Dexion Group'

		DRAWN	CHECKED	DATE
B	.			
A	ORIGINAL	S–NG	CHECKED	13/1/2009
		Drawn	Checked	Date

3RD ANGLE PROJECTION

Application for Licence to Keep Dangerous Goods

WorkCover NEW SOUTH WALES

Application for ☐ new licence ☒ amendment ☐ transfer ☐ renewal of expired licence

RECEIVED SERVICE CENTRE 28 MAY 2003 NEW SOUTH WALES

PART A – Applicant and site information

See page 2 of Guidance Notes.

1 Name of applicant | ACN

DEXION AUSTRALIA PTY LTD |

2 Postal address of applicant | Suburb/Town | Postcode

23 TATTERSALLS RD | BLACKTOWN | 2148

3 Trading name or site occupier's name

DEXION AUSTRALIA PTY LTD

4 Contact for licence inquiries

Phone | Fax | Name

9830-5000 | 9830-5007 | Allan CLARK

5 Previous licence number (if known) 35/005193

6 Previous occupier (if known)

7 Site to be licensed

No | Street

23 | TATTERSALLS RD

Suburb / Town | Postcode

BLACKTOWN | 2148

8 Main business of site MANUFACTURING

9 Site staffing: Hours per day 8 Days per week 5

10 Site emergency contact

Phone | Name

9830-5000 / 0412-689-051 | Allan CLARK.

11 Major supplier of dangerous goods NOT APPLICABLE

12 If a new site or for amendments to depots – see page 4 of Guidance Notes.

Plan stamped by: | Name of Accredited Consultant | Date stamped

DAVID MOORE | 9.5.03

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant | Printed name | Date

A Clark. | Allan CLARK | 16-9-03.

Please send your application, marked *CONFIDENTIAL*, to: **Dangerous Goods Licensing, WorkCover NSW, Level 3, GPO Box 5364, SYDNEY NSW 2001**

What is a depot? See page 5 of the Guidance Notes.

PART C – Dangerous Goods Storage *Complete one section per depot.*

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
1	ROOFED STORE	3	20,000L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1263	PAINT	3	III	PAINT	10,000	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
2	CYLINDER STORE	2.1	1600L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1075	PETROLEUM GAS LIQUEFIED	2.1	-	LPG	400	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
3a	ABOVE GROUND TANK	2.2	25000L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1951	ARGON	2.2	-	ARGON	15000	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
3b	ABOVE GROUND TANK	2.2	1000 kg.

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
2187	CARBON DIOXIDE refrigerated liquid	2.2	-	CARBON DIOXIDE	300	kg

What is a depot? See page 5 of the Guidance Notes.

PART C – Dangerous Goods Storage *Complete one section per depot.*

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
3c	CYLINDERS IN USE	2.2	1500 L

UN Number	Proper Shipping Name	Class (I, II, III)	PG	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1072	OXYGEN COMPRESSED	2.2	–	OXYGEN	1000	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
4a	Cylinder Store	2.1	300 kg

UN Number	Proper Shipping Name	Class (I, II, III)	PG	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1001	ACETYLENE DISSOLVED	2.1	–	ACETYLENE	50	kg
1075	PETROLEUM GAS LIQUEFIED	2.1	–	LPG	250	kg

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
4b	Cylinder Store	2.2	2000 L

UN Number	Proper Shipping Name	Class (I, II, III)	PG	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1072	OXYGEN COMPRESSED	2.2	–	OXYGEN	1500	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
6	MINOR STORE	C1	400 L

UN Number	Proper Shipping Name	Class (I, II, III)	PG	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
–	DIESEL	C1	–	DIESEL	300	L

What is a depot? See page 5 of the Guidance Notes.

PART C – Dangerous Goods Storage *Complete one section per depot.*

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
5	FLAMMABLES CABINET	3	250 L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1263	PAINT	3	II	PAINT /	150	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
7	FLAMMABLES CABINET	3	650 L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1263	PAINT	3	II	PAINT /	250	L.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

WorkCover New South Wales. 400 Kent Street. Sydney 2000. Tel: (02) 9370 5000 ALL MAIL TO LOCKED BAG 10. CLARENCE STREET. SYDNEY 2000
DX 13067, MARKET ST. SYDNEY

WORKCOVER NEW SOUTH WALES

Reference

RECEIVED 29 MAY 1997 SCIENTIFIC SERVICES

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: *Please renew licence number 35/005193 to 1998. I confirm that all the licence details shown below are correct (amend if necessary).*

A Clark ..... ALLAN J. CLARK 27-5-97

(Signature) *(Please print name)* *(Date signed)*

for: DEXION (AUST) P/L

*THIS **SIGNED** DECLARATION SHOULD BE **RETURNED TO:***

WorkCover New South Wales
Dangerous Goods Licensing Section (Level 3)
Locked Bag 10
P O CLARENCE STREET 2000

Enquiries: ph (02) 9370 5187
fax (02) 9370 6105

RECEIVED 29 MAY 1997 WORKCOVER NEW SOUTH WALES

Details of licence on 16 May 1997

Licence Number 35/005193 **Expiry Date** 18/07/97

Licensee DEXION (AUST) P/L ACN 000 083 956

Postal Address BOX 6470 P O, BLACKTOWN 2148
Licensee Contact ~~J.Ladlow~~ Ph. 830 5000 Fax. 830 5007 ALLAN CLARK.
Premises Licensed to Keep Dangerous Goods
43 TATTERSALL RD
BLACKTOWN 2148

Nature of Site MANUFACTURING NEC **Major Supplier of Dangerous Goods** NOT APPLICABLE

Emergency Contact for this Site ~~J.Ladlow~~ ph. 830 5000 ALLAN CLARK

Site staffing 8 hrs 5 days

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	ROOFED STORE	Class 3	20000 L
		UN 1263 PAINT RELATED MATERIAL	10000 L
		UN 1255 NAPHTHA, petroleum	5000 L
2	CYLINDER STORE	Class 2.1	1600 L
		UN 1075 PETROLEUM GASES, LIQUE	400 L
3a	ABOVE-GROUND TANK	Class 2.2	25000 L
		UN 1951 ARGON, REFRIGERATED LI	15000 L
3b	ABOVE-GROUND TANK	Class 2.2	1000 kg
		UN 2187 CARBON DIOXIDE, REFRIG	1000 kg
4a	CYLINDER STORE	Class 2.1	300 kg
		UN 1001 ACETYLENE, DISSOLVED	42 m3
		UN 1075 PETROLEUM GASES, LIQUE	250 kg
4b	Exempt - Storage area	Class 2.2	42 m3

THE NEW SOUTH WALES GOVERNMENT
Putting people first by managing better

PART A
SCIENTIFIC SERVICES BRANCH
DANGEROUS GOODS

WorkCover Authority

LICENCE TO KEEP DANGEROUS GOODS

(Dangerous Goods Act 1975)

Accredited consultant, distances between depots 2 & 3

Application for new licence, amendment or transfer

Storage/Separation Depot 2. C. Davis 13 6 94

1. Name of applicant | ACN
   DEXION (AUSTRALIA) PTY. LIMITED | 000083956

2. Site to be licensed
   No | Street
   43 | TATTERSALL ROAD (P.O. BOX 470)
   Suburb/Town | Postcode
   BLACKTOWN | 2148

3. Previous licence number (if known) 35/005193

4. Nature of site MANUFACTURING PLANT X

* additional Storage areas

5. Emergency contact on site:
   Phone | Name
   621.1777 | J.W. LADLOW

6. Site staffing: Hours per day 8 Days per week 5

7. Major supplier of dangerous goods ANZOL PAINTS X

8. If new site or significant modification
   Plan stamped by: | Accredited consultant's name: | Date stamped

9. Number of dangerous goods depots at site FOUR

10. Trading name or occupier's name
    DEXION (AUSTRALIA) PTY LIMITED

11. Postal address of applicant | Suburb/Town | Postcode
    TATTERSALL ROAD (P.O. BOX 470) | BLACKTOWN | 2148

12. Contact for licence enquiries:
    Phone | Fax | Name
    621.1777 | 831.2395 | J.W. LADLOW

I certify that the details contained in this application (or the accompanying computer disk) are true and correct

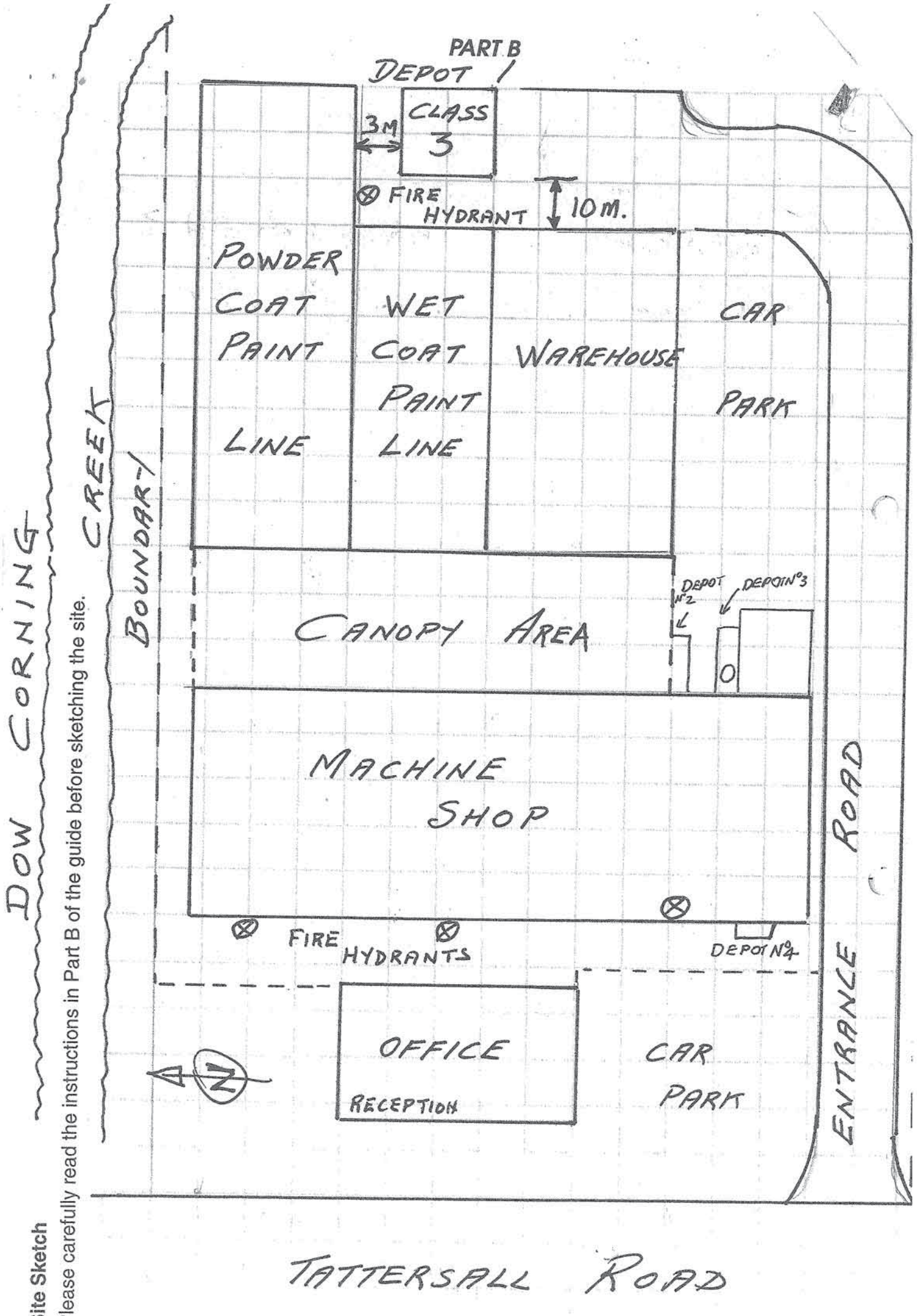
13. Signature of applicant J.W. Ladlow Date 16-8-93

Please complete attached site sketch, depot listing and check sheet (if required) and return to WorkCover Authority in envelope provided.

Form DG1

Site Sketch

Please carefully read the instructions in Part B of the guide before sketching the site.



Complete 1 section per depot

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot number	Type of depot	Class	Licensed maximum storage capacity
1	ROOFED STORE	3	20,000 Litres ✓

UN number	Shipping name	Pkg. Class	Pkg. Group	EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³
1263	STOVING ENAMEL	3	2	3YE	SOLVENT PAINT	10,000	L
1255	SOLVESSO 150	3	2	3YE	THINNERS	5,000	L

Depot number	Type of depot	Class	Licensed maximum storage capacity
2	CYLINDER STORE	2.1	1,600 Litres X

UN number	Shipping name	Pkg. Class	Pkg. Group	EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³
1075	PROPANE	2.1	2.1	2A2	LPG	400	L
N/A	MOBILE DIESEL PLUS	N/A	N/A	N/A	DIESEL	800	L

Depot number	Type of depot	Class	Licensed maximum storage capacity
3	ABOVEGROUND TANK	2.2	25,000 Litres X

UN number	Shipping name	Pkg. Class	Pkg. Group	EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³
1006	ARGON	2.2	2.2	2C1	ARGON	15,000	L
1013	CO^2	2.2	2.2	2C1	CARBON DIOXIDE	1,000	KG

Depot number	Type of depot	Class	Licensed maximum storage capacity
4	CYLINDER STORE	2.1	300 Kg/100m³ X

UN number	Shipping name	Pkg. Class	Pkg. Group	EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³
1001	IND ACETYLENE	2.1	2.1	2A1	ACETYLENE	42	m^3
1075	PROPANE	2.1	2.1	2A2	HANDI GAS	250	Kg
1072	OXYGEN	2	2.2,	2C6	OXYGEN	42	m^3

D.M.A
-9 OCT 1992
ENTERED

Reference

WORKCOVER AUTHORITY
Chemical Safety Unit
Locked Bag 10, P O CLARENCE STREET NSW 2000
Ph. (02) 370 5191 OR (02) 370 5192
Fax (02) 370 6105

Licensee

DEXION (AUST) P/L
BOX 470 P O
BLACKTOWN 2148

15 JUN 1992

SCIENTIFIC SERVICES BRANCH
29 JUN 1992
DANGEROUS GOODS

Dear Sir/Madam,

RE **APPLICATION FOR RENEWAL OF LICENCE FOR THE KEEPING OF DANGEROUS GOODS**

Our records indicate you hold licence number 35/005193 for keeping dangerous goods at TATTERSALL RD BLACKTOWN 2148.

Details of depots at site.

Depot No.	Depot type	Goods stored in depot	Quantity kg/litres/no.
1	ROOFED STORE	FLAMMABLE LIQUIDS	20 000
~~2~~	~~UNDERGROUND TANK~~	~~FLAMMABLE LIQUIDS~~	~~10 000~~

This licence is now due for renewal. **TO RENEW YOUR LICENCE.** Please carefully check the details shown in this letter and make any required corrections. Then, **SIGN** and **DATE** the declaration below and return this letter to the WorkCover Authority, Chemical Safety Unit. **Fees for these licences have been abolished. DO NOT SEND ANY MONIES.**

Declaration: I wish to renew this licence to 15/07/93. I certify that the licence details shown in this letter are correct.

T.W. Ladlow ..... 24 JUNE 1992 .....

(Signature) *(Date)*

If you do not wish to renew the licence. Please provide the Chemical Safety Unit with a signed statement giving the reason why it is not to be renewed. If you have sold/vacated the site please provide the name and address of the new owner/occupier so we may contact them.

Yours faithfully

Chief Inspector of Dangerous Goods.

Annex G

EPA Background Register Search

Contaminated land

+ Management of contaminated land
+ Consultants and site auditor scheme
+ Underground petroleum storage systems
Guidelines under the CLM Act
NEPM amendment
+ Further guidance
− Record of notices
About the record
Search the record
Search tips
Disclaimer

You are here: Home > Contaminated land > Record of notices

Search results

Your search for: LGA: Blacktown City Council

Matched 7 notices relating to 2 sites.

Search Again Refine Search

Suburb	Address	Site Name	Notices related to this site
Kings Park	21 Tattersall Road	Former Dow Corning Sealants Factory	1 current and 4 former
Seven Hills	27 Powers Road	Ma-Refine Oils Seven Hills	2 current

Page 1 of 1

12 June 2014

Annex H

Office of Water Ground Water Bore Search

Client:	Sell and Parker Pty Ltd		
Drawing No:	0226308_EIS_GIS09_V1_GWBORES.mxd		
Date:	01/07/2014	Drawing Size: A4	
Drawn By:	TH	Reviewed By: AC	

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 3.1 - Groundwater Bore Locations

Waste Metal Recovery, Processing and Recycling Facility Expansion - Tattersall Road, Kings Park, Blacktown

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

ERM

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW102688

Works Details (top)

GROUNDWATER NUMBER	GW102688
LIC-NUM	10BL159263
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	1999-06-10
FINAL-DEPTH (metres)	5.00
DRILLED-DEPTH (metres)	5.55
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BP BLACKTOWN
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263415.00
EASTING	306884.00
LATITUDE	33 45' 6"
LONGITUDE	150 54' 54"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	LOT23 DP571630

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	23 571630

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.55	125			
1	1	Casing	PVC Class 18	0.00	1.00	50			C: 0-.7m; Screwed
1	1	Opening	Slots	0.00	1.00	50			PVC Class 18; SL: 1mm
1	1	Opening	Screen	1.00	5.00	50			PVC Class 18; A: .4mm; Screwed
1		Annulus	(Unknown)	0.70	5.00				Graded; GS: 0-2mm; Q: 4300m³

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
2.00	5.00	3.00		2.50					

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	SAND FILL MINOR CLAY		
1.00	4.50	3.50	CLAY SILTY/SANDY		
4.50	5.55	1.05	SHALE WEATHERED		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW104235

Works Details (top)

GROUNDWATER NUMBER	GW104235
LIC-NUM	10BL160056
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2001-03-26
FINAL-DEPTH (metres)	6.20
DRILLED-DEPTH (metres)	6.20
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.60
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263690.00
EASTING	306709.00
LATITUDE	33 44' 57"
LONGITUDE	150 54' 48"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	LT 102 DP 618065

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.20	200			Auger
1	1	Opening	Screen	3.00	6.00	50			PVC; SL: 42mm; Screwed

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
2.60	6.20	3.60		2.60				4.00	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.40	0.40	BROWN SILTY SANDY TOPSOIL		
0.40	0.90	0.50	SILTY SANDY TOPSOIL WITH CLAY		
0.90	1.30	0.40	AS ABOVE		
1.30	1.70	0.40	LIGHT GREY TO BROWN CLAY		
1.70	2.10	0.40	BROWN TO OARNGE CLAY/ORGANIC MAT.		
2.10	2.70	0.60	AS ABOVE,DRY CLAY BECOM. MOIST		
2.70	3.10	0.40	AS ABOVE /SAND AND GRAVEL MOIST		
3.10	3.30	0.20	ORNAGE TO RED CLAY		
3.30	4.10	0.80	GREY SILTY CLAY		
4.10	4.50	0.40	LIGHT GREY SILTY CLAY,BEC. WET		
4.50	4.90	0.40	AS ABOVE,WET		

4.90	5.40	0.50	AS ABOVE WITH SAND , GRAVEL
5.40	5.70	0.30	AS ABOVE BECOMING SANDY, GRAVEL
5.70	6.20	0.50	AS ABOVE WITH SHALE FRAGMENTS.

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW104236

Works Details (top)

GROUNDWATER NUMBER	GW104236
LIC-NUM	10BL160056
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2001-03-26
FINAL-DEPTH (metres)	6.50
DRILLED-DEPTH (metres)	6.50
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	3.20
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263495.00
EASTING	306688.00
LATITUDE	33 45' 4"
LONGITUDE	150 54' 47"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	LT 59 DP 243920

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.50	200			Auger
1	1	Opening	Screen	3.50	6.35	50			PVC; SL: 42mm; Screwed

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
3.20	6.50	3.30		3.20				3.50	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.50	0.50	GRAVEL AND SAND		
0.50	1.00	0.50	GRAVEL AND SAND WITH METAL FRAG.		
1.00	1.40	0.40	GRAVEL AND SAND WITH DARK CLAY		
1.40	1.80	0.40	AS ABOVE/GREY SILTY CLAY		
1.80	2.20	0.40	LIGHT GREY TO MEDIUM CLAY		
2.20	2.80	0.60	AS ABOVE		
2.80	3.20	0.40	AS ABOVE WITH IRON		
3.20	3.50	0.30	MEDIUM TO BROWN CLAY		
3.50	4.10	0.60	AS ABOVE,BECOMING LESS SILTY		
4.10	4.50	0.40	AS ABOVE,ORANGE SILTY CLAY		
4.50	5.00	0.50	AS ABOVE WITH SOME ROCK FRAG.		

5.00	5.40	0.40	BROWN TO ORANGE SILTY CLAY
5.40	5.80	0.40	AS ABOVE WITH ROCKS
5.80	6.30	0.50	RED TO BROWN SILTY CLAY
6.30	6.50	0.20	MEDIUM TO DARK GREY CLAY

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW104237

Works Details (top)

GROUNDWATER NUMBER	GW104237
LIC-NUM	10BL160056
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2001-03-26
FINAL-DEPTH (metres)	6.50
DRILLED-DEPTH (metres)	7.10
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	3.20
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263493.00
EASTING	306726.00
LATITUDE	33 45' 4"
LONGITUDE	150 54' 48"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	LT 59 DP 243920

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.50	200			Auger
1	1	Opening	Screen	3.50	6.35	50			PVC; SL: 42mm; Screwed

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
3.20	6.50	3.30		3.20				3.50	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.90	0.90	CLAY AND SAND		
0.90	1.30	0.40	BLANK: METAL SHAVINGS		
1.30	1.80	0.50	CLAY AND SAND		
1.80	2.10	0.30	GREY TO BLACK CLAY		
2.10	3.10	1.00	CLAY AND SILT		
3.10	3.40	0.30	GREY TO BLACK CLAY		
3.40	4.10	0.70	DARK TO MEDIUM GREY SILTY CLAY		
4.10	4.50	0.40	AS ABOVE		
4.50	5.00	0.50	MED. TO LT GREY CLAY WITH SILT		
5.00	5.50	0.50	AS ABOVE BECOM. WET		
5.50	5.90	0.40	BROWN TO ORANGE SILTY CLAY/IRON		

5.90	6.20	0.30	BROWN/ORANGE CLAY,WET
6.20	6.80	0.60	AS ABOVE /GRAVEL AND IRON
6.80	7.10	0.30	AS ABOVE WITH FINE GRAVEL/SHALE FRAG.

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112578

Works Details (top)

GROUNDWATER NUMBER	GW112578
LIC-NUM	10BL605314
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Solid Flight
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2013-03-06
FINAL-DEPTH (metres)	5.80
DRILLED-DEPTH (metres)	5.80
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.50
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263678.00
EASTING	306818.00
LATITUDE	33 44' 58"
LONGITUDE	150 54' 52"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102//618065

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.80	110			Auger - Solid Flight
1	1	Casing	PVC Class 15	2.80	5.80	55	45		Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	0.00	2.50	55			PVC Class 15; SL: 40mm; A: 5mm; Screwed
1		Annulus	Waterworn/Rounded	2.50	5.80				Graded; GS: 2-2mm

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.50	2.50	1.00		2.50					

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	TOPSOIL,BROWN,DRY LOOSE,SILTY		

0.20	1.00	0.80	FILL,GRAVELLY SANDS,LIGHT GREY
1.00	2.50	1.50	CLAY,MOIST NOT SATURATED L/BROWN
2.50	5.80	3.30	CLAY SATURATED,TRACES OF GRAVEL

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112579

Works Details (top)

GROUNDWATER NUMBER	GW112579
LIC-NUM	10BL605314
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Solid Flight
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2013-03-06
FINAL-DEPTH (metres)	5.60
DRILLED-DEPTH (metres)	5.60
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.50
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263553.00
EASTING	306704.00
LATITUDE	33 45' 2"
LONGITUDE	150 54' 47"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102//618065

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.60	110			Auger - Solid Flight
1	1	Casing	PVC Class 15	2.50	5.60	55	45		Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	0.00	2.60	55			PVC Class 15; SL: 40mm; A: 5mm; Screwed
1		Annulus	Waterworn/Rounded	2.60	5.60				Graded; GS: 2-2mm

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
4.50	4.80	0.30		2.50					

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		

0.20	0.40	0.20	FILL
0.40	1.40	1.00	CLAY MOIST
1.40	2.50	1.10	CLAY GREY M/PLASTICITY,BEC.MOIST
2.50	4.80	2.30	CLAY BROWN, TRACE OF GRAVEL
4.80	5.60	0.80	ROCK WEATHERED,GREY SHALE,CLAYS

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112580

Works Details (top)

GROUNDWATER NUMBER	GW112580
LIC-NUM	10BL605314
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Solid Flight
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2013-03-06
FINAL-DEPTH (metres)	5.85
DRILLED-DEPTH (metres)	5.85
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	3.00
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263690.00
EASTING	306716.00
LATITUDE	33 44' 57"
LONGITUDE	150 54' 48"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102//618065

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.85				Auger - Solid Flight
1	1	Casing	PVC Class 15	2.85	5.85	55	45		Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	0.00	2.85	55			PVC Class 15; SL: 40mm; A: 5mm; Screwed
1		Annulus	Crushed Aggregate	2.85	5.80				Graded; GS: 2-2mm

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
4.00	4.50	0.50		3.00					

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.50	0.30	FILL,GRAVEL,CLAY		
0.50	4.00	3.50	CLAY,L/BROWN, GRAVEL;		
4.00	5.60	1.60	CLAYS M/PLASTICITY		

5.60	5.85	0.25	ROCK WEATHERED

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Friday, January 31, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112581

Works Details (top)

GROUNDWATER NUMBER	GW112581
LIC-NUM	10BL605314
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Solid Flight
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2013-03-06
FINAL-DEPTH (metres)	5.30
DRILLED-DEPTH (metres)	5.30
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BOSTIK
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.30
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263645.00
EASTING	306712.00
LATITUDE	33 44' 59"
LONGITUDE	150 54' 48"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102//618065

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	102 618065

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.30				Auger - Solid Flight
1	1	Casing	PVC Class 15	2.30	5.30	55	45		Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	0.00	2.30	55			PVC Class 15; SL: 40mm; A: 5mm; Screwed
1		Annulus	Crushed Aggregate	2.30	5.30				Graded; GS: 2-2mm

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
2.00	2.50	0.50		2.30					

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.40	0.20	FILL		
0.40	1.00	0.60	CLAY,LOOSE ,MOIST, L/PLASTICITY		
			CLAY.MOIST TO VERY MOIST,TRACES OF		

1.00	2.50	1.50	GRAVEL
2.50	5.30	2.80	CLAY BECOMING SATURATED

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Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112587

Works Details (top)

GROUNDWATER NUMBER	GW112587
LIC-NUM	10BL604090
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2010-01-01
FINAL-DEPTH (metres)	99.00
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	KATSENOS
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	7.00
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263979.00
EASTING	306140.00
LATITUDE	33 44' 48"
LONGITUDE	150 54' 26"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1//786558

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1 786558

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	0.00	50			

Water Bearing Zones (top)

no details

Drillers Log (top)

no details

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112588

Works Details (top)

GROUNDWATER NUMBER	GW112588
LIC-NUM	10BL604090
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2010-01-01
FINAL-DEPTH (metres)	12.44
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	KATSENOS
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	7.00
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263990.00
EASTING	306122.00
LATITUDE	33 44' 47"
LONGITUDE	150 54' 25"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1//786558

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1 786558

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	0.00	50			

Water Bearing Zones (top)

no details

Drillers Log (top)

no details

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, February 6, 2014

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW112589

Works Details (top)

GROUNDWATER NUMBER	GW112589
LIC-NUM	10BL604090
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2010-01-01
FINAL-DEPTH (metres)	10.86
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	KATSENOS
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	7.00
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263978.00
EASTING	306101.00
LATITUDE	33 44' 48"
LONGITUDE	150 54' 24"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1//786558

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PROSPECT
PORTION-LOT-DP	1 786558

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	0.00	50			

Water Bearing Zones (top)

no details

Drillers Log (top)

no details

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

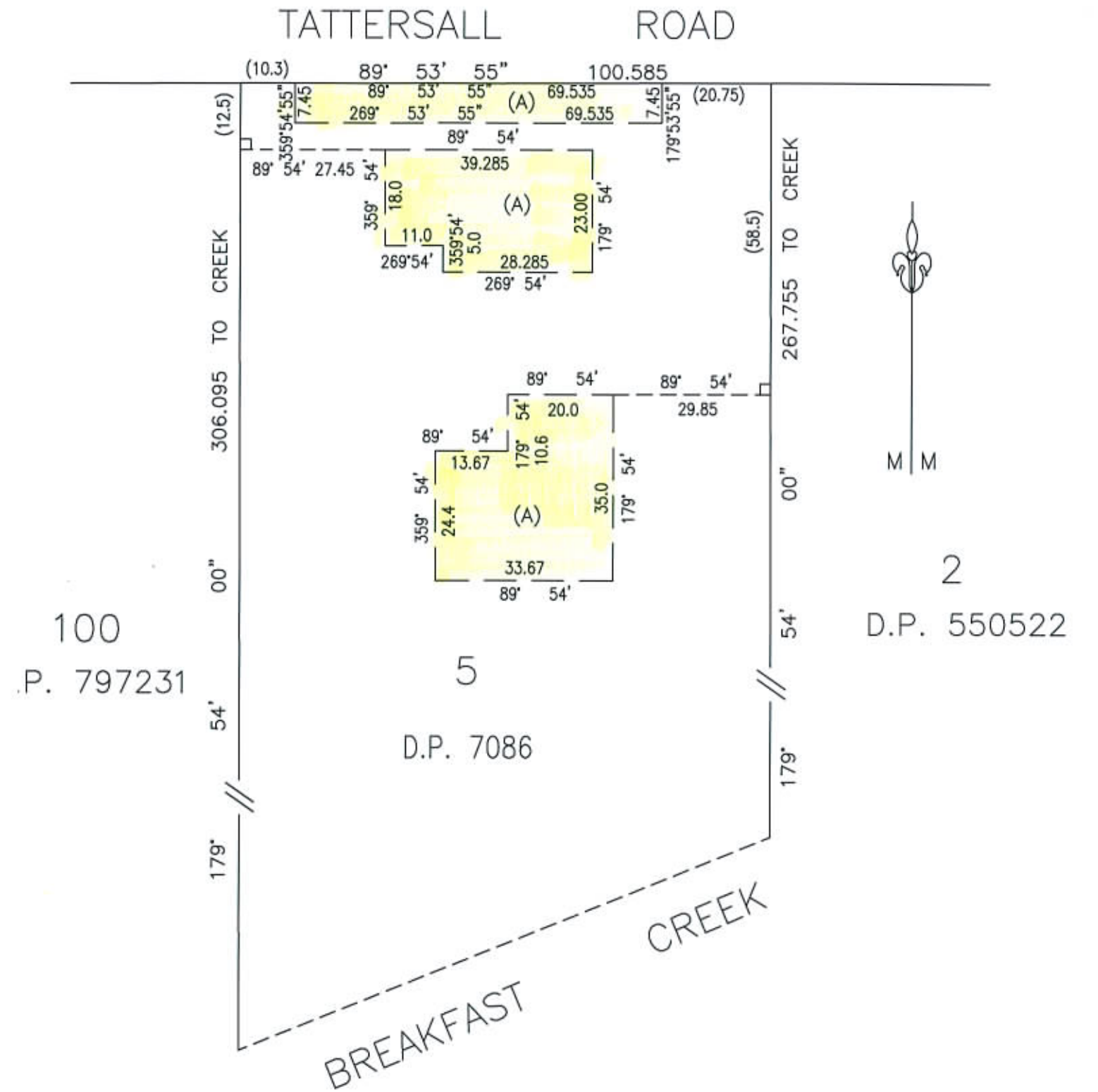
Annex I

Plan Showing Restriction on Use of Land at Lot 5 DP7086

ANNEXURE A

PLAN SHOWING SITE OF
RESTRICTION ON THE USE OF LAND
WITHIN LOT 5 IN DP 7086 AT BLACKTOWN
PARISH OF PROSPECT
COUNTY OF CUMBERLAND

SCALE 1:1000



(A) RESTRICTION ON THE USE OF LAND

.....
REGISTERED SURVEYOR

Annex J

Underground Service Plans

Job No 7524070

Phone: 1100
www.1100.com.au

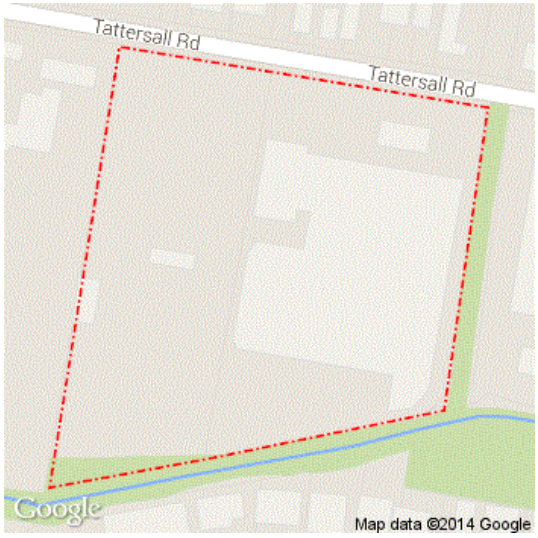
Caller Details

Contact: Mr Nathan Hegerty
Company: ERM
Address: PO Box 5711
Port Macquarie NSW 2444

Caller Id: 1014066 **Phone:** 0265847155
Mobile: 0428627876 **Fax:** 0265847160
Email: nathan.hegerty@erm.com

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference: 0226308
Working on Behalf of:
Private

Enquiry Date:	Start Date:	End Date:
13/06/2014	18/06/2014	30/06/2014

Address:
45 Tattersall Road
Kings Park NSW 2148

Job Purpose: Design
Onsite Activity: Planning & Design
Location of Workplace: Both
Location in Road: CarriageWay,Footpath,Nature Strip

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Need plans for both 43 and 45 Tattersall Road

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.1100.com.au**
- **For more information on safe excavation practices, visit www.1100.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
# Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
34494220	Endeavour Energy	0298534161	NOTIFIED
34494223	Jemena Gas West	1300880906	NOTIFIED
34494222	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
34494219	PIPE Networks, Nsw	1800201100	NOTIFIED
34494224	Sydney Water	132092	NOTIFIED
34494221	Telstra NSW, Central	1800653935	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week

Head Office: 51 Huntingwood Drive Huntingwood NSW 2148

ENDEAVOUR ENERGY

DBYD Underground Search Report

Date: 17/06/2014

DBYD Sequence No: 34494220 **DBYD Job No:** 7524070

To:	Mr Nathan Hegerty		Company:	ERM	
Address:	PO Box 5711, Port Macquarie, Nsw 2444				
Cust. ID:	1014066	Email:	nathan.hegerty@erm.com		
Phone:	0265847155	Mobile:	0428627876	Fax:	0265847160
Enquiry Location: 45 Tattersall Road, Kings Park, NSW 2148					

Our Search has shown that:

UNDERGROUND CABLES ARE PRESENT on our plans within the nominated enquiry location. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

In conjunction with the disclaimer as shown on our plan, persons are expected to exercise all due care especially in the vicinity of Padmount and Pole Substation, Transmission Poles and Towers as Underground Earth Grids may exist but are not shown on our plans.

WARNING:
The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.

All electrical apparatus shall be regarded as live until proved de-energised. Contact with live electrical apparatus will cause severe injury or death.

Those excavating near Endeavour Energy's cables should be aware that **ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT** in Endeavour Energy's underground assets and that Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.

In accordance with the Electricity Supply Act 1995, YOU ARE OBLIGED TO REPORT ANY DAMAGE TO ENDEAVOUR ENERGY'S ASSETS IMMEDIATELY BY CALLING 131003.

NOTE:
For the safety of our customers, plans are provided as a free service and if further clarification of information is required, call 02 9853 4161.

Endeavour Energy's assets are generally located in the road reserve. Endeavour Energy's plan does not show any underground customer service mains or information relating to service mains within private property.

All plans must be printed and made available at the worksite where excavation is to be undertaken. These plans must be reviewed and understood by the crew on site prior to excavation commencing.

The excavator must carry out work in accordance with the WorkCover Authority's 'Work Near Underground Asset Guideline'. This guideline can be downloading at http://www.workcover.nsw.gov.au/formspublications/publications/Pages/WC01419_WorkNearUndergroundAssets.aspx

If you are unable to print the plans, call 02 9853 4161 for assistance and arrange for plans to be collected from Head Office. Endeavour Energy does not mail the hard copy of plans.

Endeavour Energy thanks you for your assistance in the protection of Critical Infrastructure and your DBYD enquiry

THE ELECTRICAL LOAD IS TO CONFORM TO A MINIMUM POWER FACTOR OF 0.9

WARNING

LIVE INTEGRAL ENERGY CABLES & OTHER SERVICES IN THIS AREA.
PLEASE CONTACT DIAL BEFORE YOU DIG ON TEL: 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.

REMOVE POLE 1 & 1 BAY OF HV REDUNDANT MAINS.

CUT AND ABANDON EXISTING HV U/G CABLE, STJ EXISTING 11KV 240mm sq HDPE TO NEW 11KV 185mm sq XLPE HV U/G MAINS.

CLOSE ABS 122

REPLACE POLE 4

TWO DRIVEWAYS TO CONCUT AND RESTORE

ERECT NEW POLE & OPEN ABS 31415

ABS 8971 · DOF 4200 · GROUND SUB 1801 · TATTERSALL RD · USL 22340 · SWITCHING STATION 21781 · HV CUSTOMER 21721 · ABS 9013 · DOF 9014 · USL 9158 · PM SUB 17875 · SP SUB 82 · ABS D921 · DOF B025 · PM SUB 6531 · PM SUB 3071 · ABS 472 · ROMFORD RD · SUNNYHOLT RD · ABS 122 · ABS 31415 · ABS 448 · SP SUB 53

REFER TO NOTE 3: FOR SWITCHING STATION EASEMENT

REFER TO NOTE 9

SEE INSET A

PM SUB 18928 (TRF 1)

EXISTING PM SUB 18928 TO BE CONVERTED TO A CUSTOMER OWNED ASSETT (TRF 1).

GROUND SUB 8098

DUCTS HAVE BEEN LAID FLAT ON BRIDGE FOR CREEK CROSSING.

PM SUB 17875 · SP SUB 82 · SWITCHING STATION 21781 · HV CUSTOMER 21721 · PM SUB 6531 · DRIVEWAY CROSSING · ROMFORD RD · SUNNYHOLT RD · REFER TO NOTE 7 · 1m OPEN POINT

LEGEND

- RELOCATE HV UG MAINS
- REMOVE REDUNDANT HV OH MAINS
- NEW HV U/G MAINS
- EXISITNG OH MAINS
- EXISITNG U/G MAINS
- HV TRENCHING
- EXISTING DUCT INSTALLATION
- NEW DUCT INSTALLATION
- NEW HV CUSTOMER SITE
- NEW HV SWITCHING STATION
- EXISTING POLE
- REMOVE POLE
- NEW POLE
- REPLACE POLE
- EXISTING SP SUB
- AIR BRAKE SWITCH
- UNDERSLUNG LINKS

FB 265384 / 1
COMM 11-02-01 **COMP** 26.7.2002
SHEET 9160-4.1.3 / 4.1.4
DUCT
RECORDED BY R BARANOWSKI
INSTALLED BY CONNECT ENG

ATTENTION

ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION.

AREA FOR EASEMENT TO BE CREATED REFER TO NOTES 2 & 3.

INSET A

ABS 9013 · CABLE EASEMENT PMS:1/9683/1 · SWITCHING STATION EASEMENT PMS:1/9683/2 · HV CUSTOMER 21721

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH INTEGRAL ENERGY'S MDI 0020 AND THE GENERAL TERMS AND CONDITIONS FOR NEW URBAN SUBSTATIONS.
2. AN EASEMENT FOR UNDERGROUND CABLES 1 METRE WIDE IS REQUIRED OVER THE LOT. PMS NO: 1/9683/1.
3. AN EASEMENT FOR SWITCHING STN SITE 2.75m x 2.75m IS REQUIRED OVER THE LOT. PMS NO: 1/9683/2
4. A SUITABLE RETAINING WALL MAY BE REQUIRED TO BE BUILT BY THE DEVELOPER. THIS WALL IS TO MEET LOCAL COUNCIL REQUIREMENTS AND MUST BE BUILT OUTSIDE THE EASEMENTS. IT MAY BE NECESSARY TO ADJUST THE EASEMENT LOCATION. REFER INTEGRAL ENERGY'S SDI 104 FOR DETAILS.
5. INTEGRAL ENERGY TO ARRANGE TO EXTINGUISH THE EXISTING (IF ANY) I.E. EASEMENTS OVER ITS PREVIOUS ASSETS.
6. PM SUB NUMBER:18928 IS TO BE REMOVED FROM THE I.E NETWORK & IS TO BE RENAMED TO CUSTOMERS SPECIFICATION.
   THE CUSTOMER NEEDS TO CONTACT JASON LU OF INTEGRAL ENERGY ON 131 081 FOR A COST TO PURCHASE EXISTING PM SUB 18928.
7. RTA TRAFFIC CONTROL BOX 1774 TO BE SURVEYED AS IT APPEARS TO BE IN I.E'S ALLOCATION.
8. IT IS THE RESPONSIBILTY OF THE DEVELOPER TO PROVIDE A 20 AMP SINGLE PHASE SUPPLY AT THE HIGH VOLTAGE METERING UNIT TO COMPLY WITH AS/NZS 3000:2000.
9. MEASUREMENTS APPROXIMATE, FINAL POSITION IS TO BE PEGGED BY DEVELOPER.
10. CONTACT MARK CASH OF CUSTOMER SAFTEY , HOXTON PARK OFFICE; DIRECT PHONE (02) 9853 5611 FAX (02) 9853 5678 TWO WEEKS PRIOR TO DESIRED COMMISIONING DATE FOR INSPECTION.
11. THE APPROPRIATE PROTECTION SETTINGS MUST BE SUBMITTED FOR APPROVAL PRIOR TO COMMISIONING, CONTACT ROB CORKE PROTECTION ASSET MANAGEMENT ON (02) 9853 6642.
12. PRIOR TO CONNECTION OF SUPPLY CONTACT INTEGRAL ENERGY'S SYSTEM CONTROL BRANCH, FIELD OPERATIONS MANAGER, PETER COLE ON 131 081 TO DETERMINE THE DIVISION OF RESPONSIBILTY AND INTIATE AN OPERATING PROTOCOL BETWEEN INTEGRAL ENERGY AND METAL SCRAP YARD.
13. ALL HV TEST CERTIFICATES TO BE SUPPLIED TO I.E WITH APPLICABLE NOSW & NOEW PRIOR TO COMMISIONING.
14. AN ELECTRICITY ACCOUNT/CONTRACT HAS TO BE ESTABLISHED PRIOR TO COMMISIONING.
15. PLEASE CONTACT TELSTRA'S NETWORK INTEGRITY OFFICE PRIOR TO ANY EXCAVATION DUE TO MAJOR FIBRE OPTICS IN WORKING AREA

PROPERTY BOUNDARIES MAY NEED TO BE SURVEYED AND PEGGED WHERE TRENCHING IS REQUIRED.

PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY SURVEY PRIOR TO COMMENCEMENT OF WORK.

DUCT LEGEND

- DUCT WITHOUT CABLE
- DUCT WITH EXISTING CABLE
- DUCT WITH NEW CABLE

LAY : ALL TRENCHING, A,B,C,D,E
4 X 125mm PVC CORFLO DUCTS
2 X 50mm PVC DUCTS

EXISTING DUCTS:
POINTS E TO F
125mm PVC CORFLO DUCTS

MAJOR FIBRE OPTICS IN WORK EXCAVATION AREA REFER NOTE 15

UBD REF : 168, N-6

	SCOPE OF WORKS	
INTEGRAL ENERGY FUNDED	CUSTOMER FUNDED	WORKS BY DEVELOPER
NOTHING	NON-CONTESTABLE	1. PROVIDE SUITABLE ACCESS TO SITE.
	MONOPOLY FEE'S	2. PEG FRONT BOUNDARY LINE & FINAL GROUND LEVELS.
	CONTESTABLE	3. INSTALL AND TERMINATE HV CABLE FOR MOTOR/ SWITCH ROOM.
	ALL WORKS	4. ALL FINAL RESTORATIONS TO FOOTPATHS, DRIVEWAYS ETC.
		5. CREATE ALL EASEMENTS INVOLVED WITH SWITCHING STATION 21781.

WHEN REMOVING, INSTALLING OR AUGMENTING L.V. O/H, REFER TO WORK PLACE INSTRUCTION GNV0040 TO ENSURE COMPLETE PROCEDURES ARE MAINTAINED

WORKS COMPLETED
CONSTRUCTED BY _____
WORKS COMPLETED _____ NAME _____ SIGNED _____ DATE _____
INSPECTED BY _____ NAME _____ SIGNED _____ DATE _____
FORWARDED TO CONTESTABLE WORKS ADMINISTRATOR (CWA)
LOCATION _____ SIGNED _____ DATE _____

FIELD POLE NUMBER	LANTERNS: EXISTING	LANTERNS: BRACKET	CONSTRUCTION: SPAN LENGTH	CONSTRUCTION: LINE DEV DEGREES	CONSTRUCTION: HV	CONSTRUCTION: LV	HOLE: DIA mm	HOLE: DEPTH m	POLE: TYPE	POLE: STAY	POLE: FOOTING	POLE: RELOCATE	POLE: REPLACE	POLE: NEW	POLE: EXISTING	POLE: REMOVE	POLE: NUMBER
NEW					29	1	600	1850	12.5/8	C		X					5
166					UG/OH+11	1	600	3300	14/12	C	X						4
162					EX:19	EX									X		3
2083					EX:11	EX									X		2
2084															X		1

CERTIFIED BY INTEGRAL ENERGY
Certification No : _____ Amend. A
Date Approved : 8-10-01
Examiner's Signature _____
This Certification is issued subject to Integral Energy's Certification Terms.

REFERENCE DRAWING

CAP No.	UIL0649	FILE No.		ORIGINAL SCALE 1:1000	DO NOT SCALE DIMENSIONS IN METRES
IE PROJ. No.	IN525	LG AREA	BLACKTOWN		
HV SWITCHING		HV GEO MAP	9160-41	DRAWN BRM	
OVERHEAD MAINS		GIS MAP No	9160-41	DATE 17/9/01	
UNDERGROUND MAINS		UBD REF	168, N-6	CH'D	DESIGN C.K
SUBSTATIONS		HV OP DIAG	MARAYONG AM-4		

INTEGRAL ENERGY

SCRAP YARD
45 TATTERSALL RD, BLACKTOWN
HV CUSTOMER 265384
UIL0649

A1 | 265384 | A
SHEET No 1 OF 2 SHEETS

ENDEAVOUR ENERGY WARNING

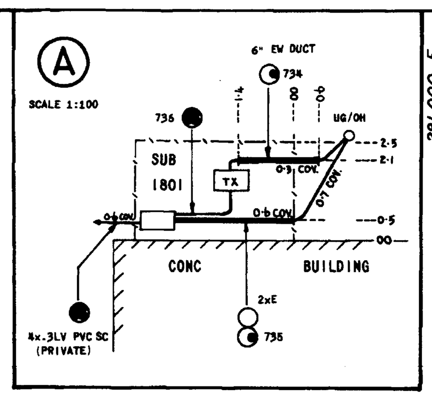
This plan shows the approximate location of underground cables relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour's own use. Endeavour Energy has taken all reasonable steps to ensure that the information is as accurate as possible but will accept no liability for any cause related to the information shown on such plans from any cause whatsoever arising.

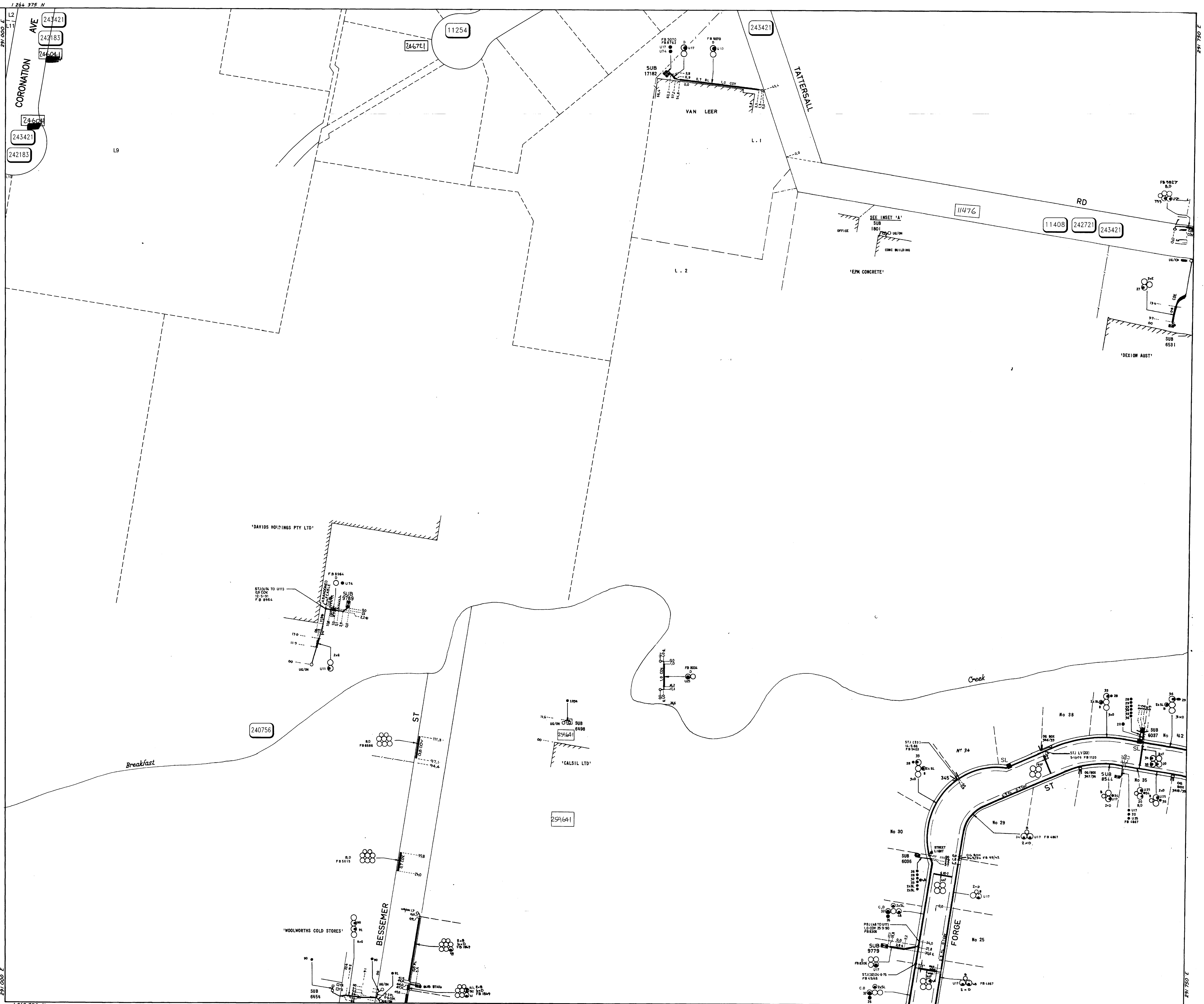
Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage caused to Endeavour Energy's Property

All Electrical apparatus shall be considered as live until proved de-energised. Contact with live electrical apparatus will cause severe injury or death

Those excavating near Endeavour Energy's cables should be aware that ASBESTOS OR ASBESTOS - CONTAINING MATERIAL MAY BE PRESENT in Endeavour Energy's underground assets and that Organo-Chloride Pesticides(OCP) may be present in some sub-transmission trenches

Issue Date: 17/06/2014, DBYD Sequence No: 34494220





SCANNED

0 15 30 45 60 75m

ISSUE DATE: ~~14.10.97~~

~~21-11-97~~

[redacted] ~~7-1-98~~

~~2-3-98~~

5-02-2001

ENDEAVOUR ENERGY WARNING

This plan shows the approximate location of underground cables relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour's own use. Endeavour Energy has taken all reasonable steps to ensure that the information is as accurate as possible but will accept no liability for inaccuracies in the information shown on such plans from any cause whatsoever arising.

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CABLE SCHEDULE

CODE	CABLE No	TYPE	FB	CODE	CABLE No	TYPE	FB	CODE	TYPE
734	734	.0225 11KV SA	8/38	29	2729	.5 11KV ALSA	25/13	U17	240 11KV PLYSWS
735	735	.3 LV SA	8/38	32	2732	.4 CONSAC	27/28	U25	300 11KV PLYSW/PVC
736	736	3x.75&1x.5.LV,LC,SC	8/38	33	2733	.4 CONSAC	27/28	T53	240 LV AL XLPE (CON.NUET)
1954	1954	.2 11KV AL SA	18/52	34	2734	.4 CONSAC	27/28	U24	300 11KV AL PLYSWS
50	1960	.1 11KV SA	18/62	35	2735	.4 CONSAC	27/28	U74	240mm 11kV AL PLY HDPE
51	1951	.4 LV ALSA	18/62	36	2736	.4 CONSAC	27/28	U11	·2 SQIN. 11kV AL PLYSWS
90	1990	.4 11KV ALSA	19/34	48	5748	240 11kV ALSA	495		
91	1991	.4 11KV ALSA	19/34	20	8420	240 11KV ALSA	1130		
27	2027	.2 11KV ALSA	19/61	59	7459	240 11kV ALSA	1849		
10	2110	.2 11KV ALSA	21/11	61	9861	240 11kV PLYSWS	2546		
26	2726	.4 11KV ALSA	25/13						
28	2728	.5 11KV ALSA	25/13						

LEGEND

A	2½" CORRUGATED PVC
B	2" PVC CONDUIT
C	4" PVC CONDUIT
D	5" PVC CONDUIT
E	4" FIBRO CONDUIT
F	5½" FIBRO CONDUIT
G	6" FIBRO PIPE
SL	STREET LIGHT CONDUCTOR
SSC	SINGLE SERVICE CABLE
TSC	TWIN SERVICE CABLE

NOTES :- 1. ALL CABLES ARE 0.6 FROM PROPERTY LINE AND ARE AT 0.5 COVER UNLESS OTHERWISE SHOWN

2. ALL ROAD CROSSING DUCTS ARE FROM KERB TO KERB UNLESS OTHERWISE SHOWN

3. LENGTHS ARE IN METRES

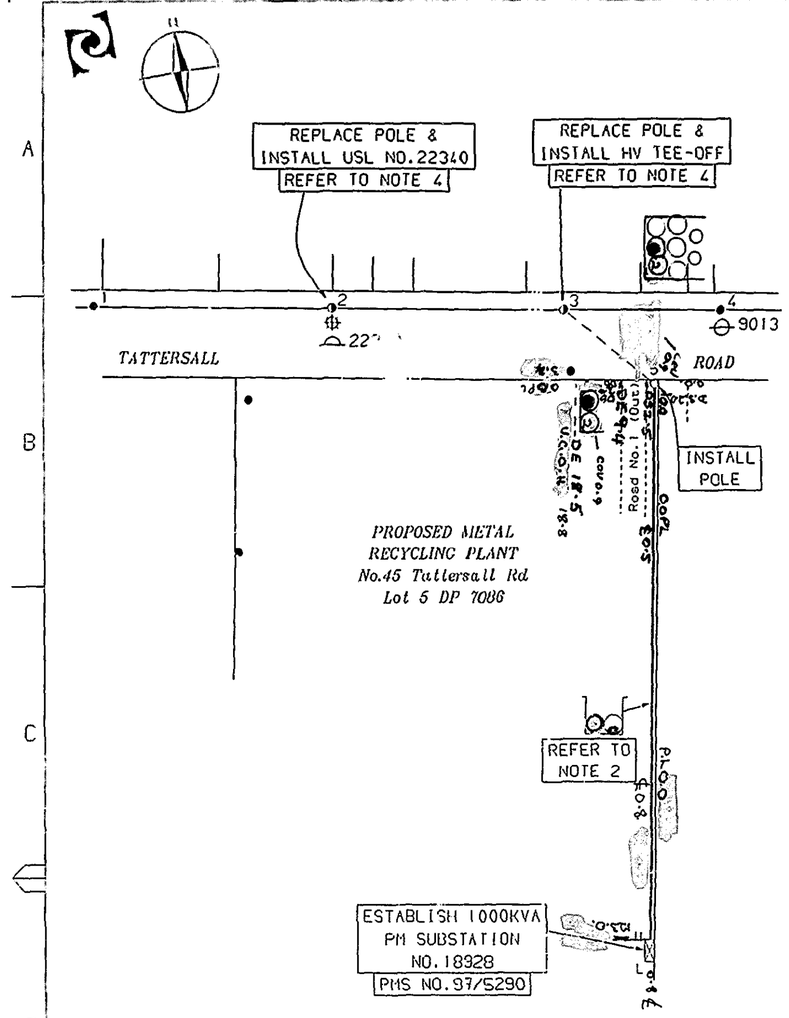
7-5-82'

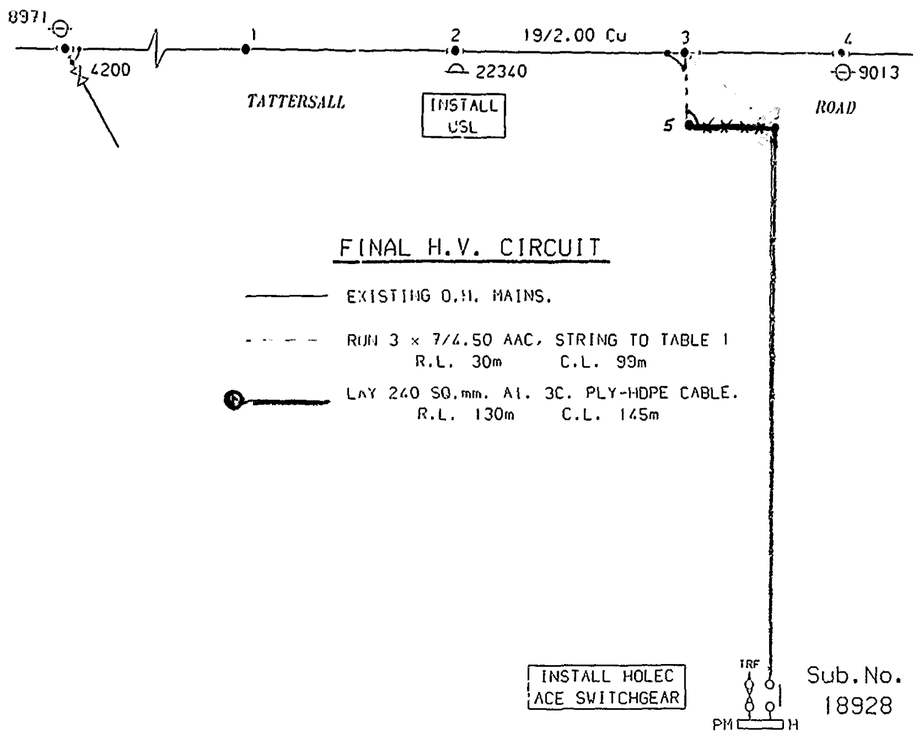
AMENDMENTS

No	REVISION	BY	CH'D	DATE	No	REVISION	BY	CH'D	DATE	No	REVISION	BY	CH'D	DATE
A	FB 30/27 ADDED	C.I.M.		15-11-73	F	F.B. 2546 ADDED.	L.S.	M.W.	4.5.82	8004	OFF BESSEMER ST.	SK.	D.O.	23.10.90
B	F.B. 45/46 ADDED	N.S.			5070	TATTERSALL RD	R.J.		20-1-86	8906	FORGE ST	C.P.B.	D.O.	21.12.90
C	F.B.55/42 ADDED	P.J.C.	R.E.B.	1.3.77	4867	FORGE ST	R.J.		22.4.86	8762	FORGE ST.	M.C.T.	J.B.H.	15.3.91
D	F.B. 495 ADDED	R.J.W.	W.D.C.	28-9-78	5403	FORGE ST	R.J.		21.5.86	8964	BESSEMER ST.	P.A.P.	D.R.O.	31.5.91
C	F.B. 1120 ADDED	E.P.	W.D.C.	12.10.79	5615	BESSEMER ST	B.G.		3.9.86	9537	FORGE STREET	SJI	W.R.	5.8.92
E	F.B. 1130 ADDED	E.P.	W.G.	1.11.79	6586	" "	I.K.		10.2.88					

PROSPECT COUNTY COUNCIL	DRAWN	N.S.	SCALE 1:750
			DATE 29-8-73
U.G. RETICULATION BLACKTOWN NORTH	CHECKED		9160·4·1·3
	SUP. D'MAN		

Issue Date: 17/06/2014, DBYD Sequence No: 34494220





NOTES

1. DEVELOPER TO INSTALL CULVERT.
2. DEVELOPER TO INSTALL 2 x 125mm PVC DUCTS. INTEGRAL ENERGY TO SUPPLY DUCTS.
3. FOR EXACT LOCATION OF CABLE AND SUBSTATION EASEMENT, REFER TO EASEMENT DRAWING PREPARED BY MAJOR CUSTOMER ENGINEERING OFFICER.
4. POLE 2 WITH TELSTRA ATTACHMENT AND POLES 2 & 3 WITH OPTUS ATTACHMENT.

ATTENTION:

ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION.

SERVICES SEARCHES
DATE REQUESTED : 31/01/97

PERMANENT SURVEY MARKS EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY SURVEY PRIOR TO COMMENCEMENT OF WORK.

PERMANENT SURVEY MARK
DATE REQUESTED : 31/01/97

ATTENTION

REGIONAL STAFF TO NOTIFY NETWORK DATA DAILY WHEN CABLE WORK IS IN PROGRESS
PHONE:EXT - 4161

"IMPORTANT"

1. ALL alterations to this Project Drawing by the Construction Crews MUST be marked in RED daily by the responsible Foreman on the 'Works in Progress' drawing held in the Construction Office.

2. A FINAL field inspection with the above Drawing was carried out and is built as shown.

Name _____ Date _____ Foreman O/H
please print please sign
Name _____ Date _____ Foreman U/G
please print please sign
Name _____ Date _____ Foreman Subs
please print please sign

CABLE EASEMENT

DATE CABLE/S INSTALLED .....
FOREMAN TO ENTER DATE INTO P M S No.97/5290

SUBSTATION EASEMENT

DATE PLINTH INSTALLED .....
FOREMAN TO ENTER DATE INTO P M S No.97/5290

ENDEAVOUR ENERGY WARNING

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All Electrical apparatus shall be considered as live until proved de-energised. Contact with live electrical apparatus will cause severe injury or death

Those excavating near Endeavour Energy's cables should be aware that ASBESTOS OR ASBESTOS - CONTAINING MATERIAL MAY BE PRESENT in Endeavour Energy's underground assets and that Organo-Chloride Pesticides(OCP) may be present in some cable transmission trenches

INSTALL 2500A HVCB
LV LABEL
X - CONSUMER MAINS

TRF
'X'
CONSUMER MAINS
Sub.No. 18928

FINAL L.V. CIRCUIT
(SUB.NO.18928)

PB 242731
COMMENCED 29-4-97
COMPLETED 20-5-97
SHEET 9/EC 4.13
DUCT
RECORDED

DATE OF SITE VISIT BY D.O.E.O	PRODUCTION SUPERVISORS NAME	DATE GIVEN TO PRODUCTION SUPERVISOR FOR COMMENT	DATE OF PRODUCTION SUPERVISORS COMMENTS	REMARKS
31/01/97	K.ARCHER	03/02/97	03/02/97	APPEARS OK
	P.SAMUEL	03/02/97	11/02/97	TIME OK
	B.MITCHELL	03/02/97	03/02/97	OK

FIELD POLE NUMBER	LANTERNS EXISTING	LANTERNS BRACKET	SPAN LENGTH	LINE DEV DEGREES	CONSTRUCTION HV	CONSTRUCTION LV	HOLE DIA mm	HOLE DEPTH m	POLE TYPE	POLE STAY	POLE FOOTING	POLE REPLACE	POLE NEW	POLE EXISTING	POLE REMOVE	POLE NUMBER
57															X	4
56					11+15	1	300	2.40	14/12		C	X				3
55		X			17	1	600	1.85	12.5/8		C	X		X		2
54																1
					15+CE		900	3.00	14/12		C		X			5

PROJECT MANAGEMENT	H07145	LG AREA	BLACKTOWN CC		ORIGINAL SCALE 1000	REGIONAL MANAGER J.B.	INTEGRAL ENERGY	
SUPERVISION	FC7271	REGION	HILLS		DRAWN RSC	DESIGN	TATTERSALL RD KINGS PARK NEW 1000KVA PM SUBSTATION	
DESIGN	GC7324	HV GEO MAP	9160-4	REF	CH'D	PROJECT SERVICES MANAGER J.B.		
OVERHEAD MAINS	VC7284	LV MAP	9160-41				J.BROADHEAD GENERAL MANAGER NETWORK	
UNDERGROUND MAINS	VC7270	ST LIGHT					A2 242721 A	
SUBSTATIONS	VC7280	HV SCHEM	MARAYONG	REF X3			SHEET No 1 OF 1 SHEETS	

AMENDMENTS ORIGINAL ISSUE GIM PROJECT No 5072

LETTER No
WORK No 95/2607E
DATE 07/01/97
FILE No 91/01009
DEPOT
DESIGN No

Issue Date: 17/06/2014, DBYD Sequence No: 34494220

ATTENTION

ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION.

PROPERTY BOUNDARIES MAY NEED TO BE SURVEYED AND PEGGED WHERE TRENCHING IS REQUIRED.

WARNING

LIVE INTEGRAL ENERGY CABLES & OTHER SERVICES IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG ON TEL: 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.

UBD REF : 168, N-6

WHEN REMOVING, INSTALLING OR AUGMENTING L.V. O/H, REFER TO WORK PLACE INSTRUCTION GNV0040 TO ENSURE COMPLETE PROCEDURES ARE MAINTAINED

WORKS COMPLETED

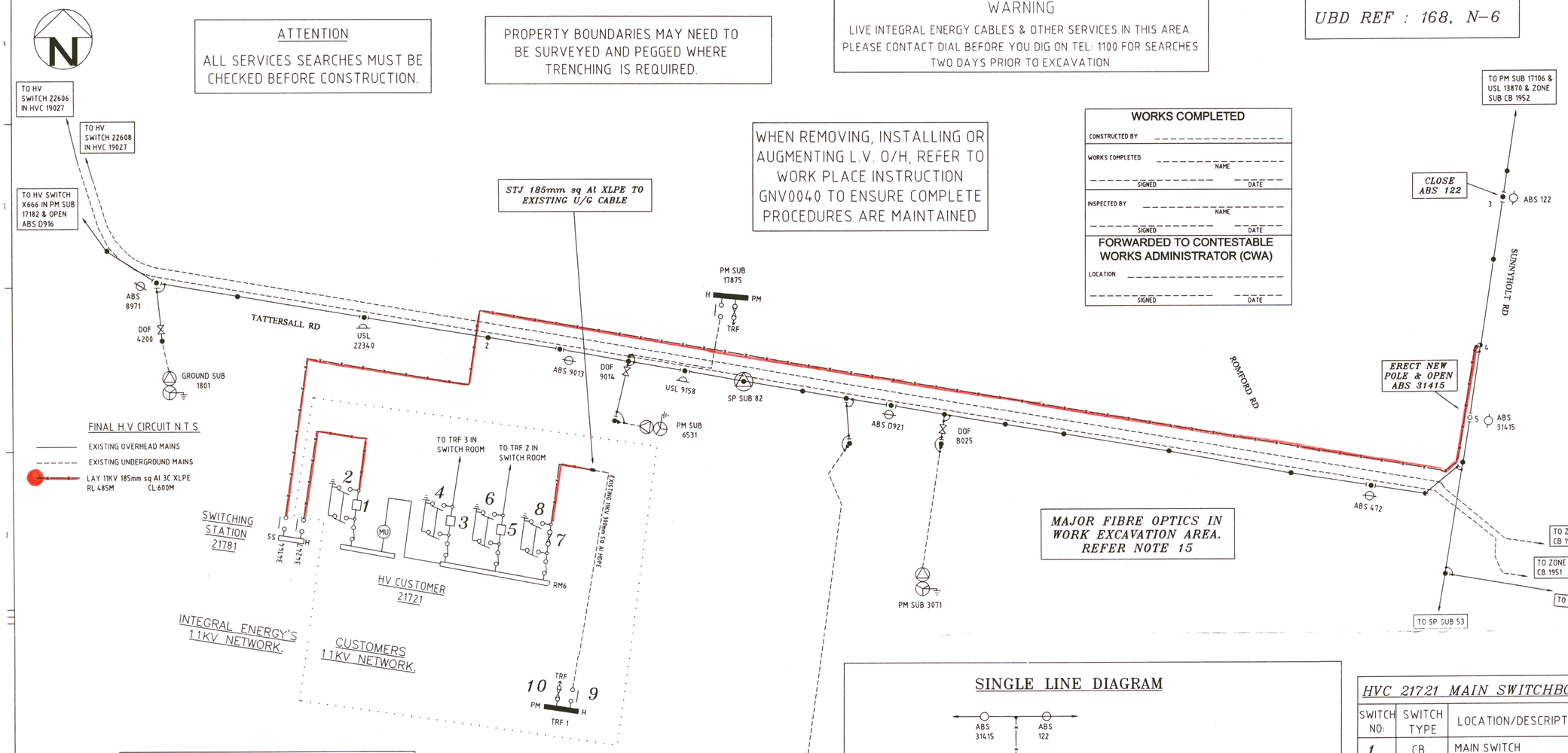
CONSTRUCTED BY _____

WORKS COMPLETED _____ NAME _____ SIGNED _____ DATE _____

INSPECTED BY _____ NAME _____ SIGNED _____ DATE _____

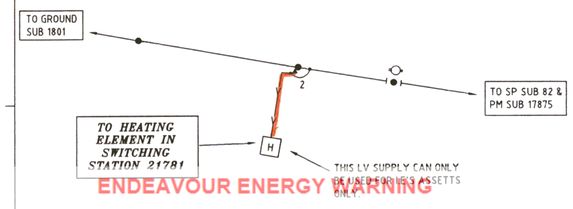
FORWARDED TO CONTESTABLE WORKS ADMINISTRATOR (CWA)

LOCATION _____ SIGNED _____ DATE _____



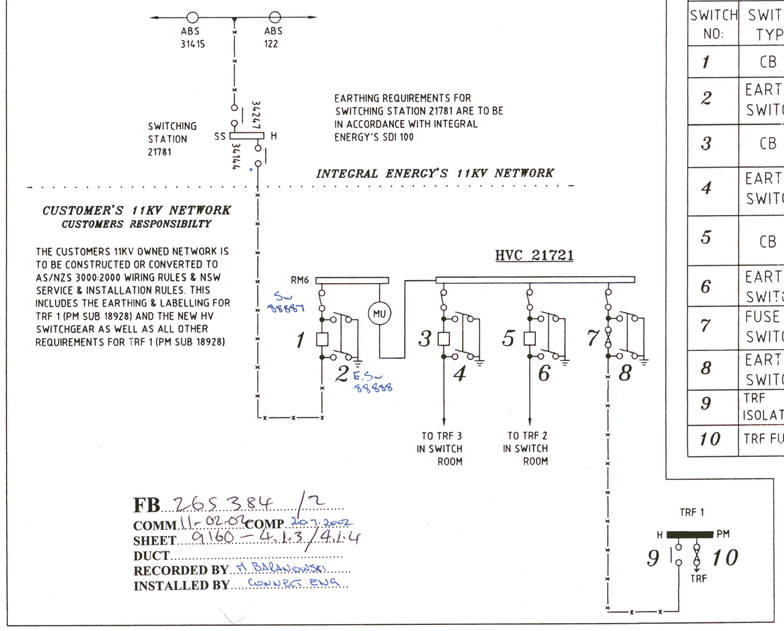
PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY SURVEY PRIOR TO COMMENCEMENT OF WORK.

THE ELECTRICAL LOAD IS TO CONFORM TO A MINIMUM POWER FACTOR OF 0.9



	SCOPE OF WORKS	
INTEGRAL ENERGY FUNDED	CUSTOMER FUNDED	WORKS BY DEVELOPER
NOTHING	NON-CONTESTABLE	1. PROVIDE SUITABLE ACCESS TO SITE.
	MONOPOLY FEE'S	2.PEG FRONT BOUNDARY LINE & FINAL GROUND LEVELS.
	CONTESTABLE	3.INSTALL AND TERMINATE HV CABLE FOR MOTOR/ SWITCH ROOM.
	ALL WORKS	4. ALL FINAL RESTORATIONS TO FOOTPATHS, DRIVEWAYS ETC.
		5.CREATE ALL EASEMENTS INVOLVED WITH SWITCHING STATION 21781.

SINGLE LINE DIAGRAM



FB 265384 /2
COMM 11-02-09 COMP 26.7.2012
SHEET 9160 – 4.1.3 / 4.1.4
DUCT
RECORDED BY M BARANOWSKI
INSTALLED BY CONNECT ENG

HVC 21721 MAIN SWITCHBOARD

SWITCH NO:	SWITCH TYPE	LOCATION/DESCRIPTION
1	CB	MAIN SWITCH
2	EARTH SWITCH	EARTH SWITCH FOR CB1
3	CB	SUB CCT TO CUSTOMER TRF 3 IN SWITCH ROOM
4	EARTH SWITCH	EARTH SWITCH FOR CB3
5	CB	SUB CCT TO CUSTOMER TRF 2 IN SWITCH ROOM
6	EARTH SWITCH	EARTH SWITCH FOR CB5
7	FUSE SWITCH	SUB CCT TO TRANSFORMER 1
8	EARTH SWITCH	EARTH SWITCH FOR FUSE SWITCH 7
9	TRF ISOLATOR	TRF ISOLATOR SWITCH
10	TRF FUSE	TRF FUSE

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH INTEGRAL ENERGY'S MDI 0020 AND THE GENERAL TERMS AND CONDITIONS FOR NEW URBAN SUBSTATIONS.

2. AN EASEMENT FOR UNDERGROUND CABLES 1 METRE WIDE IS REQUIRED OVER THE LOT. PMS NO: 1/9683/1.

3. AN EASEMENT FOR SWITCHING STN SITE 2.75m x 2.75m IS REQUIRED OVER THE LOT. PMS NO: 1/9683/2

4. A SUITABLE RETAINING WALL MAY BE REQUIRED TO BE BUILT BY THE DEVELOPER. THIS WALL IS TO MEET LOCAL COUNCIL REQUIREMENTS AND MUST BE BUILT OUTSIDE THE EASEMENTS. IT MAY BE NECESSARY TO ADJUST THE EASEMENT LOCATION. REFER INTEGRAL ENERGY'S SDI 104 FOR DETAILS.

5. INTEGRAL ENERGY TO ARRANGE TO EXTINGUISH THE EXISTING (IF ANY) I.E. EASEMENTS OVER ITS PREVIOUS ASSETS.

6. PM SUB NUMBER 18928 IS TO BE REMOVED FROM THE I.E NETWORK & IS TO BE RENAMED TO CUSTOMERS SPECIFICATION. THE CUSTOMER NEEDS TO CONTACT JASON LU OF INTEGRAL ENERGY ON 131 081 FOR A COST TO PURCHASE EXISTING PM SUB 18928.

7. RTA TRAFFIC CONTROL BOX 1774 TO BE SURVEYED AS IT APPEARS TO BE IN I.E'S ALLOCATION.

8. IT IS THE RESPONSIBILTY OF THE DEVELOPER TO PROVIDE A 20 AMP SINGLE PHASE SUPPLY AT THE HIGH VOLTAGE METERING UNIT TO COMPLY WITH AS/NZS 3000:2000.

9. MEASUREMENTS APPROXIMATE, FINAL POSITION IS TO BE PEGGED BY DEVELOPER.

10. CONTACT MARK CASH OF CUSTOMER SAFTEY , HOXTON PARK OFFICE; DIRECT PHONE (02) 9853 5611 FAX (02) 9853 5678 TWO WEEKS PRIOR TO DESIRED COMMISIONING DATE FOR INSPECTION.

11.THE APPROPRIATE PROTECTION SETTINGS MUST BE SUBMITTED FOR APPROVAL PRIOR TO COMMISIONING, CONTACT ROB CORKE PROTECTION ASSET MANAGEMENT ON (02) 9853 6642.

12.PRIOR TO CONNECTION OF SUPPLY CONTACT INTEGRAL ENERGY'S SYSTEM CONTROL BRANCH, FIELD OPERATIONS MANAGER, PETER COLE ON 131 081 TO DETERMINE THE DIVISION OF RESPONSIBLITY AND INTIATE AN OPERATING PROTOCOL BETWEEN INTEGRAL ENERGY AND METAL SCRAP YARD.

13. ALL HV TEST CERTIFICATES TO BE SUPPLIED TO I.E WITH APPLICABLE NOSW & NOEW PRIOR TO COMMISIONING.

14. AN ELECTRICITY ACCOUNT/CONTRACT HAS TO BE ESTABLISHED PRIOR TO COMMISIONING.

15. PLEASE CONTACT TELSTRA'S NETWORK INTEGRITY OFFICE PRIOR TO ANY EXCAVATION DUE TO MAJOR FIBRE OPTICS IN WORKING AREA

FIELD POLE NUMBER	LANTERNS: EXISTING	LANTERNS: BRACKET	CONSTRUCTION: SPAN LENGTH	CONSTRUCTION: LINE DEV DEGREES	CONSTRUCTION: HV	CONSTRUCTION: LV	HOLE: DIA mm	HOLE: DEPTH m	POLE: TYPE	POLE: STAY	POLE: FOOTING	POLE: RELOCATE	POLE: REPLACE	POLE: NEW	POLE: EXISTING	POLE: REMOVE	NUMBER
NEW					29	1	600	1850	12.5/8	C			X				5
166					UG/OH=11	1	600	3300	14/12	C		X					4
162					EX:19	EX									X		3
2083					EX:11	EX									X		2
2084																X	1

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CERTIFIED BY INTEGRAL ENERGY
Certification No : _____ Amend. A
Date Approved : 8-10-01
Examiner's Signature _____
This Certification is issued subject to Integral Energy's Certification Terms.

REFERENCE DRAWING

CAP No.	UIL0649	FILE No.		
IE PROJ. No.	IN525	LG AREA	BLACKTOWN	
HV SWITCHING		HV GEO MAP	9160-41	
OVERHEAD MAINS		GIS MAP No	9160-41	
UNDERGROUND MAINS		UBD REF	168, N-6	
SUBSTATIONS		HV OP DIAG	MARAYONG AM-4	

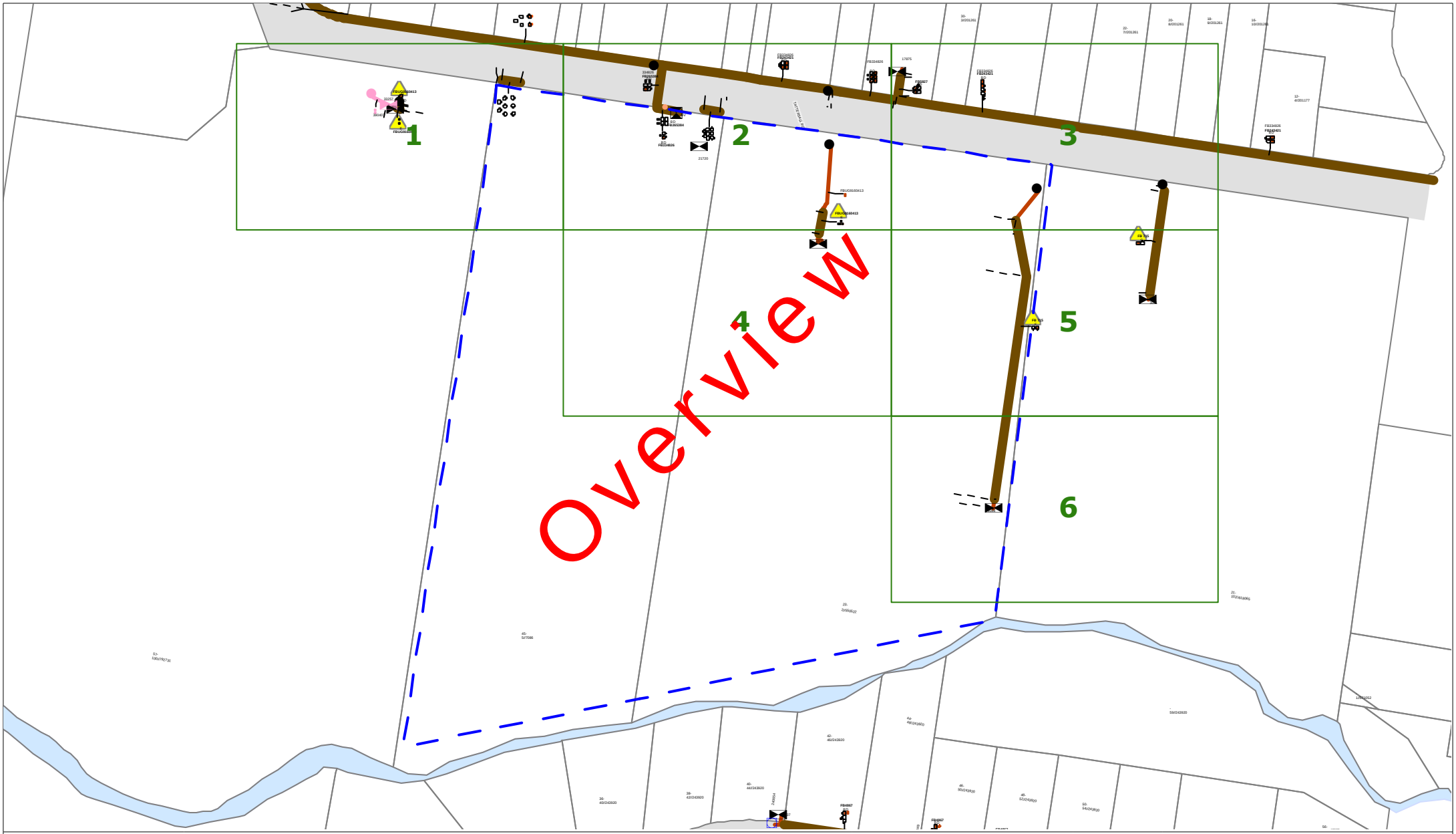
ORIGINAL SCALE 1:1000
DRAWN BRM
DATE 17/9/01
CH'D
DESIGN C.K
DO NOT SCALE DIMENSIONS IN METRES

INTEGRAL ENERGY

SCRAP YARD
45 TATTERSALL RD, BLACKTOWN
HV CUSTOMER 265384
UIL0649

A1 | 265384 | A
SHEET No 2 OF 2 SHEETS

Issue Date: 17/06/2014, DBYD Sequence No: 34494220



Endeavour Energy

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WARNING
ASBESTOS

N

DO NOT SCALE

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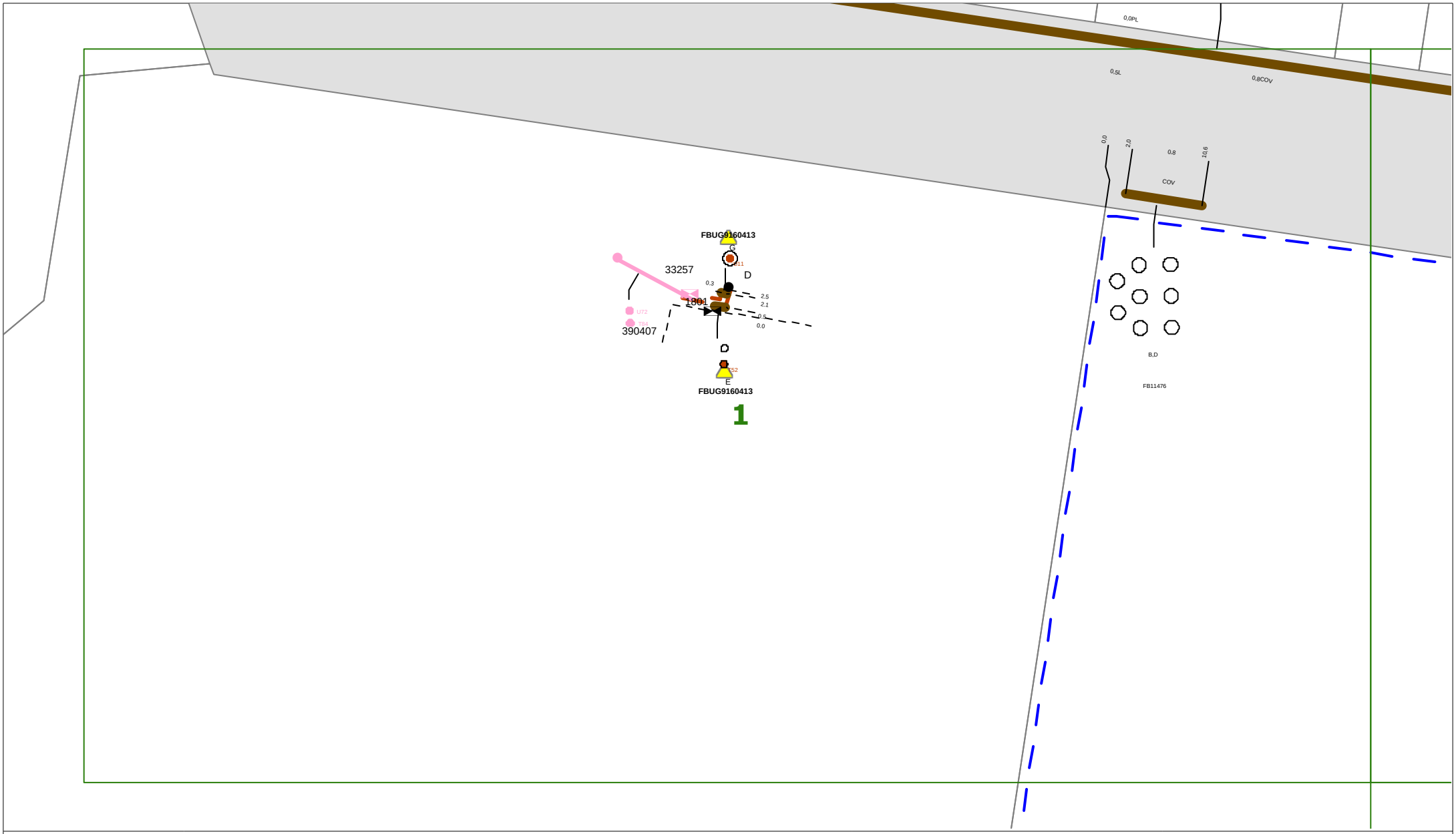
Issued Date:	17/06/2014



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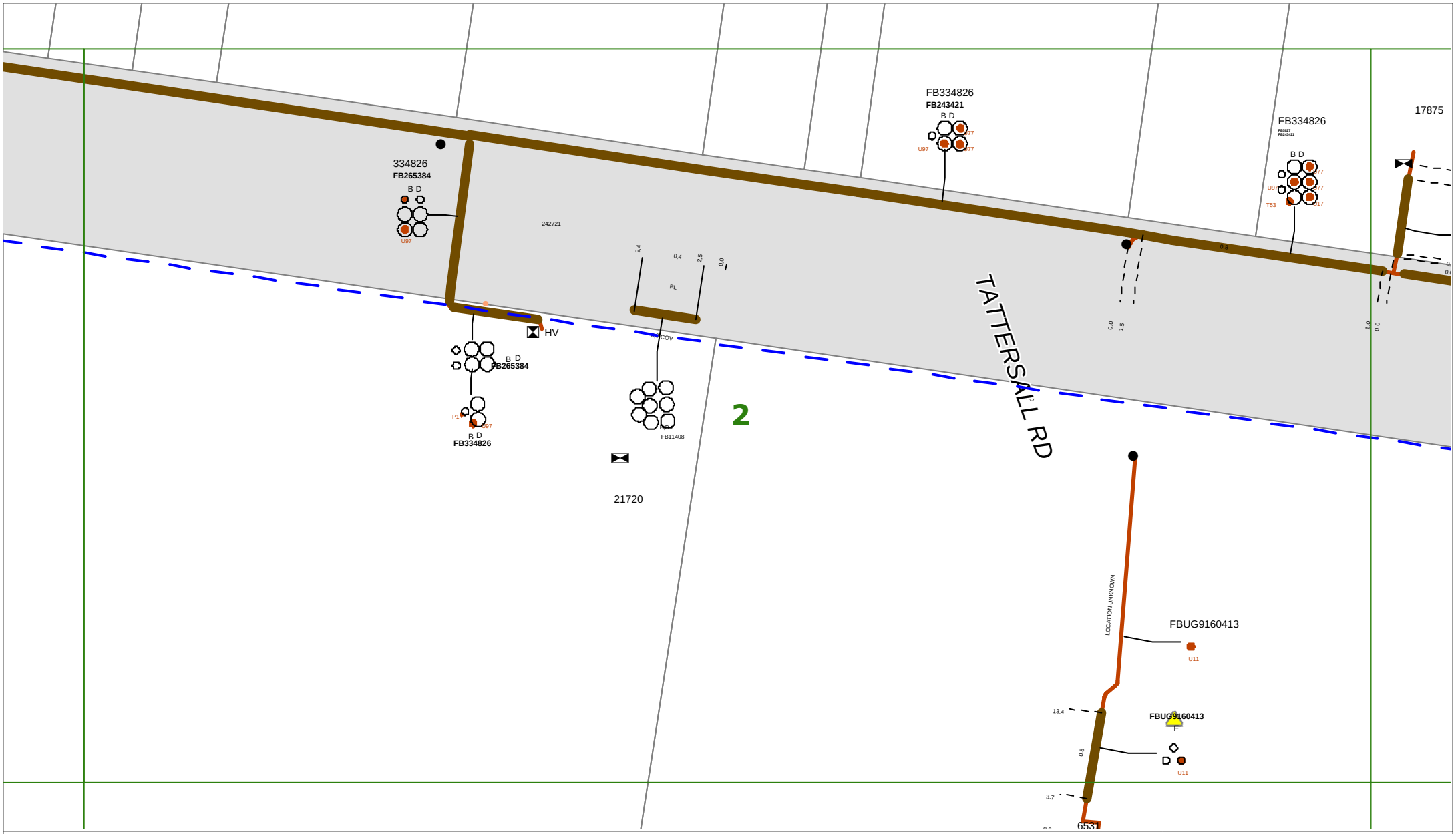

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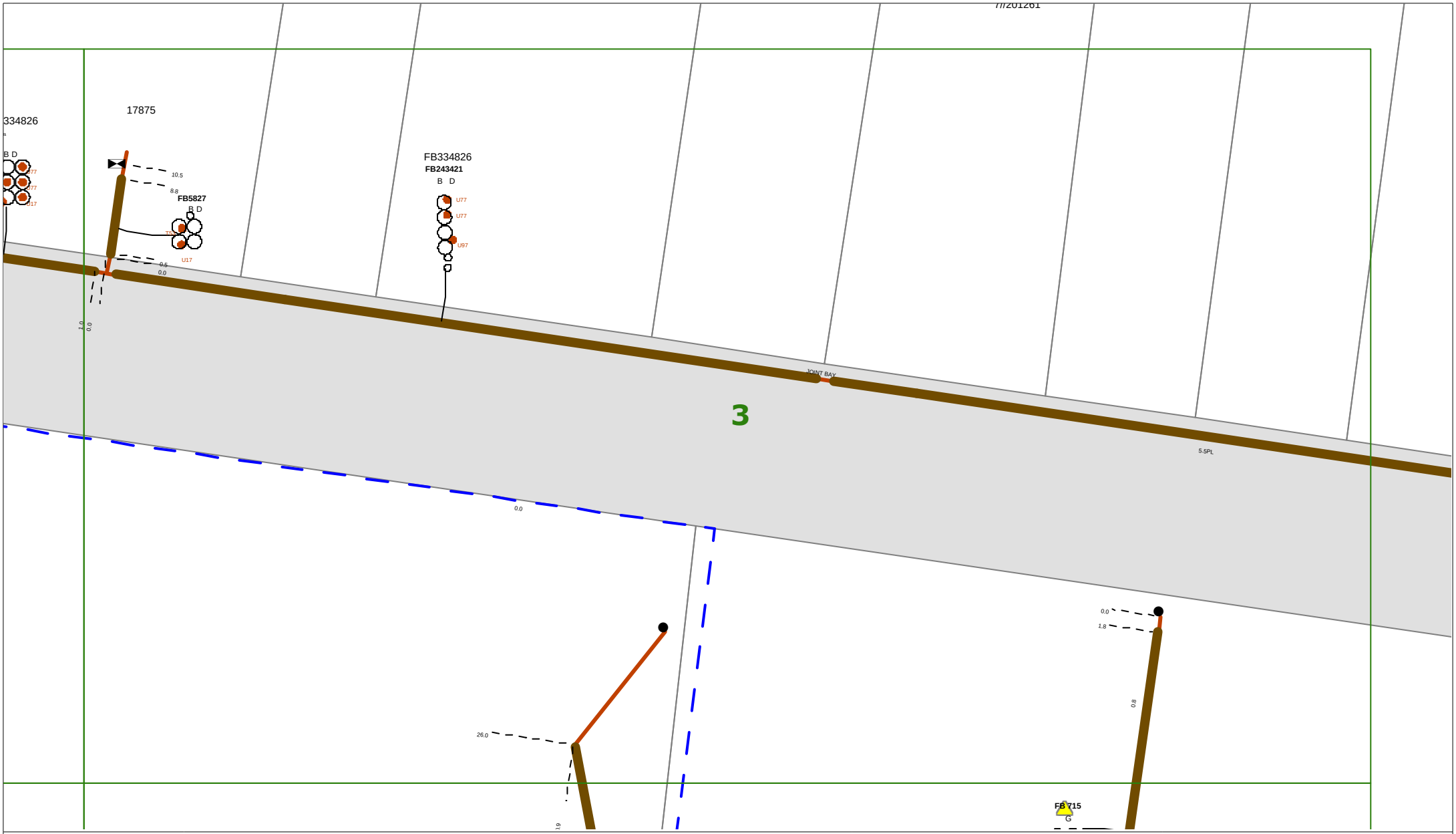

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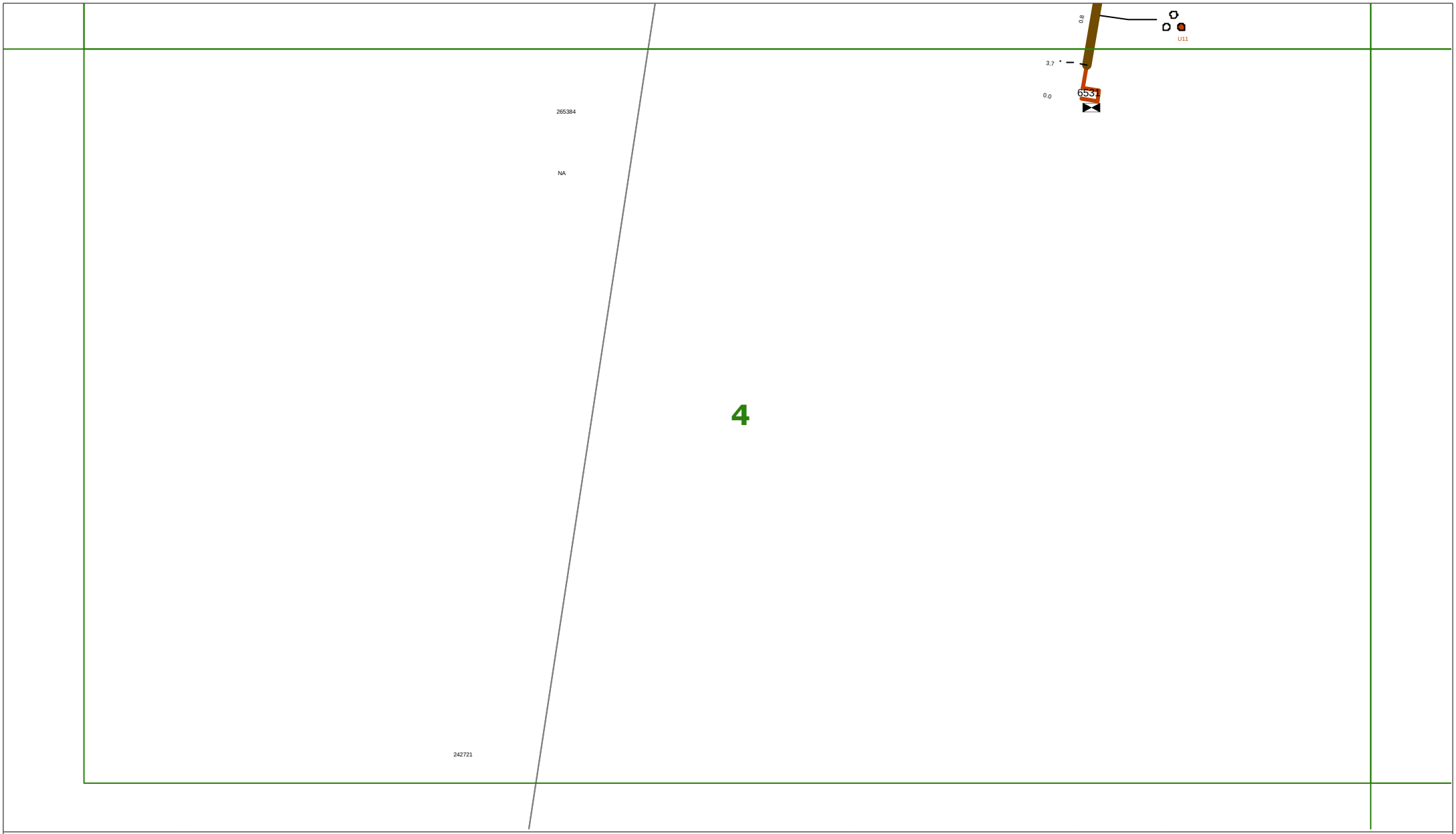

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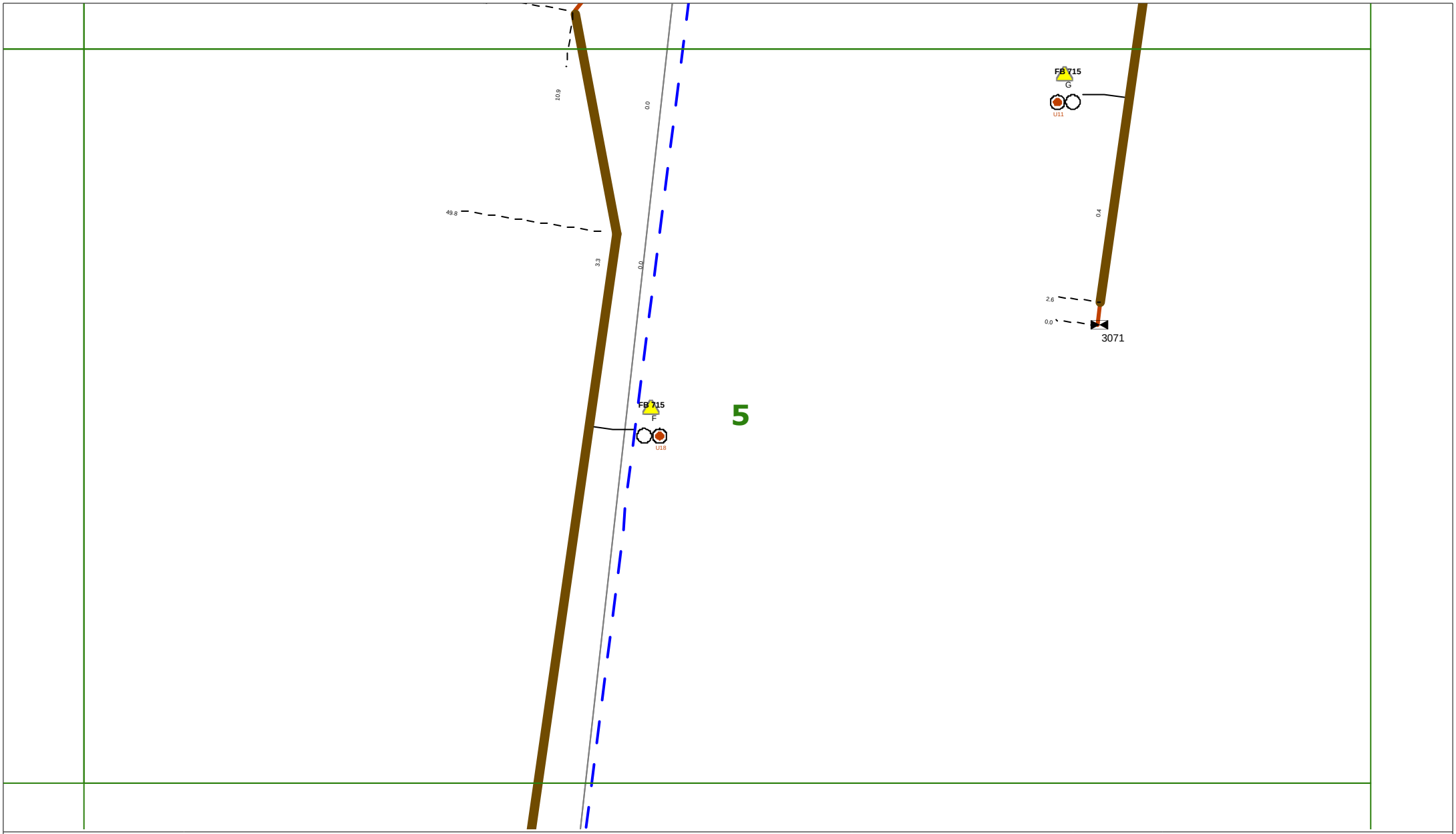

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WARNING
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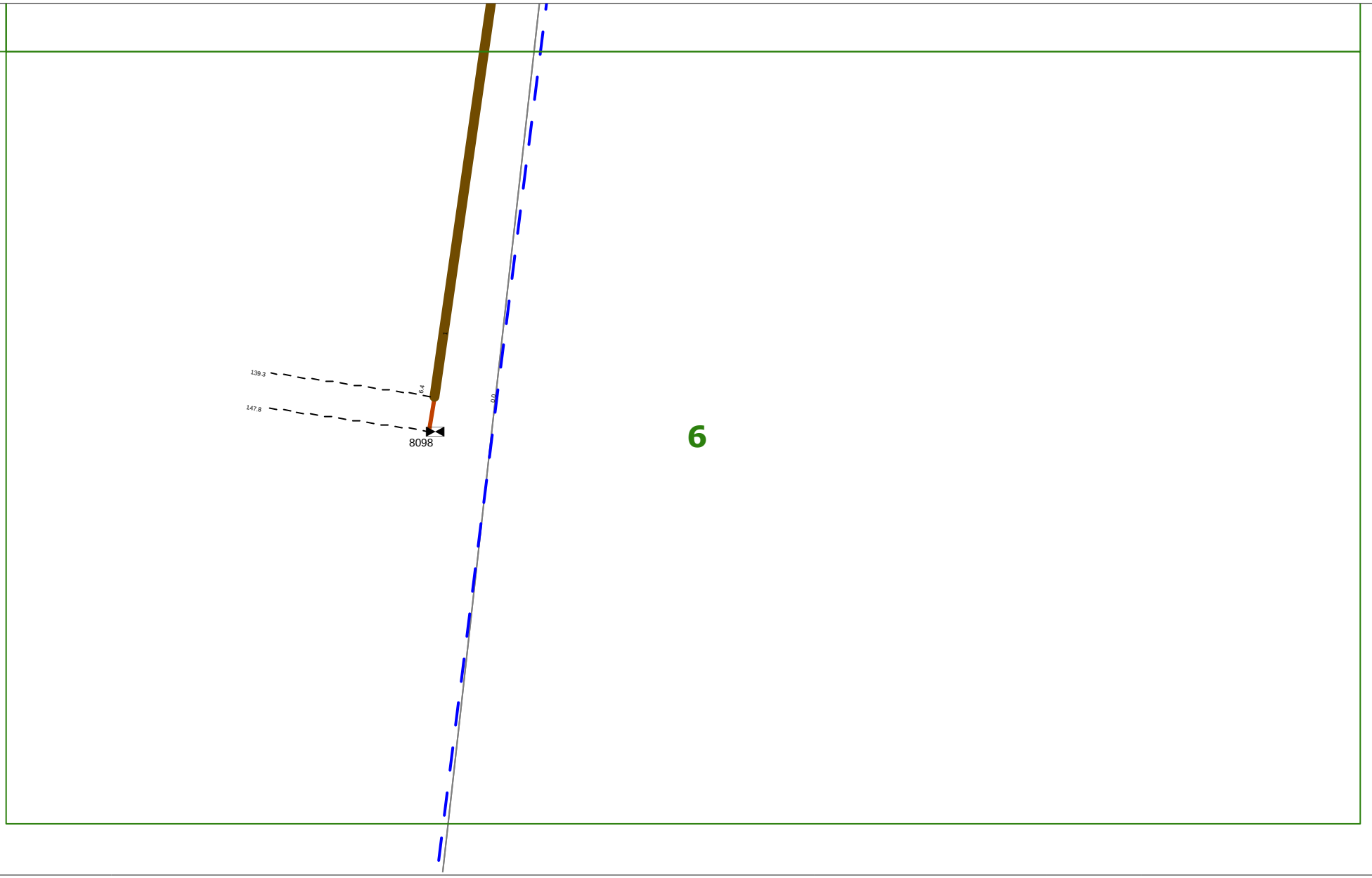

21-
102//6:

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WARNING
ASBESTOS

N

DO NOT SCALE

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IMPORTANT INFORMATION
READ BEFORE EXCAVATING

Background

Endeavour Energy is able to make available plans of its underground assets to persons who intend to undertake excavation works in Endeavour Energy's distribution area.

We have set out below important information regarding the recommended procedures that should be followed when using this service and also the extent of our responsibility in respect of any plans provided.

Any plans provided to you are made available subject to the provisions set out below.

It is very important that you read and understand all the information and disclaimers provided below before making a request for plans.

Information Provided by Endeavour Energy

- Any plans provided pursuant to this service are intended to show the approximate location of underground cables relative to fixtures when cables were laid.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

CUSTOMER REQUESTS AND RESPONSIBILITIES:

- If you intend to undertake any excavation work in Endeavour Energy's distribution area, it is your responsibility to contact **1100 – Dial Before You Dig or www.1100.com.au** and request plans, at least three working days prior to the proposed excavation date.
- Endeavour Energy expects to be able to provide relevant plans within 48 hours after a request is made.
- Endeavour Energy plans are frequently updated to record changes to underground assets. All plans are valid for **20** working days only from the date of issue therefore excavation should take place as soon as possible after the plans have been received. All plans provided by Endeavour Energy are subject to the warning set out below.
- Endeavour Energy retains copyright over all plans and details provided in response with customer's request.
- Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage to any underground assets (including any Endeavour Energy property) or any other loss caused (including consequential losses) as a result of such excavations. All underground assets should be visually located by hand digging (pot holing).

- **Any damage to Endeavour Energy's assets must be reported to it on 131003 immediately.**

Further Information:

- Individual customer service cables are not shown on Endeavour Energy's plans.
- For further clarification on cable locations or the correct interpretation of the plan or for assistance with printing plans, please contact **02 98534161** between 8.00am – 4.30pm, Monday to Friday.
- For information concerning proposed works affecting your property contact Endeavour Energy's Contestable Works Administrators nearest Service Centre.

WARNING:

Endeavour Energy's plans show only the presence of cables and their position relative to road boundaries, property fences and other structures at the time of installation. Endeavour Energy does not warrant or hold that such plans are accurate.

A person who undertakes excavation work is subject to duties and responsibilities under the *Work Health and Safety Act 2011 (NSW)*. The WorkCover Authority has prepared the *Work Near Underground Assets Guideline*, which contains practical advice for working near underground utility services and guidance as to how to meet the requirements of the *Work Health and Safety Act 2011 (NSW)* when carrying out excavation work.

DO NOT ASSUME DEPTH OR ALIGNMENT of cables as these vary significantly as a result of changes to road widths, road levels, fences or buildings subsequent to installation.

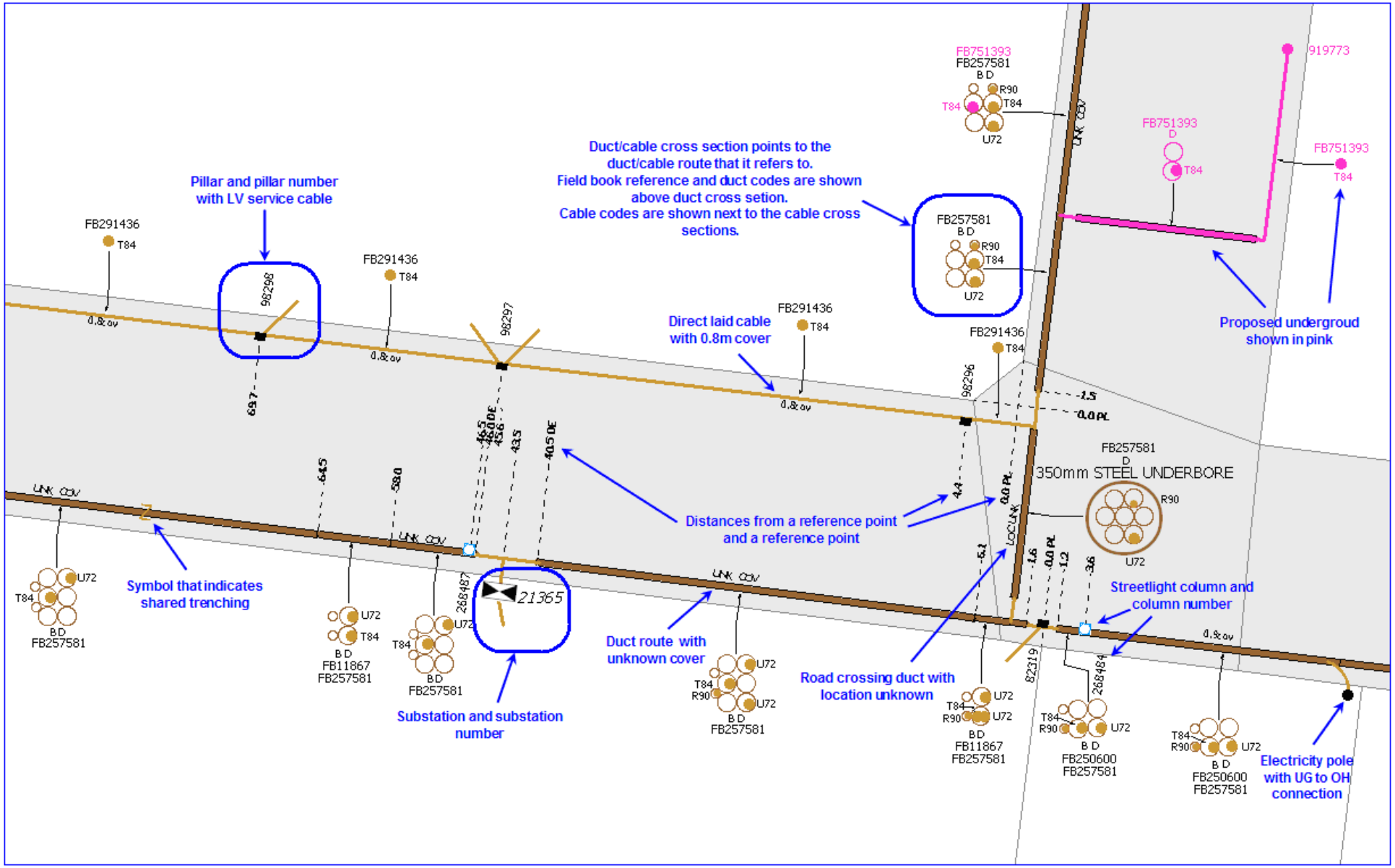
Persons excavating have a DUTY OF CARE when excavating near Endeavour Energy's cables. Before using machine excavators, Endeavour Energy's cables MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG (pot holing) to identify its location.

Those excavating near Endeavour Energy's cables should be aware that asbestos or asbestos-containing material may be present in Endeavour Energy's underground assets and that Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches. Please refer below (pages 4 & 5) for the method for identifying asbestos ducts.

ALL ELECTRICAL APPARATUS SHALL BE REGARDED AS LIVE UNTIL PROVED DE-ENERGISED. Contact with live electrical apparatus will cause severe injury or death.

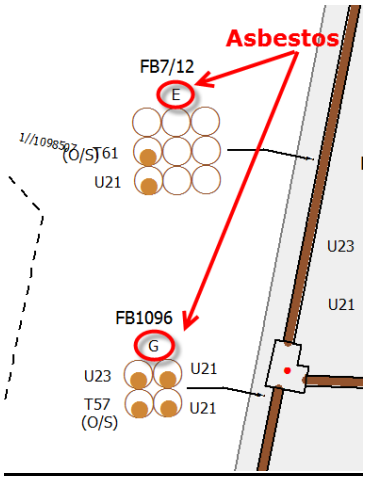
In all cases of electric shock or suspected electric shock the victim shall immediately be transported to hospital or medical centre for treatment.

EXAMPLE OF HOW TO READ ENDEAVOUR ENERGY PLANS



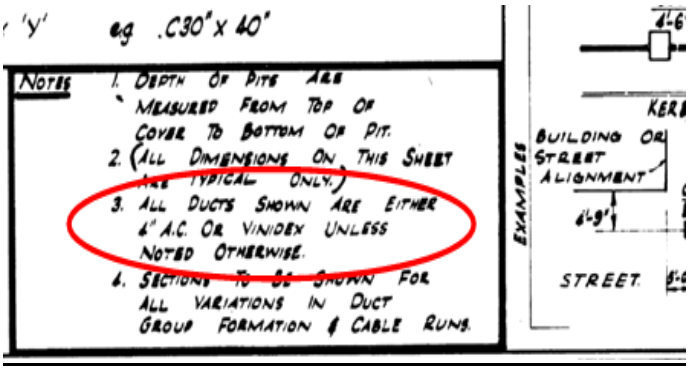
ASBESTOS DUCTS

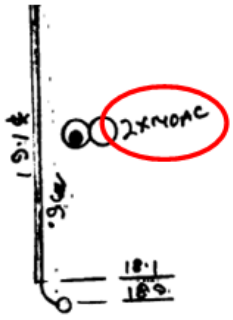
1. Duct codes of **E, F** and **G** identify Fibro Conduit

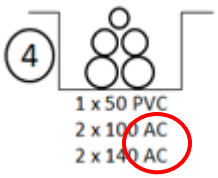


If underground details have not been captured and drawings are used, the method for identifying asbestos ducts and standards are different for the different utilities that amalgamated with Endeavour Energy. Using Reticulation Drawings, there are numerous ways to determine if a duct route has asbestos ducts, refer to following examples:

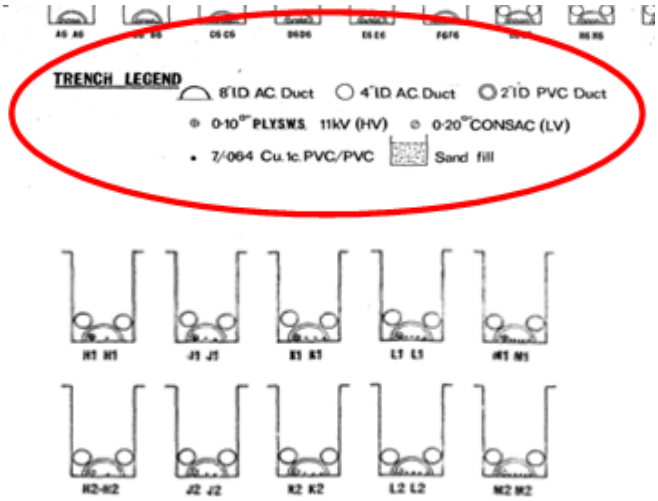
2. **AC** (Asbestos Cement) acronym



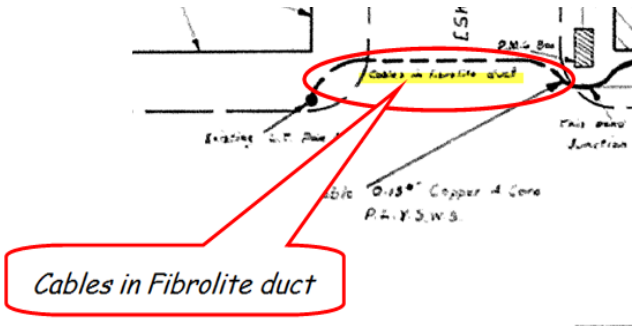




3. The duct codes **G,H,J,K,L.M Q,R,S,T,U,V,W & X** under each configuration is used on old Blue Mountains drawings to represent Asbestos.



4. **Fibrolite** (asbestos) ducts



If you are NOT able to identify the material used assume that it contains ASBESTOS and if further clarification is required, call 02 9853 4161 for assistance.

STANDARD UNDERGROUND SYMBOLS / LABELS

NOTE: If symbology has not been provided on the plan use symbols as shown below.

or — Street light column

Padmount substation

or — Overground pillar (O.G.Box)

Underground pit

Duct run

Cable run

Typical duct section

Typical underbore section

Blocked duct

Cable section

STJ, PBJ

STJ Straight through joint

PBJ Parallel branch joint

Underground to overhead pole

SL Streetlight conductor

SC Service cable

SE Cable sealed end

SF Service Feeder

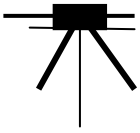
OS Out of Service

O.A.M. Over awning main

U.A.M. Under awning main

N.I.S. Not in service

Z — Shared trenching


Service point of attachment

DUCT CODE LABLES

B = 50 mm PVC

D = 125mm PVC

E = 100mm Fibro Conduit (Asbestos)

F = 140mm Fibro Conduit (Asbestos)

G = 150mm Fibro Conduit (Asbestos)

DEPTH & LOCATION LABELS

0.5- 0.7 COV = 500mm – 700mm Standard Depth (Not Shown on Plans)

0.9 COV = 900mm Depth

UNK COV = Depth Unknown

LOC UNK = Location Unknown

0.6 PL = Standard Location 600mm from Property Line (Not Shown on Plans)

0.9 PL = Located 900mm from Property Line

Network Protection

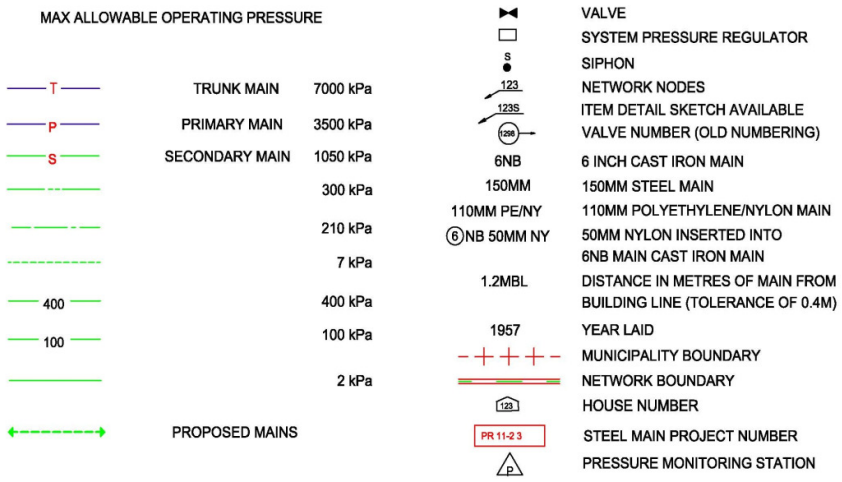
High Pressure - Assets Affected

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. For an explanation of the map, please see the key below.
The following excavations guidelines apply:

Excavation Guidelines:

Prior to **any** excavations in this area, you ***must*** contact the High Pressure Response Coordinator on **1300 665 380**. ***(Please note that a minimum two working days notice is required)*** to arrange a survey.
For all works in the vicinity of High Pressure Gas Mains you must arrange for a Pipeline Technician to attend and supervise all excavations. Charges apply for attendance of any works outside the hours of 7am to 4pm, Monday to Friday ("**Standard Business Hours**") and for any attendance during Standard Business Hours that is longer than 2 hours.
In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*
A copy of this Guideline is available at: www.workcover.nsw.gov.au

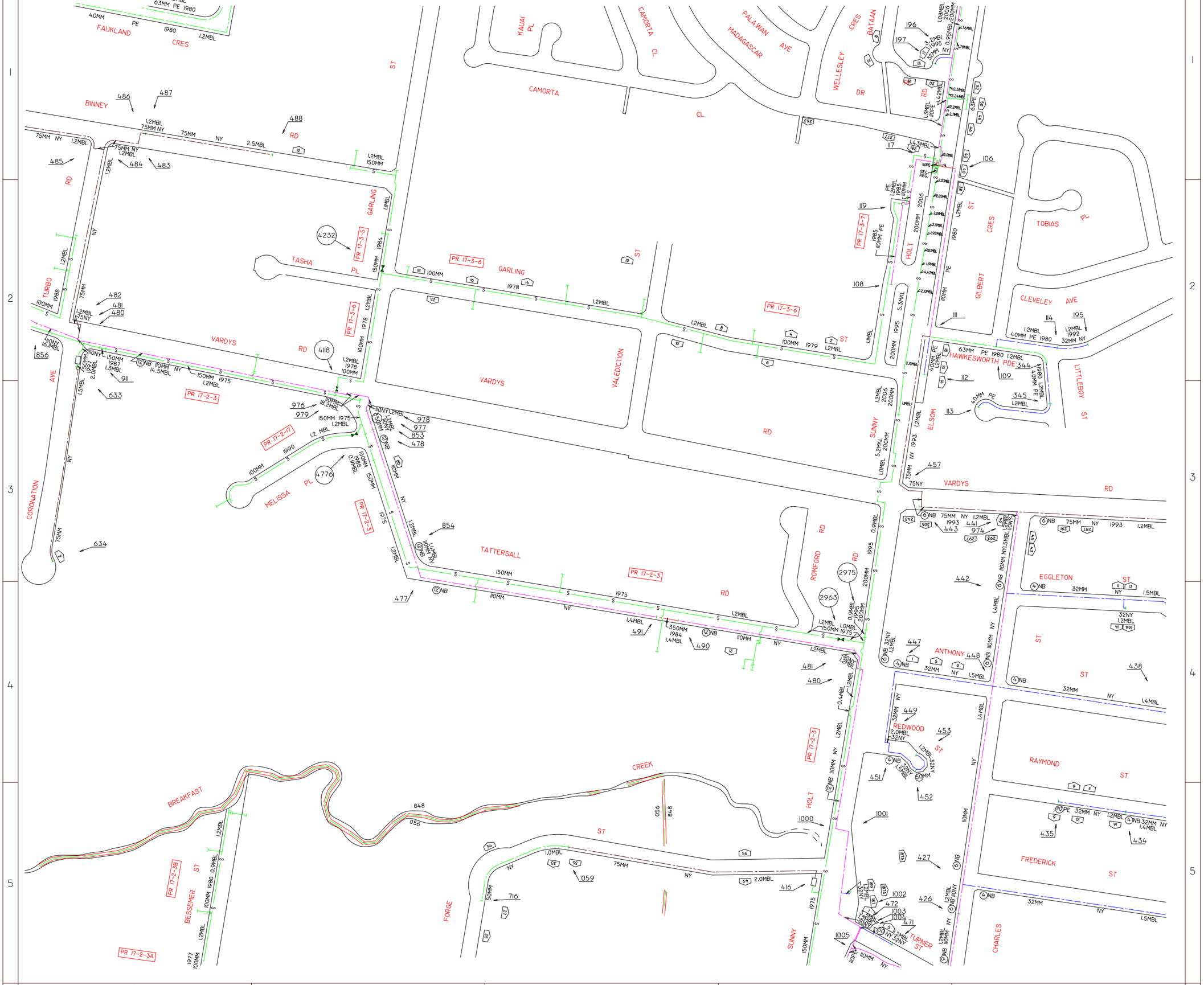
KEY



Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Pipeline Technician to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Pipeline Technician and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

In case of Emergency Phone 131 909 (24 hours)

Admin
1300 880 906



BLACKTOWN 4A

SCALE 1:2000

50 0 50 100 150 200

THIS MAP UPDATED ON 09/01/2014
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

RH3D	BIC	BID
RH6B	B4A	B4B
RH6D	B4C	B4D

ADJOINING MAPS

848 056 — NETWORK AREA

BLACKTOWN — MUNICIPALITY AREA

Jemena

KEY

MAX ALLOWABLE OPERATING PRESSURE

T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	PROPOSED MAINS	

PR II-2 3	STEEL MAIN PROJECT NUMBER
P	PRESSURE MONITORING STATION
	VALVE
	SYSTEM PRESSURE REGULATOR
S	SIPHON
123	NETWORK NODE
123S	NETWORK VALVE NODE
1298	VALVE NUMBER
6NB	6 INCH CAST IRON MAIN
150MM	150MM STEEL MAIN
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE
1957	YEAR LAID
	MUNICIPALITY BOUNDARY
	NETWORK BOUNDARY
123	HOUSE NUMBER

BLACKTOWN 4A

Network Operations– Asset Analysis
Unit 9, 677 Springvale Road
Mulgrave, Victoria, 3178

Date: 13/06/2014
To: Mr Nathan Hegerty
Company:
Address: PO Box 5711
Port Macquarie, Nsw 2444

ENQUIRY DETAILS
Location: 45 Tattersall Road, Kings Park, NSW 2148
Sequence No.: 34494222
DBYD Reference: 7524070

In relation to your enquiry of the above address, Optus advises as follows:
The records of Optus disclose that there ARE underground FIBRE OPTIC TELECOMMUNICATIONS cables in the vicinity of the above enquiry as per the attached plan(s). This reply is valid for a period of 30 days from the date above.

IMPORTANT INFORMATION
Drawings and Plans provided by Optus are reference diagrams which were correct at the time the asset was built. Exact ground cover and alignments cannot be provided with any certainty as these may alter over time. Depths of Telecommunications plant vary considerably as do alignments. It is essential to uncover the asset and positively identify the assets exact location.
Optus plans are provided as a guide only and the completeness of the information cannot be guaranteed.

"DUTY OF CARE"
When working in the vicinity of Telecommunications plant you have a legal "Duty of Care" that must be observed.

It is the responsibility of the owner and any consultant engaged by the owner, including an architect, consulting engineer, developer and head contractor to design for minimal impact to Optus plant. Optus will provide assistance at this design stage through the provision of plans and sketches or consultation.

It is the owner's (or constructor's) responsibility to:-

a) Request plans of Optus plant for a particular location at a reasonable time before construction begins. If you have doubts about the presence of Optus assets we strongly recommend that you engage an Optus Accredited plant locator.

b) Visually locate Optus plant by hand digging or using non-destructive water jet method where construction activities may damage or interfere with Optus plant

c) Contact Optus Network Operations – Asset Analyst (details below) if Optus plant is wholly or partly located near construction activities

CRIMINAL CODE ACT 1995

The following is an extract from the Criminal Code Act 1995 and is applicable to Optus plant

Chapter 10 National infrastructure

Part 10.6 Telecommunications Services

Division 474 Telecommunications offences

Sect 474.6 Interference with facilities

1) A person is guilty of an offence if the person tampers with, or interferes with, a facility owned or operated by:
   (a) a carrier; or
   (b) a carriage service provider; or
   (c) a nominated carrier.

Penalty: Imprisonment for 1 year.

2) For the purposes of an offence against subsection (1), absolute liability applies to the physical element of circumstance of the offence, that the facility is owned or operated by a carrier, a carriage service provider or a nominated carrier.

3) A person is guilty of an offence if:
   (a) the person tampers with, or interferes with, a facility owned or operated by:
      i. a carrier; or
      ii. a carriage service provider; or
      iii. a nominated carrier; and
   (b) this conduct results in hindering the normal operation of a carriage service supplied by a carriage service provider.

Penalty: Imprisonment for 2 years.

4) For the purposes of an offence against subsection (3), absolute liability applies to the following physical elements of circumstance of the offence:
   (a) that the facility is owned or operated by a carrier, a carriage service provider or a nominated carrier;
   (b) that the carriage service is supplied by a carriage service provider.

5) A person is guilty of an offence if:
   (a) the person uses or operates any apparatus or device (whether or not it is comprised in, connected to or used in connection with a telecommunications network); and
   (b) this conduct results in hindering the normal operation of a carriage service supplied by a carriage service provider.

Penalty: Imprisonment for 2 years.

DAMAGE

ANY DAMAGE TO OPTUS NETWORK MUST BE REPORTED TO 1800 500 253 IMMEDIATELY

The owner is responsible for all plant damage when works commence prior to obtaining Optus Drawings, or failure to follow instructions.

Optus reserves the right to recover compensation for loss or damage to its cable network and other property including consequential loss

ASSET RELOCATIONS

You are not permitted to relocate or alter any Optus assets or network under any circumstance.

For all enquiries relating to the relocation of Optus assets please email Fibre.Locations@optus.net.au

ESSENTIAL PRECAUTIONS AND APPROACH DISTANCES

Note: If the following clearances cannot be maintained, please contact Optus Network Operations Asset Analysis Team for advice on how to resolve the situation.

1. On receipt of plans and before commencing excavation work or similar activities near Optus plant, carefully locate the plant first to avoid damage. Engage an Optus accredited locator to undertake exposure of the Optus plant when working within the following approach distances.

Where Optus plant is in an area where road and footpaths are well defined by kerbs or other features a minimum clear distance of 1.0m must be maintained from where it could be reasonably presumed that plant would reside.

In non established or unformed reserves this distance must be at least 3 metres.

In country or rural areas which may have wider variations in reasonably presumed plant presence, the following minimum approach distance applies:

a) Parallel to plant: 5 metres

Note: **Indicated depths may vary significantly and pot-holing needs to be undertaken within extreme care**, **commonsense and using techniques least likely to damage cables. Potholing is only to be undertaken by an Optus accredited plant location contractor.**

If construction work is parallel to Optus plant, then carful hand digging or using non destructive water jet method (pot holing) at least every 5m is required to establish the location of the plant, confirming the location of the plant prior to work commencing.

Under no circumstances is crossing of Optus plant to be performed without first exposing the Optus plant and having an Optus representative present onsite.

2. Maintain the following minimum clearance between construction activity and the actual location of Optus plant.

Jackhammers / Pneumatic Breakers	Not within 1.0m of actual location
Vibrating Plate or Wacker Packer Compactor	Not within 0.5m of actual location 300mm compact clearance before compactor can be used across Optus ducts 750mm compact clearance cover before compactor can be used across Optus *Direct Buried* cable
Boring Equipment **(in-line, horizontal and vertical)**	Not within 5.0m of actual location without Optus representative onsite Constructor to hand dig or non-destructive water jet method (pot holing) and expose the Optus plant Not to cross the Optus plant without first exposing the plant at the crossing point and without Optus representative onsite
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus ducts or plant with less than 600mm of cover Depth to be verified via hand digging
Mechanical Excavators, Farm ploughing, Boring, Tree removal, fencing	Not within 1.0m of actual location Constructor to hand dig or use non-destructive water jet method (pot holing) and expose plant

All Optus pits and manholes should be a minimum of 1.0m in from the back of kerb or within 15m of street intersection after the completion of your work.

All Optus conduit should have the following minimum depth of cover **after the completion of your work**:-

- **Footway 600mm**
- **Roadway 1000mm at drain invert and at road centre crown**

In cases where it is considered that these clearances cannot be maintained at the completion of works advice is to be sought form the Optus Damages and Relocations Team

FURTHER ASSISTANCE

Assistance can be obtained by contacting Optus Network Operations Asset Analysis on **1800 505 777**

Where an on-site location is provided, the owner is responsible for all costs associated with hand digging or use of non-destructive water jet method (pot holing) to visually locate and expose Optus plant.

If plant location drawings or visual location of Optus plant by digging reveals that the location of Optus plant is situated wholly or partly where the owner plans to work, then Optus Damages and Relocates Team must be contacted through Optus Network Operations Asset Locations to discuss possible engineering solutions.

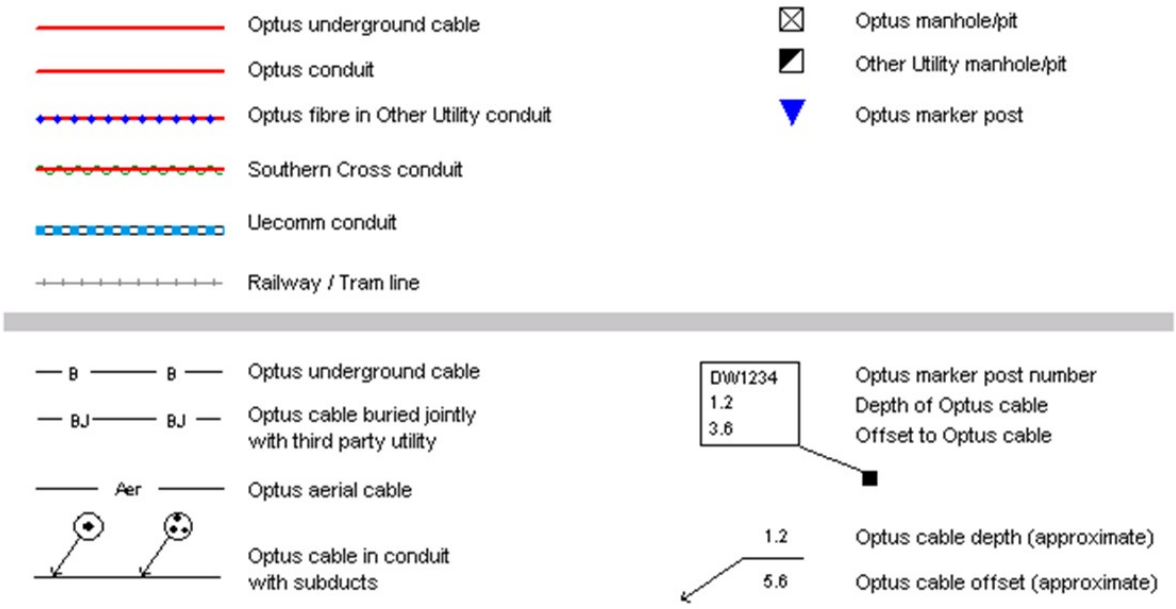
PRIVATE RESIDENTIAL LANDOWNERS and RURAL LANDOWNERS

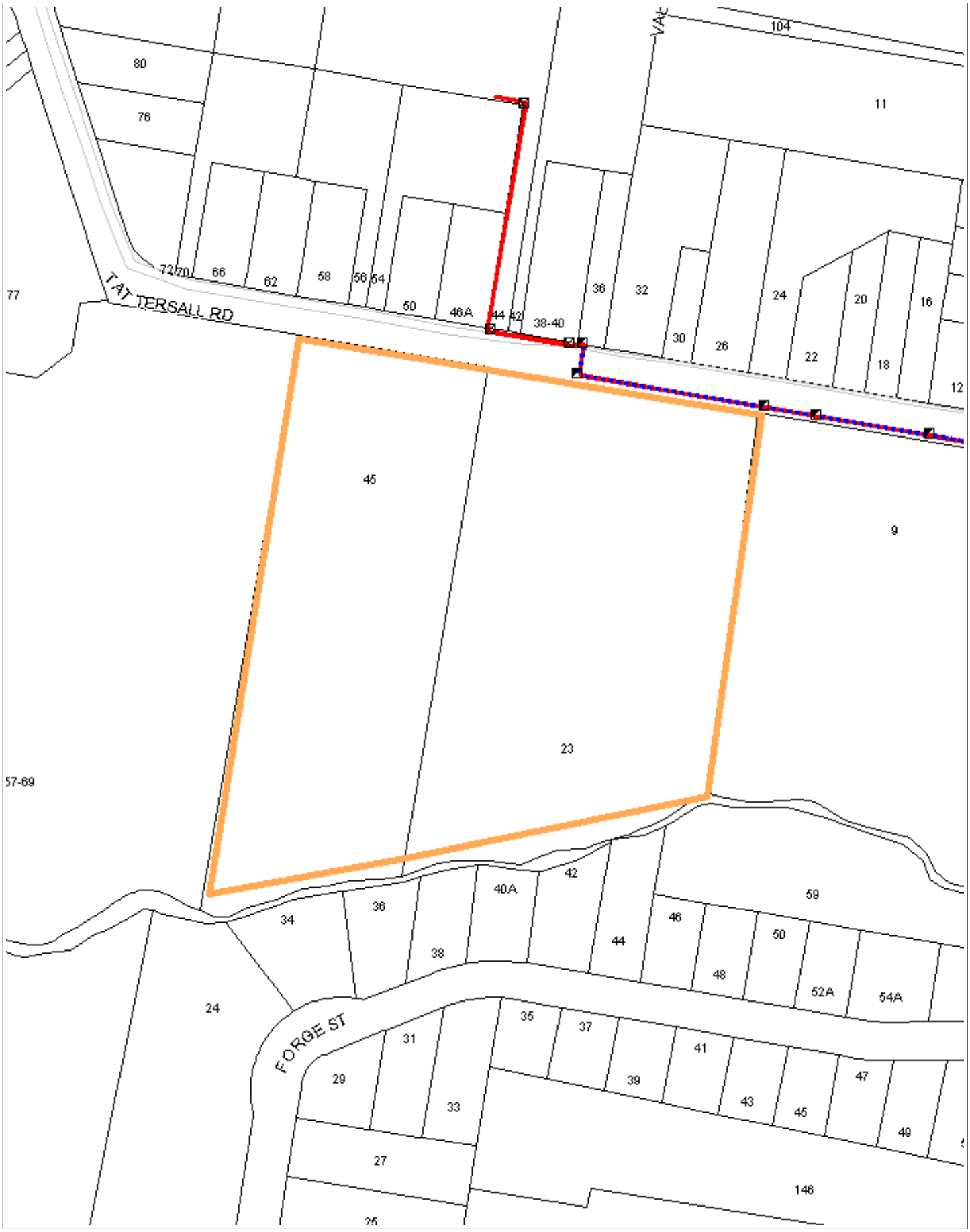
Where Optus owned cable crosses private residential property or agricultural land, Optus may provide a once off free onsite electronic cable location. Optus Network Operations Asset Analyst will provide assistance in determining whether a free on-site location is required.

Please note:

- The exact location, including depth of cables can only be verified by pot holing which is not covered under this service
- This service is only available to assist private residential land owners and rural land owners
- The service covers one hour onsite only. Additional time will be charged at the current nominal rate.

OPTUS ENGINEERING DRAWING SYMBOLS





WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission.
Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

Sequence Number: 34494222

Date Generated: 13/06/2014

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

Response Cover Letter

Date: 13/06/2014

PIPE Networks
Level 17, 127 Creek St
Brisbane QLD 4000
Phone: +61 732339895
Fax: +61 732339880

To:
Mr Nathan Hegerty - Customer ID: 1014066
ERM - Mr Nathan Hegerty
PO Box 5711
Port Macquarie
Nsw
2444

Email: nathan.hegerty@erm.com
Phone: 0265847155
Fax: 0265847160
Mobile: 0428627876

Dear Mr Nathan Hegerty

The following is our response to your Dial Before You Dig enquiry.

Assets Affected: PIPE Networks, Telstra

Sequence Number: 34494219

Location: 45 Tattersall Road
Kings Park
NSW
2148

Commencement Date: 18/06/2014

Please read over the attached documents for more information about your enquiry.

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.*

Note: *If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Level 17, PIPE Networks House, 127 Creek Street, Brisbane 4000
PH:(07) 3233 9895 FAX:(07) 3233 9880

Attention: Mr Nathan Hegerty
Fax: 0265847160
DBYD Enquiry Number: 34494219

Date: 13/06/2014

Location: 45 Tattersall Road
Kings Park
NSW
2148

DBYD ENQUIRY RETURN:

PIPE Networks **DOES** own or operate telecommunications network infrastructure within the area detailed above.

The affected network **is contained in the PIPE Networks duct network** and can be found on **PIPE Networks** own network plans.

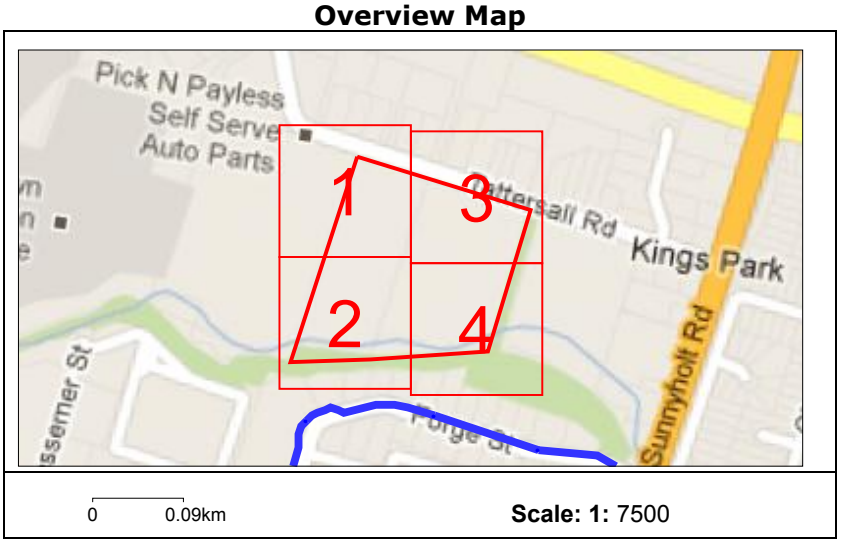
This network is vital to our operations and as such, it is critical that no works commence within the area until a PIPE Networks representative has contacted you.

A PIPE Networks representative will contact you within 24 hours to further discuss your intended works. If you do not hear from PIPE networks within 24hours please call us for assistance.

Due to continued network expansion, this network information can only be considered valid and accurate for 28 days from issue.

PIPE Networks will seek compensation for any damage to its network through negligence or ignorance of your duty of care.

Overview Map



PIPE Networks (for information specific to this job only)
Ph (07) 3233 9895
Email: dbyd@pipenetworks.com

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.*

Note: *If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.

Enquiry Number: 34494219

Map Sheet: 1

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area **Asset**

Line

Area

Manhole

Duct

N

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence. © 2013 PIPE Networks Ltd.*

Note: *If the works fall in an area that is adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.

Enquiry Number: 34494219

Map Sheet: 2

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area

Line

Area

Asset

Manhole

Duct

N

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence. © 2013 PIPE Networks Ltd.*

Note: *If the works fall in an area that is adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

pipenetworks

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.

Enquiry Number: 34494219

Map Sheet: 3

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area **Asset**

Line

Area

Manhole

Duct

N

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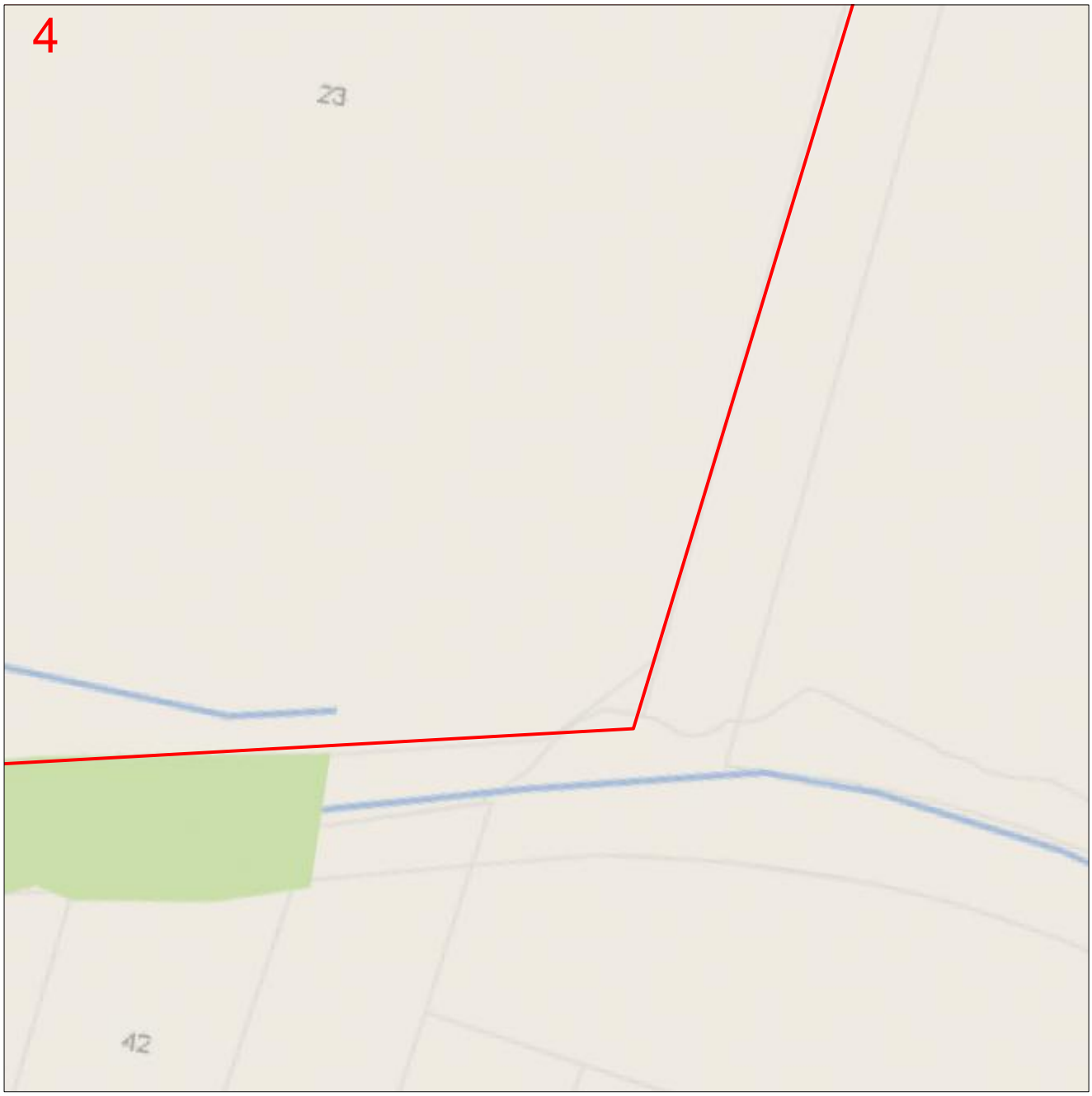
Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.



Enquiry Number: 34494219

Map Sheet: 4

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area **Asset**

Line

Area

Manhole

Duct

N

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Level 17, PIPE Networks House, 127 Creek Street, Brisbane 4000
PH:(07) 3233 9895 FAX:(07) 3233 9885

DBYD ENQUIRY RETURN:

PIPE Networks **DOES** own or operate telecommunications network infrastructure within the request area detailed above.

The affected network infrastructure is contained within the **Telstra** duct network and can be found listed on the appropriate **Telstra** duct Network plans.

THIS NETWORK IS VITAL TO OUR OPERATIONS AND AS SUCH, IT IS CRITICAL THAT **NO WORKS** COMMENCE WITHIN THE AREA UNTIL YOU HAVE RECEIVED AND APPRAISED THE TELSTRA DUCT PLANS FOR THIS AREA.

Due to continued network expansion, this network information can only be considered valid and accurate for 28 days from issue.

PIPE Networks will seek compensation for any damage to its network through negligence or ignorance of your duty of care.

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Email: dbyd@pipenetworks.com
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Annex K

Conceptual Site Model (CSM)

Site	Source		Pathway	Receptor	SPR Linkage / Comments
Existing site (45 Tattersall Road)	Former site uses	Impacted soils from former site operations relating to boiler-making and construction (heavy metals, & ACM)	Direct contact	Existing on-site workers	Unlikely: Due to affected areas covered by hardstanding and no proposals to excavate waste cell areas
				Intrusive maintenance workers (current and future)	Potential linkage in the event that impacted waste cells are exposed, however waste is currently under concrete; there are no plans to breach the hardstanding as part of this EIS. In the event that excavation is required, any potential environmental risks could be controlled through a management plan.
			Groundwater: constituents of concern mobilised through groundwater	Groundwater beneficial use: Drinking water bores on- and off-site	Unlikely: Although a theoretical beneficial groundwater use, unlikely due to reticulated water supply, poor regional groundwater quality and low yield
		Impacted soils from former site operations relating to construction and farmland use (OCPs, OPPs)	Groundwater: constituents of concern mobilised through groundwater	Groundwater beneficial use: Drinking water bores on- and off-site	Unlikely: Although a theoretical beneficial groundwater use, unlikely due to reticulated water supply, poor regional groundwater quality and low yield
		Contaminated cells (anecdotal evidence provided by Sell and Parker, possibly from former USTs or zinc impacted soils from beneath a former saw mill building)	Direct contact	Existing on-site workers	Unlikely: Due to affected areas covered by hardstanding and no proposals to excavate waste cell areas
				Intrusive maintenance workers (current and future)	Potential linkage in the event that impacted waste cells are exposed, however waste is currently under concrete; there are no plans to breach the hardstanding as part of this EIS. In the event that excavation is required, any potential environmental risks could be controlled through a management plan.
			Groundwater: constituents of concern mobilised through groundwater	Groundwater beneficial use: Drinking water bores on- and off-site	Unlikely: Although a theoretical beneficial groundwater use, unlikely due to reticulated water supply, poor regional groundwater quality and low yield
	Current site uses Current operations include processing ~90,000 T per annum of industrial scrap metal, demolition material and car bodies	Metal recycling equipment (pre-shredder, shredder, shear) Raw material stockpiles: - flock stockpile - rubber tyre loader	Direct contact	Existing on-site workers	Unlikely: Due to solid nature of materials and existing operational controls
			Fugitive emissions to air	Off-site commerical workers and residences	Potential: Currently managed through site operational controls such as EPL and complaints register
		Maintenance workshop including oils, paints, degreasers (BTEX, TRH, PAHs, lead and other metals)	Direct contact	Existing on-site workers	Potential: Currently managed through site operational controls such as EPL and PPE
			Surface water: via surface run-off into Breakfast Creek	Ecological receptors associated with Breakfast Creek	Potential: Currently managed via stormwater controls under EPL.
		IBCs & liquid waste from vehicles	Groundwater: via preferential pathways such as subsurface utility trenches	Groundwater: Drinking water bores on- and off-site	Unlikely: Site covered with hardstanding, any spillages likely to run to detention basin in first instance
		Stormwater retention dam (clay-lined) with oil-skimming system	Surface water: via surface run-off into Breakfast Creek	Ecological receptors associated with Breakfast Creek	Potential: Currently managed via stormwater controls under EPL.
			Groundwater: via preferential pathways such as subsurface utility trenches	Groundwater: Extraction bores off-site	Unlikely: Regional groundwater quality is low and unlikely to be for beneficial (drinking water) use. No registered bores on-site.
		ASTs	Fugitive emissions to air	On- and off-site workers	Unlikely: Releases from ASTs likely to dissipate rapidly
	Future site uses	No change proposed	As above	Future site workers, neighbours and off-site residents	No additional SPR linkages to consider
Proposed site (23-43 Tattersall Road)	Former site uses	Impacted soils from previous land-use such as farmland (OCPs & OPPs), TRH from former tanks.	Direct contact	Existing on-site workers	Unlikely: Due to affected areas covered by hardstanding and no proposals to excavate waste cell areas
				Intrusive maintenance workers (current and future)	Potential linkage in the event that impacted waste cells are exposed, however waste is currently under concrete; there are no plans to breach the hardstanding as part of this EIS. In the event that excavation is required, any potential environmental risks could be controlled through a management plan.
			Groundwater: constituents of concern mobilised through groundwater	Groundwater beneficial use: Drinking water bores on- and off-site	Unlikely: Regional groundwater quality is low and unlikely to be for beneficial (drinking water) use. No registered bores on-site.
	Current site use Current operations include aluminium processing, spray painting and storage of materials	Dangerous Goods Storage: Paints, cleaners, fuel and other flammable liquids (associated with DG Depots 1 and 5-10)	Direct contact	Existing on-site workers	Unlikely: Due to affected areas covered by hardstanding and no proposals to excavate waste cell areas
			Surface water: via surface run-off into Breakfast Creek	Ecological receptors associated with Breakfast Creek	Potential: Currently managed via stormwater controls under EPL.
			Groundwater: constituents of concern mobilised through groundwater and/or via preferential pathways such as subsurface utility trenches	Groundwater: Extraction bores off-site	Unlikely: Regional groundwater quality is low and unlikely to be for beneficial (drinking water) use. No registered bores on-site.
		Dangerous Goods Storage: ASTs associated with DG Depots 2, 3 and 4.	Direct contact	Existing on-site workers	Unlikely: Due to affected areas covered by hardstanding and no proposals to excavate waste cell areas
			Fugitive emissions to air	On- and off-site workers	Unlikely: Releases from ASTs likely to dissipate rapidly
		Paint/washing concrete sump (phosphate and detergents)	Groundwater: constituents of concern mobilised through groundwater	On- and off-site workers	Potential: Concrete-lined sump, with limited possibility of locally impacted soils which may need to be managed/removed during redevelopment works.
		Existing buildings with ACM	Inhalation of asbestos fibres	Future site workers such as demolition contractors	Potential: Development and implementation of an Asbestos Management Plan, would enable ACM to be appropriately managed during any demolition works of affected buildings.
		Paint stack and emissions from ventilation systems	Delibrate emissions through stack and vent systems	Releases / emissions to air	Potential: Current operations are managed through EPL. Paint stack and emissions will not be continued as part of future site usage . An air quality and odour assessment is being completed which is likely to address any concerns or give suitable recommendations for their management in regards to emissions from ventilation systems associated with the expanded waste recycling activities.
	Future site use	Proposed land-use likely to produce similar SPRs as existing site	As above	Future site workers, neighbours and off-site residents	No additional SPR linkages to consider
Applicable to both sites	Off-site sources	Neighbouring properties (Bostik, scrap car yard) and more distant ones associated with groundwater monitoring bores ~160-370m to the east (hydraulically up-gradient) of the site.	Groundwater: constituents of concern mobilised through groundwater	Existing on-site workers Off-site commerical workers and residences Local groundwater Surface water (Breakfast Creek)	Potential: However regional groundwater quality is low and unlikely to be for beneficial (drinking water) use. No registered bores on-site. In practice also considered unlikely based on the distances involved and requirement for this to be managed by relevant parties and authorities.

Legend:

= source-pathway-receptor linkage considered unlikely
= source-pathway-receptor linkage potential, although appropriate controls (such as Environment Protection Licence) are currently in place
= source-pathway-receptor linkage potentially complete and further consideration is warranted

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Annex L

Preliminary Hazard Analysis

(Arriscar)

Preliminary Hazard Analysis of Sell & Parker Pty Ltd Metal Recycling Facility Expansion

For Environmental Resources Management

10-March-2014

Doc. No.: J-000068

Revision: 1

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Distribution List

Name	Organisation	From (Issue)	To (Issue)

Prepared by: Joel Leonard Date: 10 March 2014

Reviewed by: Philip Skinner Date: 10 March 2014

Approved by: Philip Skinner Date: 10 March 2014

Document History and Authorisation

Issue	Date	Changes
A	21 February 2014	Draft report for client review.
0	3 March 2014	Final report.
1	10 March 2014	Incorporating latest plant layout and changes to process description

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Summary

Sell & Parker Pty Ltd (Sell & Parker), a metal recycling company, proposes to increase the capacity of its waste metal recovery facility located at 45 Tattersall Road from 90,000 tonnes per annum to 350,000 tonnes per annum. This necessitates using the adjoining site to the east (23 – 43 Tattersall Road), modifying the site layout and altering existing buildings, improving vehicular access to the site and internal roads, and constructing ancillary infrastructure.

Environmental Resource Management Pty Ltd (ERM), are preparing the Environmental Impact Statement for the expansion of the Sell & Parker facility, and have requested Arriscar Pty Limited (Arriscar) to conduct a Preliminary Hazard Analysis (PHA) of the proposed development and to identify fire and incident management measures.

Hazardous scenarios were identified in a HAZID session, and some representative scenarios modelled to determine the consequence distances.

While dangerous goods scenarios could have fatal impacts, the extent of these consequences is limited due to the small inventory of dangerous goods, and a semi quantitative assessment of risk appropriate for the site.

It was found that there was no significant offsite impact from the use of dangerous goods on site due to the small inventories involved. The NSW criteria for injury were not reached at sensitive or residential land use zones. The potential for offsite fatality and property damage was limited to the scenario of a 45 kg LPG cylinder rupture in the dangerous goods store. The NSW criteria for offsite fatality and property damage are considered satisfied due to the rarity of LPG cylinder ruptures.

The assessment found that qualitative criteria for potentially hazardous development was satisfied, and the development is not considered a hazardous industry, as defined in State Environmental Planning Policy (SEPP) No. 33.

A number of recommendations were made in regard to fire protection requirements:

1. At least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage (AS 4332-2004, Table 7.2). This is based upon the 3,000 L of oxygen in the store.
2. Provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers.
3. Maintain the height of the floc stockpile to less than 4 m, or the total volume to less than 1000 m^3. This ensures the warehouse in which the floc is stored will not be a high hazard occupancy.
4. Continue with the practice of providing water cannons to provide reach to feed and processed stockpiles in the event of a fire in any stockpile.

These recommendations are in addition to fire-fighting requirements contained in the “deemed to comply” provisions of the Building code of Australia.

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Notation

Abbreviation	Description
Floc	Non-metallic waste left behind after shredding/processing of both Ferrous and Non Ferrous material received.
HIPAP	Hazardous Industry Planning Advisory Paper
Kg/s	kilograms per second
kPa	kilo Pascal
kW/m^2	Kilo Watts per square metre
LFL	Lower Flammable Limit
LPG	Liquefied Petroleum Gas
m	metre
mm	millimetre
UFL	Upper Flammable Limit
VCE	Vapour Cloud Explosion

1 INTRODUCTION

1.1 Background

Sell & Parker Pty Ltd (Sell & Parker), a metal recycling company, proposes to increase the capacity of its waste metal recovery facility located at 45 Tattersall Road from 90,000 tonnes per annum to 350,000 tonnes per annum. This expansion includes:

- Using the adjoining lot to the east (23 – 43 Tattersall Road),
- Modifying the site layout and altering existing buildings on both lots,
- Improving vehicular access to the site and internal roads, and
- Constructing ancillary infrastructure.

Environmental Resource Management Pty Ltd (ERM), are preparing the Environmental Impact Statement for the expansion of the Sell & Parker facility, and have requested Arriscar Pty Limited (Arriscar) to conduct a Preliminary Hazard Analysis (PHA) of the proposed development and to identify fire and incident management measures.

The Environmental Assessment (EA) for the proposed modification must address the following Director General's Requirements for Hazards and Risks:

- Updating the risk assessment for the subject site to include the proposed modification. The level risk assessment should be consistent with *Multi-level Risk Assessment* (2011) (1).
- The risk assessment needs to be assessed against and shown to comply with criteria contained within *HIPAP 4: Risk Criteria for Land Use Safety Planning* (2).

This PHA has been undertaken in accordance with the guidance provided by the NSW Department of Planning and Infrastructure (DP&I) in *Multi-level Risk Assessment* (2011) (1). A semi qualitative assessment of the risk has been undertaken.

1.2 Scope

The study scope includes a semi-quantitative analysis and assessment of off-site fatality, injury and property damage risk, in accordance with the NSW Hazardous Industry Planning Advisory Paper (HIPAP) guidelines. The risk assessment does not include an assessment of the following risks:

- Environmental risks on-site;
- Risk of property damage on-site and
- Fatality or injury risks for personnel on-site.

The study scope includes a PHA of the proposed modification.

2 FACILITY DESCRIPTION

2.1 Site Description

Sell & Parker proposes to expand its operations onto land adjacent to its current operation in Kings Park. After the expansion, Sell & Parker will occupy 23 – 45 Tattersall Road, Kings Park, New South Wales. This is shown on Figure 2-1.

The following buildings will occupy the site at the completion of the development.

Table 2-1 Buildings

Building	Area (m^2)
Office/Admin	952
Non Ferrous Shed	1,372
Non Ferrous processing	4,201
Post Shedder processing	2,952
Truck Wash	500
Storage/Work shed	450
Shedder Non Ferrous Recovery	680

2.2 Location

The location, 23 -45 Tattersall Road, Kings Park and the surrounding area is zoned for industrial use. The nearest residential zone is approximately 300 m to the East.

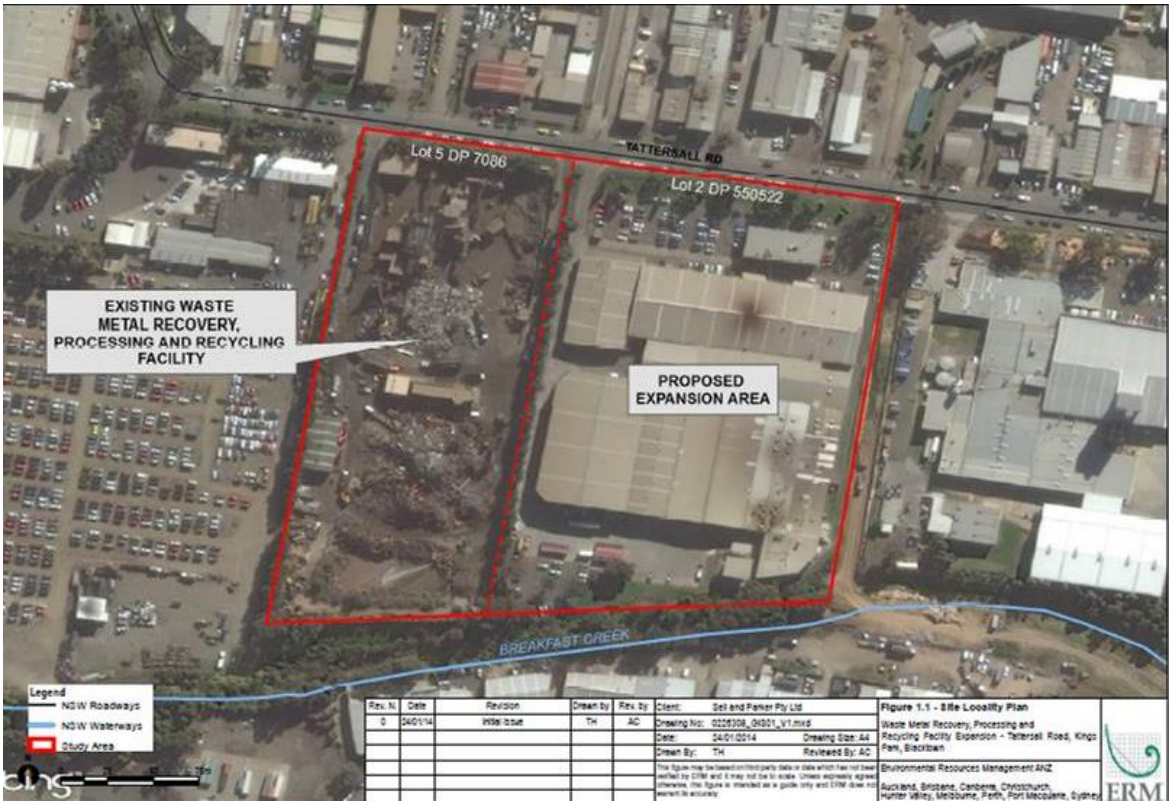

Figure 2-1 Current Site and Expansion in Relation to Surrounding Land Use

2.3 Site Activities

The activities of will not significantly change from those currently undertaken at 45 Tattersall Road, being:

1. Shredding
2. Shearing
3. Non-Ferrous collection and sorting
4. Office and other activities.

The location of these activities is shown in Figure 2-2.

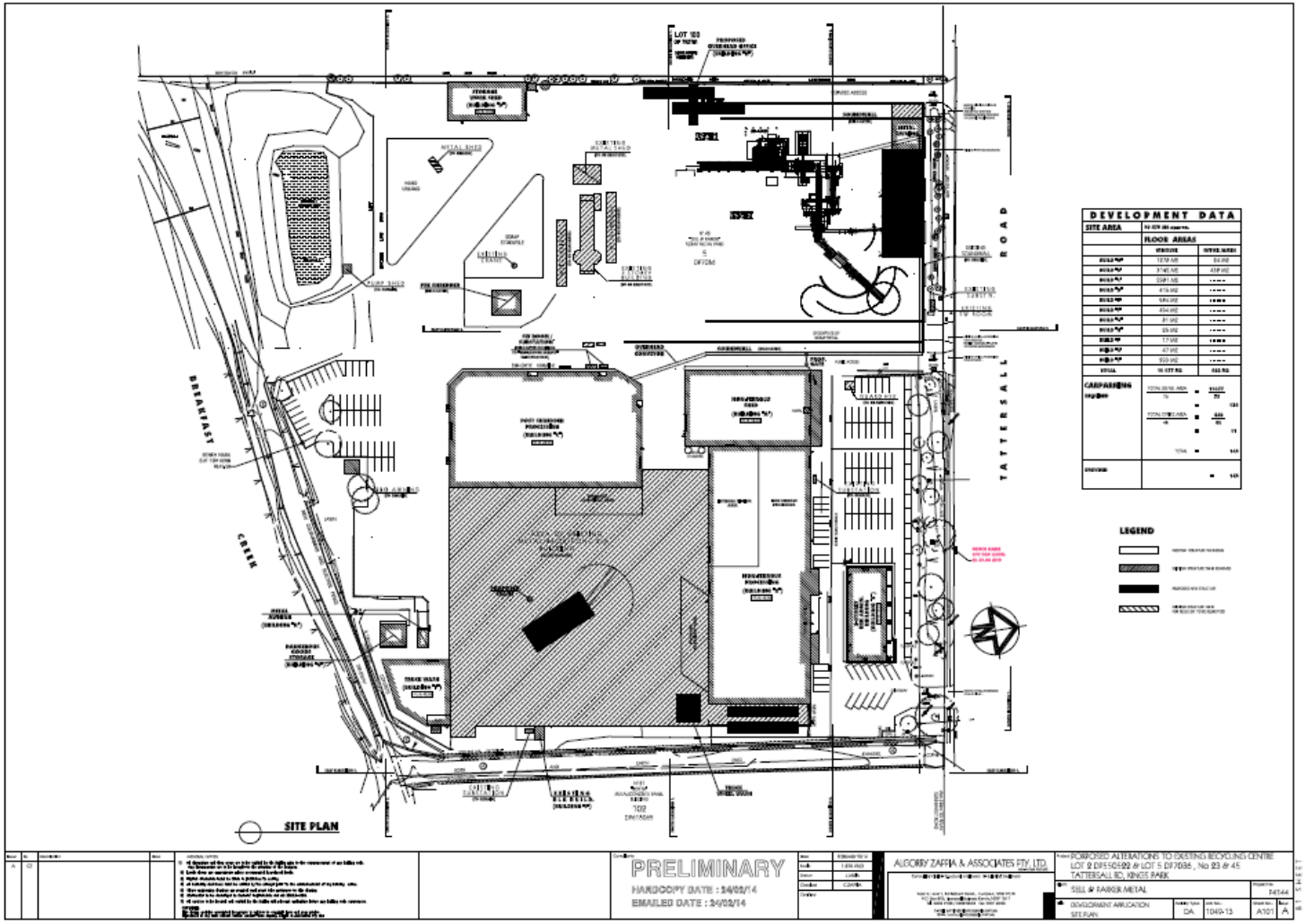

Figure 2-2 Proposed Layout of Expanded Site

2.3.1 Shredding

The shredder processes light scrap metal including car bodies, but not larger steel items such as rail or structural steel.

Petrol tanks and liquefied petroleum gas (LPG) cylinders will be removed from cars and emptied before they are fed through the facility. LPG cylinders will be stored in a quarantined area before being removed offsite for decommissioning and disposal. Petrol and oil will be drained from tanks and collected in above ground storage tanks and removed offsite for processing.

Cars and scrap metal are lifted onto a heavy-duty feed conveyor (Cl) by an electric slot handler. The operator of the mobile material handler will also check the feed material while loading it onto the conveyor. The materials will pass the control cabin, where an operator will also check incoming materials. The control cabin is an enclosed structure with sound proofing and air conditioning for operator comfort and health and safety requirements.

The feed conveyor transports raw material into the hammer mill which shreds the metal into fist-sized pieces.

The fragmented raw material is carried upwards by an incline conveyor and will then be dropped into a 'cascade' chute, hitting against its corners and therefore loosening any dirt and dust. Air from the cascade will be extracted by an induced draft fan and passed into the cascade cyclone, which will drop out particulates. Cleaned air will then pass through a wet scrubber to remove fine dust.

The cleaned fragmented material will then pass under drum magnets, which will pick up ferrous metals and drop them onto the picking conveyor (C2), where operators will remove remaining non-ferrous materials. The ferrous metals ·will continue up a conveyor (C3) which offloads the ferrous product into the product stockpile, that is contained in a designated area.

The non-ferrous materials will drop beneath the drum magnets to a conveyor which runs perpendicular to the ferrous product. This conveyor carries non-ferrous metals and wastes such as plastic and glass. The material is conveyed beneath another magnet, which picks up any small remaining quantities of ferrous metals and drops them into a skip for collection. Non-ferrous materials will continue through a pan feeder and trommel which will separate the materials into appropriate size streams for sorting.

The streams pass through an eddy-current separator, which collects aluminium, copper and brass into a skip. The streams then join and pass beneath a final eddy-current separator to win any remaining aluminium.

After passing through these stages, the remaining materials are waste products, which will be conveyed to a brick bunker

Some material is processed in a “pre-shredder”, which will allow potential contaminants hidden in compacted scrap to be identified before entering the hammer mill (shredder).

2.3.2 Shearing

Larger ferrous items such as structural beams or rails undergo a different treatment from that of lighter material. Material is inspected, stockpiled, and then reduced in size using large hydraulic

shears. The processed ferrous material is stockpiled before being loaded and transported off site after sale.

2.3.3 Non-ferrous Processing

Non-ferrous processing refers to items that do not contain substantial amounts of iron. These items include aluminium cans, copper and brass. These are either received in bulk or are brought on site by members of the public in light vehicles.

Non-ferrous material is inspected, sorted and stored in skip bins or containers, awaiting transport. Some aluminium products may be baled (compressed into cubes).

2.3.4 Office and other activities

This represents activities that would not generally present major hazards outside the site. The activities include maintenance, office administration and truck washing.

2.3.5 Hazardous Materials

Small quantities of dangerous goods are stored on site. These are mostly required for maintenance or utility purposes. Some dangerous goods are removed from the metal before processing, stored and disposed through waste contractors.

Table 2-2 List of Dangerous Goods and Quantities

Material	Quantity (L/Kg)	DG Class	UN No	Type of Store
Oxygen	3,000 L	2.2, sub5.1	1072	6 man-packs (15 bottles)
LPG - LP Gas	540 L	2.1	1075	12 x 45 L Cylinders
Argonshield - Argon	135 L	2.2	1956	3 x 45 L Cylinders
Petrol - Petroleum	2,000 L	3	1075	Tank
Diesel - Diesel	1,000 L	3	1202	Tank
Batteries - Sulphuric acid, spent	30,000 kg	8	1832	
Hydraulic oil – hydraulic fluid	2,000 L	9	3082	Tank
Engine oil & Gear oil – crude oil	6,000 L	3	1267	Tank
Grease	160 L	N/A	N/A	

Material	Quantity (L/Kg)	DG Class	UN No	Type of Store
Degreaser - Kerosene	100 L	3	1223	Packaged goods

In addition to the materials listed, some metal for recycling may be contaminated with dangerous goods. This has been considered in the hazard identification process.

3 HAZARD IDENTIFICATION

3.1 Methodology

A structured What-If session was used to identify hazard associated with the planned expansion. The site was split into processing areas, and prompts used to assist brainstorming potential hazardous scenarios. Once a hazardous scenario was identified, causes and the uncontrolled consequence(s) of the scenario were explored and documented. Existing safeguards, and ones that have been incorporated into the expansion plans were identified and documented.

Following the identification of the scenario, the team qualitatively assessed the risk of each scenario using the Sell & Parker risk management system. The severity of each consequence was determined (Table 3-1), and the frequency with which the consequence could occur with the existing and proposed controls estimated (Table 3-2). The result was assessed using the Sell & Parker risk matrix (Table 3-3).

Table 3-1 Sell & Parker Consequence Categories

Level of Effect	Example of each level
Insignificant/Acceptable	No effect – or so minor that effect is acceptable
Minor	First aid treatment only; spillage contained at site.
Moderate	Medical treatment; spillage contained but with outside help.
Major	Extensive injuries; loss of production
Catastrophic	Death; toxic release of chemicals

Table 3-2 Sell & Parker Frequency Categories

Criteria	Description	
Almost certain	Expected in most circumstances	Effect is a common result
Likely	Will probably occur in most circumstances	Effect is known to have occurred at this site or it has happened
Possible	Might occur at some time	Effect could occur at this site or I've heard of it happening
Unlikely	Could occur at some time	Effect is not likely to occur at the site or I have not heard of it happening
Rare	May occur in exceptional circumstances	Effect is practically impossible

Table 3-3 Sell & Parker Risk Matrix

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	3 High	3 High	4 Acute	4 Acute	4 Acute
Likely	2 Medium	3 High	3 High	4 Acute	4 Acute
Possible	1 Low	2 Medium	3 High	4 Acute	4 Acute
Unlikely	1 Low	1 Low	2 Medium	3 High	4 Acute
Rare	1 Low	1 Low	2 Medium	3 High	3 High

3.2 Meeting

The hazard identification session took place from 9:00am to 11:00am on 31 January 2014 in offices at the Sell & Parker site, 45 Tattersall Road, Kings Park, NSW. The attendees are presented in Table 3-4.

Table 3-4 Hazard Identification Participants

Name	Title	Company	Role
Joel Leonard	Principal Consultant	Arriscar Pty Limited	Facilitator
Nigel Fox	General Manager, Property & Development	Sell & Parker	Attendee
Allen Floyd	Operations	Sell & Parker	Attendee
Ian Mace	Blacktown Manager	Sell & Parker	Attendee
Luke Parker	CEO	Sell & Parker	Attendee

3.3 Results

Minutes of the hazard identification are presented on the following pages.

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
1. Shredding	1. Chemical	1. Lead acid batteries in cars or other contamination	1. Material may leak and contaminate water courses if not suitable separated from storm water. As only small individual quantities are involved (for example, single car battery), Contamination will be almost negligible.	1. Visual inspection of material on arrival.			Minor	Unlikely	1 Low
			2. Personnel may come into contact with chemicals and receive chemical burns.	2. Car process			Moderate	Unlikely	2 Moderate
			3. If flammable and ignited, there is the potential for a small fire. No offsite impact is expected unless the fire escalates.	3. PPE			Minor	Unlikely	1 Low
				4. Bunded area					
				5. Emergency response plan (ERP)					
		2. Shredder punctures fuel tank / LPG tank	1. Fuel may be ignited in the confined space of the shredder. Potential fire or explosion within the shredder. Noise and vibration considered the only offsite impact.	1. Visual inspection of material on arrival.	1. Pre-shredder relocated further from neighbouring properties		Minor	Likely	3 High
				2. Pneumatic brass (non-sparking) spike removes and collects fuel and oil from vehicles					
				3. Pre-shredding process in an open, rather than confined area minimises the potential for explosions.					

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
		3. Leak of hydraulic fluid from processing equipment	1. Possible contamination of water courses if not separated from storm water.	1. Regular maintenance			Minor	Possible	2 Moderate
			2. If the hole is small there is the possibility of a fine mist forming, which could ignite, resulting in a localised spray fire around the machinery involved. Potential injury to personnel	2. Oil separator in stormwater system			Major	Unlikely	3 High
				3. Oil skimmer					
				4. Emergency response plan (ERP)					
				5. Inspection, maintenance procedures					
				6. Separation from personnel					
		4. Loss of flammable material from vehicle tank fuel recovery unit (overflow or damaged container)	1. Leak of flammable material that could find its way into water courses. If ignited, a pool fire could result, leading to injuries for site personnel	1. Maintenance					
				2. Bunding					
	2. Radiation	1. Potential radiation material in incoming material (smoke detectors, hospital material)	1. Personal exposure to radiation	1. Incoming material screened for radioactive sources			Major	Rare	3 High
	3. Machinery	1. Personnel struck / caught in machinery	1. Personnel injury	1. Guarding			Major	Unlikely	3 High

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
				2. Operator training/certification					
	4. Light	1. Refer "General"							
	5. Electricity	1. Transformer fire	1. Transformer fire resulting in smoke and possible personnel injury.	1. Annual inspection and report in line with OEM recommendations			Moderate	Unlikely	2 Moderate
				2. Emergency response plan (ERP)					
	6. Mobile plant / vehicles	1. Refer mobile plant / vehicles in "General"							
	7. Pneumatic energy	1. Overpressure of air receiver	1. Personnel struck by flying fragments - potential serious injury	1. Air receiver safety relief valve			Major	Rare	3 High
		2. Corrosion of air receiver	1. Personnel struck by flying fragments - potential serious injury	1. Vessel inspections			Major	Rare	3 High
	8. Fire	1. Potential fire in stockpiles before shredding (combustible materials such as oil and rubber)	1. Staff may receive burn injuries but unlikely as escape from fire source is relatively easy. Escalation to offsite not considered credible.	1. Emergency response plan (ERP)			Moderate	Rare	2 Moderate
			2. Air pollution through smoke from fire. Water cannon and fire	2. Fire hydrants, hoses and water cannon			Moderate	Unlikely	2 Moderate

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
			services expected to limit extent of pollution						
	9. Lead	1. Lead is purchased by site (roof flashing etc.)	1. Lead contamination	1. No processing of lead material by plant or machinery			Minor	Unlikely	1 Low
			2. Staff exposure to lead	2. PPE			Moderate	Unlikely	2 Moderate
	10. Utilities	1. Loss of water to the wet scrubber for the cyclone	1. Loss of dust to atmosphere	1. Personnel monitoring			Moderate	Unlikely	2 Moderate
2. Shearing	1. Chemical	1. Chemical contamination of purchased scrap	1. Quantities large enough for offsite impact not considered credible as shearer typically processes heavy material such as rails, H-beams etc.	1. Visual inspection of material on arrival.			Minor	Rare	1 Low
			2. Personnel may come into contact with chemicals and receive chemical burns.	2. PPE			Minor	Rare	1 Low
			3. If flammable and ignited, there is the potential for a small fire. No offsite impact is expected unless the fire escalates, which is not considered credible.	3. Bunded area			Minor	Rare	1 Low
				4. Emergency response plan (ERP)					
		2. Leak of hydraulic fluid from processing equipment	1. Possible contamination of water courses if not separated from storm water.	1. Regular maintenance			Minor	Possible	2 Moderate

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
			2. If the hole is small there is the possibility of a fine mist forming, which could ignite, resulting in a localised spray fire around the machinery involved. Potential injury to personnel	2. Oil separator in stormwater system			Major	Unlikely	3 High
				3. Oil skimmer					
				4. Emergency response plan (ERP)					
				5. Inspection, maintenance procedures					
				6. Separation from personnel					
	2. Radiation	1. Potential radiation material in incoming material (smoke detectors, hospital material)	1. Personal exposure to radiation	1. Incoming material screened for radioactive sources			Major	Rare	3 High
	3. Machinery	1. Personnel struck / caught in machinery	1. Personnel injury	1. Guarding			Major	Unlikely	3 High
				2. Operator training/certification					
	4. Light	1. Refer "General"							
	5. Electricity	1. Refer "General"							
	6. Mobile plant / vehicles	1. Refer "General"							

Processes: 1. Ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
3. Waste processing	1. Fire	1. Floc spontaneously ignites due to moisture content (damp floc)	1. Fire - potential personnel injury considered rare due to ease of escape. Escalation to neighbouring sites not considered credible.	1. Limited inventory	1. Fire detection and protection system	1. Limit floc stockpile to less than 1000 m3 or 4 m in height to prevent the building where floc is stockpiled being considered a high hazard occupancy.	Moderate	Rare	2 Moderate
			2. Smoke pollution to nearby areas	2. Emergency response plan (ERP)	2. Separation from site boundary / protected places		Moderate	Unlikely	2 Moderate
				3. Fire detection and protection system	3. Floc stockpile indoors				
	2. Electromagnetic radiation	1. Emissions from equipment used to recover metal from floc	1. Potential injury to personnel with pacemakers		1. Restricted access		Moderate	Unlikely	2 Moderate
					2. Signage				

Processes: 2. Non-ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
1. All	1. Chemical	1. Contamination of material brought in site	1. Personnel exposure	1. Visual inspection of material on arrival			Minor	Unlikely	1 Low
				2. non-ferrous processing limited to baling of aluminium cans					

Processes: 2. Non-ferrous

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
	2. Radiation	1. Radioactive sources brought in with scrap	1. Personnel exposure to radiation	1. Incoming material screened for radioactive sources			Major	Rare	3 High
	3. Machinery	1. Personnel struck / caught in machinery	1. Personnel injury	1. Guarding			Major	Unlikely	3 High
				2. Operator training/certification					
	4. Light	1. Refer "General"							
	5. Electricity	1. Refer "General"							
	6. Mobile plant / vehicles	1. Refer "General"							
	7. Pneumatic energy	1. Not applicable							
	8. Fire	1. Refer "General"							
	9. Lead	1. Lead is purchased by site (roof flashing etc.)	1. Lead contamination	1. No processing of lead material by plant or machinery			Minor	Unlikely	1 Low
			2. Staff exposure to lead	2. PPE			Moderate	Unlikely	2 Moderate

Processes: 3. General

Nodes	What if	Causes	Consequence	Safeguard	New Safeguards	Recommendations	After Risk Reduction		
							S	L	RR
1. All	1. Chemical	1. Fire involving dangerous goods in maintenance building	1. Fire - personnel injury	1. Stored as per Australian Standards	1. Utilising larger permanent DG store, but not increasing inventory (increasing separation distance)		Major	Rare	3 High
			2. Air contamination	2. Moving DG store away from adjoining property / protected place.	2. Moving DG store away from adjoining property / protected place.		Moderate	Unlikely	2 Moderate
				3. Emergency response plan (ERP)					
		2. Diesel leak	1. Potential contamination of storm water	1. No diesel stored on site - forklifts fuelled daily from tanker that visit site.			Minor	Rare	1 Low
		3. Oxyacetylene cylinder (maintenance equipment) leaks	1. Leak could find an ignition source, leading to a flash fire or spray fire.	1. Operator training/certification			Major	Unlikely	3 High
				2. Emergency response plan (ERP)					
				3. Stored as per Australian Standards					
	2. Radiation	1. Refer to Ferrous and Non-Ferrous processes.							
	3. Machinery	1. Refer Shredding and Shearing							
	4. Light	1. Welding	1. Personnel injury - vision impairment	1. Operator training/certification			Moderate	Unlikely	2 Moderate
				2. Emergency response plan (ERP)					
				3. PPE					
	5. Electricity	1. Transformer fire	1. Transformer fire resulting in smoke and possible personnel injury.	1. Annual inspection and report			Moderate	Unlikely	2 Moderate
				2. Emergency response plan (ERP)					

	6. Mobile plant / vehicles	1. Pedestrian / vehicle interaction	1. Pedestrian fatality	1. PPE	1. Designated walkways		Catastrophic	Rare	3 High
				2. Emergency response plan (ERP)	2. Relocating office, limiting personnel in operating areas				
				3. Traffic flow is one-directional	3. Weighbridge activities removed from operating area				
					4. Increased on-site area leading to less congestion				
		2. Heavy vehicle / light vehicle collision	1. Potential fatality	1. Emergency response plan (ERP)	1. Increased on-site area leading to less congestion		Catastrophic	Rare	3 High
					2. Separate light vehicles from heavy vehicles (separate entrances) / separate service areas				
					3. Additional weighbridges and new layout eliminate the need for trucks to circle back out to public roads to weigh out.				
		3. Run-off from truck wash	1. Potential contamination of storm water	1. Storm water catchment	1. Truck washing water recovery system		Moderate	Unlikely	2 Moderate
	7. Pneumatic energy	1. Refer to Shredder							
	8. Fire	1. Numerous causes of office or other fires - electrical fault, hot work etc.	1. Potential injury to workers.	1. Infra-red heat sensitive cameras with automatic warning			Major	Rare	3 High
			2. Smoke pollution to nearby areas	2. Fire protection system (firewater main, hydrants and water cannon)			Moderate	Unlikely	2 Moderate
				3. Facility maintenance					
				4. Emergency response plan (ERP)					

4 CONSEQUENCE ANALYSIS

4.1 Scenarios

The following scenarios were considered for analysis of offsite impacts

Scenario	Potential Consequence/s
1. 9 kg Propane Cylinder Rupture	Fireball Flash Fire Vapour Cloud Explosion
2. 45 kg Propane Cylinder Leak (3mm Hole)	Jet Fire Flash Fire Vapour Cloud Explosion
3. 45 kg Propane Cylinder Rupture	Fireball Flash Fire Vapour Cloud Explosion
4. 2 m^3 Petrol Fire contained in 4 m^2 Bund	Pool Fire
5. 45 l Uncontained Petrol Fire	Pool Fire

Three other potential offsite scenarios were identified, but have been considered qualitatively:

- Smoke from non-ferrous stockpile fires. The provision of water cannon enable responders to supress fires. Storing “Floc” under cover reduces the potential for fires in the non-metal post-shredder waste.
- Dust emissions should water to the scrubber fail. This is an existing risk.
- Hazardous liquids entering storm water. Interceptors are in place for non-soluble hydrocarbons. Quantities are limited and the impact of the various types of material is not expected to result in prolonged damage to the environment.

4.1.1 9 kg Propane Cylinder Rupture

The purpose of this scenario was to simulate a discarded 9 kg LPG bottle entering the pre-shredder and catastrophically failing due to the mechanical work applied in the pre-shredder.

4.1.2 45 kg Propane Cylinder 3mm Hole

The purpose of this scenario was to model the impact of minor leaks that could occur whilst using or storing LPG cylinders.

4.1.3 45 kg Propane Cylinder Rupture

While rare, the purpose of the 45 kg Propane Rupture was to examine possible escalation effects of a small LPG fire in the LPG storage area.

4.1.4 2 m^3 Petrol Fire contained in 4 m^2 Bund

This scenario examined to potential consequences of a leak from the recovered petrol storage. A 4 m^2 bund is assumed to surround the petrol containers. Petrol was modelled as N-Heptane.

4.1.5 45 l Uncontained Petrol Fire

This scenario explored the effects of a possible fire from the contents of a fuel tank from a vehicle being scrapped. Petrol was modelled as N-Heptane.

4.2 Software

The software listed in Table 4-1 was used to estimate hazard zones.

Table 4-1 Hazard Consequence Software Used in the Analysis

No.	Hazardous Consequence	Software and Model Used
1	LNG Release and dispersion	DNV PHAST 6.7 – Release Model
2	Jet Fire	DNV PHAST 6.7 – Jet Fire Model
3	Vapour Cloud Explosion	DNV PHAST 6.7 – TNO Multi-Energy Model
4	Pool Fire	DNV PHAST 6.7 – Pool Fire Model

4.3 Weather

The following generic weather conditions were used in the modelling:

Category 1.5/F

Pasquill Stability Factor	F	
Wind Speed	1.5	m/s
Atmospheric Temperature	9.85	°C
Atmospheric Humidity	0.70	fraction
Surface Roughness Length	0.18	m
Surface Roughness Parameter	0.10	
Dispersion Surface Temperature	9.85	°C

Bund Surface Temperature	9.85	°C

Category 1.5/D

Pasquill Stability Factor	D	
Wind Speed	1.5	m/s
Atmospheric Temperature	9.85	°C
Atmospheric Humidity	0.70	fraction
Surface Roughness Length	0.18	m
Surface Roughness Parameter	0.10	
Dispersion Surface Temperature	9.85	°C
Bund Surface Temperature	9.85	°C

Category 5/D

Pasquill Stability Factor	D	
Wind Speed	5.0	m/s
Atmospheric Temperature	9.85	°C
Atmospheric Humidity	0.70	fraction
Surface Roughness Length	0.18	m
Surface Roughness Parameter	0.10	
Dispersion Surface Temperature	9.85	°C
Bund Surface Temperature	9.85	°C

4.4 Jet Fires

A jet fire is the combustion of flammable material emerging significant momentum from an orifice.

Table 4-2 details the distance to various radiation intensity levels under differing weather conditions for jet fires.

Table 4-2 Distances to Radiation Intensity Levels for Jet Fires

Model	Hole size (mm)	Release Rate (kg/s)	Radiation Level (kW/m^2)	Weather		
				Category 1.5/D	Category 1.5/F	Category 5/D
45 kg LPG Cylinder Leak	3	0.12	4.7	9.3	9.3	8.0
			12.6	7.6	7.6	6.3
			23	6.7	6.7	5.4
			35	6.2	6.2	4.9
Petrol Store	25	0.96	4.7	2.0	2.0	1.8
			12.6	1.6	1.6	1.2
			23	1.3	1.2	0.8
			35	0.0	0.0	0.5

4.5 Pool Fires

A release of liquid may form a pool. The combustion of material evaporating from that pool is a pool fire. Table 4-3 details the distance to various radiation intensity levels under differing weather conditions for pool fires.

Table 4-3 Distances to Radiation Intensity Levels for Pool Fires

Model	Hole size (mm)	Release Rate (kg/s)	Radiation Level (kW/m^2)	Weather		
				Category 1.5/D	Category 1.5/F	Category 5/D
Auto Petrol Tank	25	0.96	4.7	15.7	15.7	16.9
			12.6	10.0	10.0	12.0
			23	6.4	6.4	9.1
			35	4.1	4.1	5.4
Petrol Store	25	0.96	4.7	11.8	11.8	12.7
			12.6	7.7	7.7	9.0
			23	5.1	5.1	7.2
			35	3.3	3.3	4.4

4.6 Flash Fires

The release of a volatile hydrocarbon may generate a cloud of flammable vapour and air in ratios capable of sustaining a flame. A flash fire is the combustion of flammable vapour and air mixture in which the flame passes through the mixture at less than sonic velocity, such that negligible damaging overpressure is produced.

Table 4-4 details the downwind and cross-wind distance to the lower flammable limit (LFL) under differing weather conditions for flammable gas clouds. This defines the extent of flash fires.

Table 4-4 Extent of Gas Dispersion (Flash Fires)

Model	Hole size (mm)	Release Rate (kg/s)	Weather					
			Category 1.5/D		Category 1.5/F		Category 5/D	
			Down-wind Distance (m)	Max Width (m)	Down-wind Distance (m)	Max Width (m)	Down-wind Distance (m)	Max Width (m)
45 kg LPG Cylinder Leak	3	0.12	3.9	0.3	3.9	0.3	3.2	0.3
45 kg LPG Cylinder Rupture	N/A	45	6.9	10.0	5.8	10.0	16.1	10.0
9kg LPG Cylinder Rupture	N/A	9	4.0	5.6	3.1	5.6	9.2	5.6

4.7 Vapour Cloud Explosion

The combustion of flammable vapour and air mixture in which the flame passes through the mixture at sonic velocity, creating damaging overpressure. This phenomena arises from a flash fire and usually some congestion is needed to accelerate the flame front. While vapour cloud explosions have been modelled to demonstrate the small hazard zones, the quantities involved would not normally be expected to lead to VCE.

Table 4-5 details the distance to various overpressure levels under differing weather conditions for vapour cloud explosions.

Table 4-5 Distance to Overpressures for Vapour Cloud Explosions.

Scenario	Over-Pressure (kPag)	1.5/F		1.5/D		5/D	
		Radius (m)	Mass (kg)	Radius (m)	Mass (kg)	Radius (m)	Mass (kg)
	7	27.1	8.2	27.1	8.2	27.1	8.2

9kg Cylinder Rupture	14	17.1	8.2	17.1	8.2	17.1	8.2
	35	9.7	8.2	9.7	8.2	9.7	8.2
45 kg Cylinder Rupture	7	46.3	40.9	46.3	40.9	46.3	40.9
	14	29.2	40.9	29.2	40.9	29.2	40.9
	35	16.6	40.9	16.6	40.9	16.6	40.9

4.8 Fireballs

A fireball is a fire burning sufficiently rapidly for the burning mass to rise into the air as a cloud or ball. Due to the short duration of fireballs, the radiation intensity required for the onset of injury is less than that for long duration fires.

Table 4-6 details the distance to various radiation intensity levels for fireballs. Fireballs are not dependent upon weather stability or wind speed.

Table 4-6 Distances to Radiation Intensity Levels for Fireballs

Scenario	Radiation (kW/m^2)	Radius (m)
9kg Cylinder Rupture	4.7	27.0
	23	5.8
	35	Not reached
45 kg Cylinder Rupture	4.7	48.4
	23	12.5
	35	Not reached

5 DISCUSSION

5.1 Criteria

The following quantitative criteria as specified by the NSW Department of Planning (2) was used for this assessment:

Table 5-1: Quantitative Risk Criteria

Risk Type	Impact type / Land use	Criteria
Injury Risk	Heat radiation	Incident heat flux radiation at residential and sensitive use areas should not exceed 4.7 kW/m^2 at a frequency of more than 50 chances in a million per year.
	Explosion overpressure	Incident explosion overpressure at residential and sensitive use areas should not exceed 7 kPa at frequencies of more than 50 chances in a million per year.
Property Damage and Accident Propagation	Heat radiation	Incident heat flux radiation at neighbouring potentially hazardous installations or at land zoned to accommodate such installations should not exceed a risk of 50 in a million per year for the 23 kW/m^2 heat flux level.
	Explosion overpressure	Incident explosion overpressure at neighbouring potentially hazardous installations, at land zoned to accommodate such installations or at nearest public buildings should not exceed a risk of 50 in a million per year for the 14 kPa explosion overpressure level.
Fatality Risk	Hospitals, schools, child-care facilities, old age housing	Hospitals, schools, child-care facilities and old age housing development should not be exposed to individual fatality risk levels in excess of half in one million per year
	Residential, hotels, motels, tourist resorts	Residential developments and places of continuous occupancy, such as hotels and tourist resorts, should not be exposed to individual fatality risk levels in excess of one in a million per year
	Commercial developments including retail centres, offices and entertainment centres	Commercial developments, including offices, retail centres, warehouses with showrooms, restaurants and entertainment centres, should not be exposed to individual fatality risk levels in excess of five in a million per year
	Sporting complexes and active open space	Sporting complexes and active open space areas should not be exposed to individual fatality risk levels in excess of ten in a million per year
	Industrial	Individual fatality risk levels for industrial sites at levels of 50 in a million per year (50 x 10^{-6} per year) should, as a target, be contained within the boundaries of the site where applicable.

5.2 Impairment Levels

Table 5-2 details the levels at which injury, property damage and fatality are considered to occur. These levels are sourced from the NSW Department of Planning (2).

Table 5-2: Impairment Levels

Impact	Impairment Level	Comment
Long duration heat radiation injury	4.7 kW/m^2	Will cause pain in 15-20 seconds and injury after 30 seconds' exposure (at least second degree burns will occur).
Long duration heat radiation fatality	12.6 kW/m^2	Significant chance of fatality for extended exposure. High chance of injury.
Instantaneous heat radiation fatality	35 kW/m^2	Significant chance of fatality for people exposed instantaneously.
Explosion overpressure injury	7 kPa	10% chance of injury in the open.
Explosion overpressure fatality	35 kPa	5% chance of fatality in the open.
Long duration heat radiation property damage	23 kW/m^2	Unprotected steel will reach thermal stress temperatures which can cause failure.
Explosion overpressure property damage	14 kPa	House uninhabitable and badly cracked, consistent with property risk criteria.

5.3 Jet Fire

The maximum jet fire distance at which an injury could be received is 9.3 m (Jet for from 45 kg LPG cylinder). From the dangerous goods store, this could extend slightly beyond the fence, but would not extend beyond an easement located on the property north of eastern creek. Similarly, fatality impacts from these vents would not extend beyond the property boundary.

Property damage impairment levels do not extend beyond the property boundary.

5.4 Pool Fire

The maximum pool fire injury distance is 15.7 m. The location of the pneumatic spike and storage is within the processing area, more than 15.7 m from the property boundary. Criteria for injury, property damage and fatality risks will be satisfied.

5.5 Flash Fire

The maximum extent of a flash fire is 16.1 m based upon a 45 kg LPG cylinder rupture. This would extend to Breakfast creek, not to an adjoining property. This risk this poses is minimal as LPG tank ruptures are rare, and this would also need to coincide with a northerly wind.

5.6 Explosion

The maximum distance to injury level overpressure (7 kPa) is 46.3 m (45 kg LPG cylinder rupture). This would extend beyond the site boundary, but will not extend to a residential or sensitive land use, which are the subjects of the injury risk criteria.

The distance to a point at which property damage could occur is also beyond the site boundary. Due to the rarity of LPG cylinder ruptures and the need to coincide with specific wind directions, the property damage risk criteria will not be exceeded.

Fatality levels arising from explosions from 45 kg LPG cylinders will not extend beyond the property boundary (at Breakfast Creek).

The potential for LPG cylinders hidden in scrap cars or similar to exceed any of the criteria is not considered credible as these are assumed to be ruptured in the pre-shredder, located well away from the property boundary.

5.7 Fireballs

Due to the short duration of fireballs, only an intense level of radiation is considered to cause fatalities. The 35 kW / m^2 heat radiation was found not to be generated by a fireballs from the 45 kg LPG cylinders.

5.8 Smoke

Smoke has been considered qualitatively. There is the potential for stockpile fires to emit smoke into the environment. The proposal includes several measures that will limit the potential for fire developing from the most likely source – the floc stockpile:

1. The stockpile will be managed to less than 1000 m3 in volume, or less than 4 m in height. This will prevent the building becoming a high hazard occupancy.
2. The stockpile will be stored in a building, as opposed to the open. Floc is more likely to combust when it is damp, and this measure reduces the potential for damp floc significantly.

6 FIRE AND INCIDENT MANAGEMENT

Fire protection systems consist of:

- Fire hydrant systems
- Sprinkler systems
- First aid fire-fighting measures (fire extinguishers)

The hydrant systems servicing both sites will be maintained as separate systems. This consists of six hydrants at 45 Tattersall Road and eight hydrants at 23 – 43 Tattersall Road.

The building at the northeast corner of 23 – 43 Tattersall Road has an existing sprinkler system. This building will be used for non-ferrous activities.

Based on requirements in AS 1596, AS 1940 and AS-4332, the following fire protection measures are required for the dangerous goods handled on site:

1. At least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage (AS 4332-2004, Table 7.2). This is based upon the 3,000 L of oxygen in the store.
2. Provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers.

Water cannon are also provided for the various stockpiles.

Floc has been identified as a potential source of fire. This will be managed by keeping the stockpile small, so as not to consider the warehouse in which it is kept as a high hazard occupancy.

The site will be kerbed to retain spillages or stormwater run-off, which outflow via a detention basin. The detention basin has a capacity of 1440 m^3.

Spill kits will be deployed to manage and contain minor spills.

7 FINDINGS AND RECOMMENDATIONS

The closest residentially zones property is approximately 300 m from the combined sites. None of the hazards examined are capable of creating an offsite impact that would exceed the injury criteria listed in HIPAP 4 (2). That is, 7 kPa overpressure from explosions, and 4.7 kW/m^2 heat radiation cannot be generated at residential or sensitive land use areas. This finding also extends to the potential for fatality risk at sensitive, residential, commercial and active open spaces, as fatality impacts would not occur at these locations.

The majority of property damage and all fatality impacts are contained within the site boundary. The risk of off-site property damage would not be expected to exceed 50 per million per year.

Given the small consequence distances, a qualitative risk assessment is appropriate for the expansion proposal. It also suggests the expansion does not pose a credible off-site risk.

In terms of qualitative criteria provided in (2);

a. *All 'avoidable' risks should be avoided. This necessitates the investigation of alternative locations and alternative technologies, wherever applicable, to ensure that risks are not introduced in an area where feasible alternatives are possible and justified.* The proposal is within an already classified industrial zone, suitable for the development

b. *The risk from a major hazard should be reduced wherever practicable, irrespective of the numerical value of the cumulative risk level from the whole installation. In all cases, if the consequences (effects) of an identified hazardous incident are significant to people and the environment, then all feasible measures (including alternative locations) should be adopted so that the likelihood of such an incident occurring is made very low. This necessitates the identification of all contributors to the resultant risk and the consequences of each potentially hazardous incident. The assessment process should address the adequacy and relevancy of safeguards (both technical and locational) as they relate to each risk contributor.* As part of the proposal, measures such as relocating equipment and providing undercover storage are being used to contain the impacts of events to within the new site boundary. The proposed development reduces the potential in some cases from what is an existing risk. This also covers (d)

c. *The consequences (effects) of the more likely hazardous events (i.e. those of high probability of occurrence) should, wherever possible, be contained within the boundaries of the installation.* As per item (b).

d. *Where there is an existing high risk from a hazardous installation, additional hazardous developments should not be allowed if they add significantly to that existing risk.* There are no known existing high risks.

Given the above qualitative and quantitative criteria, and an assessment against those criteria, the development is not a hazardous industry, as defined in SEPP No. 33.

While the amount of dangerous goods stored on site is small, the threshold for minor quantities as defined in various Australian standards is exceeded. The following recommendations are made with respect to fire protection requirements for dangerous goods and processing activities:

5. At least one hose reel and one fire extinguisher be provided for the oxygen and LPG cylinder storage (AS 4332-2004, Table 7.2). This is based upon the 3,000 L of oxygen in the store.

6. Provide one powder type extinguisher and one foam extinguisher for all bulk class 3 dangerous goods on site. This includes the storage of fuel and oil removed from vehicles prior to shredding. This recommendation assumes the recovered liquids are stored in intermediate bulk containers.
7. Maintain the height of the floc stockpile to less than 4m, or the total volume to less than 1000 m3. This ensures the warehouse in which the floc is stored will not be a high hazard occupancy.
8. Continue with the practice of providing water cannon to provide reach to feed and processed stockpiles in the event of a fire in any stockpile.

These recommendations are in addition to the requirements of the Building Code of Australia with respect to the proposed buildings on the development.

8 REFERENCES

1. **NSW Department of Planning.** Multi-level Risk Assessment . 2011.

2. —. HIPAP 4: Risk Criteria for Land Use Safety Planning. 2011.

Annex M

Transport Impact Assessment

(GTA Consultants)

Kings Park Waste Metal Recovery, Processing and Recycling Facility Transport Impact Assessment

transportation planning, design and delivery

14S1269000 13/03/14

GTAconsultants

Kings Park Waste Metal Recovery, Processing and Recycling Facility

Transport Impact Assessment

Issue: B 13/03/14

Client: Environmental Resources Management (ERM) Australia
Reference: 14S1269000
GTA Consultants Office: NSW

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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1. Introduction

1.1 Background

Sell and Parker seek to lodge a State Significant Development (SSD) application (SSD-5041) with the Department of Planning and Infrastructure (DoPI) to increase the handling capacity of the existing Sell and Parker waste metal recovery, processing and recycling facility currently operating from 45 Tattersall Road. The proposed development seeks to increase the capacity of the operation by expanding onto the adjoining site to the east at 23-43 Tattersall Road and increase capacity at the site from its current approved 90,000 tonnes per annum to 350,000 tonnes per annum.

The Director General environmental assessment requirements (DGRs) for the preparation of an Environmental Impact Statement (EIS) for the development were issued by DoPI on 22 December 2011. BBC Planning Consultants on behalf of Sell and Parker applied to DoPI on 25 November 2013 to modify the proposed development and in particular to expand the development site to include the adjacent site at 23-43 Tattersall Road which immediately adjoins 45 Tattersall Road. In association with this, BBC Planning Consultants has requested revised DGRs from DoPI.

The revised DGRs were issued by DoPI on 23 December 2013. The revised DGRs related to Transport, Access and Parking were largely unchanged from those initially issued by DoPI in December 2011.

GTA Consultants was commissioned by ERM Australia in January 2014 to undertake a Transport Impact Assessment for the proposed development to include in the EIS and in particular to address the DGRs related to Transport, Access and Parking. Table 1.1 lists the DGR's and the corresponding sections of the report where these are addressed.

Table 1.1: DGR's and Relevant Report Sections

Transport, Access and Parking	Addressed in
Predictions of the traffic volumes likely to be generated during construction and operation;	Section 6.1 Section 6.4
An assessment of the impacts of this traffic on the safety, capacity and efficiency of the surrounding road network;	Section 6.3
Modelling of key intersections (including any nearby existing or proposed developments) and details of truck routes;	Section 2.5 Section 0 Section 6.3
An assessment of the need for upgrading or road improvement works;	Section 6.5
Details of the availability of non-car travel modes and measures to encourage greater use of these travel modes; and	Section 2.7 Section 2.8 Section 2.9
Access and parking.	Section 3.1.1 Section 4

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

i existing traffic and parking conditions surrounding the site
ii suitability of the proposed parking in terms of supply (quantum) and layout
iii the traffic generating characteristics of the proposed development
iv suitability of the proposed access arrangements for the site

v the transport impact of the development proposal on the surrounding road network.

1.3 References

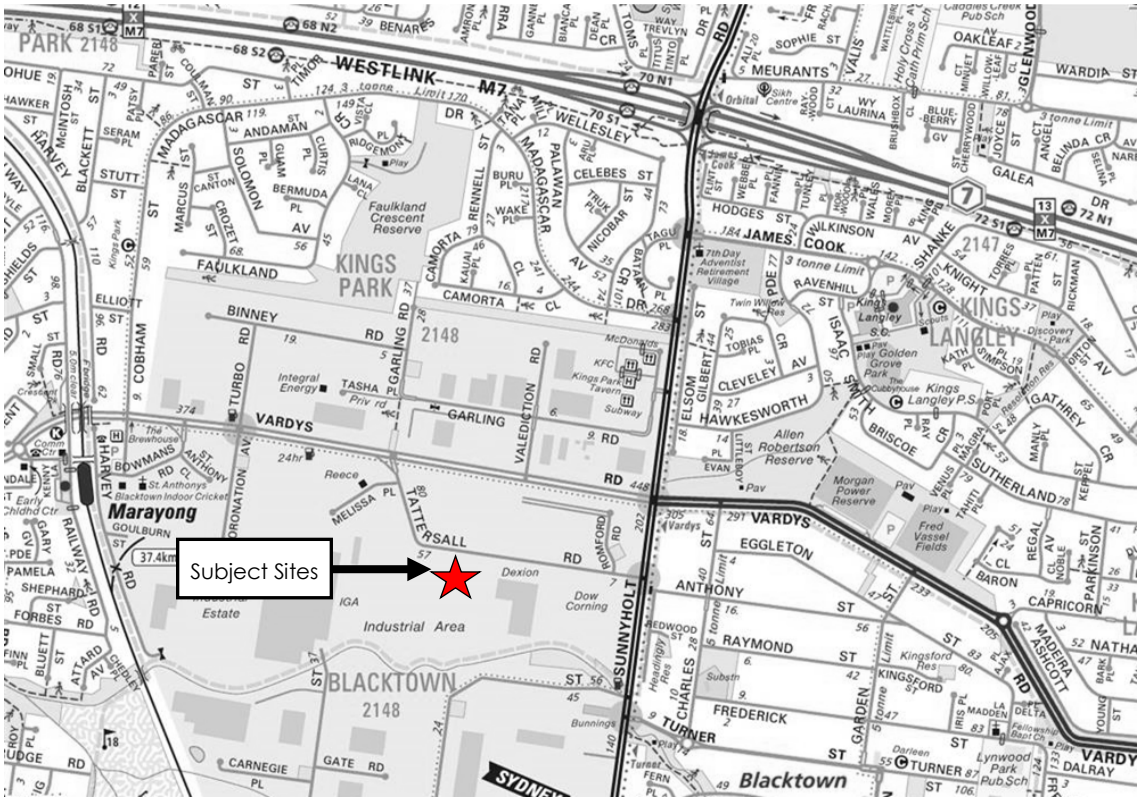
In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Blacktown City Council Development Control Plan (DCP) Part E, 2006
- traffic and car parking surveys undertaken by Skyhigh Traffic as referenced in the context of this report
- Correspondence from BBC Planning Consultants to DoPI requesting revised DGRs dated 25 November 2013
- plans for the proposed development prepared by Algorry Zappia and Associates Pty Ltd, dated February 2014, issue A, sheet numbers A101, A102, A201, A301, A302
- RMS Guide to Traffic Generating Developments, 2002
- other documents and data as referenced in this report.

2. Existing Conditions

The subject sites are located on Tattersall Road, Kings Park, approximately 12 kilometres north-west of Parramatta CBD and 2 kilometres north of Blacktown. The location of the subject site and its surrounding environs is shown in Figure 2.1.

Figure 2.1: Subject Site and Its Environs



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The proposed development comprises two sites with a combined total area of 5.9 hectares as summarised in Table 2.1. The location of the two sites is shown in Figure 2.2.

Table 2.1: Development Sites

Address	Lot / DP	Land Zoning	Area
45 Tattersall Road	Lot 5, DP 7089	B7 Business Park	5.9 hectares
23-43 Tattersall Road	Lot 2, DP 550522	B7 Business Park	

Figure 2.2: Location of Development Sites

Image Source: http://maps.six.nsw.gov.au/

The site at 45 Tattersall Road is occupied by the Sell and Parker waste metal recovery, processing and recycling facility which has a frontage of 100m to Tattersall Road. The site currently has 64 on-site employees and operates from 6:30am to 4:30pm Monday to Friday and 6:30am to 12:00pm on Saturdays.

The neighbouring site at 23-43 Tattersall Road is currently leased and operated by Dexion Australia Pty Ltd and is used for general industrial uses for the manufacture of shelving, racking and storage products. The site has a frontage of 145 metres to Tattersall Road and currently has 140 on-site employees.

The properties surrounding the subject sites are predominantly general industrial uses.

2.1 Road Network

Tattersall Road

Tattersall Road is a Local Road aligned in an east-west direction. It is a two-way, 12.8 metre wide road configured with one lane in each direction set within a 26 metre wide road reserve (approx). Unrestricted kerbside parking is permitted on both sides of Tattersall Road.

Tattersall Road is shown in Figure 2.3 and Figure 2.4 and carries approximately 6,000 vehicles per day[1].

1 Based on peak hour traffic counts undertaken by Skyhigh Traffic in December 2013 and assuming a peak-to-daily ratio of 10% for local roads.

Figure 2.3: Tattersall Road (looking east)

Figure 2.4: Tattersall Road (looking west)

Sunnyholt Road

Sunnyholt Road is a State Road (MR642) aligned in a north-south direction. It is a two-way, 20 metre wide, dual carriageway configured with two lanes in each direction, set within a 40 metre wide road reserve (approx). Kerbside parking is not permitted on Sunnyholt Road.

Sunnyholt Road functions as a key connection between Blacktown and the Westlink M7 Motorway. The Sunnyholt Road Motorway Interchange is located 1.2km north of Tattersall Road.

A two-way, bus priority T-Way is located along the eastern side of Sunnyholt Road adjacent to Tattersall Road. The T-Way extends for approximately 6.5 kilometres from Old Windsor Road to Blacktown town centre.

Sunnyholt Road is shown in Figure 2.5 and Figure 2.6 and carries approximately 36,000 vehicles per day[2].

Figure 2.5: Sunnyholt Road (looking north)

Figure 2.6: Sunnyholt Road (looking south)

Vardys Road

Vardys Road is a classified Regional Road (RR 7152) aligned in an east-west direction. It is a two-way, 22 metre wide, dual carriageway configured with two lanes in each direction, set within a 55 metre wide road reserve (approx). Kerbside parking is not permitted on Vardys Road.

2 Based on peak hour traffic counts undertaken by Skyhigh Traffic in December 2013 and assuming a peak-to-daily ratio of 8% for arterial roads.

Vardys Road is shown in Figure 2.7 and Figure 2.8 and carries approximately 18,000 vehicles per day[2].

Figure 2.7: Vardys Road (looking east)

Figure 2.8: Vardys Road (looking west)

2.1.1 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Tattersall Road/ Sunnyholt Road (signalised)
- Tattersall Road/ Vardys Road (unsignalised)
- Sunnyholt Road/ Vardys Road (signalised).

2.2 Vehicle Access and Circulation

Vehicle access to the two sites is summarised in Table 2.2 and shown in Figure 2.9.

Table 2.2: Vehicle Accesses

Site / Address	Figure 2.9 Driveway Reference Number	Permitted Vehicle Movements	Width (approx.)
45 Tattersall Road	1	One-way (entry only)	7.50 metres
	2	One-way (exit only)	7.50 metres
23-43 Tattersall Road	3	Two-way	7.50 metres
	4	Two-way	7.50 metres

There is currently limited space available within the existing Sell and Parker site for trucks to layover between unloading unprocessed material and loading processed material. The existing access/ circulation of heavy vehicles loading and unloading at 45 Tattersall Road was observed by GTA Consultants during a site inspection and confirmed by the operator to be as follows.

Unloading

i Laden vehicles enter the site via driveway 1, are weighed at the weighbridge and then proceed to unload metal for processing
ii Unladen vehicles exit the site via driveway 2 and return to Tattersall Road
iii Unladen vehicles re-enter the site via driveway 1 and are weighed at the weighbridge
iv Unladen vehicles exit the site via driveway 2.

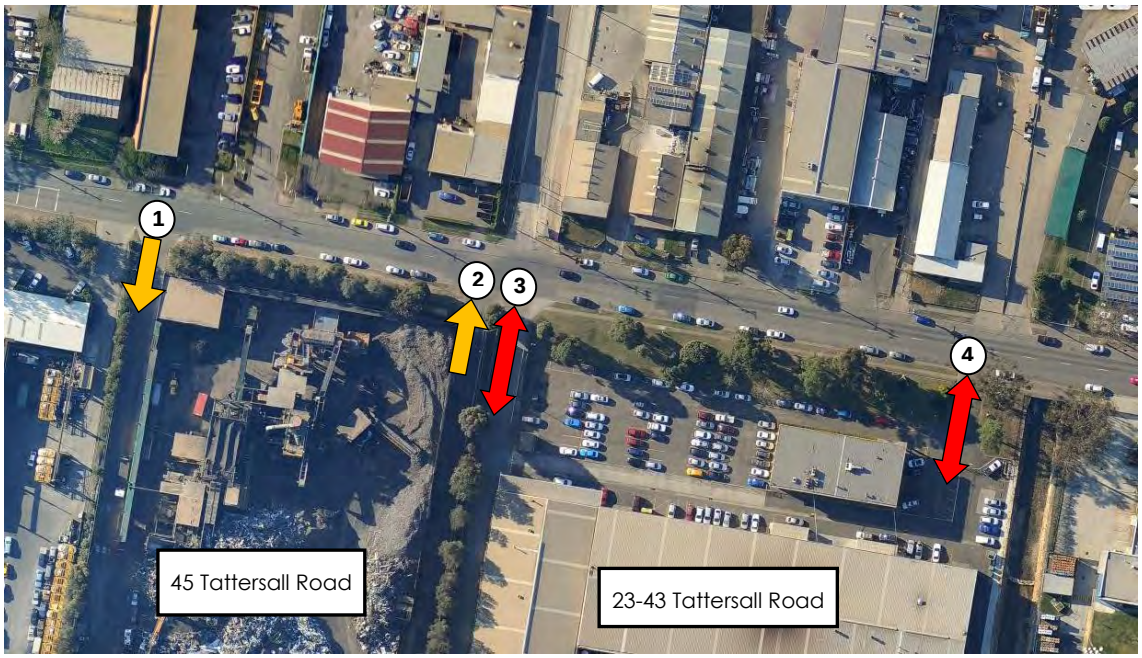
Loading

i Unladen vehicles enter the site via driveway 1, are weighed at the weighbridge and then proceed to load processed metal

ii Laden vehicles exit the site via driveway 2 and return to Tattersall Road
iii Laden vehicles re-enter the site via driveway 1 and are weighed at the weighbridge
iv Laden vehicles exit the site via driveway 2.

As a result of the current access/ circulation arrangements at the site, each heavy vehicle that loads and unloads at the site effectively undertakes two entry and exit movements at the site accesses.

Figure 2.9: Existing Vehicle Accesses



Background Image Source: Near Map

2.2.1 Truck Routes

Heavy vehicles travelling to and from the two sites currently access Tattersall Road via the Sunnyholt Road signalised intersection. The vast majority of heavy vehicles accessing the two sites travel via the M7 Motorway, 1.5 kilometres north of Tattersall Road.

2.3 Traffic Volumes

2.3.1 Surrounding Intersections

GTA Consultants commissioned 7 day, 24 hour traffic movement counts at key intersections in the vicinity of the site for the week commencing 16 December 2013 during the following peak periods:

- 7:00am and 10:00am
- 4:00pm and 6:00pm.

The AM and PM peak hour traffic volumes are summarised in Figure 2.10, with full results contained in Appendix A.

Figure 2.10: Existing AM Peak Hour Traffic Volumes

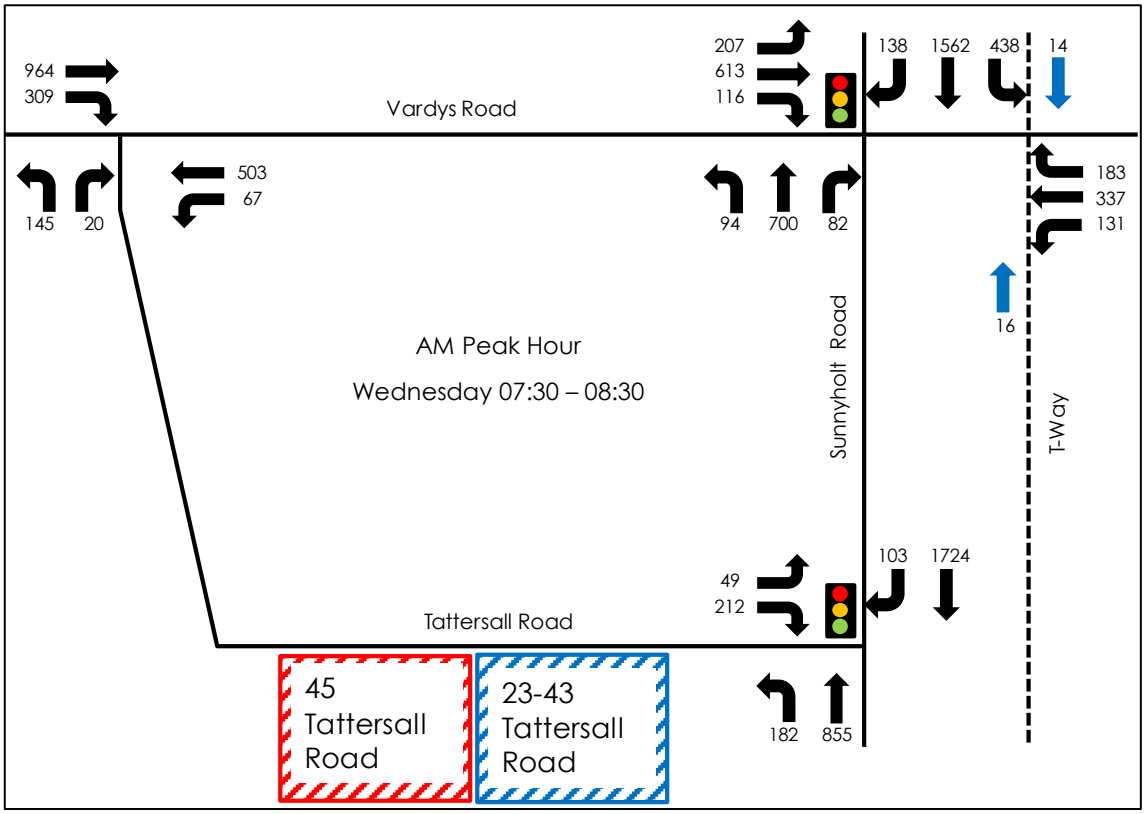
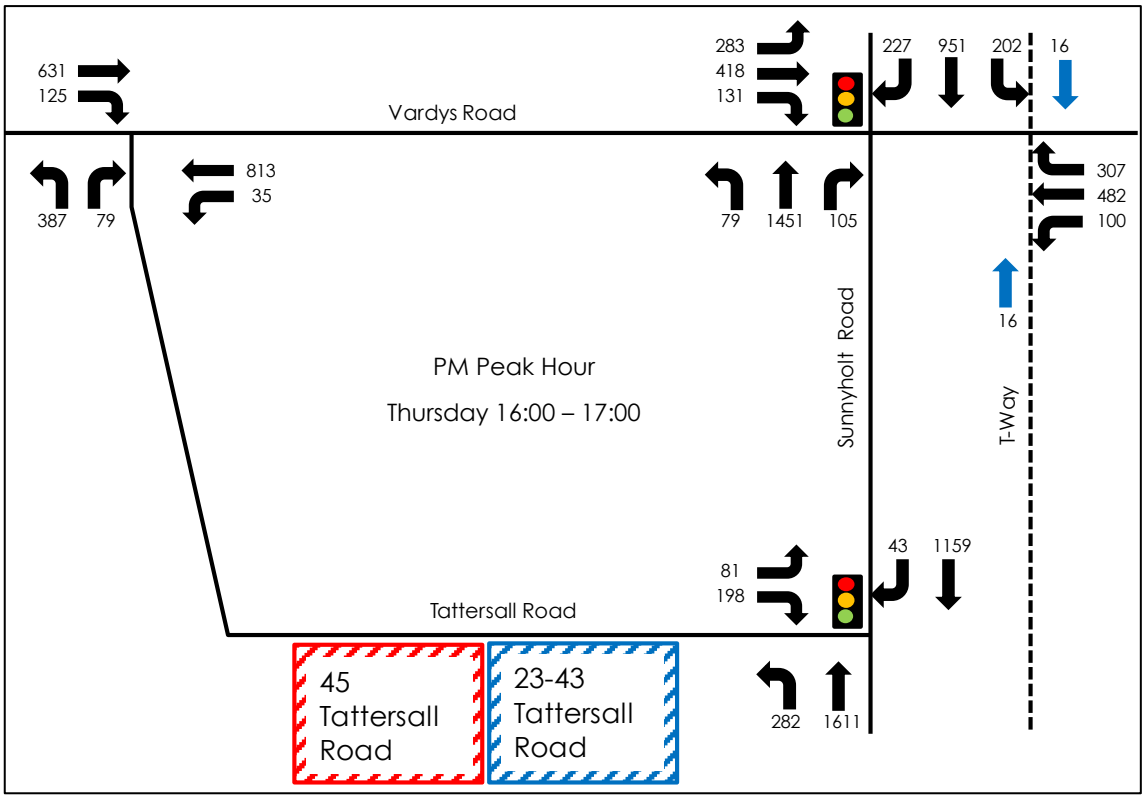


Figure 2.11: Existing PM Peak Hour Traffic Volumes



2.3.2 Site Traffic

Traffic is currently generated by the existing Sell and Parker site at 45 Tattersall Road as well as the Dexion Australia Pty Ltd site at 23-43 Tattersall Road. It is anticipated that Dexion site will cease manufacturing operations in December 2014.

Sell and Parker has a fleet of eight heavy vehicles used for the transportation of metal to and from the site, the largest of which is a 19 metre semi-trailer. The site is also served by non-fleet heavy vehicles.

GTA Consultants commissioned 7 day, 24 hour vehicle volume counts using automatic tube counts at the four vehicle accesses to the two sites shown in Figure 2.9 for the week commencing 14 December 2013. The tubes at driveways 1 and 2 (entry and exit to 45 Tattersall Road) were damaged during the course of the week and as a result did not yield reliable data. Following this, video camera surveys of these accesses was attempted, however the video cameras were vandalised and the associated data loggers were stolen. As a result no data was able to be obtained from the video surveys.

Following this, manual traffic volume counts of driveways 1 and 2 were undertaken on 29 January 2014 from 5:00am to 5:00pm, the results of which are shown graphically in Figure 2.12. The results of the traffic volume surveys are summarised in Table 2.3 with full results of the traffic surveys contained in Appendix A.

Given the existing circulation of heavy vehicles entering and exiting the Sell and Parker Site twice (described in Section 2.2), the heavy vehicle volumes recorded at driveways 1 and 2 shown in Table 2.3 are considered to represent double the number of heavy vehicles accessing the site.

Table 2.3: Existing Daily Site Traffic Volumes

Site/Address	Figure 2.9 Driveway Reference Number	Permitted Vehicle Movements	Traffic Volumes (vehicles per day) [1]			% Heavy Vehicles
			Light Vehicles [2]	Heavy Vehicles	Total Vehicles	
45 Tattersall Road	1	One-way (entry only)	15	311 [3]	326	95%
	2	One-way (exit only)	24	330 [3]	354	93%
23-43 Tattersall Road	3	Two-way	223	38	261	15%
	4	Two-way	422	11	433	3%

[1] Traffic volume data sources:
  a. 45 Tattersall Road - manual traffic counts -29 January 2014
  b. 23-43 Tattersall Road - recorded average weekday vehicle movements (two-way)-December 2013
[2] Cars and motorcycles only
[3] Represents double the number of heavy vehicles accessing the site due to current access/circulation arrangements (Section 2.2)

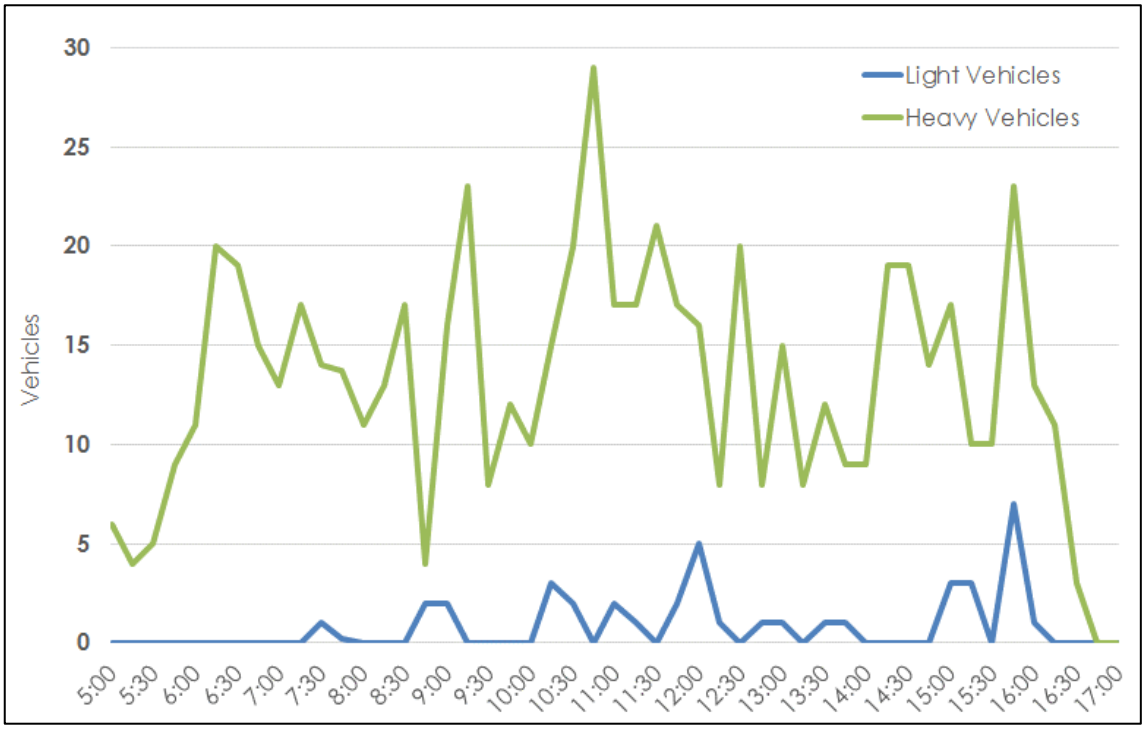
The directional split of traffic (i.e. the proportion of entry and exit movements) recorded at driveways 3 and 4 (23-43 Tattersall Road) is summarised in Table 2.4.

Table 2.4: Existing Daily Site Traffic Volumes (23-43 Tattersall Road) – Directional Split

Figure 2.9 Driveway Reference Number	Entry (southbound)		Exit (northbound)		Total Traffic Volume (vehicles per day)
	Volume	% Heavy Vehicles	Volume	% Heavy Vehicles	
3	131	14%	130	15%	261 [1]
4	216	5%	217	1%	433 [1]

[1] Recorded average weekday vehicle movements (two-way) – December 2013

Figure 2.12: Total Recorded Vehicle Volumes (Combined Entry and Exit Movements) – 45 Tattersall Road



As shown in Figure 2.12, the highest number of heavy vehicle movements recorded at the existing Sell and Parker site over a 15 minute period was between 10:45am and 11:00am. This peak in heavy vehicle movements occurred outside the recorded road network peak periods.

Peak Hour Traffic Volumes

The recorded traffic volumes at the two sites during the AM and PM road network peak hours are summarised in Table 2.5.

Table 2.5: Existing Peak Hour Site Traffic Volumes

Site Address	Traffic Volumes [1]					
	AM Peak Hour			PM Peak Hour		
	Light Vehicles [1]	Heavy Vehicles	Total Vehicles	Light Vehicles [1]	Heavy Vehicles	Total Vehicles
45 Tattersall Road	1	52	53	1	27	28
23-43 Tattersall Road	72	6	78	42	1	43
Total	**73 (56%)**	**58 (44%)**	**131**	**43 (60%)**	**28 (40%)**	**71**

[1] Traffic volume data sources:

a. 45 Tattersall Road - manual traffic counts – 2 9 January 2014

b. 23-43 Tattersall Road - recorded average weekday vehicle movements (two-way)-December 2013

[2] Cars and motorcycles only

The proportion of daily heavy vehicle movements generated by the Sell and Parker site during the road network peak hours is as follows:

- AM peak hour – 8%
- PM peak hour – 4%.

This suggests that the operation of the site is not very 'peaky' with heavy vehicle movements to/ from the site consistent throughout the day, albeit slightly higher in the morning.

2.4 Existing Site Traffic Generation

2.4.1 Daily Site Traffic Generation

Given the existing circulation of heavy vehicles entering and exiting the Sell and Parker Site twice (described in Section 2.2), the heavy vehicle volumes recorded at driveways 1 and 2 are considered to represent double the number of heavy vehicles accessing the site. Given this, Table 2.6 has been prepared to summarise the existing traffic generating characteristics of the subject sites.

Table 2.6: Existing Daily Site Traffic Generation

Site/Address	Figure 2.9 Driveway Reference Number	Traffic Volume (vehicles per day) [1]			Existing Site Traffic Generation
		Light Vehicles [2]	Heavy Vehicles	Total Vehicles	
45 Tattersall Road	1	15	311 [3]	326	204 vehicle movements per day
	2	24	330 [3]	354	
23-43 Tattersall Road	3	223	38	261	694 vehicle movements per day
	4	422	11	433	
				TOTAL	**898 vehicle movements per day**

[1] Traffic volume data sources:
  a. 45 Tattersall Road - manual traffic counts -29 January 2014
  b. 23-43 Tattersall Road - recorded average weekday vehicle movements (two-way)-December 2013
[2] Cars and motorcycles only
[3] Represents double the number of heavy vehicles accessing the site due to current access/circulation arrangements (Section 2.2)

As shown in Table 2.6, based on the recorded traffic volume counts undertaken in December 2013 and January 2014, and the circulation of heavy vehicles at 45 Tattersall Road:

- The existing Sell and Parker Site generates a total 204 vehicle movements (two-way) per day (including 165 heavy vehicle movements).
- The neighbouring site at 23-43 Tattersall Road generates 694 vehicle movements (two-way) per day (including 49 heavy vehicle movements).
- The two sites have a combined total traffic generation of 898 vehicle movements (two-way) per day.

2.4.2 Peak Hour Site Traffic Generation

The existing traffic generated by the subject sites during the road network AM and PM peak hours is summarised in Table 2.7 and Table 2.10.

Table 2.7: Existing AM Peak Hour Site Traffic Generation

Site Address	AM Peak Traffic Volumes [1]			Existing Site Traffic Generation
	Light Vehicles [1]	Heavy Vehicles	Total Vehicles	
45 Tattersall Road	1	52 [3]	53	27 vehicle movements
23-43 Tattersall Road	72	6	78	78 vehicle movements
Total	**73 (56%)**	**58 (44%)**	**131**	**105 vehicle movements**

Table 2.8: Existing PM Peak Hour Site Traffic Generation

Site Address	PM Peak Traffic Volumes [1]			Existing Site Traffic Generation
	Light Vehicles [1]	Heavy Vehicles	Total Vehicles	
45 Tattersall Road	1	27 [3]	28	15 vehicle movements
23-43 Tattersall Road	42	1	43	43 vehicle movements
Total	**43 (60%)**	**28 (40%)**	**71**	**58 vehicle movements**

[1] Traffic volume data sources:
  a. 45 Tattersall Road - manual traffic counts – 29 January 2014
  b. 23-43 Tattersall Road - recorded average weekday vehicle movements (two-way)-December 2013

[2] Cars and motorcycles only

[3] Represents double the number of heavy vehicles accessing the site due to current access/circulation arrangements (Section 2.2)

As shown in Table 2.5, the two sites currently generate a total of 131 vehicle movements (two-way) in the road network AM peak hour and 71 vehicle movements (two-way) during the road network PM peak hour.

On the basis of the traffic movement counts undertaken at the Sell and Parker site on 29 January 2014 and the existing processing capacity of the Sell and Parker site (90,000 tonnes per annum), the AM peak hour traffic generation rate of the metal handling/ processing facility is as follows:

- 1.7 vehicle movements in the AM peak hour per 1,000 tonnes of metal processed per annum.

2.5 Intersection Operation – Existing Conditions

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION[3], a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.9 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

[3] Program used under license from Akcelik & Associates Pty Ltd.

Table 2.9: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Table 2.10 presents a summary of the existing operation of the intersection, with full results presented in Appendix B of this report.

Table 2.10: Existing Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Tattersall Road/ Sunnyholt Road	AM	0.694	10.4	103	A
	PM	0.794	10.2	170	A
Tattersall Road/ Vardys Road	AM	0.403	4.2	15	N/A
	PM	0.975	13.5	122	N/A
Sunnyholt Road/ Vardys Road	AM	0.930	42.4	300	C
	PM	0.890	46.2	295	D

On the basis of the above assessment:

- The Tattersall Road/ Sunnyholt Road intersection currently operates well with minimal queues and delays on all approaches.
- The Tattersall Road/ Vardys Road intersection currently operates well with minimal queues and delays on all approaches.
- The Sunnyholt Road/ Vardys Road intersection is currently operating close to capacity with moderate queuing occurring for the through movements on the northern approach in the AM peak hour and on the southern approach in the PM peak hour. Minor delays are currently experienced by the right turn movements on all approaches during both the AM and PM peak hours.

2.6 Car Parking

2.6.1 Off-Street

The existing Sell and Parker site at 45 Tattersall Road does not provide any on-site car parking for staff or customers. Off-street parking for Sell and Parker staff is currently provided at 46 Tattersall Road.

The neighbouring site at 23-43 Tattersall Road currently provides a total of 158 on-site car parking spaces as follows:

- 84 spaces at the northern end of the site adjacent to the administration building

- 74 spaces at the southern end of the site, located behind the warehouse buildings.

2.6.2 On-Street

There are approximately 35 publicly available unrestricted car parking spaces on Tattersall Road immediately adjacent to the frontages of the subject sites. Car parking demand spot-check surveys undertaken by GTA Consultants on Wednesday 15 January 2014 between 9:00am and 10:00am found there was ample spare on-street parking capacity in the vicinity of the subject sites.

2.7 Public Transport

The site is serviced by public buses with six stops located within 600 metres of the site. Six bus routes operate on the Sunnyholt Road T-Way and provide high frequency services to Blacktown Town Centre and Blacktown Railway Station (approximately 3 kilometres south of the site). Vardys T-Way stop is located on the eastern side of Sunnyholt Road, 50 metres north of Tattersall Road (400 metres from the site). In addition to this the route 743 bus utilises Vardys Road.

As well as regular connections via bus to Blacktown Railway Station, the site is located approximately 1.2km east of Marayong Railway Station.

Blacktown and Marayong Railway Stations are located on the T1 North Shore, Northern and Western Line, T5 Cumberland Line and the Blue Mountains Line of the Sydney Trains network and are served by high frequency rail services to Penrith, Richmond Parramatta and Sydney CBD.

2.8 Pedestrian Infrastructure

2.8.1 Off-Site

The pedestrian network in the vicinity of the sites is well established with a pedestrian path located on the northern side of Tattersall Road, adjacent to the sites. This path connects with Sunnyholt Road where pedestrian paths are located on both sides of the road. A section of pedestrian path is also located on the southern side of Tattersall Road along the frontage of 23-43 Tattersall Road.

Safe crossing points in vicinity of the site include the following pedestrian crossings:

- Northern and western legs of the Tattersall Road/ Sunnyholt Road intersection
- Eastern, southern and western legs of the Sunnyholt Road/ Vardys Road intersection.

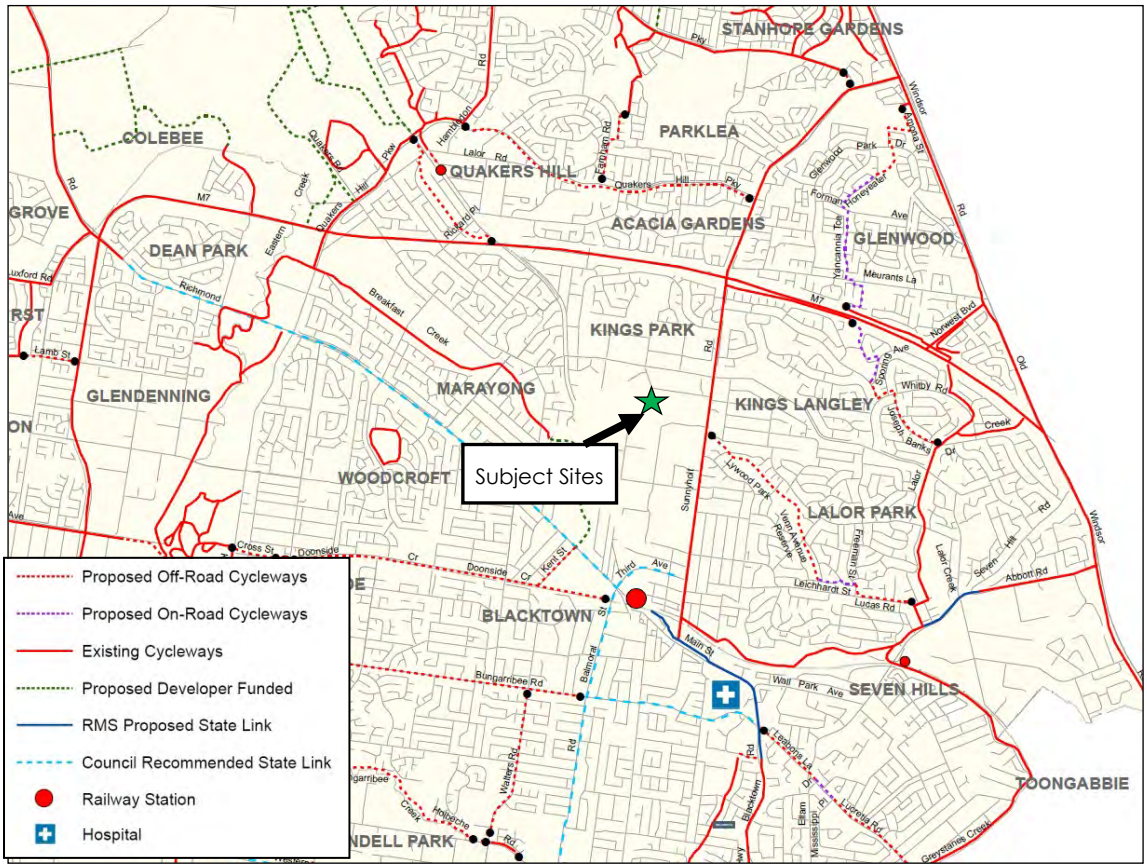
2.8.2 On-Site

There is currently no dedicated pedestrian access to the existing Sell and Parker site at 45 Tattersall Road. All pedestrian access to the site is via the separate vehicle entry and exit driveways located at the eastern and western extremities of the site.

2.9 Cycle Infrastructure

The bicycle network surrounding the sites is shown in Figure 2.13. The nearest dedicated bicycle facility is a 3.0 metre wide shared pedestrian and bicycle path located on the eastern side of Sunnyholt Road. This path is located approx. 300 metres from the development sites and provides a critical north-south connection between Blacktown and the M7 Motorway shared path.

Figure 2.13: Existing and Future Proposed Cycle Routes



Background Image Source: Blacktown City Council website

The M7 shared path is a high quality bicycle facility which consists of 40 kilometres of uninterrupted shared path from Baulkham Hills in the north to Dean Park in the west and south to Prestons. An extract of the route map is shown in Figure 2.14. There with 60 entry/exit points to the path, the nearest of which to the site is located 1.5 kilometres north of Tattersall Road at the Sunnyholt Road Interchange of the M7 Motorway.

Figure 2.14: M7 Motorway Shared Path Route Map

Image Source: RMS website

3. Development Proposal

The development proposal includes the expansion of the existing Sell and Parker site at 45 Tattersall Road by consolidating the neighbouring property at 23-43 Tattersall Road, which is anticipated to cease manufacturing operations in December 2014. The expanded site will encompass a total area of 5.9 hectares and would increase the processing capacity from the existing 90,000 tonnes per annum to 350,000 tonnes per annum. The expanded site would have a total of 84 on-site employees.

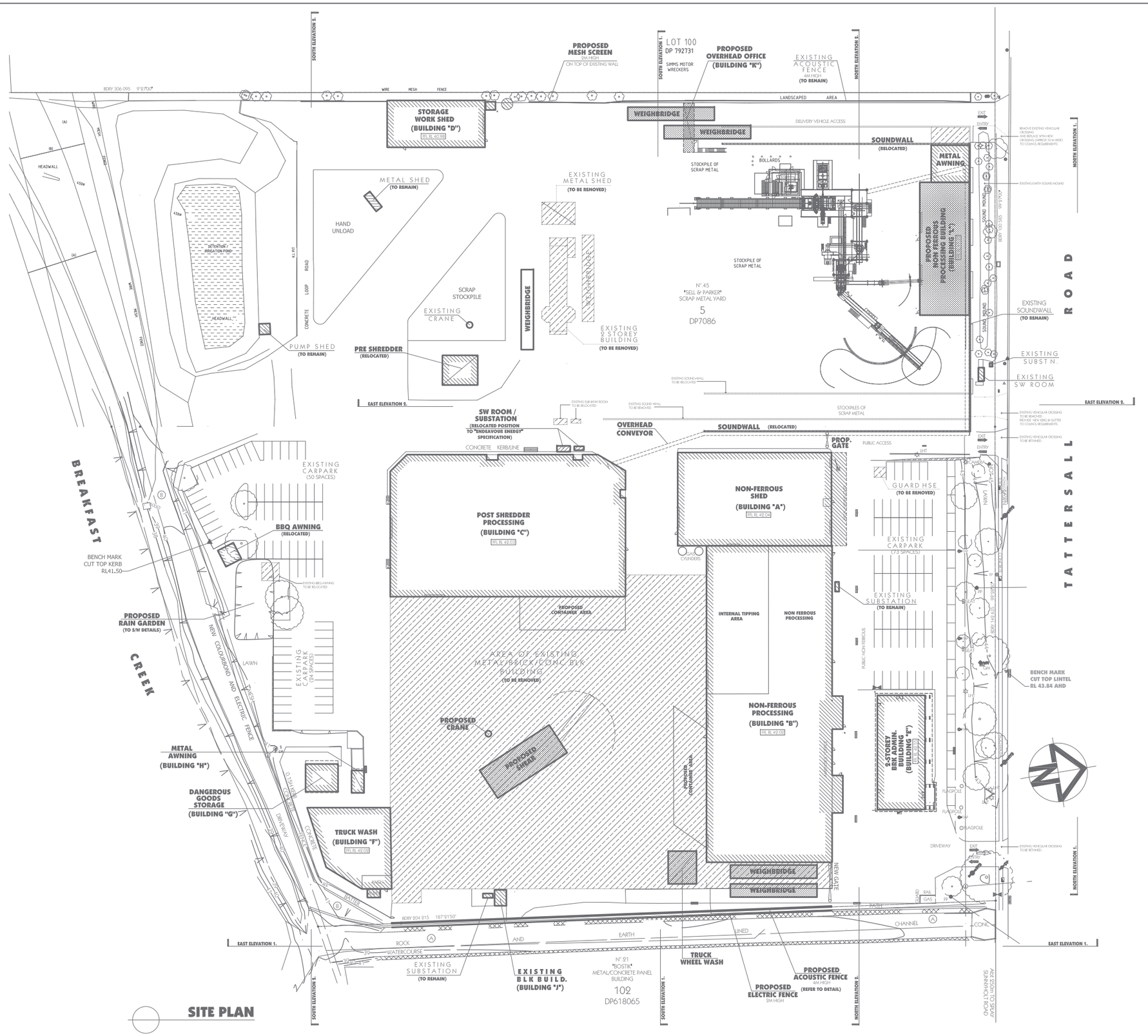
The proposed development would incorporate the following:

- Demolition of the existing administration office at 45 Tattersall Road and relocation of all office functions to the existing administration building located at the northern end of the site at 23-43 Tattersall Road.
- New on-site vehicle weighbridges.
- Provision of on-site truck layover facilities.
- Expansion of metal separation and recycling infrastructure such as shredders, conveyors and storage areas.
- Extended operating times: 6:00am to 9:00pm, Monday to Saturday.

The proposed site layout plan is shown in Figure 3.1 with the development area schedule summarised in Table 3.1.

Table 3.1: Development Schedule

Building	Description/Use	Gross Floor Area (GFA, m²)		
		Processing/ Shedding Area	Office/ Administration	Total
A	Non-Ferrous Shed (including office)	1,278	24	1,302
B	Non-Ferrous Processing (including office)	3,162	438	3,600
C	Post Shredder Processing	2,981	0	2,981
D	Storage Work Shed	415	0	415
E	Administration Building	0	984	984
F	Truck Wash	494	0	494
G	Dangerous Goods Storage	81	0	81
H	Metal Awning	25	0	25
J	Existing Blk Building	17	0	17
K	Overhead Office (Weighbridge)	47	0	47
L	Non-Ferrous Processing	593	0	593
	Total	**9,093**	**1,446**	**10,539**



SITE PLAN

DEVELOPMENT DATA		
SITE AREA	**59 475 M2 approx.**	
	FLOOR AREAS	
	W/HOUSE	**OFFICE /AMEN**
BUILD "A"	1278 M2	24 M2
BUILD "B"	3162 M2	438 M2
BUILD "C"	2981 M2	------
BUILD "D"	415 M2	------
BUILD "E"	984 M2	------
BUILD "F"	494 M2	------
BUILD "G"	81 M2	------
BUILD "H"	25 M2	------
BUILD "J"	17 M2	------
BUILD "K"	47 M2	------
BUILD "L"	593 M2	------
TOTAL	**10 077 M2**	**462 M2**
CARPARKING REQUIRED	TOTAL GR FLR AREA / 75 = **10077 / 75** = **134**	
	TOTAL OFFICE AREA / 40 = **462 / 40** = **11**	
	TOTAL = **145**	
PROVDED	= **147**	

LEGEND

- EXISTING STRUCTURE TO REMAIN
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED NEW STRUCTURE
- EXISTING STRUCTURE TO BE FOR REUSE OR TO BE RELOCATED

Issue	By	Description	Date
A	CZ	FOR DA	5/03/14

GENERAL NOTES

1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
2) Levels shown are approximate unless accompanied by reduced levels.
3) Figured dimensions must be taken in preference to scaling.
4) All boundary clearances must be verified by the surveyor prior to the commencement of any building works.
5) Where engineering drawings are required such must take preference to this drawing.
6) Stormwater to be discharged to Councils' requirements and AS 3500.3–1990.
7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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Consultants

Date	FEBRUARY 2014
Scale	1:500 UNO
Drawn	J.LARIA
Checked	C.ZAPPIA
Certified	

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Project: PORPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE
LOT 2 DP550522 & LOT 5 DP7086 , No 23 & 45
TATTERSALL RD, KINGS PARK

Client: SELL & PARKER METAL — Project No.: P4144

Title: DEVELOPMENT APPLICATION
SITE PLAN

Activity Type:	Job No.:	Sheet No.:	Issue
DA	1049-13	A101	A

B1 SHEET

3.1 Vehicle Access and Circulation

The expanded site will serve two broad customer types:

- Ferrous customers – largest vehicle is a 19 metre long semi-trailer
- Non-ferrous customers – predominantly light vehicles (utes, car trailers etc.) with the largest vehicle being a 12.5 metre long Large Rigid Vehicle (LRV).

The proposed vehicle access arrangements at the expanded site are shown in Figure 3.2 and summarised in Table 3.2 below. All vehicle movements to/ from the site are proposed to be in a forward direction.

Figure 3.2: Proposed Vehicle Access Arrangements

Background Image Source: Near Map

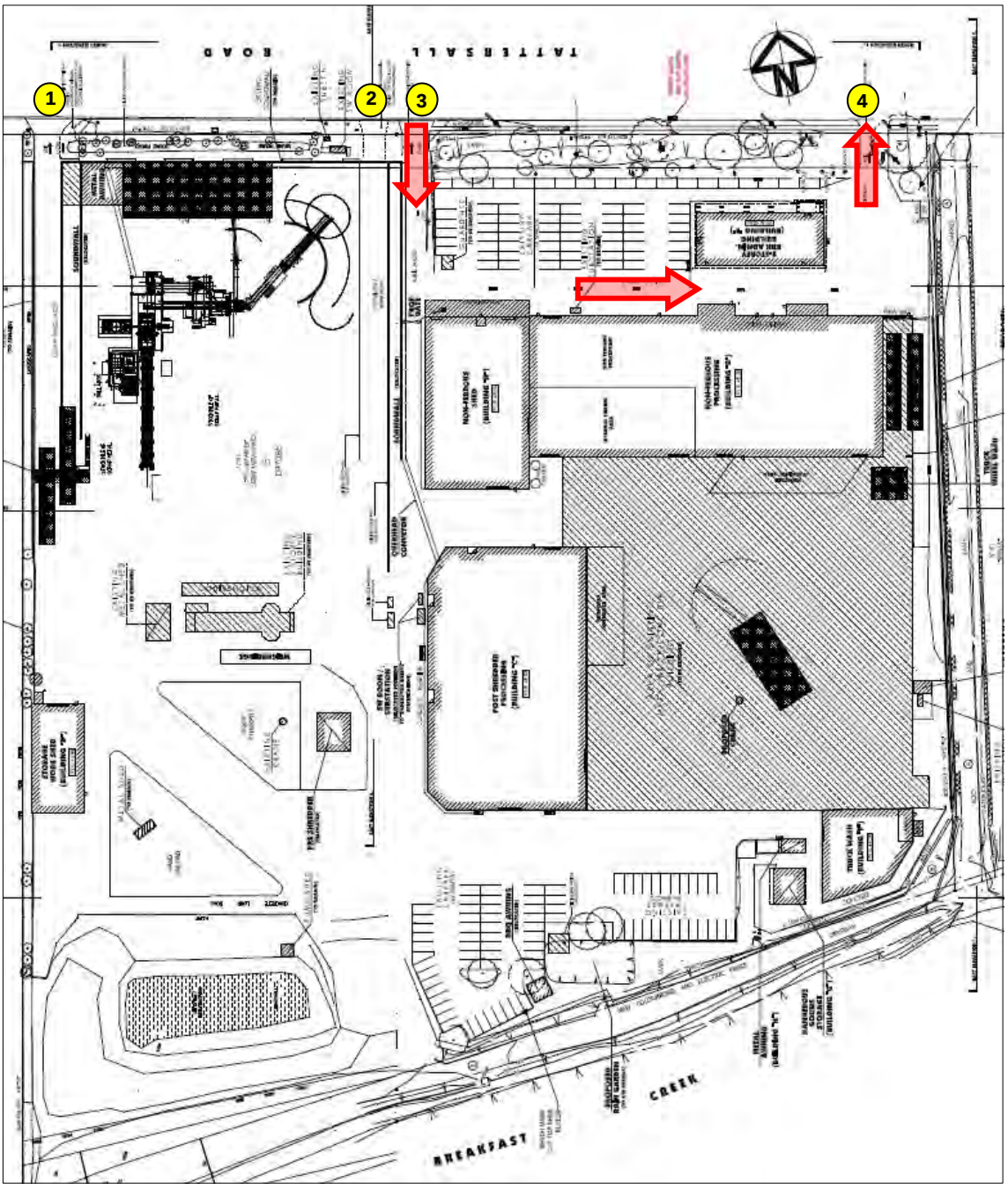
Table 3.2: Proposed Vehicle Access Arrangements

Figure 3.2 Driveway Reference Number	Existing Vehicle Movements	Proposed Access Arrangements
1	One-way (entry only)	Access to be widened and continue to be used as a one-way entry for trucks (ferrous customers) and non-ferrous vehicles which are too large to use driveway 3
2	One-way (exit only)	Closed
3	Two-way	• Entry for non-ferrous customers • Entry and exit for on-site car parks
4	One-way (exit only)	Exit for trucks (ferrous customers) and non-ferrous vehicles

As part of the amalgamation of the two sites, the physical barrier between the two sites will be largely removed, permitting the movement of operational vehicles between the two sites. The increase in operational area at the expanded site will permit heavy vehicles to layover on-site.

An indicative site layout plan showing the circulation of non-ferrous customer vehicles is shown in Figure 3.3.

Figure 3.3: Indicative Site Layout and Non-Ferrous Customer Vehicle Circulation



Background Image Source: Algorry, Zapia and Associates Pty Ltd, sheet no. A101, issue A (February 2014)

Further discussion on the proposed vehicle access and circulation is contained in Section 4 of this report.

3.1.1 Truck Routes

Truck routes to and from the expanded site are proposed to continue as per the existing arrangements with all heavy vehicles entering and exiting Tattersall Road via the Sunnyholt Road signalised intersection. The vast majority of heavy vehicles accessing the expanded site are anticipated to travel via the M7 Motorway, 1.5 kilometres north of Tattersall Road.

3.2 Car Parking

The proposed development will provide 147 on site car parking spaces for staff and visitors in the two existing on-site car parks located at the northern and southern ends of the neighbouring site at 23-43 Tattersall Road. It is proposed to remove the 11 car parking spaces located west of the administration building from the car park at the northern end of the site to improve internal vehicle circulation and access to driveway 4.

The suitability of the car parking provision and layout is discussed in Section 5 of this report.

3.3 Pedestrian Facilities

All pedestrian access to the expanded site is proposed via the administration building located at the northern end of the neighbouring site at 23-43 Tattersall Road. The development does not propose any changes to the existing pedestrian access arrangements to this building which is currently used as an office/administration building. All visitors to the expanded site will be required to first report to the administration building.

The development does not propose to provide any dedicated pedestrian access to the existing Sell and Parker site, nor any direct pedestrian access to operational areas of the expanded site.

The suitability of the proposed pedestrian facilities is discussed in Section 4 of this report.

4. Access and Circulation

4.1 Vehicle Access and Circulation

Part E of Blacktown Council Development Control Plan (DCP) 2006 sets out the vehicle access and circulation requirements for developments in industrial zones. Part E, Section 4.6 of DCP 2006 requires all internal roadways to be a minimum of 7 metres wide. The existing vehicle accesses to the two sites are all wider than 7 metres.

As part of the amalgamation of the two sites, the physical barrier between the two sites will be largely removed, permitting the movement of operational vehicles between the two sites. The increase in operational area at the expanded site will permit heavy vehicles to layover on-site, removing the need for these vehicles to return to Tattersall Road between loading and unloading of metal. This change will significantly reduce the movement of heavy vehicles on Tattersall Road adjacent to the site, improving the movement of vehicles along Tattersall Road. The proposed widening of driveway 1 will also improve circulation on Tattersall Road by increasing the on-site queuing capacity of heavy vehicles entering the site.

The proposed development will see non-ferrous customers separated from the operational areas of the expanded site. Non-ferrous customer vehicles will be predominantly light vehicles (utes, car trailers etc.) with the largest vehicle being a 12.5 metre LRV. The development proposes one-way circulation of non-ferrous customer vehicles on-site with these vehicles entering via driveway 3 and exiting via driveway 4. In the unlikely event of a non-ferrous customer accessing the site in a vehicle larger than a 12.5 metre LRV, they will be required to follow the same access arrangements of ferrous customers, i.e. enter via driveway 1 and exit via driveway 4.

The proposed separation of ferrous and non-ferrous customers will improve the circulation of vehicles on-site and also improve the safety of non-ferrous customers by preventing them from entering operational areas.

The proposed access arrangements will see driveway 3 continue to operate as a two-way access. This driveway will be used for the entry and exit of all staff and visitor vehicles to the on-site car parks as well as the entry for non-ferrous customers. It is anticipated that the car park at the northern end of the site will function as the primary car park for staff at the site. The car park at the southern end of the site will function as a secondary car park with all access to this car park via driveway 2.

Driveway 4 currently operates as a two-way access. It is proposed for this driveway to be used as a one-way exit for all ferrous and non-ferrous customers from the expanded site. The proposed access arrangements will confine staff and visitor vehicle movements to driveway 3 thereby reducing the potential for conflict with heavy vehicles which will enter via driveway 1 and exit via driveway 4.

While the combination of non-ferrous vehicle entry movements with access to the car park at driveway 3 is not ideal, the proposed access arrangements are expected to operate satisfactorily. The peak times for the movement of staff vehicles to/from the on-site car park are not expected to coincide with non-ferrous vehicle entry movements to the site and are therefore considered to be complimentary uses.

4.2 Pedestrian Access

The relocation of all administration functions to the existing administration building at 23-43 Tattersall Road will greatly improve pedestrian safety at the expanded site by separating pedestrians from the operational activities of the site. The proposed pedestrian access arrangements to the administration building will be unchanged from the existing arrangements to this building with pedestrians accessing the building from the on-site car park.

5. Car Parking

5.1 Car Parking Requirements

The car parking provision requirements for industrial developments are set out in Part E of Blacktown City Council's DCP 2006 as summarised in Table 5.1

Table 5.1: DCP 2006 Car Parking Requirements

Description / Use	Gross Floor Area (GFA)	DCP 2006 Car Parking Rate
Factory, Warehouse and Bulk Storage	≤ 7,500m²	One space per 75m² GFA.
	> 7,500m²	One space per 200m² GFA only for the area in excess of 7,500sqm where there is a specific end user which would not demand a higher rate and where employee parking is adequately catered for.

Section 5.3 (pg. 23) of DCP 2006 defines GFA as follows:

The sum of the areas of each floor of a building where the area of each floor is taken to be the area within the outer face of the external enclosing walls as measured at a height of 1400 millimetres above each floor level excluding:

a) columns, fin walls, sun control devices and any elements, projections or works outside the general lines of the outer face of the external wall;

b) lift towers, cooling towers, machinery and plant rooms, ancillary storage space and vertical air-conditioning ducts;

c) car parking needed to meet any requirements of Council and any internal access thereto; and

d) space for the loading and unloading of goods.

As summarised in Table 3.1, the total area of the development is 10,539m². Given this, Table 5.2 has been prepared to summarise the car parking requirements of the development.

Table 5.2: Development Car Parking Requirements

Development Area	DCP 2006 Car Parking Rate	DCP 2006 Car Parking Requirements
10,539m²	One space per 75m² GFA for the area ≤ 7,500m²	100
	One space per 200m² GFA only for the area in excess of 7,500sqm	16
	Total	**116**

As shown in Table 5.2, the proposed development is required to provide a minimum of 116 on-site car parking spaces. The proposed supply of 147 on-site car parking spaces for 84 on-site staff therefore meets the minimum car parking requirements outlined in DCP 2006 and is considered to be appropriate.

It is anticipated that the car park at the northern end of the site will function as the primary car park for staff at the site. The car park at the southern end of the site will function as a secondary car park with all access to this car park via driveway 2.

6. Traffic Impact Assessment

6.1 Traffic Generation

6.1.1 Design Rates

Traffic generation estimates for different development types/ land uses are generally sourced from the RMS *Guide to Traffic Generating Developments* (2002). The guide states that *"…peak traffic generation period for industrial land use is generally determined by three key factors: employee density, travel mode and peak period travel distribution."* The guide acknowledges that peak period traffic generation of industrial land uses varies significantly depending based on the specific industrial development type.

Section 3.10 of the RMS guide contains traffic generation rates for four industrial development types: factories, warehouses, plant nurseries and business parks. The traffic generation rates for factories and warehouses are summarised in Table 6.1 below.

Table 6.1: Traffic Generation Rates – Factories and Warehouses

Development Type	Traffic Generation Rate (RMS Guide to Traffic Generating Developments)	
	Daily Vehicle Trips	Peak Hour Vehicle Trips
Factories	5 per 100m^2 GFA	1 per 100m^2 GFA
Warehouses	4 per 100m^2 GFA	0.5 per 100m^2 GFA

GFA = Gross Floor Area

As shown in Table 6.1, the traffic generation rates for factories and warehouses are based on the GFA of the development. The increase in vehicle movements associated with the proposed development is not considered to be directly affected by changes in GFA and thus application of the rates contained in the RMS guide is not considered to be appropriate. Furthermore, much of the data used to calculate the traffic generation rates contained in the RMS guide is based on surveys undertaken over 20 years ago. Indeed Section 3.10.1 of the guide refers to RTA surveys of average gross floor space per employees of factory developments undertaken in 1978.

RMS in the process of updating the guide to traffic generating developments and has recently undertaken detailed traffic generation surveys/ studies of specific land uses to provided updated traffic generation rates. It is understood that no specific surveys/ studies have been undertaken for industrial land uses similar to that proposed by the development which could be used as empirical traffic generation rates.

6.1.2 Site Traffic Generation Characteristics

The traffic generating characteristics of the proposed development is considered to be directly related to three key parameters:

- Number of on-site employees
- Handling/ processing capacity
- Extended operating hours.

Employees

The net change in on-site employees at the subject site is summarised in Table 6.2.

Table 6.2: Existing and Proposed On-Site Employees

Site / Address	Existing On-Site Employees	Proposed On-Site Employees (post-development)	Net Change
45 Tattersall Road	64	84	-120
23-43 Tattersall Road	140		
Total	204		

As shown in Table 6.2, the two sites currently have a combined total of 204 on-site employees. The expanded Sell and Parker site proposes a total of 84 on-site employees. The amalgamation of the two sites as part of the proposed development will therefore result in a reduction of 120 employees.

Processing Capacity

The development proposes to increase the processing capacity at the expanded site from the current 90,000 tonnes per annum to 350,000 tonnes per annum. This represents an increase of 388% on the existing processing capacity of the site.

As detailed in Section 2.2.1, the Sell and Parker site at 45 Tattersall Road currently generates 204 vehicle movements per day at its current processing capacity of 90,000 tonnes per annum.

Operating Hours

The development proposes to extend the operating hours of the facility. The existing and proposed operating hours are as follows:

- **Existing** – 6:30am to 4:30pm Monday to Friday, 6:30am to 12:00pm Saturdays
- **Proposed** – 6:00am to 9:00pm, Monday to Saturday.

The development is proposing to extend the operating hours of the facility by five hours each weekday and nine and a half hours on Saturdays. The proposed development would increase the operating hours of the facility by 34.5 hours per week.

The extension of operating hours associated with the development would result in the temporal dispersal of vehicle movements to/ from the site.

6.1.3 Estimated Traffic Generation

The following key assumptions have been made in estimating the future traffic generated by the proposed development:

- Light vehicle movements are based on the 82 car parking spaces to be provided on-site and assuming 100% occupancy and 100% turnover of on-site car parking.
- Heavy vehicle movements are assumed to increase by 389% in line with the proposed increase in on-site processing capacity (90,000 tonnes per annum to 350,000 tonnes per annum).

On this basis, Table 6.3 has been prepared to compare the existing and future daily traffic generation of the development.

Table 6.3: Existing and Future Daily Traffic Generation

Site/Address	Existing Daily Traffic Generation			Estimated Daily Future Traffic Generation		
	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles
45 Tattersall Road	39	165	204	164 (20%)	642 (80%)	806
23-43 Tattersall Road	645	49	694			
TOTAL	684 (76%)	214 (24%)	898			

As shown in Table 6.3, the expanded facility is estimated to generate a total of 806 vehicle movements (two-way) on a typical weekday. The amalgamation of the two sites will therefore result in a net decrease of 92 vehicle movements per day from the existing use of the sites. However, the proposed development will result in a significant increase in the proportion of heavy vehicle movements to/from the site.

The following key assumptions have been made with respect to calculating future traffic generated by the development in a typical weekday peak hour:

- 50% of daily light vehicle movements will occur in a typical peak hour (this is considered to be conservative, i.e. in excess of what could reasonably be expected to occur).
- 8% of daily heavy vehicle movements will occur in a typical AM peak hour with 4% of daily heavy vehicle movements will occur in a typical PM peak hour. This is based on the recorded peak to daily ratio recorded at the site (Section 2.3.2) and is considered to be reasonable given the proposed extension of operating hours associated with the development.

On the basis of the above, Table 6.4 has been prepared to summarise the net increase in peak hour traffic generation associated with the development.

Table 6.4: Net Increase in Peak Hour Traffic Generation

Weekday Peak Hour	Existing Traffic Generation			Estimated Future Traffic Generation			Net Increase		
	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles	Light Vehicles	Heavy Vehicles	Total Vehicles
AM	73	32	**105**	82	52	**134**	9	20	**29**
PM	43	15	**58**	82	26	**108**	39	11	**50**

As shown in Table 6.4, it is estimated that the development will generate a total 134 vehicle movements (two-way) in a typical weekday AM peak hour and 108 vehicle movements (two-way) in a typical weekday PM peak hour.

Based on the existing peak hour traffic generation of the two sites, this represents a net increase of 29 vehicle movements (two-way) in the AM peak hour and 50 vehicle movements (two-way) in a typical weekday PM peak hour.

It is noted that while the development is anticipated to result in a net increase in daily traffic, a marginal increase in peak hour traffic volumes is expected.

6.2 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

i configuration of the arterial road network in the immediate vicinity of the site

ii existing operation of intersections providing access between the local and arterial road network
iii likely distribution of employee's residences in relation to the site
iv configuration of access points to the site.

Having consideration to the above, for the purposes of estimating vehicle movements, the following directional distributions have been assumed:

- Sunnyholt Road (north) 60%
- Sunnyholt Road (south) 20%
- Vardys Road (west) 20%.

In addition, the assumptions made with respect to the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) in the AM peak period is as follows:

- Light vehicles – 80% inbound, 20% outbound
- Heavy vehicles – 60% inbound, 40% outbound.

A corresponding reversal of the AM peak period directional split has been assumed for the PM peak period. This results in a directional split during the AM and PM peak periods as shown in Table 6.5.

Table 6.5: Net Increase in Traffic Generation

Weekday Peak Hour	Vehicle Type	Inbound	Outbound
AM	Light	80% (7 vehicles)	20% (2 vehicles)
	Heavy	60% (12 vehicles)	40% (8 vehicles)
	Total	**19 vehicles**	**10 vehicles**
PM	Light	20% (8 vehicles)	80% (31 vehicles)
	Heavy	40% (4 vehicles)	60% (7 vehicles)
	Total	**12 vehicles**	**38 vehicles**

Based on the above, Figure 6.1 and Figure 6.2 have been prepared to show the estimated marginal increase in turning movements in the vicinity of the site following full site development, together with the existing traffic volumes in the vicinity of the site. The increases in traffic over the existing situation are shown in brackets.

Figure 6.1: Existing Weekday AM Peak Hour Traffic plus Development Traffic

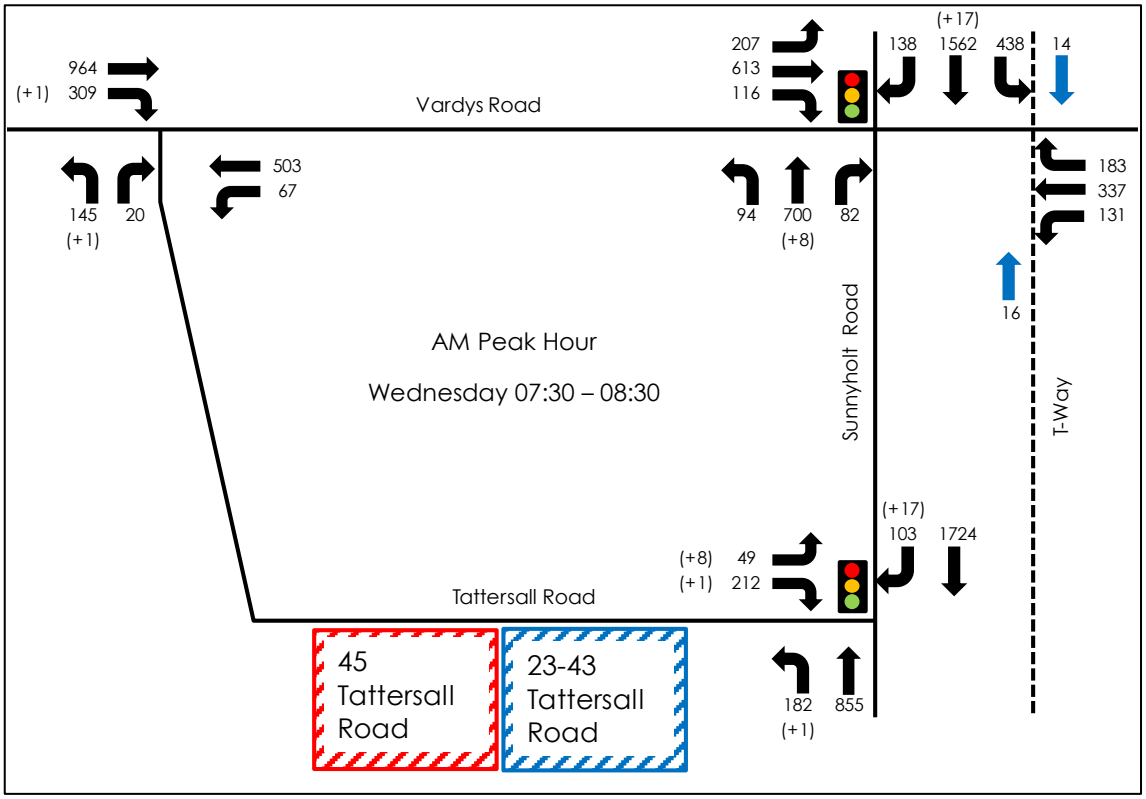
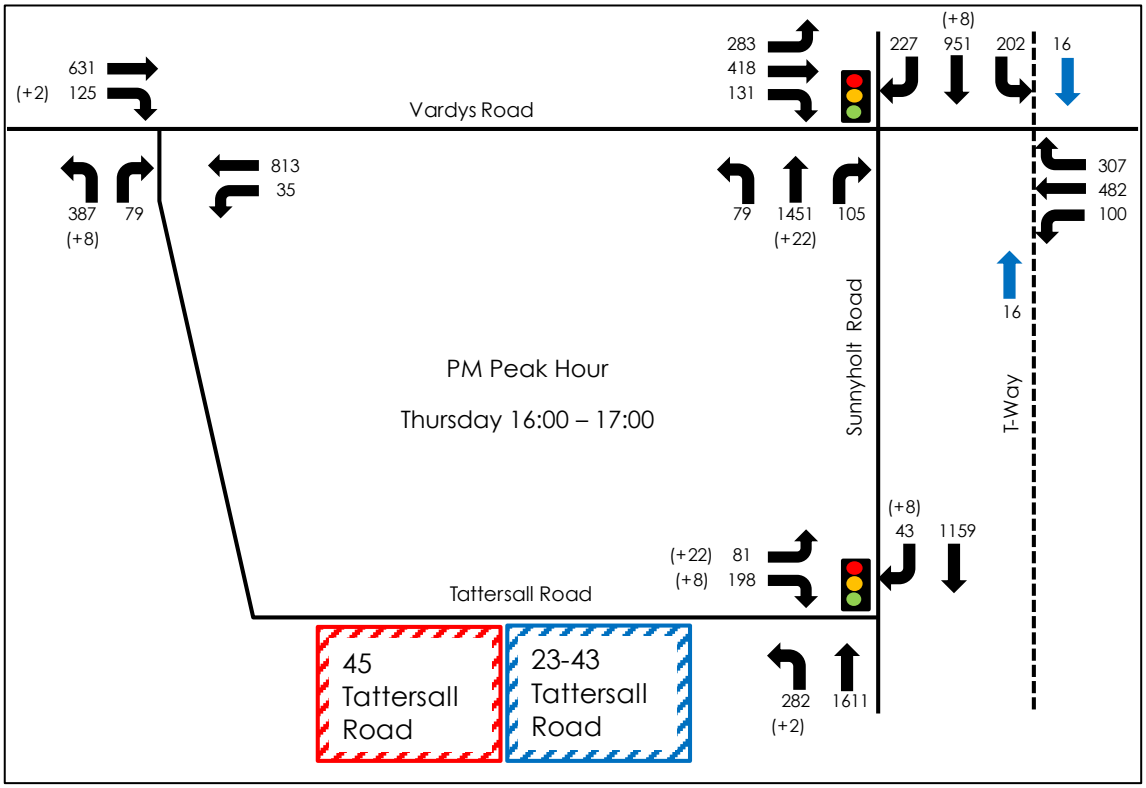


Figure 6.2: Existing Weekday PM Peak Hour Traffic plus Development Traffic



6.3 Operational Traffic Impact

An assessment of the impacts that the anticipated development traffic would have on the surrounding road network can be made by comparing intersection performance prior to and following full site development.

The proposed development is anticipated to generate an additional 29 vehicle movements (two-way) in a typical weekday AM peak hour and 50 vehicle movements (two-way) in a typical weekday PM peak hour. In comparison to the existing traffic flows on the road network surrounding the site, this represents a negligible increase in traffic volumes.

In addition, the impact of this additional traffic on the intersections in the vicinity of the site has been assessed using SIDRA INTERSECTION. Table 6.6 presents a summary of the anticipated future operation of the intersections following the full development of the site, with full results included in Appendix B.

Table 6.6: Future Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Tattersall Road/ Sunnyholt Road	AM	0.809	11.9	103	A
	PM	0.868	11.2	171	A
Tattersall Road/ Vardys Road	AM	0.405	4.2	15	N/A
	PM	0.999	15.7	148	N/A
Sunnyholt Road/ Vardys Road	AM	0.930	42.4	310	C
	PM	0.890	46.3	308	D

A comparison of the existing and future operating conditions of the key intersections surrounding the site shows that the impact of traffic generated by the development is negligible. Furthermore the comparison shows no change in Level of Service at the three intersections during either the AM or PM peak hours.

6.4 Construction Traffic Impact

Construction activities associated with the proposed development are anticipated to primarily involve demolition of existing buildings and modifying the remaining existing buildings. There will be minimal excavation, but there will be a need to remove demolition material and bring in construction materials, fittings and equipment. The construction activities are anticipated to involve the following:

- demolition of the existing office and maintenance shed at 45 Tattersall Road
- demolition of some of the existing storage and processing sheds at 23-43 Tattersall Road
- modifying and fit-out of the remaining buildings, storage and processing sheds at 23-43 Tattersall Road
- relocation of the shear from 45 Tattersall Road to 23-43 Tattersall Road
- relocation of the pre-shredder within 45 Tattersall Road
- construction of an enclosed conveyor
- construction of a truck wash facility.

All construction activities associated with the proposed development will be undertaken following the ceasing of manufacturing operations at the Dexion Australia Pty Ltd site at 23-43 Tattersall Road. Manufacturing operations are anticipated to cease at this site in December 2014

which is estimated to result in a reduction of 694 vehicle movements per day on the road network (see Section 2.4 for further details).

At this stage it is not possible to accurately quantify the traffic volumes likely to be generated during construction as a contractor is yet to be appointed. However, construction activities associated with the proposed development are anticipated to generate only a small proportion of the daily vehicle movements currently generated by the Dexion site. Given this, the construction activities would result in a net decrease in traffic generation when compared with the existing traffic generated by the operation of the two sites. Thus construction traffic is not expected to compromise the safety and function of the road network surrounding the site.

It is anticipated that trucks associated with construction will access the site via the same routes as operational vehicles i.e. via the Tattersall Road/ Sunnyholt Road signalised intersection with the vast majority of these travelling on the M7 Motorway, 1.5 kilometres north of the site.

Once the contractor has been appointed, a site-specific construction traffic management plan (CTMP) should be prepared prior to works commencing on-site detailing construction traffic volumes, truck routes, access arrangements and construction worker parking arrangements.

6.5 Mitigating Measures and Intersection Works

Compared against the existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is negligible and could not be expected to compromise the safety or function of the surrounding road network. Given this, the proposed development in its own right would not warrant any upgrades to existing road infrastructure in the vicinity of the site.

7. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

i The proposed development involves the expansion of the existing Sell and Parker metal recycling facility at 45 Tattersall Road by consolidating the neighbouring property at 23-43 Tattersall Road.

ii The proposed development seeks to increase the handling/ processing capacity from the existing 90,000 tonnes per annum to 350,000 tonnes per annum.

iii The site is well served by public transport with the closest railway station located 1.2 kilometres east of the site and six bus stops located within 600 metres of the site.

iv On the basis of traffic surveys undertaken in December 2013 and January 2014 the two sites currently generate 898 vehicle movements (two-way) per day including:

- 105 vehicle movements (two-way) in the AM peak hour
- 58 vehicle movements (two-way) in the PM peak hour.

v The relocation of all administration functions from 45 Tattersall Road to the existing administration building at 23-43 Tattersall Road will separate pedestrians from the operational activities of the site, greatly improving pedestrian safety.

vi The proposed supply of 147 on-site car parking spaces meets the minimum car parking requirements outlined in Blacktown DCP 2006.

vii The proposed development is anticipated to generate an additional 29 vehicle movements (two-way) in a typical weekday AM peak hour and 50 vehicle movements (two-way) in a typical weekday PM peak hour.

viii Compared against existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is negligible and could not be expected to compromise the safety or function of the surrounding road network.

ix A comparison of the existing and future intersection operating conditions shows that the impact of traffic generated by the development would not result in a significant change to the existing intersection Level of Service.

x The proposed development in its own right would not warrant any upgrades to existing road infrastructure in the vicinity of the site.

Appendix A

Survey Results

Client	GTA
Location	**Kings Park**
Survey Time	Wed, 29th January 2014 5am - 5pm
Description	IN/OUT Movement Survey

Site 1: Entry

TIME PERIOD			SHORT up to 5.5m	MEDIUM 5.5m to 14.5m	LONG 11.5m to 19.0m	MEDIUM COMBINATION 17.5m to 36.5m	LARGE COMBINATION Over 33.0m
5:00	to	5:15	0	1	2	0	0
5:15	to	5:30	0	0	1	0	0
5:30	to	5:45	0	0	3	1	0
5:45	to	6:00	0	0	4	0	0
6:00	to	6:15	0	1	6	0	0
6:15	to	6:30	0	6	5	0	0
6:30	to	6:45	0	3	6	0	0
6:45	to	7:00	0	1	6	0	0
7:00	to	7:15	0	2	4	0	0
7:15	to	7:30	0	3	3	0	0
7:30	to	7:45	1	5	3	0	0
7:45	to	8:00	0	3	4	0	0
8:00	to	8:15	0	2	4	0	0
8:15	to	8:30	0	2	5	0	0
8:30	to	8:45	0	1	5	0	0
8:45	to	9:00	1	0	1	0	0
9:00	to	9:15	0	5	5	0	0
9:15	to	9:30	0	6	6	0	0
9:30	to	9:45	0	2	1	0	0
9:45	to	10:00	0	3	5	0	0
10:00	to	10:15	0	2	4	0	0
10:15	to	10:30	2	2	6	0	0
10:30	to	10:45	1	5	4	0	0
10:45	to	11:00	0	7	5	0	0
11:00	to	11:15	0	7	2	0	0
11:15	to	11:30	1	4	4	0	0
11:30	to	11:45	0	6	5	0	0
11:45	to	12:00	1	3	4	0	0
12:00	to	12:15	1	5	3	0	0
12:15	to	12:30	1	1	2	0	0
12:30	to	12:45	0	8	3	0	0
12:45	to	13:00	1	2	1	0	0
13:00	to	13:15	0	3	6	0	0
13:15	to	13:30	0	1	2	0	0
13:30	to	13:45	0	3	5	0	0
13:45	to	14:00	0	2	3	0	0
14:00	to	14:15	0	3	2	0	0
14:15	to	14:30	0	5	5	0	0
14:30	to	14:45	0	4	5	0	0
14:45	to	15:00	0	4	2	0	0
15:00	to	15:15	1	3	2	0	0
15:15	to	15:30	2	1	3	0	0
15:30	to	15:45	0	0	5	0	0
15:45	to	16:00	2	7	6	0	0
16:00	to	16:15	0	1	3	0	0
16:15	to	16:30	0	3	1	0	0
16:30	to	16:45	0	0	0	0	0
16:45	to	17:00	0	0	0	0	0
Total			15	138	172	1	0

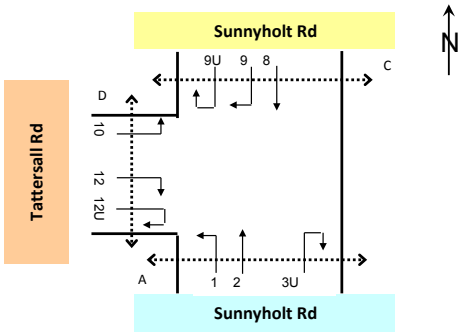
Client	GTA
Location	**Kings Park**
Survey Time	Wed, 29th January 2014 5am - 5pm
Description	IN/OUT Movement Survey

Site 2: Exit

TIME PERIOD			SHORT up to 5.5m	MEDIUM 5.5m to 14.5m	LONG 11.5m to 19.0m	MEDIUM COMBINATION 17.5m to 36.5m	LARGE COMBINATION Over 33.0m
5:00	to	5:15	0	2	1	0	0
5:15	to	5:30	0	3	0	0	0
5:30	to	5:45	0	0	1	0	0
5:45	to	6:00	0	1	4	0	0
6:00	to	6:15	0	0	4	0	0
6:15	to	6:30	0	3	6	0	0
6:30	to	6:45	0	5	5	0	0
6:45	to	7:00	0	2	6	0	0
7:00	to	7:15	0	1	6	0	0
7:15	to	7:30	0	6	5	0	0
7:30	to	7:45	0	2	4	0	0
7:45	to	8:00	0	3	4	0	0
8:00	to	8:15	0	2	2	1	0
8:15	to	8:30	0	2	4	0	0
8:30	to	8:45	0	3	8	0	0
8:45	to	9:00	1	1	2	0	0
9:00	to	9:15	2	2	4	0	0
9:15	to	9:30	0	5	6	0	0
9:30	to	9:45	0	2	3	0	0
9:45	to	10:00	0	2	2	0	0
10:00	to	10:15	0	1	3	0	0
10:15	to	10:30	1	2	5	0	0
10:30	to	10:45	1	3	8	0	0
10:45	to	11:00	0	10	7	0	0
11:00	to	11:15	2	4	3	1	0
11:15	to	11:30	0	6	3	0	0
11:30	to	11:45	0	6	4	0	0
11:45	to	12:00	1	4	6	0	0
12:00	to	12:15	4	5	3	0	0
12:15	to	12:30	0	2	3	0	0
12:30	to	12:45	0	6	3	0	0
12:45	to	13:00	0	3	2	0	0
13:00	to	13:15	1	3	3	0	0
13:15	to	13:30	0	2	3	0	0
13:30	to	13:45	1	1	3	0	0
13:45	to	14:00	1	2	2	0	0
14:00	to	14:15	0	3	1	0	0
14:15	to	14:30	0	4	5	0	0
14:30	to	14:45	0	5	5	0	0
14:45	to	15:00	0	3	5	0	0
15:00	to	15:15	2	9	3	0	0
15:15	to	15:30	1	0	6	0	0
15:30	to	15:45	0	0	5	0	0
15:45	to	16:00	5	5	5	0	0
16:00	to	16:15	1	5	4	0	0
16:15	to	16:30	0	4	3	0	0
16:30	to	16:45	0	1	2	0	0
16:45	to	17:00	0	0	0	0	0
Total			24	146	182	2	0

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 1. Tattersall Rd / Sunnyholt Rd

Day/Date : Fri, 20th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

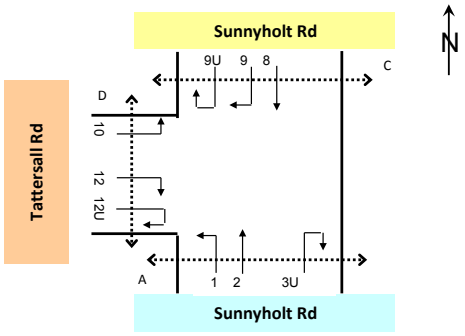


	Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	913	113	12	**1,038**		1,700	91	16	**1,807**	222	30	0	**252**	**3,097**
PM	16:00 to 17:00	1,779	55	16	**1,850**		1,094	66	20	**1,180**	222	12	0	**234**	**3,264**

Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	845	95	17	**957**		1,524	75	18	**1,617**	176	32	0	**208**	**2,782**
7:15 to 8:15	879	93	16	**988**		1,684	79	18	**1,781**	194	34	0	**228**	**2,997**
7:30 to 8:30	880	102	14	**996**		1,711	90	18	**1,819**	233	31	0	**264**	**3,079**
7:45 to 8:45	913	113	12	**1,038**		1,700	91	16	**1,807**	222	30	0	**252**	**3,097**
8:00 to 9:00	939	109	11	**1,059**		1,640	93	15	**1,748**	198	35	0	**233**	**3,040**
8:15 to 9:15	944	104	11	**1,059**		1,517	95	18	**1,630**	199	33	0	**232**	**2,921**
8:30 to 9:30	992	110	11	**1,113**		1,461	92	16	**1,569**	169	37	0	**206**	**2,888**
8:45 to 9:45	1,033	95	11	**1,139**		1,363	93	17	**1,473**	199	43	0	**242**	**2,854**
9:00 to 10:00	1,068	111	14	**1,193**		1,394	90	19	**1,503**	211	41	0	**252**	**2,948**
AM Totals	**2,852**	**315**	**42**	**3,209**		**4,558**	**258**	**52**	**4,868**	**585**	**108**	**0**	**693**	**8,770**
16:00 to 17:00	1,779	55	16	**1,850**		1,094	66	20	**1,180**	222	12	0	**234**	**3,264**
16:15 to 17:15	1,762	50	16	**1,828**		1,036	48	18	**1,102**	206	9	0	**215**	**3,145**
16:30 to 17:30	1,717	42	15	**1,774**		949	37	18	**1,004**	180	7	0	**187**	**2,965**
16:45 to 17:45	1,638	36	15	**1,689**		888	34	21	**943**	159	6	0	**165**	**2,797**
17:00 to 18:00	1,577	25	18	**1,620**		855	28	18	**901**	138	4	0	**142**	**2,663**
PM Totals	**3,356**	**80**	**34**	**3,470**		**1,949**	**94**	**38**	**2,081**	**360**	**16**	**0**	**376**	**5,927**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 1. Tattersall Rd / Sunnyholt Rd

Day/Date : Mon, 16th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

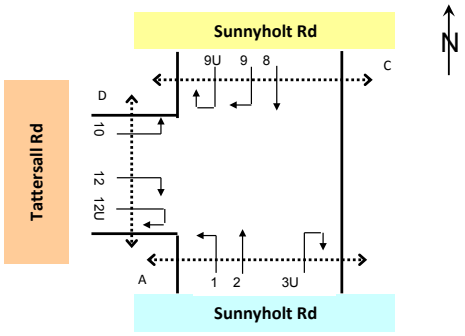


	Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	906	105	15	**1,026**		1,651	84	23	**1,758**	213	36	0	**249**	**3,033**
PM	16:15 to 17:15	1,791	59	14	**1,864**		1,011	61	21	**1,093**	252	18	0	**270**	**3,227**

Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	785	101	21	**907**		1,496	71	17	**1,584**	155	33	0	**188**	**2,679**
7:15 to 8:15	874	101	21	**996**		1,630	79	19	**1,728**	177	36	0	**213**	**2,937**
7:30 to 8:30	895	106	17	**1,018**		1,638	87	22	**1,747**	217	37	0	**254**	**3,019**
7:45 to 8:45	906	105	15	**1,026**		1,651	84	23	**1,758**	213	36	0	**249**	**3,033**
8:00 to 9:00	924	103	13	**1,040**		1,602	86	21	**1,709**	209	34	0	**243**	**2,992**
8:15 to 9:15	904	104	15	**1,023**		1,563	77	23	**1,663**	204	38	0	**242**	**2,928**
8:30 to 9:30	947	107	16	**1,070**		1,540	76	22	**1,638**	194	36	0	**230**	**2,938**
8:45 to 9:45	945	111	16	**1,072**		1,388	85	18	**1,491**	224	43	0	**267**	**2,830**
9:00 to 10:00	990	119	17	**1,126**		1,292	87	21	**1,400**	216	46	0	**262**	**2,788**
AM Totals	**2,699**	**323**	**51**	**3,073**		**4,390**	**244**	**59**	**4,693**	**580**	**113**	**0**	**693**	**8,459**
16:00 to 17:00	1,763	67	14	**1,844**		1,021	69	16	**1,106**	237	26	0	**263**	**3,213**
16:15 to 17:15	1,791	59	14	**1,864**		1,011	61	21	**1,093**	252	18	0	**270**	**3,227**
16:30 to 17:30	1,757	54	14	**1,825**		944	56	17	**1,017**	234	10	0	**244**	**3,086**
16:45 to 17:45	1,663	50	15	**1,728**		885	46	18	**949**	201	6	0	**207**	**2,884**
17:00 to 18:00	1,663	46	16	**1,725**		846	38	18	**902**	180	3	0	**183**	**2,810**
PM Totals	**3,426**	**113**	**30**	**3,569**		**1,867**	**107**	**34**	**2,008**	**417**	**29**	**0**	**446**	**6,023**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 1. Tattersall Rd / Sunnyholt Rd

Day/Date : Thu, 19th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

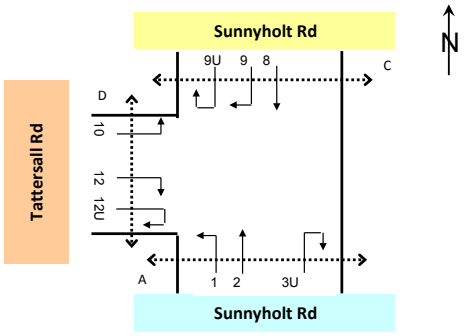


	Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	886	101	15	**1,002**		1,658	79	17	**1,754**	197	39	0	**236**	**2,992**
PM	16:00 to 17:00	1,814	61	18	**1,893**		1,105	81	16	**1,202**	259	20	0	**279**	**3,374**

Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	848	99	18	**965**		1,532	84	21	**1,637**	176	29	1	**206**	**2,808**
7:15 to 8:15	883	95	18	**996**		1,619	85	18	**1,722**	179	36	1	**216**	**2,934**
7:30 to 8:30	886	101	15	**1,002**		1,658	79	17	**1,754**	197	39	0	**236**	**2,992**
7:45 to 8:45	905	106	13	**1,024**		1,633	79	15	**1,727**	198	40	0	**238**	**2,989**
8:00 to 9:00	901	102	13	**1,016**		1,586	79	13	**1,678**	185	37	0	**222**	**2,916**
8:15 to 9:15	835	105	11	**951**		1,497	76	15	**1,588**	199	34	0	**233**	**2,772**
8:30 to 9:30	899	114	12	**1,025**		1,418	74	13	**1,505**	207	28	0	**235**	**2,765**
8:45 to 9:45	897	120	12	**1,029**		1,347	80	16	**1,443**	202	33	0	**235**	**2,707**
9:00 to 10:00	945	125	12	**1,082**		1,287	86	18	**1,391**	197	40	0	**237**	**2,710**
AM Totals	**2,694**	**326**	**43**	**3,063**		**4,405**	**249**	**52**	**4,706**	**558**	**106**	**1**	**665**	**8,434**
16:00 to 17:00	1,814	61	18	**1,893**		1,105	81	16	**1,202**	259	20	0	**279**	**3,374**
16:15 to 17:15	1,809	64	16	**1,889**		1,105	71	17	**1,193**	229	19	0	**248**	**3,330**
16:30 to 17:30	1,756	66	17	**1,839**		1,042	63	16	**1,121**	215	18	0	**233**	**3,193**
16:45 to 17:45	1,742	60	19	**1,821**		999	51	17	**1,067**	181	13	0	**194**	**3,082**
17:00 to 18:00	1,713	57	19	**1,789**		945	40	16	**1,001**	156	9	0	**165**	**2,955**
PM Totals	**3,527**	**118**	**37**	**3,682**		**2,050**	**121**	**32**	**2,203**	**415**	**29**	**0**	**444**	**6,329**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 1. Tattersall Rd / Sunnyholt Rd

Day/Date : Wed, 18th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

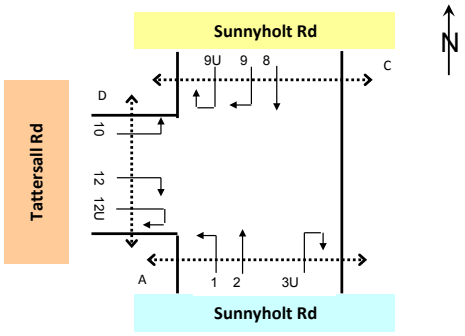


	Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	918	102	17	**1,037**		1,721	85	21	**1,827**	228	33	0	**261**	**3,125**
PM	16:00 to 17:00	1,698	85	19	**1,802**		1,054	78	19	**1,151**	256	21	0	**277**	**3,230**

Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	815	88	22	**925**		1,494	87	16	**1,597**	188	28	0	**216**	**2,738**
7:15 to 8:15	860	100	21	**981**		1,710	88	19	**1,817**	220	28	0	**248**	**3,046**
7:30 to 8:30	918	102	17	**1,037**		1,721	85	21	**1,827**	228	33	0	**261**	**3,125**
7:45 to 8:45	908	108	13	**1,029**		1,692	85	24	**1,801**	233	33	0	**266**	**3,096**
8:00 to 9:00	924	111	13	**1,048**		1,666	85	22	**1,773**	207	39	0	**246**	**3,067**
8:15 to 9:15	928	111	13	**1,052**		1,506	92	22	**1,620**	188	41	0	**229**	**2,901**
8:30 to 9:30	930	117	14	**1,061**		1,458	100	20	**1,578**	189	41	0	**230**	**2,869**
8:45 to 9:45	937	120	14	**1,071**		1,380	106	16	**1,502**	182	43	0	**225**	**2,798**
9:00 to 10:00	978	130	11	**1,119**		1,277	104	22	**1,403**	188	38	0	**226**	**2,748**
AM Totals	**2,717**	**329**	**46**	**3,092**		**4,437**	**276**	**60**	**4,773**	**583**	**105**	**0**	**688**	**8,553**
16:00 to 17:00	1,698	85	19	**1,802**		1,054	78	19	**1,151**	256	21	0	**277**	**3,230**
16:15 to 17:15	1,747	77	16	**1,840**		1,028	64	17	**1,109**	240	21	0	**261**	**3,210**
16:30 to 17:30	1,750	65	19	**1,834**		958	50	15	**1,023**	224	20	0	**244**	**3,101**
16:45 to 17:45	1,668	51	17	**1,736**		924	38	19	**981**	208	17	0	**225**	**2,942**
17:00 to 18:00	1,689	41	16	**1,746**		906	37	17	**960**	184	12	0	**196**	**2,902**
PM Totals	**3,387**	**126**	**35**	**3,548**		**1,960**	**115**	**36**	**2,111**	**440**	**33**	**0**	**473**	**6,132**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 1. Tattersall Rd / Sunnyholt Rd

Day/Date : Tue, 17th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

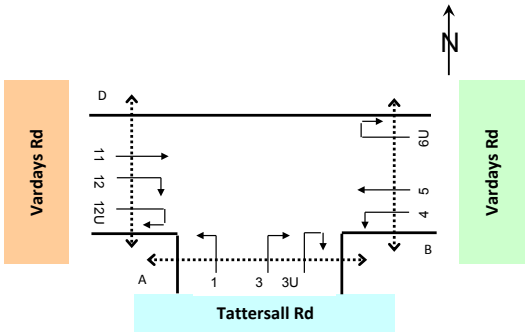


	Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	924	98	17	**1,039**		1,688	76	21	**1,785**	211	39	0	**250**	**3,074**
PM	16:00 to 17:00	1,677	60	14	**1,751**		1,006	64	19	**1,089**	249	24	0	**273**	**3,113**

Approach	Sunnyholt Rd					Sunnyholt Rd				Tattersall Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	842	89	25	**956**		1,490	52	17	**1,559**	174	28	0	**202**	**2,717**
7:15 to 8:15	872	94	23	**989**		1,620	61	19	**1,700**	185	36	0	**221**	**2,910**
7:30 to 8:30	900	94	21	**1,015**		1,663	71	22	**1,756**	210	39	0	**249**	**3,020**
7:45 to 8:45	924	98	17	**1,039**		1,688	76	21	**1,785**	211	39	0	**250**	**3,074**
8:00 to 9:00	895	102	12	**1,009**		1,656	80	23	**1,759**	210	42	0	**252**	**3,020**
8:15 to 9:15	865	102	14	**981**		1,574	84	24	**1,682**	215	40	0	**255**	**2,918**
8:30 to 9:30	921	102	13	**1,036**		1,496	82	20	**1,598**	197	38	0	**235**	**2,869**
8:45 to 9:45	921	104	15	**1,040**		1,371	79	19	**1,469**	191	36	0	**227**	**2,736**
9:00 to 10:00	973	110	13	**1,096**		1,268	79	20	**1,367**	179	39	0	**218**	**2,681**
AM Totals	**2,710**	**301**	**50**	**3,061**		**4,414**	**211**	**60**	**4,685**	**563**	**109**	**0**	**672**	**8,418**
16:00 to 17:00	1,677	60	14	**1,751**		1,006	64	19	**1,089**	249	24	0	**273**	**3,113**
16:15 to 17:15	1,706	47	13	**1,766**		957	47	19	**1,023**	260	23	0	**283**	**3,072**
16:30 to 17:30	1,694	42	14	**1,750**		969	42	18	**1,029**	236	24	0	**260**	**3,039**
16:45 to 17:45	1,655	40	15	**1,710**		935	34	19	**988**	213	15	0	**228**	**2,926**
17:00 to 18:00	1,699	38	16	**1,753**		995	34	18	**1,047**	180	12	0	**192**	**2,992**
PM Totals	**3,376**	**98**	**30**	**3,504**		**2,001**	**98**	**37**	**2,136**	**429**	**36**	**0**	**465**	**6,105**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 2. Tattersall Rd / Vardays Rd

Day/Date : Fri, 20th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

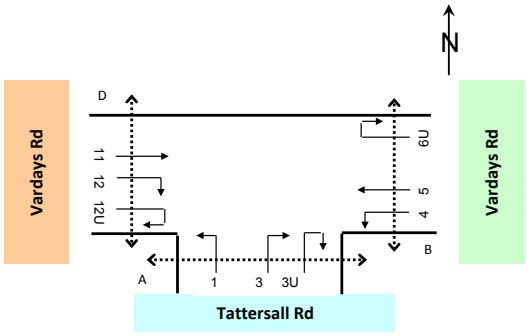


	Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	121	27	0	**148**	440	55	3	**498**		1,105	72	2	**1,179**	**1,825**
PM	16:15 to 17:15	303	13	0	**316**	746	29	3	**778**		624	27	2	**653**	**1,747**

Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
7:00 to 8:00	103	26	0	**129**	361	55	3	**419**		1,032	63	2	**1,097**	**1,645**
7:15 to 8:15	108	25	0	**133**	395	52	2	**449**		1,071	70	2	**1,143**	**1,725**
7:30 to 8:30	121	27	0	**148**	440	55	3	**498**		1,105	72	2	**1,179**	**1,825**
7:45 to 8:45	141	23	0	**164**	465	55	3	**523**		1,032	74	2	**1,108**	**1,795**
8:00 to 9:00	157	25	0	**182**	497	52	3	**552**		924	86	2	**1,012**	**1,746**
8:15 to 9:15	177	33	0	**210**	488	53	3	**544**		866	86	2	**954**	**1,708**
8:30 to 9:30	180	38	0	**218**	473	52	2	**527**		780	75	1	**856**	**1,601**
8:45 to 9:45	181	38	0	**219**	467	55	1	**523**		745	78	1	**824**	**1,566**
9:00 to 10:00	184	36	0	**220**	443	57	1	**501**		717	66	1	**784**	**1,505**
AM Totals	**444**	**87**	**0**	531	**1,301**	**164**	**7**	**1,472**		**2,673**	**215**	**5**	**2,893**	**4,896**
16:00 to 17:00	316	19	0	**335**	714	32	3	**749**		610	31	2	**643**	**1,727**
16:15 to 17:15	303	13	0	**316**	746	29	3	**778**		624	27	2	**653**	**1,747**
16:30 to 17:30	275	14	0	**289**	732	25	3	**760**		647	24	2	**673**	**1,722**
16:45 to 17:45	261	10	0	**271**	759	21	3	**783**		656	24	2	**682**	**1,736**
17:00 to 18:00	231	7	0	**238**	715	13	3	**731**		627	21	2	**650**	**1,619**
PM Totals	**547**	**26**	**0**	573	**1,429**	**45**	**6**	**1,480**		**1,237**	**52**	**4**	**1,293**	**3,346**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 2. Tattersall Rd / Vardays Rd

Day/Date : Mon, 16th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

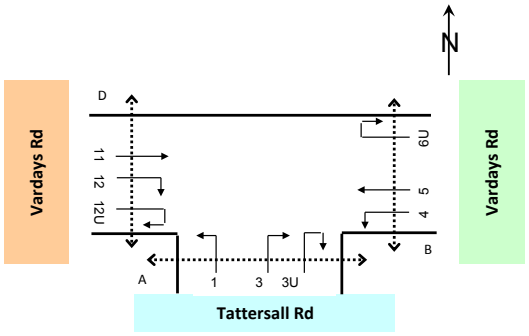


	Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	124	39	0	**163**	518	43	3	**564**		1,189	75	3	**1,267**	**1,994**
PM	16:30 to 17:30	426	20	1	**447**	902	23	2	**927**		761	27	3	**791**	**2,165**

Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
7:00 to 8:00	104	41	0	**145**	430	44	2	**476**		1,096	69	3	**1,168**	**1,789**
7:15 to 8:15	111	39	0	**150**	469	47	1	**517**		1,174	75	3	**1,252**	**1,919**
7:30 to 8:30	124	39	0	**163**	518	43	3	**564**		1,189	75	3	**1,267**	**1,994**
7:45 to 8:45	129	40	0	**169**	545	38	3	**586**		1,144	71	4	**1,219**	**1,974**
8:00 to 9:00	141	38	0	**179**	572	44	4	**620**		1,076	65	4	**1,145**	**1,944**
8:15 to 9:15	137	34	0	**171**	637	47	5	**689**		939	54	4	**997**	**1,857**
8:30 to 9:30	141	33	0	**174**	622	52	4	**678**		843	48	3	**894**	**1,746**
8:45 to 9:45	169	30	0	**199**	577	54	3	**634**		766	48	1	**815**	**1,648**
9:00 to 10:00	178	24	0	**202**	523	53	2	**578**		663	50	2	**715**	**1,495**
AM Totals	**423**	**103**	**0**	**526**	**1,525**	**141**	**8**	**1,674**		**2,835**	**184**	**9**	**3,028**	**5,228**
16:00 to 17:00	424	26	0	**450**	842	43	3	**888**		701	37	3	**741**	**2,079**
16:15 to 17:15	457	25	0	**482**	860	32	2	**894**		741	30	2	**773**	**2,149**
16:30 to 17:30	426	20	1	**447**	902	23	2	**927**		761	27	3	**791**	**2,165**
16:45 to 17:45	375	15	1	**391**	937	15	2	**954**		760	23	3	**786**	**2,131**
17:00 to 18:00	358	15	1	**374**	910	17	2	**929**		733	20	2	**755**	**2,058**
PM Totals	**782**	**41**	**1**	**824**	**1,752**	**60**	**5**	**1,817**		**1,434**	**57**	**5**	**1,496**	**4,137**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 2. Tattersall Rd / Vardays Rd

Day/Date : Thu, 19th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

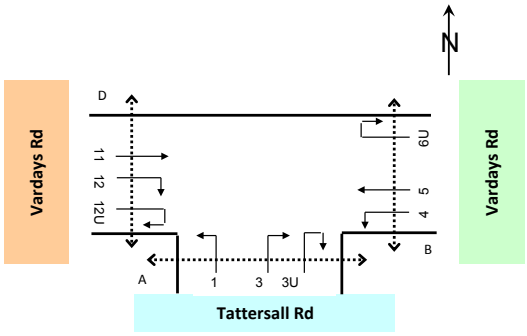


	Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	123	27	0	**150**	498	57	1	**556**		1,138	57	2	**1,197**	**1,903**
PM	16:00 to 17:00	443	23	0	**466**	792	54	2	**848**		715	40	1	**756**	**2,070**

Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
7:00 to 8:00	119	25	0	**144**	418	57	2	**477**		1,113	71	2	**1,186**	**1,807**
7:15 to 8:15	108	24	0	**132**	466	54	1	**521**		1,149	68	2	**1,219**	**1,872**
7:30 to 8:30	123	27	0	**150**	498	57	1	**556**		1,138	57	2	**1,197**	**1,903**
7:45 to 8:45	133	30	0	**163**	506	57	1	**564**		1,042	56	3	**1,101**	**1,828**
8:00 to 9:00	145	33	0	**178**	529	40	2	**571**		941	51	2	**994**	**1,743**
8:15 to 9:15	161	34	0	**195**	522	44	2	**568**		831	54	2	**887**	**1,650**
8:30 to 9:30	146	35	0	**181**	469	50	2	**521**		741	60	1	**802**	**1,504**
8:45 to 9:45	145	34	0	**179**	442	57	1	**500**		687	69	0	**756**	**1,435**
9:00 to 10:00	153	30	0	**183**	412	65	1	**478**		658	71	2	**731**	**1,392**
AM Totals	**417**	**88**	**0**	**505**	**1,359**	**162**	**5**	**1,526**		**2,712**	**193**	**6**	**2,911**	**4,942**
16:00 to 17:00	443	23	0	**466**	792	54	2	**848**		715	40	1	**756**	**2,070**
16:15 to 17:15	462	16	0	**478**	772	50	2	**824**		715	33	1	**749**	**2,051**
16:30 to 17:30	464	15	0	**479**	805	39	2	**846**		692	37	2	**731**	**2,056**
16:45 to 17:45	396	14	0	**410**	831	36	2	**869**		662	30	2	**694**	**1,973**
17:00 to 18:00	353	10	0	**363**	817	34	3	**854**		648	25	2	**675**	**1,892**
PM Totals	**796**	**33**	**0**	**829**	**1,609**	**88**	**5**	**1,702**		**1,363**	**65**	**3**	**1,431**	**3,962**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 2. Tattersall Rd / Vardays Rd

Day/Date : Tue, 17th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

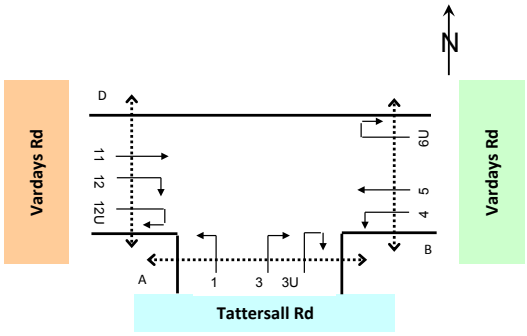


	Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
AM	8:00 to 9:00	149	31	0	**180**	601	58	3	**662**		1,102	72	4	**1,178**	**2,020**
PM	16:15 to 17:15	478	24	0	**502**	816	38	2	**856**		729	34	1	**764**	**2,122**

Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
7:00 to 8:00	110	31	0	**141**	414	40	2	**456**		1,084	62	3	**1,149**	**1,746**
7:15 to 8:15	104	29	0	**133**	455	53	1	**509**		1,136	72	4	**1,212**	**1,854**
7:30 to 8:30	124	24	0	**148**	518	51	2	**571**		1,174	70	4	**1,248**	**1,967**
7:45 to 8:45	139	30	0	**169**	562	51	2	**615**		1,127	70	4	**1,201**	**1,985**
8:00 to 9:00	149	31	0	**180**	601	58	3	**662**		1,102	72	4	**1,178**	**2,020**
8:15 to 9:15	151	31	0	**182**	601	52	4	**657**		973	64	3	**1,040**	**1,879**
8:30 to 9:30	149	40	0	**189**	575	52	3	**630**		888	68	2	**958**	**1,777**
8:45 to 9:45	170	32	0	**202**	511	59	2	**572**		799	62	1	**862**	**1,636**
9:00 to 10:00	171	28	0	**199**	448	54	1	**503**		672	59	1	**732**	**1,434**
AM Totals	**430**	**90**	**0**	**520**	**1,463**	**152**	**6**	**1,621**		**2,858**	**193**	**8**	**3,059**	**5,200**
16:00 to 17:00	420	30	0	**450**	819	41	4	**864**		714	37	2	**753**	**2,067**
16:15 to 17:15	478	24	0	**502**	816	38	2	**856**		729	34	1	**764**	**2,122**
16:30 to 17:30	460	21	0	**481**	819	34	2	**855**		719	32	2	**753**	**2,089**
16:45 to 17:45	411	10	0	**421**	810	31	3	**844**		693	29	2	**724**	**1,989**
17:00 to 18:00	366	6	0	**372**	838	22	3	**863**		661	27	2	**690**	**1,925**
PM Totals	**786**	**36**	**0**	**822**	**1,657**	**63**	**7**	**1,727**		**1,375**	**64**	**4**	**1,443**	**3,992**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 2. Tattersall Rd / Vardays Rd

Day/Date : Wed, 18th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

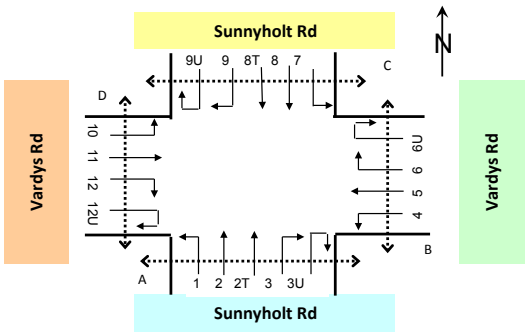


	Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	137	34	0	**171**	542	57	4	**603**		1,166	81	3	**1,250**	**2,024**
PM	16:15 to 17:15	463	33	0	**496**	873	45	2	**920**		766	38	1	**805**	**2,221**

Approach	Tattersall Rd				Vardays Rd					Vardays Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total	
7:00 to 8:00	102	41	0	**143**	417	44	2	**463**		1,146	85	3	**1,234**	**1,840**
7:15 to 8:15	104	36	0	**140**	483	49	1	**533**		1,191	88	3	**1,282**	**1,955**
7:30 to 8:30	132	33	0	**165**	515	51	4	**570**		1,196	82	3	**1,281**	**2,016**
7:45 to 8:45	137	34	0	**171**	542	57	4	**603**		1,166	81	3	**1,250**	**2,024**
8:00 to 9:00	162	36	0	**198**	562	55	5	**622**		1,070	88	3	**1,161**	**1,981**
8:15 to 9:15	169	41	0	**210**	572	54	6	**632**		949	88	5	**1,042**	**1,884**
8:30 to 9:30	169	43	0	**212**	540	56	4	**600**		834	86	3	**923**	**1,735**
8:45 to 9:45	178	49	0	**227**	526	49	3	**578**		746	84	3	**833**	**1,638**
9:00 to 10:00	181	47	0	**228**	488	55	2	**545**		700	67	3	**770**	**1,543**
AM Totals	**445**	**124**	**0**	569	**1,467**	**154**	**9**	**1,630**		**2,916**	**240**	**9**	**3,165**	**5,364**
16:00 to 17:00	413	40	0	**453**	849	44	3	**896**		748	40	3	**791**	**2,140**
16:15 to 17:15	463	33	0	**496**	873	45	2	**920**		766	38	1	**805**	**2,221**
16:30 to 17:30	431	24	0	**455**	873	26	2	**901**		776	32	2	**810**	**2,166**
16:45 to 17:45	393	13	0	**406**	890	25	2	**917**		728	23	2	**753**	**2,076**
17:00 to 18:00	335	9	0	**344**	912	25	2	**939**		686	18	2	**706**	**1,989**
PM Totals	**748**	**49**	**0**	797	**1,761**	**69**	**5**	**1,835**		**1,434**	**58**	**5**	**1,497**	**4,129**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 3. Vardys Rd / Sunnyholt Rd

Day/Date : Fri, 20th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

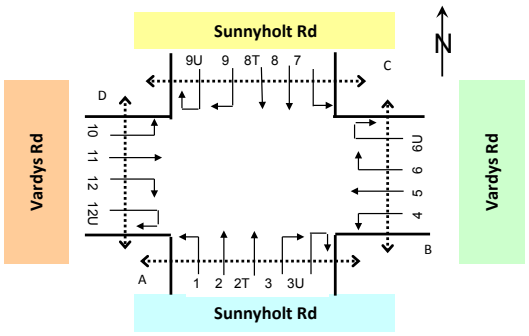


	Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	739	94	26	**859**	560	34	4	**598**	2,006	108	35	**2,149**	828	65	2	**895**	**4,501**
PM	16:00 to 17:00	1,605	45	32	**1,682**	775	20	2	**797**	1,268	68	39	**1,375**	652	38	2	**692**	**4,546**

Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	705	87	33	**825**	468	29	3	**500**	1,845	103	37	**1,985**	745	56	2	**803**	**4,113**
7:15 to 8:15	731	84	30	**845**	518	31	2	**551**	2,002	102	36	**2,140**	786	63	2	**851**	**4,387**
7:30 to 8:30	739	94	26	**859**	560	34	4	**598**	2,006	108	35	**2,149**	828	65	2	**895**	**4,501**
7:45 to 8:45	750	101	27	**878**	537	30	4	**571**	1,960	103	31	**2,094**	819	71	2	**892**	**4,435**
8:00 to 9:00	785	101	22	**908**	544	25	4	**573**	1,909	98	28	**2,035**	739	74	2	**815**	**4,331**
8:15 to 9:15	780	91	23	**894**	532	23	4	**559**	1,736	101	34	**1,871**	704	73	2	**779**	**4,103**
8:30 to 9:30	815	96	23	**934**	499	19	2	**520**	1,638	103	31	**1,772**	645	66	1	**712**	**3,938**
8:45 to 9:45	877	90	22	**989**	498	27	1	**526**	1,520	96	32	**1,648**	597	69	1	**667**	**3,830**
9:00 to 10:00	913	104	26	**1,043**	478	39	2	**519**	1,487	95	36	**1,618**	587	59	1	**647**	**3,827**
AM Totals	**2,403**	**292**	**81**	2,776	**1,490**	**93**	**9**	1,592	**5,241**	**296**	**101**	5,638	**2,071**	**189**	**5**	2,265	**12,271**
16:00 to 17:00	1,605	45	32	**1,682**	775	20	2	**797**	1,268	68	39	**1,375**	652	38	2	**692**	**4,546**
16:15 to 17:15	1,592	41	31	**1,664**	768	11	2	**781**	1,242	58	35	**1,335**	662	32	1	**695**	**4,475**
16:30 to 17:30	1,557	38	30	**1,625**	782	6	2	**790**	1,144	46	33	**1,223**	668	30	2	**700**	**4,338**
16:45 to 17:45	1,511	34	29	**1,574**	766	2	3	**771**	1,121	42	39	**1,202**	681	28	3	**712**	**4,259**
17:00 to 18:00	1,456	25	34	**1,515**	760	3	3	**766**	1,092	34	34	**1,160**	641	24	3	**668**	**4,109**
PM Totals	**3,061**	**70**	**66**	3,197	**1,535**	**23**	**5**	1,563	**2,360**	**102**	**73**	2,535	**1,293**	**62**	**5**	1,360	**8,655**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 3. Vardys Rd / Sunnyholt Rd

Day/Date : Mon, 16th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

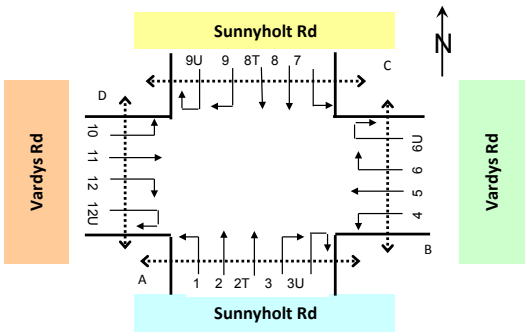


	Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	774	96	30	**900**	581	36	3	**620**	1,940	91	38	**2,069**	855	73	14	**942**	**4,531**
PM	16:15 to 17:15	1,560	52	28	**1,640**	835	22	1	**858**	1,183	73	41	**1,297**	797	46	1	**844**	**4,639**

Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	666	102	40	**808**	495	29	2	**526**	1,820	89	33	**1,942**	769	77	2	**848**	**4,124**
7:15 to 8:15	744	102	38	**884**	549	29	1	**579**	1,949	92	37	**2,078**	833	80	2	**915**	**4,456**
7:30 to 8:30	763	101	33	**897**	592	29	3	**624**	1,930	95	45	**2,070**	856	74	3	**933**	**4,524**
7:45 to 8:45	774	96	30	**900**	581	36	3	**620**	1,940	91	38	**2,069**	855	73	14	**942**	**4,531**
8:00 to 9:00	786	97	24	**907**	603	33	5	**641**	1,889	95	31	**2,015**	791	74	14	**879**	**4,442**
8:15 to 9:15	766	103	28	**897**	586	41	6	**633**	1,806	89	35	**1,930**	705	60	14	**779**	**4,239**
8:30 to 9:30	798	105	28	**931**	526	36	5	**567**	1,744	95	32	**1,871**	622	59	12	**693**	**4,062**
8:45 to 9:45	792	114	29	**935**	492	36	4	**532**	1,539	99	32	**1,670**	592	60	1	**653**	**3,790**
9:00 to 10:00	830	119	29	**978**	430	41	3	**474**	1,393	96	38	**1,527**	555	49	2	**606**	**3,585**
AM Totals	**2,282**	**318**	**93**	2,693	**1,528**	**103**	**10**	1,641	**5,102**	**280**	**102**	5,484	**2,115**	**200**	**18**	2,333	**12,151**
16:00 to 17:00	1,541	57	30	**1,628**	848	28	2	**878**	1,192	81	33	**1,306**	769	47	2	**818**	**4,630**
16:15 to 17:15	1,560	52	28	**1,640**	835	22	1	**858**	1,183	73	41	**1,297**	797	46	1	**844**	**4,639**
16:30 to 17:30	1,549	42	28	**1,619**	857	16	1	**874**	1,145	65	34	**1,244**	804	33	2	**839**	**4,576**
16:45 to 17:45	1,460	37	30	**1,527**	861	13	1	**875**	1,124	54	36	**1,214**	826	28	2	**856**	**4,472**
17:00 to 18:00	1,464	33	32	**1,529**	841	14	2	**857**	1,068	49	36	**1,153**	763	22	2	**787**	**4,326**
PM Totals	**3,005**	**90**	**62**	3,157	**1,689**	**42**	**4**	1,735	**2,260**	**130**	**69**	2,459	**1,532**	**69**	**4**	1,605	**8,956**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 3. Vardys Rd / Sunnyholt Rd

Day/Date : Thu, 19th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

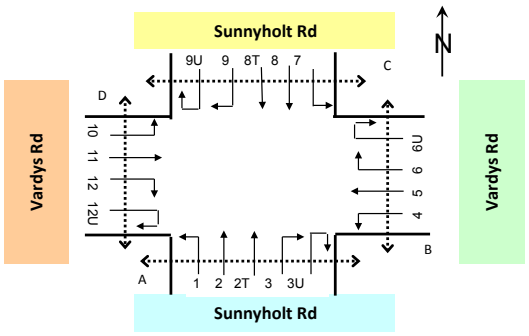


	Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	741	101	30	**872**	562	45	2	**609**	1,997	105	35	**2,137**	879	71	2	**952**	**4,570**
PM	16:00 to 17:00	1,577	56	34	**1,667**	849	38	2	**889**	1,285	95	32	**1,412**	787	44	1	**832**	**4,800**

Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	683	91	35	**809**	445	32	3	**480**	1,976	106	41	**2,123**	819	82	2	**903**	**4,315**
7:15 to 8:15	725	95	35	**855**	511	38	2	**551**	2,031	104	36	**2,171**	863	82	2	**947**	**4,524**
7:30 to 8:30	741	101	30	**872**	562	45	2	**609**	1,997	105	35	**2,137**	879	71	2	**952**	**4,570**
7:45 to 8:45	741	101	26	**868**	563	39	1	**603**	1,967	99	32	**2,098**	800	70	2	**872**	**4,441**
8:00 to 9:00	778	97	24	**899**	560	43	2	**605**	1,892	86	27	**2,005**	747	61	2	**810**	**4,319**
8:15 to 9:15	714	91	21	**826**	564	44	2	**610**	1,745	88	31	**1,864**	679	56	2	**737**	**4,037**
8:30 to 9:30	757	98	22	**877**	506	34	2	**542**	1,632	83	26	**1,741**	563	58	1	**622**	**3,782**
8:45 to 9:45	753	108	23	**884**	499	43	1	**543**	1,475	90	32	**1,597**	583	61	1	**645**	**3,669**
9:00 to 10:00	790	111	25	**926**	447	42	1	**490**	1,405	99	36	**1,540**	560	65	2	**627**	**3,583**
AM Totals	**2,251**	**299**	**84**	2,634	**1,452**	**117**	**6**	1,575	**5,273**	**291**	**104**	5,668	**2,126**	**208**	**6**	2,340	**12,217**
16:00 to 17:00	1,577	56	34	**1,667**	849	38	2	**889**	1,285	95	32	**1,412**	787	44	1	**832**	**4,800**
16:15 to 17:15	1,585	59	30	**1,674**	857	30	2	**889**	1,269	86	33	**1,388**	799	34	0	**833**	**4,784**
16:30 to 17:30	1,571	63	31	**1,665**	889	22	2	**913**	1,218	72	32	**1,322**	816	39	1	**856**	**4,756**
16:45 to 17:45	1,574	54	35	**1,663**	875	17	2	**894**	1,200	60	34	**1,294**	755	34	1	**790**	**4,641**
17:00 to 18:00	1,564	52	33	**1,649**	874	13	3	**890**	1,171	51	32	**1,254**	757	28	2	**787**	**4,580**
PM Totals	**3,141**	**108**	**67**	3,316	**1,723**	**51**	**5**	1,779	**2,456**	**146**	**64**	2,666	**1,544**	**72**	**3**	1,619	**9,380**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 3. Vardys Rd / Sunnyholt Rd

Day/Date : Tue, 17th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

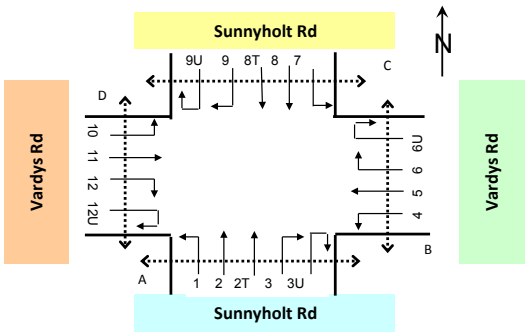


	Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:45 to 8:45	766	92	31	**889**	662	34	1	**697**	1,974	85	40	**2,099**	838	72	4	**914**	**4,599**
PM	17:00 to 18:00	1,528	35	32	**1,595**	884	21	4	**909**	1,211	43	36	**1,290**	742	30	2	**774**	**4,568**

Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	691	77	45	**813**	510	33	3	**546**	1,854	77	37	**1,968**	789	59	2	**850**	**4,177**
7:15 to 8:15	728	85	41	**854**	586	33	2	**621**	1,947	82	38	**2,067**	832	71	2	**905**	**4,447**
7:30 to 8:30	752	87	37	**876**	627	28	1	**656**	1,989	85	43	**2,117**	867	74	3	**944**	**4,593**
7:45 to 8:45	766	92	31	**889**	662	34	1	**697**	1,974	85	40	**2,099**	838	72	4	**914**	**4,599**
8:00 to 9:00	749	97	21	**867**	666	36	2	**704**	1,938	79	41	**2,058**	840	79	4	**923**	**4,552**
8:15 to 9:15	708	97	26	**831**	627	33	3	**663**	1,846	86	45	**1,977**	746	75	4	**825**	**4,296**
8:30 to 9:30	770	97	25	**892**	599	32	6	**637**	1,697	80	38	**1,815**	695	74	2	**771**	**4,115**
8:45 to 9:45	780	97	29	**906**	528	30	5	**563**	1,533	84	36	**1,653**	630	69	1	**700**	**3,822**
9:00 to 10:00	829	109	26	**964**	463	30	4	**497**	1,374	95	38	**1,507**	559	55	2	**616**	**3,584**
AM Totals	**2,269**	**283**	**92**	2,644	**1,639**	**99**	**9**	1,747	**5,166**	**251**	**116**	5,533	**2,188**	**193**	**8**	2,389	**12,313**
16:00 to 17:00	1,477	54	29	**1,560**	809	24	4	**837**	1,181	82	36	**1,299**	746	43	3	**792**	**4,488**
16:15 to 17:15	1,488	42	26	**1,556**	829	21	2	**852**	1,107	71	38	**1,216**	781	42	2	**825**	**4,449**
16:30 to 17:30	1,489	39	28	**1,556**	846	23	3	**872**	1,131	62	35	**1,228**	769	42	3	**814**	**4,470**
16:45 to 17:45	1,466	37	30	**1,533**	887	22	4	**913**	1,102	51	37	**1,190**	755	35	3	**793**	**4,429**
17:00 to 18:00	1,528	35	32	**1,595**	884	21	4	**909**	1,211	43	36	**1,290**	742	30	2	**774**	**4,568**
PM Totals	**3,005**	**89**	**61**	3,155	**1,693**	**45**	**8**	1,746	**2,392**	**125**	**72**	2,589	**1,488**	**73**	**5**	1,566	**9,056**

Job No. : N1287
Client : GTA
Suburb : Kings Park
Location : 3. Vardys Rd / Sunnyholt Rd

Day/Date : Wed, 18th December 2013
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary



	Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
	Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
AM	7:30 to 8:30	776	99	33	**908**	609	40	2	**651**	2,039	92	42	**2,173**	855	77	4	**936**	**4,668**
PM	16:00 to 17:00	1,489	72	35	**1,596**	889	24	3	**916**	1,183	90	34	**1,307**	789	52	3	**844**	**4,663**

Approach	Sunnyholt Rd				Vardys Rd				Sunnyholt Rd				Vardys Rd				Grand Total
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	
7:00 to 8:00	687	90	41	**818**	524	34	2	**560**	1,868	95	34	**1,997**	793	69	2	**864**	**4,239**
7:15 to 8:15	727	99	40	**866**	569	41	1	**611**	2,062	92	37	**2,191**	845	83	3	**931**	**4,599**
7:30 to 8:30	776	99	33	**908**	609	40	2	**651**	2,039	92	42	**2,173**	855	77	4	**936**	**4,668**
7:45 to 8:45	771	102	27	**900**	636	37	2	**675**	1,984	95	48	**2,127**	847	72	4	**923**	**4,625**
8:00 to 9:00	785	105	25	**915**	634	39	3	**676**	1,942	98	44	**2,084**	796	79	4	**879**	**4,554**
8:15 to 9:15	786	105	24	**915**	642	38	4	**684**	1,740	106	47	**1,893**	747	71	3	**821**	**4,313**
8:30 to 9:30	791	108	26	**925**	580	35	4	**619**	1,664	110	39	**1,813**	630	71	3	**704**	**4,061**
8:45 to 9:45	788	110	26	**924**	568	28	4	**600**	1,531	112	32	**1,675**	603	82	3	**688**	**3,887**
9:00 to 10:00	829	118	22	**969**	498	28	6	**532**	1,406	114	41	**1,561**	580	66	3	**649**	**3,711**
AM Totals	**2,301**	**313**	**88**	**2,702**	**1,656**	**101**	**11**	**1,768**	**5,216**	**307**	**119**	**5,642**	**2,169**	**214**	**9**	**2,392**	**12,504**
16:00 to 17:00	1,489	72	35	**1,596**	889	24	3	**916**	1,183	90	34	**1,307**	789	52	3	**844**	**4,663**
16:15 to 17:15	1,542	64	28	**1,634**	898	23	2	**923**	1,164	77	31	**1,272**	783	45	1	**829**	**4,658**
16:30 to 17:30	1,552	51	34	**1,637**	916	14	2	**932**	1,124	56	28	**1,208**	806	37	3	**846**	**4,623**
16:45 to 17:45	1,504	42	32	**1,578**	905	11	2	**918**	1,111	44	36	**1,191**	762	26	4	**792**	**4,479**
17:00 to 18:00	1,541	31	32	**1,604**	945	12	3	**960**	1,111	42	32	**1,185**	712	21	4	**737**	**4,486**
PM Totals	**3,030**	**103**	**67**	**3,200**	**1,834**	**36**	**6**	**1,876**	**2,294**	**132**	**66**	**2,492**	**1,501**	**73**	**7**	**1,581**	**9,149**

Appendix B

SIDRA INTERSECTION Results

MOVEMENT SUMMARY

Site: Sunnyholt Rd / Tattersall Rd (Ex-AM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Tattersall Road
Existing AM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	192	12.1	0.433	14.4	LOS A	8.9	68.1	0.27	0.90	43.9
2	T	883	9.7	0.433	4.2	LOS A	8.9	68.1	0.20	0.18	52.6
Approach		1075	10.1	0.433	6.1	LOS A	8.9	68.1	0.21	0.31	50.8
North: Sunnyholt Road - N											
8	T	1798	4.9	0.694	4.4	LOS A	14.1	102.8	0.26	0.24	52.4
9	R	108	6.8	0.572	31.2	LOS C	5.1	37.5	0.69	0.81	32.4
Approach		1906	5.0	0.694	5.9	LOS A	14.1	102.8	0.28	0.27	50.6
West: Tattersal Road - W											
10	L	52	38.8	0.692	60.9	LOS E	5.5	46.3	0.86	0.82	22.7
12	R	223	6.6	0.692	58.7	LOS E	10.8	79.5	0.90	0.82	23.0
Approach		275	12.6	0.692	59.2	LOS E	10.8	79.5	0.89	0.82	22.9
All Vehicles		3256	7.3	0.694	10.4	LOS A	14.1	102.8	0.31	0.33	46.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	53.2	LOS E	0.2	0.2	0.87	0.87
P7	Across W approach	53	9.3	LOS A	0.1	0.1	0.36	0.36
All Pedestrians		106	31.2	LOS D			0.62	0.62

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Tattersall Rd / Vardys Rd (Ex-AM)

14S1107000 Kings Park Metal Recycling Facility
Tattersall Road / Vardys Road
Existing AM
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Tattersall Rd - S											
1	L	153	15.9	0.287	13.8	LOS A	1.2	9.7	0.60	0.87	44.1
3	R	21	50.0	0.273	63.2	LOS E	0.9	9.1	0.91	1.00	22.3
Approach		174	20.0	0.287	19.8	LOS B	1.2	9.7	0.64	0.88	39.5
East: Vardys Rd - E											
4	L	71	31.3	0.188	11.8	LOS A	1.5	11.7	0.52	0.99	48.9
5	T	529	6.8	0.188	1.0	LOS A	1.5	11.7	0.17	0.00	56.4
Approach		600	9.6	0.188	2.3	NA	1.5	11.7	0.21	0.12	55.4
West: Vardys Rd - W											
11	T	1023	6.3	0.273	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R	325	7.8	0.403	12.5	LOS A	2.1	15.3	0.55	0.89	45.0
Approach		1348	6.6	0.403	3.0	NA	2.1	15.3	0.13	0.21	55.5
All Vehicles		2122	8.6	0.403	4.2	NA	2.1	15.3	0.20	0.24	53.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Vardys Rd (Ex-AM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Vardys Road
Existing AM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	99	13.8	0.502	32.6	LOS C	16.5	126.1	0.63	0.91	32.8
2	T	737	10.1	0.502	23.7	LOS B	16.5	126.1	0.62	0.54	34.9
3	R	86	19.5	0.530	83.4	LOS F	3.1	25.3	1.00	0.75	18.4
Approach		922	11.4	0.530	30.2	LOS C	16.5	126.1	0.65	0.60	32.0
East: Vardys Rd - E											
4	L	138	6.9	0.408	48.2	LOS D	7.1	52.6	0.80	0.78	25.8
5	T	355	6.5	0.474	53.6	LOS D	10.8	79.6	0.93	0.77	23.4
6	R	193	6.0	0.688	79.9	LOS F	6.8	50.1	1.00	0.83	18.9
Approach		685	6.5	0.688	59.9	LOS E	10.8	79.6	0.93	0.79	22.3
North: Sunnyholt Road - N											
7	L	461	2.5	0.920	38.5	LOS C	11.4	81.6	0.91	0.87	29.1
8	T	1644	4.0	0.789	28.2	LOS B	41.5	300.3	0.81	0.74	32.3
9	R	145	20.3	0.896	94.4	LOS F	5.7	47.0	1.00	0.97	16.9
Approach		2251	4.8	0.920	34.6	LOS C	41.5	300.3	0.85	0.78	29.9
West: Vardys Rd - W											
10	L	218	14.5	0.410	49.2	LOS D	11.4	89.9	0.82	0.80	25.6
11	T	645	5.4	0.659	55.5	LOS D	20.3	148.5	0.98	0.83	22.9
12	R	122	15.5	0.930	97.1	LOS F	9.9	78.6	1.00	1.04	16.5
Approach		985	8.7	0.930	59.2	LOS E	20.3	148.5	0.95	0.85	22.3
All Vehicles		4843	7.1	0.930	42.4	LOS C	41.5	300.3	0.84	0.76	27.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	57.6	LOS E	0.2	0.2	0.91	0.91
P3	Across E approach	53	33.6	LOS D	0.1	0.1	0.69	0.69
P7	Across W approach	53	32.9	LOS D	0.1	0.1	0.69	0.69
All Pedestrians		159	41.4	LOS E			0.76	0.76

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Tattersall Rd (Ex-PM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Tattersall Road
Existing PM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	297	4.6	0.794	15.7	LOS B	23.5	169.5	0.39	0.92	43.0
2	T	1678	3.1	0.794	4.6	LOS A	23.5	169.5	0.29	0.27	51.7
Approach		1975	3.4	0.794	6.2	LOS A	23.5	169.5	0.31	0.37	50.2
North: Sunnyholt Road - N											
8	T	1203	6.8	0.434	1.6	LOS A	3.4	25.2	0.09	0.08	57.0
9	R	45	7.0	0.316	50.0	LOS D	2.7	20.1	0.87	0.80	25.3
Approach		1248	6.8	0.434	3.4	LOS A	3.4	25.2	0.12	0.11	54.5
West: Tattersal Road - W											
10	L	85	9.9	0.751	64.2	LOS E	6.9	51.7	0.88	0.85	21.7
12	R	208	6.1	0.751	66.5	LOS E	11.7	86.5	0.97	0.82	21.2
Approach		294	7.2	0.751	65.9	LOS E	11.7	86.5	0.94	0.83	21.4
All Vehicles		3517	4.9	0.794	10.2	LOS A	23.5	169.5	0.29	0.32	46.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	60.4	LOS F	0.2	0.2	0.93	0.93
P7	Across W approach	53	10.8	LOS B	0.1	0.1	0.39	0.39
All Pedestrians		106	35.6	LOS D			0.66	0.66

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Tattersall Rd / Vardys Rd (Ex-PM)

14S1107000 Kings Park Metal Recycling Facility
Tattersall Road / Vardys Road
Existing PM
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Tattersall Rd - S											
1	L	407	3.4	0.975	55.5	LOS D	17.1	122.9	0.99	2.16	24.0
3	R	83	12.7	0.582	48.9	LOS D	2.6	20.0	0.92	1.11	25.7
Approach		491	4.9	0.975	54.4	LOS D	17.1	122.9	0.98	1.98	24.3
East: Vardys Rd - E											
4	L	37	40.0	0.247	10.4	LOS A	2.4	17.7	0.39	1.28	50.5
5	T	856	5.2	0.247	0.6	LOS A	2.4	17.7	0.18	0.00	56.6
Approach		893	6.6	0.247	1.0	NA	2.4	17.7	0.18	0.05	56.3
West: Vardys Rd - W											
11	T	664	5.1	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R	132	7.2	0.243	14.5	LOS A	0.9	6.4	0.68	0.90	43.2
Approach		796	5.4	0.243	2.4	NA	0.9	6.4	0.11	0.15	56.4
All Vehicles		2179	5.8	0.975	13.5	NA	17.1	122.9	0.34	0.52	43.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Vardys Rd (Ex-PM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Vardys Road
Existing PM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	83	12.7	0.783	37.4	LOS C	40.7	294.5	0.82	0.93	31.1
2	T	1527	2.9	0.783	28.8	LOS C	40.9	294.5	0.82	0.74	32.0
3	R	111	5.7	0.394	76.7	LOS F	3.7	27.5	0.99	0.75	19.5
Approach		1721	3.5	0.783	32.3	LOS C	40.9	294.5	0.83	0.75	30.6
East: Vardys Rd - E											
4	L	105	7.0	0.317	49.0	LOS D	5.4	40.2	0.80	0.77	25.6
5	T	507	4.8	0.854	70.2	LOS E	18.6	135.3	1.00	0.97	19.8
6	R	323	3.3	0.890	87.8	LOS F	12.4	89.5	1.00	0.98	17.7
Approach		936	4.5	0.890	73.9	LOS F	18.6	135.3	0.98	0.95	19.5
North: Sunnyholt Road - N											
7	L	213	4.5	0.383	17.6	LOS B	3.4	24.5	0.30	0.72	40.5
8	T	1001	6.5	0.595	25.7	LOS B	21.0	155.0	0.67	0.60	33.9
9	R	239	10.6	0.881	89.3	LOS F	9.2	70.1	1.00	0.97	17.5
Approach		1453	6.9	0.881	35.0	LOS C	21.0	155.0	0.67	0.68	30.0
West: Vardys Rd - W											
10	L	298	8.8	0.597	54.8	LOS D	17.5	131.9	0.92	0.84	24.0
11	T	440	1.9	0.727	62.7	LOS E	14.8	105.2	1.00	0.86	21.3
12	R	138	9.2	0.791	80.7	LOS F	10.0	75.1	1.00	0.89	18.8
Approach		876	5.4	0.791	62.8	LOS E	17.5	131.9	0.97	0.86	21.6
All Vehicles		4985	5.0	0.890	46.2	LOS D	40.9	294.5	0.84	0.79	25.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	64.1	LOS F	0.2	0.2	0.96	0.96
P3	Across E approach	53	33.6	LOS D	0.1	0.1	0.69	0.69
P7	Across W approach	53	32.2	LOS D	0.1	0.1	0.68	0.68
All Pedestrians		159	43.3	LOS E			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Tattersall Rd (FUTURE-AM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Tattersall Road
Future AM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	193	12.0	0.433	14.5	LOS A	9.0	68.3	0.27	0.89	43.9
2	T	883	9.7	0.433	4.2	LOS A	9.0	68.3	0.20	0.18	52.6
Approach		1076	10.1	0.433	6.1	LOS A	9.0	68.3	0.21	0.31	50.8
North: Sunnyholt Road - N											
8	T	1798	4.9	0.694	4.4	LOS A	14.1	102.8	0.26	0.24	52.4
9	R	126	15.8	0.809	61.4	LOS E	9.6	76.2	0.86	0.99	22.4
Approach		1924	5.6	0.809	8.1	LOS A	14.1	102.8	0.30	0.29	48.2
West: Tattersal Road - W											
10	L	60	45.6	0.729	63.4	LOS E	5.6	50.0	0.86	0.85	22.2
12	R	224	6.6	0.729	59.3	LOS E	11.4	84.2	0.91	0.82	22.8
Approach		284	14.8	0.729	60.2	LOS E	11.4	84.2	0.90	0.83	22.7
All Vehicles		3284	7.9	0.809	11.9	LOS A	14.1	102.8	0.32	0.34	44.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	53.2	LOS E	0.2	0.2	0.87	0.87
P7	Across W approach	53	9.3	LOS A	0.1	0.1	0.36	0.36
All Pedestrians		106	31.2	LOS D			0.62	0.62

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Tattersall Rd / Vardys Rd (FUTURE-AM)

14S1107000 Kings Park Metal Recycling Facility
Tattersall Road / Vardys Road
Future AM
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Tattersall Rd - S											
1	L	154	16.4	0.292	13.9	LOS A	1.3	10.0	0.61	0.87	44.0
3	R	21	50.0	0.273	63.4	LOS E	0.9	9.1	0.91	1.00	22.3
Approach		175	20.5	0.292	19.9	LOS B	1.3	10.0	0.64	0.89	39.4
East: Vardys Rd - E											
4	L	71	31.3	0.188	11.8	LOS A	1.5	11.7	0.52	0.99	48.9
5	T	529	6.8	0.188	1.0	LOS A	1.5	11.7	0.17	0.00	56.4
Approach		600	9.6	0.188	2.3	NA	1.5	11.7	0.21	0.12	55.4
West: Vardys Rd - W											
11	T	1023	6.3	0.273	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R	326	7.7	0.405	12.5	LOS A	2.1	15.4	0.55	0.89	45.0
Approach		1349	6.6	0.405	3.0	NA	2.1	15.4	0.13	0.21	55.5
All Vehicles		2124	8.6	0.405	4.2	NA	2.1	15.4	0.20	0.24	53.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

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MOVEMENT SUMMARY

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Vardys Road
Future AM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	99	13.8	0.510	32.7	LOS C	16.8	129.2	0.64	0.91	32.8
2	T	746	11.1	0.510	23.8	LOS B	16.8	129.2	0.62	0.55	34.8
3	R	86	19.5	0.530	83.4	LOS F	3.1	25.3	1.00	0.75	18.4
Approach		932	12.2	0.530	30.3	LOS C	16.8	129.2	0.66	0.61	31.9
East: Vardys Rd - E											
4	L	138	6.9	0.408	48.2	LOS D	7.1	52.6	0.80	0.78	25.8
5	T	355	6.5	0.474	53.6	LOS D	10.8	79.6	0.93	0.77	23.4
6	R	193	6.0	0.688	79.9	LOS F	6.8	50.1	1.00	0.83	18.9
Approach		685	6.5	0.688	59.9	LOS E	10.8	79.6	0.93	0.79	22.3
North: Sunnyholt Road - N											
7	L	461	2.5	0.920	38.5	LOS C	11.4	81.6	0.91	0.87	29.1
8	T	1662	4.7	0.801	28.5	LOS B	42.5	309.9	0.83	0.75	32.2
9	R	145	20.3	0.896	94.4	LOS F	5.7	47.0	1.00	0.97	16.9
Approach		2268	5.3	0.920	34.7	LOS C	42.5	309.9	0.86	0.79	29.8
West: Vardys Rd - W											
10	L	218	14.5	0.410	49.2	LOS D	11.4	89.9	0.82	0.80	25.6
11	T	645	5.4	0.659	55.5	LOS D	20.3	148.5	0.98	0.83	22.9
12	R	122	15.5	0.930	97.1	LOS F	9.9	78.6	1.00	1.04	16.5
Approach		985	8.7	0.930	59.2	LOS E	20.3	148.5	0.95	0.85	22.3
All Vehicles		4871	7.5	0.930	42.4	LOS C	42.5	309.9	0.85	0.77	27.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	57.6	LOS E	0.2	0.2	0.91	0.91
P3	Across E approach	53	33.6	LOS D	0.1	0.1	0.69	0.69
P7	Across W approach	53	32.9	LOS D	0.1	0.1	0.69	0.69
All Pedestrians		159	41.4	LOS E			0.76	0.76

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Tattersall Rd (FUTURE-PM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Tattersall Road
Future PM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	299	4.9	0.795	15.8	LOS B	23.6	170.7	0.39	0.92	42.9
2	T	1678	3.1	0.795	4.6	LOS A	23.6	170.7	0.29	0.27	51.7
Approach		1977	3.4	0.795	6.3	LOS A	23.6	170.7	0.31	0.37	50.2
North: Sunnyholt Road - N											
8	T	1203	6.8	0.434	1.6	LOS A	3.4	25.2	0.09	0.08	57.0
9	R	54	17.6	0.398	53.3	LOS D	3.4	27.7	0.92	0.82	24.5
Approach		1257	7.3	0.434	3.8	LOS A	3.4	27.7	0.13	0.12	53.9
West: Tattersal Road - W											
10	L	108	26.2	0.868	70.6	LOS F	7.7	65.3	0.86	0.90	20.6
12	R	217	8.7	0.868	68.9	LOS E	13.7	103.3	0.99	0.84	20.8
Approach		325	14.6	0.868	69.4	LOS E	13.7	103.3	0.95	0.86	20.7
All Vehicles		3559	5.8	0.868	11.2	LOS A	23.6	170.7	0.30	0.33	45.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	60.4	LOS F	0.2	0.2	0.93	0.93
P7	Across W approach	53	10.8	LOS B	0.1	0.1	0.39	0.39
All Pedestrians		106	35.6	LOS D			0.66	0.66

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: Tattersall Rd / Vardys Rd (FUTURE-PM)

14S1107000 Kings Park Metal Recycling Facility
Tattersall Road / Vardys Road
Future PM
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Tattersall Rd - S											
1	L	416	4.8	0.999	66.1	LOS E	20.3	148.3	1.00	2.37	21.5
3	R	83	12.7	0.585	49.3	LOS D	2.6	20.2	0.92	1.11	25.6
Approach		499	6.1	0.999	63.3	LOS E	20.3	148.3	0.99	2.16	22.1
East: Vardys Rd - E											
4	L	37	40.0	0.247	10.4	LOS A	2.4	17.8	0.39	1.28	50.5
5	T	856	5.2	0.247	0.6	LOS A	2.4	17.8	0.18	0.00	56.5
Approach		893	6.6	0.247	1.0	NA	2.4	17.8	0.19	0.05	56.3
West: Vardys Rd - W											
11	T	664	5.1	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R	134	7.9	0.250	14.7	LOS B	0.9	6.7	0.68	0.90	43.0
Approach		798	5.5	0.250	2.5	NA	0.9	6.7	0.11	0.15	56.3
All Vehicles		2189	6.1	0.999	15.7	NA	20.3	148.3	0.34	0.57	41.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

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MOVEMENT SUMMARY

Site: Sunnyholt Rd / Vardys Rd (FUTURE-PM)

14S1107000 Kings Park Metal Recycling Facility
Sunnyholt Road / Vardys Road
Future PM
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sunnyholt Road - S											
1	L	83	12.7	0.800	37.7	LOS C	42.1	307.6	0.84	0.93	31.0
2	T	1551	4.1	0.800	29.2	LOS C	42.3	307.6	0.83	0.76	31.8
3	R	111	5.7	0.394	76.7	LOS F	3.7	27.5	0.99	0.75	19.5
Approach		1744	4.6	0.800	32.6	LOS C	42.3	307.6	0.84	0.77	30.5
East: Vardys Rd - E											
4	L	105	7.0	0.317	49.0	LOS D	5.4	40.2	0.80	0.77	25.6
5	T	507	4.8	0.854	70.2	LOS E	18.6	135.3	1.00	0.97	19.8
6	R	323	3.3	0.890	87.8	LOS F	12.4	89.5	1.00	0.98	17.7
Approach		936	4.5	0.890	73.9	LOS F	18.6	135.3	0.98	0.95	19.5
North: Sunnyholt Road - N											
7	L	213	4.5	0.383	17.6	LOS B	3.4	24.5	0.30	0.72	40.5
8	T	1009	7.1	0.602	25.8	LOS B	21.3	158.1	0.67	0.60	33.8
9	R	239	10.6	0.881	89.3	LOS F	9.2	70.1	1.00	0.97	17.5
Approach		1461	7.3	0.881	35.0	LOS C	21.3	158.1	0.67	0.68	29.9
West: Vardys Rd - W											
10	L	298	8.8	0.597	54.8	LOS D	17.5	131.9	0.92	0.84	24.0
11	T	440	1.9	0.727	62.7	LOS E	14.8	105.2	1.00	0.86	21.3
12	R	138	9.2	0.791	80.7	LOS F	10.0	75.1	1.00	0.89	18.8
Approach		876	5.4	0.791	62.8	LOS E	17.5	131.9	0.97	0.86	21.6
All Vehicles		5017	5.5	0.890	46.3	LOS D	42.3	307.6	0.84	0.79	25.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	64.1	LOS F	0.2	0.2	0.96	0.96
P3	Across E approach	53	33.6	LOS D	0.1	0.1	0.69	0.69
P7	Across W approach	53	32.2	LOS D	0.1	0.1	0.68	0.68
All Pedestrians		159	43.3	LOS E			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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GTAconsultants

Annex N

Concept Landscape Plan

Existing mound to be reshaped at 1 : 3 grade adjacent to the proposed new vehicular crossing

existing crossover to be removed and seeded lawn established

Supplementary planting to existing frontage with trees such as Angophora sp. Allocasuarina sp. and Eucalyptus sp.

Groundcover such as Lomandra sp. and Dianella sp. planted in 2m bands to the frontage

TATTERSALL ROAD

Existing vehicular crossing to be replaced with new crossing to council's requirements

AVE(3) CD (35) MP (35) LL (70) DL (70)
AFL(2)
CC(4) CD (35) MP (35) LL (70) DL (70)
AFL(2)
AVE(3) CD (35) MP (35) LL (70) DL (70)
AFL(2)
CC(4) CD (35) MP (35) LL (70) DL (70)

EDW(3) CD (35) MP (70) LL (70) DL (70) RP (70)
AFL(1)
EDW(3) CD (35) MP (70) LL (70) DL (70) WF (70)
AFL(1)
EDW(3) CD (35) MP (35) LL (70) DL (70) RP (70)
AFL(1)
CD (35) MP (35) LL (70) DL (70) WF (70)
EDW(3)

CD (30) MP (32) LL (40) DL (20)
AFL(2)
CD (20) MP (20) LL (40) DL (20)
AFL(5) CC(9) BS(6)

AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)
AFL(2)

SERVICE ACCESS
RELOCATED SOUNDWALL
RELOCATED SOUNDWALL
Entry

NON-FERROUS (BUILDING L)
RL 41.70

CAR PARK

ADMIN BUILDING (BUILDING E)
RL 42.55

NON-FERROUS (BUILDING A)
RL 42.04

NON-FERROUS PROCESSING (BUILDING B)
RL 42.02

WIEGHBRIDGE
WIEGHBRIDGE

AF(6) AD(3) CC(9)

Supplementary planting to setback (minimum 1.5m wide) with trees such as Allocasuarina sp. and Eucalyptus sp.

AFL(6)

SMMS MOTOR WRECKERS

PROPOSED OVERHEAD OFFICE

existing trees to be removed

PROPOSED OVERHEAD CONVEYER

PROPOSED CONTAINER AREA

TRUCK WHEEL WASH

NO 21 "BOSTIK" BUILDING

EXISTING BUILDING TO BE REMOVED

PROPOSED SHEAR

AFL(5) BS(9)

WIEGHBRIDGE

SCRAP STOCKPILE

PRE SHREDDER

PROPOSED SHREDDER PRECESSING BUILDING C
RL 42.03

PROPOSED CONTAINER AREA

AFL(4) AF(7) AF(7)

STORAGE WORK SHED
RL 40.98

AFL(4) BS(7)

TRUCK WHEEL WASH
RL 42.02

DANGEROUS GOODS STORAGE

CAR PARK
CAR PARK

CA(100) GH(100) II(100)
Rain Garden
BS(7)

AFL(5) AF(10)

AF(6) AD(4)
EDW(4) AF(4) AD(4)

EXISTING RETENTION BASIN

CA(90) GH(90) II(90)
CA(220) GH(220) II(220)

EDW(2) AVE(4)
EDW(4) AVE(5)
EDW(3) AVE(4)
EDW(5) AVE(2)
EDW(3) AVE(4)
BS(4)
EDW(4) AVE(4)
AF(4)
EDW(4) AVE(4)
EDW(4) AVE(4)
AF(4) AD(4)
EDW(4)
AFL(4) AF(4) AD(4)
EDW(4) AF(4) AD(4)
EDW(4) AF(4) AD(4)

Supplementary planting to setback with trees such as Allocasuarina sp. and Eucalyptus sp.

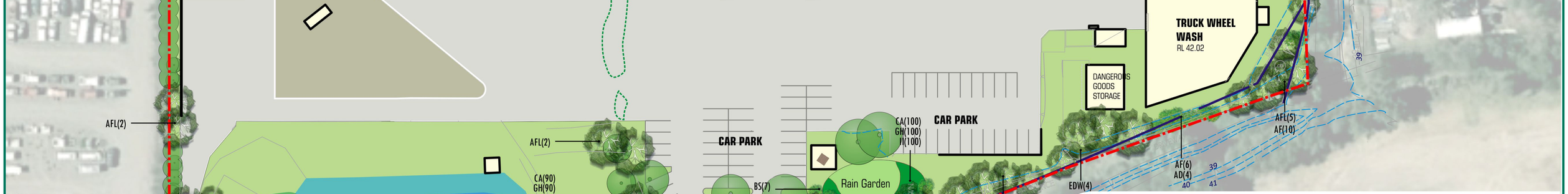
BREAKFAST CREEK

39 40 38 39 40 41

0 Meters 20

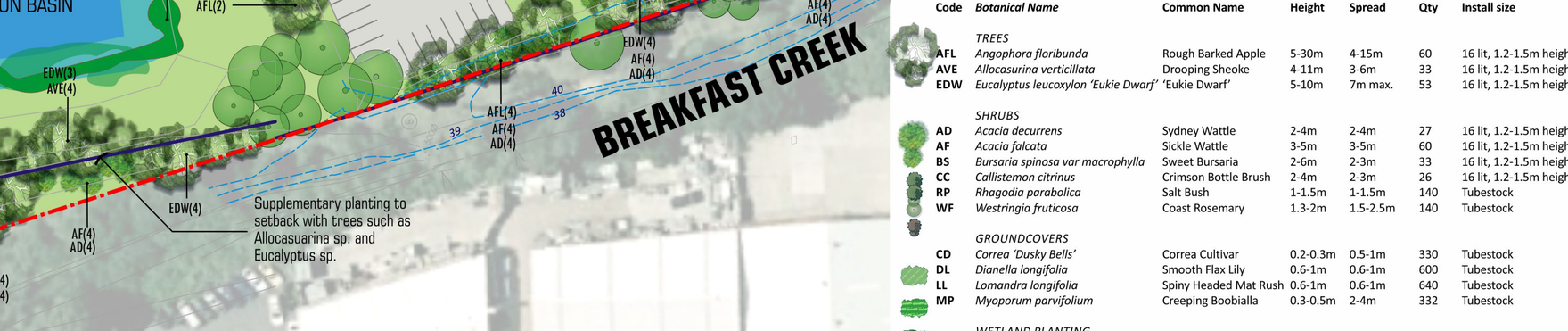
PLANTING SCHEDULE

Code	Botanical Name	Common Name	Height	Spread	Qty	Install size
	TREES					
AFL	*Angophora floribunda*	Rough Barked Apple	5-30m	4-15m	60	16 lit, 1.2-1.5m height
AVE	*Allocasurina verticillata*	Drooping Sheoke	4-11m	3-6m	33	16 lit, 1.2-1.5m height
EDW	*Eucalyptus leucoxylon 'Eukie Dwarf'*	'Eukie Dwarf'	5-10m	7m max.	53	16 lit, 1.2-1.5m height
	SHRUBS					
AD	*Acacia decurrens*	Sydney Wattle	2-4m	2-4m	27	16 lit, 1.2-1.5m height
AF	*Acacia falcata*	Sickle Wattle	3-5m	3-5m	60	16 lit, 1.2-1.5m height
BS	*Bursaria spinosa var macrophylla*	Sweet Bursaria	2-6m	2-3m	33	16 lit, 1.2-1.5m height
CC	*Callistemon citrinus*	Crimson Bottle Brush	2-4m	2-3m	26	16 lit, 1.2-1.5m height
RP	*Rhagodia parabolica*	Salt Bush	1-1.5m	1-1.5m	140	Tubestock
WF	*Westringia fruticosa*	Coast Rosemary	1.3-2m	1.5-2.5m	140	Tubestock
	GROUNDCOVERS					
CD	*Correa 'Dusky Bells'*	Correa Cultivar	0.2-0.3m	0.5-1m	330	Tubestock
DL	*Dianella longifolia*	Smooth Flax Lily	0.6-1m	0.6-1m	600	Tubestock
LL	*Lomandra longifolia*	Spiny Headed Mat Rush	0.6-1m	0.6-1m	640	Tubestock
MP	*Myoporum parvifolium*	Creeping Boobialla	0.3-0.5m	2-4m	332	Tubestock
	WETLAND PLANTING					
CA	*Carex appressa*	Tall Sedge	0.5-1m	0.8-1.0m	410	Tubestock
GH	*Goodenia humilis*	Swamp Goodenia	0.05m	0.1-0.3m	410	Tubestock
II	*Isolepsis innundata*	Swamp Club-rush	0.05m	0.1-0.3m	410	Tubestock
			TOTAL PLANTS		**3704**	



PART OF EXISTING BUILDING TO BE REMOVED

BUILDING B **BUILDING E** **BUILDING B** **BUILDING A**



NORTH ELEVATION

0 METERS 10

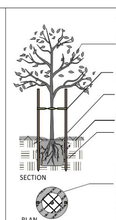
LEGEND

- Site boundary
- Fence
- Seeded lawn
- Existing levels (+ 21.38)

SURFACE FINISHES SCHEDULE

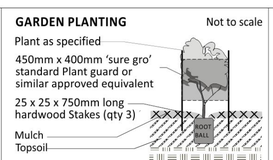
Symbol	Section	
Garden beds		50mmm 38 minus pine bark or similar approved. 200mm approved medium loam topsoil. Subgrade.
Grass		Hydro-seeded lawn. 100mm approved medium loam topsoil. Subgrade.

TREE PLANTING Not to scale



NOTE:
Backfill planting hole with Excavated soil. Provide Osmocote or similar approved fertiliser at rates recommended by the manufacturer.

GARDEN PLANTING Not to scale



NOTE:
25 x 25 x 750mm long hardwood stakes tied with 25mm wide rubber or canvas to be used if planting is taller than 1m or where plants are in need of support.

REVISIONS

Issue	Description	Date
Ls1	Town Planning Submission	11-03-2014

Drawn By	Checked By	Drawing No	Revision No	Scale
ML	AW	Ls1	-	1:500@B1

PROPOSED ALTERATIONS TO EXISTING RECYCLING CENTRE

LOT 2 DP550522 & LOT 5 DP7086, NO 23 & 45 TATTERSAL ROAD, KINGS PARK

Scale 1:500 (B1)
0 5 10 20 50 meters

Landscape Architecture & Urban Design
World Trade Centre
Level 3, Tower 3
18-38 Siddeley Street
Docklands Vic 3005

Telephone (03) 9696 8011
Facsimile (03) 9696 8022

Project No. 0226308
March 2014

ERM

Annex O

Building Code of Australia (BCA) Assessment

(M.J. Harvey)

M.J. HARVEY & ASSOCIATES PTY. LTD.
HYDRAULIC & FIRE PROTECTION ENGINEERS
ABN 87 067 295 836

BCA ASSESSMENT REPORT

23 TATTERSALL ROAD
KINGS PARK NSW 2148

PREPARED FOR

SELL & PARKER

BY M. J HARVEY G.I.Fire E

DATED: 12TH MARCH, 2014
VERSION: B
PROJECT NO: 14023
JOB NO: 14-001

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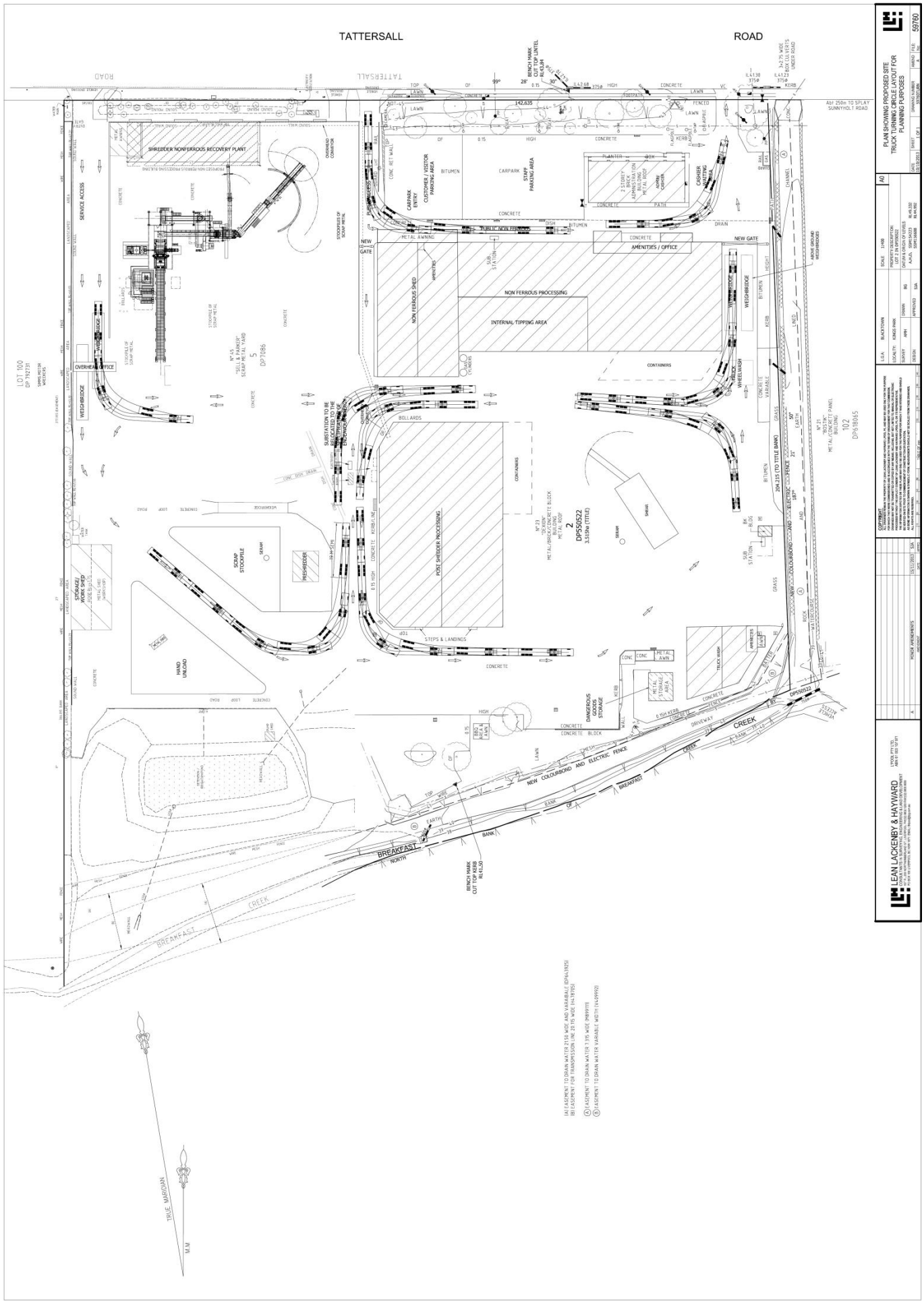
TATTERSALL
ROAD
SHREDDER NONFERROUS RECOVERY PLANT
SERVICE ACCESS
CARPARK ENTRY
CUSTOMER / VISITOR PARKING AREA
BITUMEN
CARPARK
STAFF PARKING AREA
CONCRETE
PATH
CASHIER WAITING AREA
METAL AWNING
AMENITIES / OFFICE
NEW GATE
NON FERROUS PROCESSING
INTERNAL TIPPING AREA
NON FERROUS SHED
AMENITIES
SUB STATION
WEIGHBRIDGE
OVERHEAD OFFICE
CONTAINERS
BOLLARDS
POST SHREDDER PROCESSING
SCRAP STOCKPILE
PRESHREDDER
STEPS & LANDINGS
HAND UNLOAD
DANGEROUS GOODS STORAGE
NEW COLORBOND AND ELECTRIC FENCE
CREEK
BREAKFAST
BANK
LOT 100 DP 792731
DP7886
DP550522
DP618065
TRUE MARIDIAN
M.M
PLAN SHOWING PROPOSED SITE TRUCK TURNING CIRCLE LAYOUT FOR PLANNING PURPOSES
LEAN LACKENBY & HAYWARD

REPORT ISSUE AUTHORISATION

Project: 23 Tattersall Road, Kings Park

Version	Date	Status	Prepared	Authorized
B	12.03.14	Issued to Client	MH	MH

Version:	**Date:**	**Extent of Revision:**
A	11.03.14	Client Review
B	12.03.14	Issued for Development Approval

This report caters specifically for the requirements for this project and this client. No warranty is intended or implied for use by any third party and no responsibility is undertaken to any third party for any material contained herein.

Written by: Michael Harvey

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1.0 INITIAL ASSESSMENT

1.1 Introduction

This Report has been prepared at the request of Mr Nigel Fox of Sell & Parker Pty Ltd and will form part of a Development Application submission to Blacktown City Council for the redevelopment of the property known as Lot 2, DP 550522, No.23 Tattersall Road, Kings Park currently occupied by Dexion.

The site was inspected 24th February, 2014 with a view to reviewing the existing Fire Safety Provisions within the site to determine;

a) The existing level of Fire Safety
b) Determine the amount of work required for the Proposed Redevelopment to meet the requirements of the current Building Legislation BCA 2013 and the Relevant Australian Standard

1.2 Preamble

This report relates to a site located at 23 Tattersall Road, Kings Park which is currently occupied by Dexion for the manufacture and storage of racking and storage systems.

The site is located in the Industrial Precinct of Blacktown NSW with pedestrian access to Tattersall Road and currently supports multiple buildings.

The existing site consists of a Two (2) Storey administration Building being constructed of face brickwork concrete columns and metal deck roof. Total floor area being 940m².

The industrial buildings are all interconnected with only one (1) portion being fire separated from another. Total floor area = 16,611.25m².

It is proposed that several sections of the Existing industrial building is to be demolished as part of the redevelopment of the site. The remaining buildings will be used for the collection, processing and storage of both ferrous and non-ferrous metals.

The remaining Buildings here in are to be known as;

1. Administration Building		940 m²
2. Non Ferrous Processing Building 3. Non Ferrous Metal Shed	One Building	4,716 m²
4. Post Shredder Processing		2,960 m²
5. Truck Wash		492 m²
6. Metal Storage Area (Dangerous Goods)		80 m²

All Buildings on the site appear to predate the introduction of the Building Code of Australia and were most likely constructed under Building Ordinance No.70 and associated ministerial specifications.

1.3 Purpose of Report

The purpose of this report is to produce a Building Code of Australia BCA 2013 assessment in order to provide information to determine the existing level of fire safety and the level of fire safety to be achieved to meet the Current Building Standard.

The assessment of the building is related to the Deemed to Satisfy Provisions of Section C, D & E of the BCA Vol. 1 2013 edition. Upgrading requirements (if any) will be investigated and recommend if it appears occupant life safety may be put at risk or the ability to suppress fire is inadequate as well as compliance with the regulations.

1.4 Basis of Assessment

This assessment is based upon:-

i The inspection undertaken on the 24th February, 2014
ii The deemed to satisfy provisions of the BCA Vol. 1 2013 and where applicable, NSW variations;
iii The relevant administrative provisions of the Environmental Planning & Assessment Regulation 2000
iv The use of the word *building* relates to the building as it stands.
v "conditioned space" means the internal space of the building controlled by air conditioning.
vi This Report has been prepared from a combination of measurements taken both on site and from a site plan prepared by Lean, Lackenby & Haywood dated 10.10.13 which is not to any particular scale. The measurements used in this Report are primarily to provide preliminary estimates of floor area, volume, egress requirements and fire service protection only. A Survey Plan is required before total accuracy can be achieved. The measurements contained in this Report shall not be used for any other reason than those stated above.

1.5 Exclusions

This report does not involve any assessment in relation to:-

i The design of the buildings;
ii Structural Design;
iii The provisions of Section J viz cell 19 of the appendix now form part of BCA 2007 which came into effect on the 1st May 2006 will not be addressed in this report.
iv Provision for the disabled

The report **does not include** compliance with:-

v Demolition standards not provided for under the provisions of the BCA;
vi Occupational Health & Safety Act;
vii Construction Safety Act; or
viii Asbestos Removal;
ix The requirements, specifications and by laws of utility authorities including, but not limited to telecommunications, Workcover, RTA, Energy Authorities and the like.

2.0 DETAILED ASSESSMENT – BUILDING CODE OF AUSTRALIA

2.1 Building Code of Australia Assessment

In accordance with the Building Code of Australia BCA 2013 the Redeveloped Buildings are assessed as follows:-

2.2 Classification (Section A3.2)

The building is classified in terms of the BCA as follows:-

Building No.	Name	Class	Location	Use
1	Administration	5	Ground Level	Office
	Administration	5	Level 1	Office
2	Non Ferrous Processing	5	Ground Level	Office
	Non Ferrous Processing	5	Level 1	Office
	Non Ferrous Processing	8	Ground Level	Factory
3	Non Ferrous Metal Shed	7b	Ground Level	Warehouse
4	Post Shredder Processing	8	Ground Level	Factory
5	Truck Wash	8	Ground Level	Factory
6	Metal Storage	7b	Ground Level	Warehouse

The appropriate mixed Classification is - Class 5, 7(b) & 8

2.3 Effective height (Section A1.1)

Building No.	Name	Highest Point	Average Height
1	Administration	8 m	7 m
2	Non Ferrous Processing	10.1 m	9.1 m
3	Non Ferrous Metal Shed	8 m	7 m
4	Post Shredder Processing	10.45 m	9.935 m
5	Truck Wash	6 m	5.5 m
6	Metal Storage	6 m	5.5 m

2.4 Rises in Storey's (Section C1.2)

The buildings have been determined to have a rise in storey of;

- Building No.1 & 2 = Two (2) Storeys
- Building No.3, 4, 5 & 6 = One (1) Storey

2.5 Number of Compartments

- Building No.1 = One Fire Compartment
- Building No.2 & 3 = One Fire Compartment
- Building No.4 = One Fire Compartment
- Building No.5 = One Fire Compartment
- Building No.6 = One Fire Compartment

2.6 Floor area and volume limitations (Section C2.2)

Building No.	Name	Floor Area	Average Height	Volume
1	Administration	940 m²	7 m	6,580.00 m³
2	Non Ferrous Processing	3,375 m²	9.1 m	30,712.50 m³
3	Non Ferrous Metal Shed	1,342 m²	7 m	9,394.00 m³
2 & 3	Combined Total	4,717 m²	N/A	40,106.50 m³
4	Post Shredder Processing	2,960 m²	9.935 m	29,407.60 m³
5	Truck Wash	492 m²	5.5 m	2,706.00 m³
6	Metal Storage	80 m²	5.5 m	440.00 m³

The building is subject to maximum floor area and volumetric limitations of which are stated as follows:-

Table C2.2 maximum size of Fire Compartments or Atria

	Classification		*Type of construction of building*		
			Type A	*Type B*	*Type C*
Building No.1	*5, 9b or 9c aged care building*	*max floor area*	*8 000 m²*	*5 500 m²*	*3 000 m²*
		max volume	*48 000 m³*	*33 000 m³*	*18 000 m³*
Building No.2,3 & 4 No.5 & 6	*6, 7, 8 or 9a (except for Patient care areas)*	*max floor area*	*5 000 m²*	*3 500 m²*	*2 000 m²*
		max volume	*30 000 m³*	*21 000 m³*	*12 000 m³*

2.7 Type of construction Table C1.1 &Table C2.2

2.7.1 Building No.1

The Building is of reinforced concrete columns, beams & floors with infill non load bearing face brick walls and metal deck roof.

From the extrapolation of Table C1.1 and Table C2.2, the floor area and calculated volume of the building as a stand alone building ***Does Not Exceed*** the limits of Table C2.2 for Type C construction when related to its classification.

Given the buildings method of construction the building is estimated to be ***Type C Construction*** and therefore ***Complies*** with the requirements of Table C2.2.

2.7.2 Building No.2 & 3

2.7.2.1 Building No.2
The Building is face clad, portal steel frame building with a metal deck roof.

2.7.2.2 Building No.3
The Building is non load bearing concrete block construction, portal steel frame and metal deck roof.

Buildings 2 & 3 are not separated by fire resistant construction and therefore are considered to be one (1) fire compartment.

From the extrapolation of Table C1.1 and Table C2.2, the floor area and calculated volume of Building No.2 & 3 as a combined stand alone building ***Exceeds*** the limits of Table C2.2 for Type B construction when related to its mixed classification.

Given the buildings method of construction the building is estimated to be ***Type B Construction*** and therefore ***Does Not Comply*** with the requirements of Table C2.2.

Therefore the combined Buildings ***Do Not Comply*** with Table C1.1 and Table C2.2.

2.7.3 Building No.4
Building No.4 is a metal clad building with a portal steel frame and metal deck roof.

From the extrapolation of Table C1.1 and Table C2.2 the floor area and calculated volume ***Exceeds*** the limits of Table 2.2 for Type B Construction when related to its Classification.

Given the buildings method of construction the building is estimated to be of ***Type B Construction*** and therefore ***Does Not Comply*** with the requirements of Table C2.2.

2.7.4 Building No.5
Building No.5 is a metal clad portal steel frame building with a metal deck roof.

From the extrapolation of Table C1.1 and Table C2.2 the floor area and calculated volume ***Does Not Exceed*** the limits of Table C2.2 for Type C Construction when related to its Classification.

Given the method of construction the building is estimated to be of ***Type C Construction*** and therefore ***Complies*** with the requirements of Table C2.2.

2.7.5 Building No.6
Building No.6 is a metal clad portal steel frame building with a metal deck roof.

From the extrapolation of Table C1.1 and Table C2.2 the floor area and calculated volume ***Does Not Exceed*** the limits of Table C2.2 for Type C Construction when related to its Classification.

Given the buildings method of construction the building is estimated to be of ***Type C Construction*** and therefore ***Complies*** with the requirements of Table C2.2.

2.8 Large Isolated Building (Section C2.3)

2.8.1 Building No.2, 3 & 4

Under the N.S.W Variation C2.3 a Large Isolated Building is;

a) "The Building does not exceed 18,000m² in floor area nor exceed 108,000m³ in volume if;
(ii) The Building is a Class 5 to 9 and protected throughout with a Sprinkler System complying with Specification E1.5 and six (6) metre perimeter vehicular access complying with C2.4(b) is provided."

Building No.2 & 3 when reviewed as one building and Building No.4 exceed the floor area and volume limitations of Table 2.2 and therefore are considered Large Isolated Buildings under Section C2.3(a)(ii).

Only Building No.3 is fitted with an Automatic Fire Sprinkler System, however Building No.2 is not and they are not fire separated. Therefore Buildings No.2 & 3 and Building No.4 ***Does Not Comply*** with Section C2.3(b)(i).

It is proposed that an Alternative Performance Based Engineered Solution will be prepared and lodged with Fire & Rescue NSW under Section 144 of the Environmental Planning and Assessment Regulation 2000.

The Proposed Redevelopment will permit Perimeter Vehicular Access, therefore the Buildings ***Comply*** with Section C2.3(b)(ii).

2.9 Requirements for Open Spaces & Vehicular Access (Section C2.4)

2.9.1 Buildings No.2 & 3 and Building No.4

Section C2.4 of the BCA states;

(a) "An open space required by C2.3 must –
(i) be wholly within the allotment except that any road, river, or public place adjoining the allotment, but not the farthest 6 m of it may be included; and
(ii) include vehicular access in accordance with (b); and
(iii) not be used for the storage or processing of materials; and
(iv) not be built upon, except for guard houses and service structures (such as electricity substations and pump houses) which may encroach upon the width of the space if they do not unduly impede fire-fighting at any part of the perimeter of the allotment or unduly add to the risk of spread of fire to any building on an adjoining allotment.

(b) Vehicular access required by this Part –

(i) must be capable of providing continuous access for emergency vehicles to enable travel in a forward direction from a public road around the entire building; and

(ii) must have a minimum unobstructed width of 6 m with no part of its furthest boundary more than 18 m from the building and in no part of the 6m width be built upon or used for any purpose other than vehicular or pedestrian movement; and

(iii) must provide reasonable pedestrian access from the vehicular access to the building; and

(iv) must have a load bearing capacity and unobstructed height to permit the operation and passage of fire brigade vehicles; and

(v) must be wholly within the allotment except that a public road complying with (i), (ii), (iii) and (iv) may serve as the vehicular access or part thereof."

Building No.2 & 3 and Building No.4 ***Comply*** with Section C2.4.

2.10 Schedule of Existing Fire & Other Safety Measures

2.10.1 Building No.1

The inventory of fire safety measures currently installed within Building No.1 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Smoke Detection & Alarm System	Yes	Not Known

2.10.2 Building No.2

The inventory of fire safety measures currently installed within Building No.2 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hydrants	Yes	Ordinance 70
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70

2.10.3 Building No.3

The inventory of fire safety measures currently installed within Building No.3 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hydrants	Yes	Ordinance 70
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70
Automatic Fire Sprinklers	Yes	Ordinance 70 (CA 16)

2.10.4 Building No.4

The inventory of fire safety measures currently installed within Building No.4 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hydrants	Yes	Ordinance 70
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70

2.10.5 Building No.5

The inventory of fire safety measures currently installed within Building No.5 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hydrants	Yes	Ordinance 70
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70

2.10.6 Building No.6

The inventory of fire safety measures currently installed within Building No.6 has been listed as follows:-

Fire Safety Measures	Installed	Standards of Performance
Fire Hydrants	Yes	Ordinance 70
Fire Hose Reels	Yes	Ordinance 70
Portable Fire Extinguishers	Yes	Ordinance 70
Emergency Lighting	Yes	Ordinance 70
Exit Signage	Yes	Ordinance 70

The Existing Fire Safety Statement incorrectly lists compliances with the Building Code of Australia BCA 2004 when there are many instances with the Relevant Standard.

At the time of writing we have not been provided with a copy of the Fire Engineering Report prepared by Fire Engineered Solutions Pty Ltd dated 29.06.04. Our investigations indicate that this company is no longer in existence.

3.0 EXISTING SITUATION (NON COMPLIANCES)

The Building was inspected on the 24th February, 2014; the results of this inspection are listed below.

3.1 Specification C1.10 Floor Coverings

Floor Coverings in Building No.1 consist of a combination of carpet and vinyl floor coverings.

Verification is required that the Floor Coverings throughout the existing office area comply with Specification C1.10.

3.2 Section D2.16 Balustrades and Other Barriers

3.2.1 Building No.1 &2

Existing hand rails are less than 865 mm high, openings in balustrades exceeds the requirements of Section D2.16 (h).

Therefore the Balustrades and Other Barriers ***Do Not Comply*** with Section D2.16.

3.3 Section D2.20 Swinging Doors

3.3.1 Building No.1 – 6

All Existing Exit Doors required to swing in the direction of travel do so.

To this effect the building ***Complies*** with the provisions of Section D2.20.

3.4 Section D2.21 Operation of Latches

All egress doors must be fitted with lever handled latches operable by a single handed downward action on a single device.

All nib or knob type latches shall be replaced.

Therefore the latches ***Do Not Comply*** with Section D2.21.

3.5 Section E1.3 Fire Hydrants

The Existing Fire Hydrant Booster Valve appears to have been installed under the Requirements of Australian Standard AS 2419 – 1995; Fire Hydrant Systems – Part 1 Design, Installation and Commissioning. However, there are many non compliances both with the 1995 Edition and the Current Edition being AS 2419.1 – 2005.

3.5.1

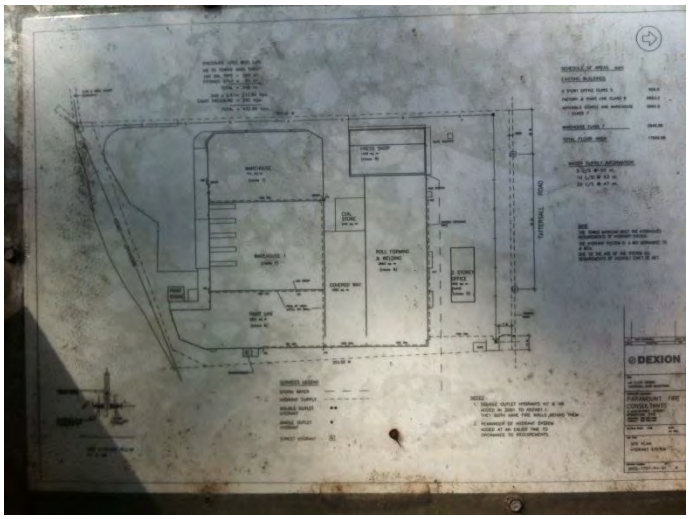
(a) The Fire Hydrant Booster Valve ***Does Not Comply*** with Australian Standard AS 2419 – 2005 Part 2, Fire Hydrant Booster Valve

(b) There are insufficient Suction Hydrants and Booster Inlets for the size of the Buildings.

3.5.2

(a) The Fire Service Block Plan ***does not*** clearly indicate the following;

- Pipe sizes
- Electric Switch Rooms
- Pad mount transformer
- Installers name



3.5.3

The Fire Hydrant System does not incorporate a ring main as required for Large Isolated Buildings by Clause 8.5.4 of AS 2419.1 – 2005.

3.5.4

(a) All external Fire Hydrants are required to be double outlet hydrants under Figure 3.2.2.1 of AS 2419.1 – 2005.

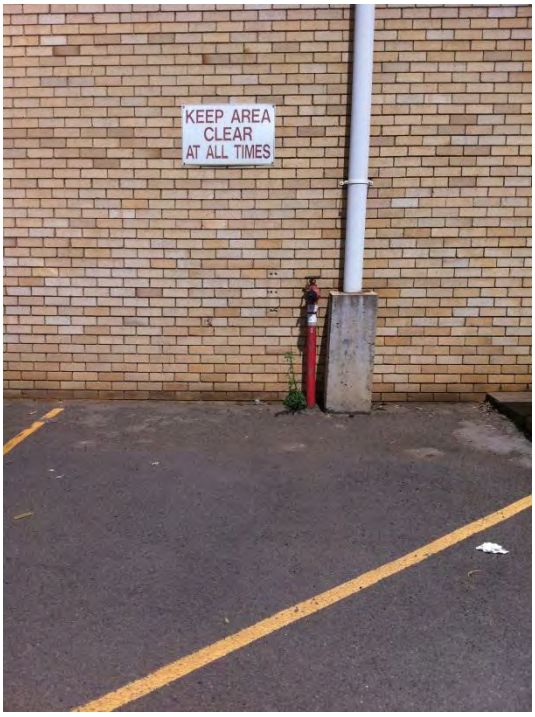
(b) 100mm clearance has not been provided between the wheel handle and the wall as required by Figure 3.5.1 of AS 2419.1 – 2005.

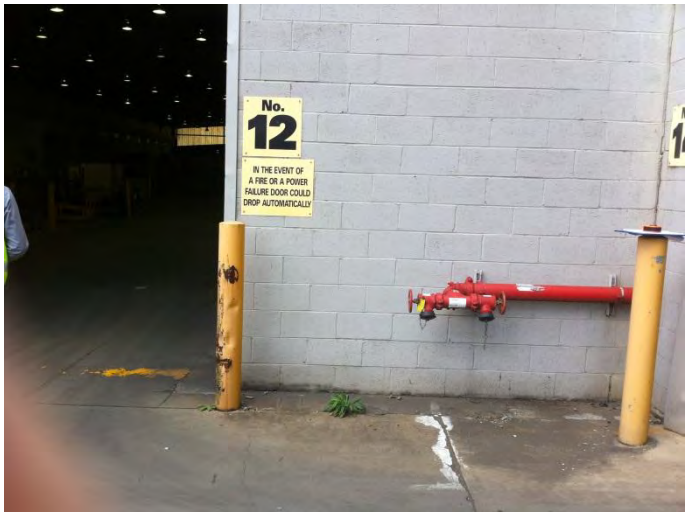
(c) The External Fire Hydrant shall be separated from the Building by masonry construction having a Fire Resistance Level (FRL) of not less than that required by the Building in which case separation required shall not be less than 240/240/240.

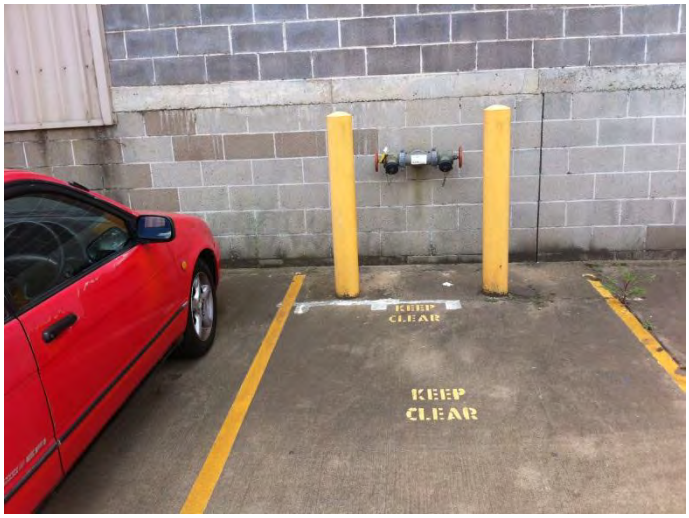
Where the Building is sprinkler protected and therefore complying as a Large Isolated Building, separation required would be by FRL 90/90/90.

A Structural Engineer shall inspect the walls and certify that the wall by its construction satisfies the requirements of a wall having an FRL of 90/90/90.

Alternatively construct a masonry wall between the Building and the Fire Hydrant with dimensions not less than 5 metres wide by 3 metres high having an FRL of not less than 90/90/90.







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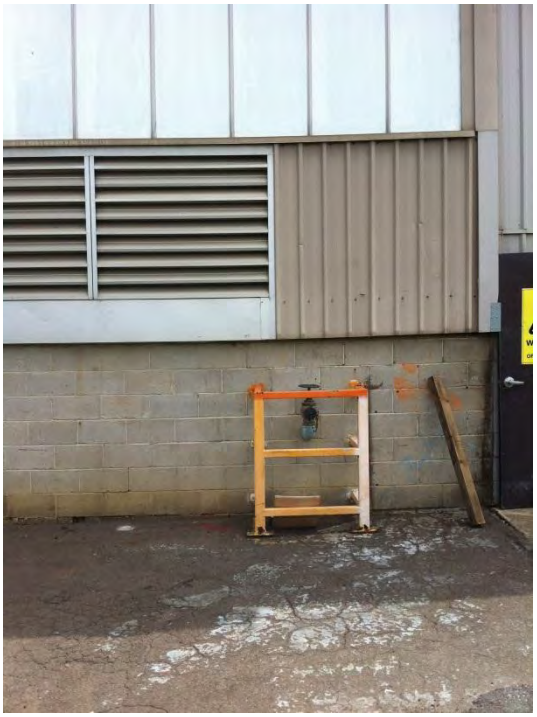
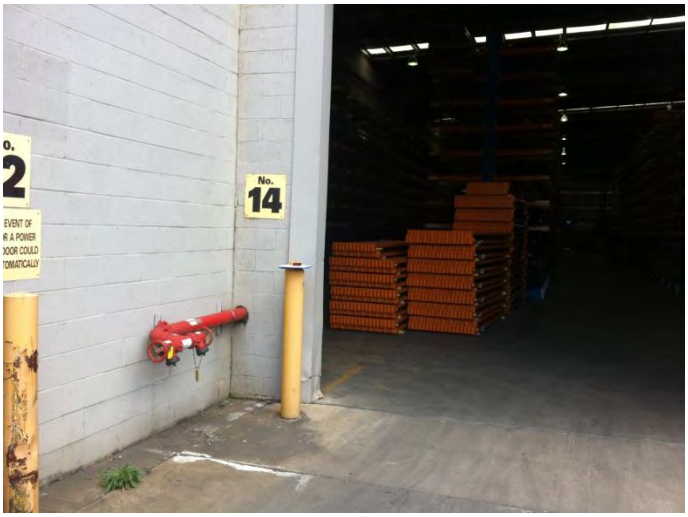


FIRE DOOR

15

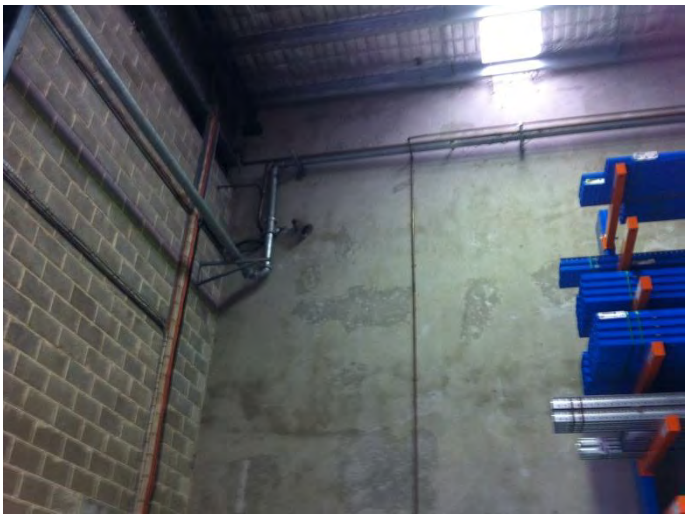
3.5.5
Fire Hydrant is located too close to the Padmount Transformer. Clause 3.2.2.2 (f) of AS 2419.1 – 2005 requires Fire Hydrants to be located not less than 10 metres from a Padmount Transformer or separated by construction having a Fire Resistance Level (FRL) of not less than 90/90/90.

3.5.6
External Fire Hydrant is located less than 10 metres from an opening as required by Clause 3.2.2.2 (e) of AS 2419.1 – 2005.



3.5.7
Fire Hydrant Pipework is suspended from a non-fire rated building element while the building is not protected by an Automatic Fire Sprinkler System.

NOTE: As part of the Redevelopment the Fire Hydrant System will be required to have installed a ring main and this pipework will become redundant.



3.5.8
Pipework shown appears to form part of the Fire Hydrant System and indicates that at some stage a Fire Hydrant Pump has been removed.

As part of the Redevelopment of the site a Statement of Available Pressure & Flow shall be obtained from Sydney Water Corporation to ascertain if the Fire Hydrant Pump is required.

The location of the pump ***would not comply*** with AS 2419.1 – 2005.

3.5.9 Fire Hydrants – Generally

Clause 3.2.2.2 of Australian Standard AS 2419 – 2005 Fire Hydrant Systems, Part 1, Design, Installation and Commissioning states that External Fire Hydrants shall be located so that;

(i) "All portions of the building shall be within reach of a 10 metre hose stream issuing from the nozzle of a 60 metre length of hose laid on the ground; and
(ii) A minimum of 1 metre of hose shall extend into any room served."

3.5.9.1 Fire Hydrant Stop Valve shall be fitted with engraved signage stating "FIRE MAIN VALVE – SECURE OPEN". Lettering shall be 8mm upper case colour contrasting to the background.

3.5.9.2 The Stop Valve at the connection to Sydney Water Corporations Main requires the installation of a Path Box and 225mm Riser.

3.5.9.3 The Existing Fire Hydrant Block Plan Does Not Comply with AS 2419.1 – 2005. A weather and fade resistant Fire Service Block Plan must be installed under the Fire Hydrant Booster Valve complying with Clause 7.11 of AS 2419.1 – 2005.

3.5.9.4 The Fire Hydrant Booster Valve is not fitted with a Notice of Test & Booster Pressure complying with Clause 7.10 of AS 2419.1 – 2005.

3.5.9.5 There is no record of the Fire Hydrant System having a Five (5) Yearly test.

3.5.9.6 All Fire Hydrants shall be fitted with forged aluminium Stortz coupling with plastic caps and galvanised steel chain to comply with AS 2419.1 – 2005. Cast couplings will not be accepted.

3.5.9.7 Fire Hydrant Booster Valve shall be fitted with forged aluminium Stortz coupling with plastic caps and galvanised steel chain to comply with AS 2419.1 – 2005. Cast couplings will not be accepted.

Therefore the Building ***Does Not Comply*** with the requirements of Section E1.3.

Fire & Rescue NSW ***will not*** consider any application for varying the requirements for Fire Hydrant System compliance where other non compliances such as Automatic Fire Sprinklers have not been addressed and is highly unlikely to consent to a Fire Hydrant System which does not incorporate a Ring Main.

3.6 Section E1.4 Fire Hose Reels

3.6.1 Generally

Fire Hose Reels are required to be located so as to provide protection to all points on the floor within 36 metres of a Fire Hose Reel.

There are insufficient Fire Hose Reels to cover the floor area of the Buildings when measured along the Path of Travel.

There is no means of isolating the domestic fixtures without interrupting the water supply to the Fire Hose Reels.

3.6.1.1 Fire Hose Reel in Building No.3 has not been installed so that the Control Valve is located between 900mm and 1,100mm above the finished floor level.

3.6.1.2 Water meter Control Valve shall be located in the open position with a metal strap and padlocked.

3.6.1.3 Water meter Control Valve shall be fitted with a Non-Ferrous Metal Engraved Notice stating "Fire Service Valve – Close only to Service Fire Hose Reels". Letters shall be 8mm high upper case type.

3.6.1.4 All Hose Taps shall be fitted with Control Valves.

The Existing Fire Hose Reel System ***Does Not Comply*** with the requirements of Section E1.4.

3.7 Section E1.5 Automatic Fire Sprinkler System

Only Building No.3 has an Automatic Fire Sprinkler System installed. The System appears to have been designed and installed to a now obsolete Code known as CA 16.

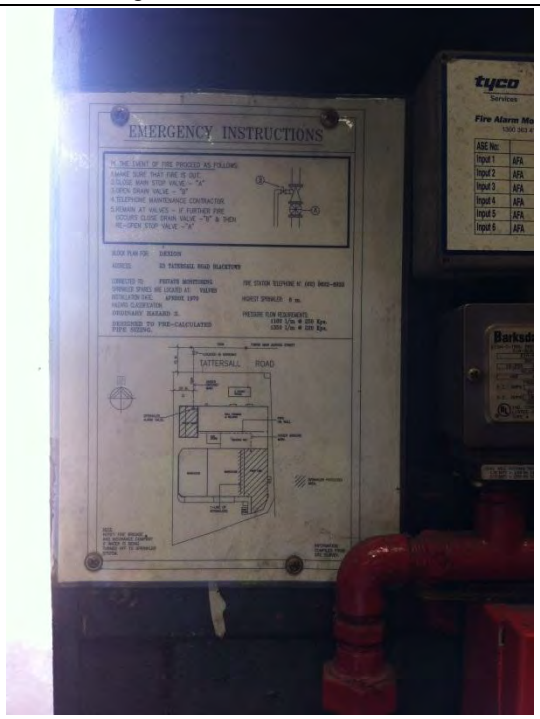
1) Building No.2 (non sprinkler protected) is not separated by Fire Resistant Construction from Building No.3 as required by Clause 3 of Specification E1.5.

2) The Sprinkler Control Valve Set is not located so as to be accessible directly from open space is required by BCA Clause 6(a) Specification E1.5.

3) Sprinkler Valve Set is not located in a secure area as required by Clause 6(b) of Specification E1.5.

4) There are no facilities for Fire & Rescue NSW to booster the Automatic Fire Sprinkler System.

5) The Fire Indicator Panel has not been located at the Main Entry to the Site (Administration Building Foyer).



Sprinkler System Block Plan

As the Buildings are considered a Large Isolated Building, Automatic Fire Sprinklers are also required.

The Existing Building currently ***Does Not Comply*** with Section C2.3.

By the proposed use Building No.2, 3 & 4 are not required to have an Automatic Sprinkler System installed.

Separation of the Sprinkler Protected and Non Sprinkler Protected Parts (Building No.2 &3) will be addressed under the Performance Provisions EP1.4.

3.8 Section E1.6 Portable Fire Extinguishers

The Portable Fire Extinguishers are located greater than 1200mm above the floor.

All Portable Fire Extinguishers must be installed so that the handle is located not more than 1,000 mm above the floor and the base of the Portable Fire Extinguisher is located not less than 150 mm above the floor.

Therefore Portable Fire Extinguishers ***Do Not Comply*** with Section E1.6.

3.9 Section E2.2a Smoke Control

Building No.1 has been fitted with a Smoke Detection System however is ***Does Not Comply*** with AS 1670 as smoke detectors **Do Not** appear to be installed in all rooms.

Smoke detection is not required under Section E2.2 for this Building in this instance, therefore the Building ***Complies*** with the requirements of Section E2.2a.

3.10 Section E4.2, E4.3 & E4.4 Emergency Lighting

An Emergency Lighting System has not been provided to the degree necessary throughout the Buildings, therefore the buildings ***Do Not Comply*** with the requirements of Section E4.2, E4.3 & E4.4.

3.11 Section E4.5, E4.6 & E4.8 Exit Lighting

a) Some Exit Lights were observed not functioning and must be repaired or replaced.
b) Exit lights shall be fitted with a running man diffuser ***Complying*** with AS 2293.1 – 2005.

An Exit Lighting System has not been provided to the degree necessary in the existing Building, therefore additional fittings are required. Therefore the building ***Does Not Comply*** with the requirements of Section E4.5, E4.6 & E4.8.

3.12 Proposed Schedule of Fire & Other Safety Measures

The inventory of Fire Safety Measures for the proposed Buildings have been listed as follows:-

Fire Safety Measures	Required	Standards of Performance BCA 2013
Fire Hydrant System	Yes	E1.3
Fire Hose Reels	Yes	E1.4
Automatic Fire Sprinklers	Yes	E1.5
Portable Fire Extinguishers	Yes	E1.6
Emergency Lighting	Yes	E4.2, E4.3, E4.4
Exit signs	Yes	E4.5, E4.6, E4.8
Paths of travel & exits	Yes	D1.2, D1.4, D1.5, D1.6, D1.10
Perimeter Vehicular Access	Yes	C2.4

3.13 Fire Protection & Structural Capacity

The Certifying Authority in accordance with Clause 143(3) of the Environmental Planning & Assessment Regulation 2000 must prior to the issue of the Occupation Certificate be satisfied that the “fire protection and structural capacity of the existing building” satisfies the requirements of the Building Code of Australia.

4.0 ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION – CLAUSE 144

Clause 144 of the Environmental Planning & Assessment 2000 refers to the Fire &Rescue N.S.W and allows an applicant to apply for a variation under the Performance Requirements of the Building Code of Australia where it is not practical and, or possible to comply with the Deemed to Satisfy Provisions of the Building Code of Australia.

This is achieved by engaging the services of a Grade 1 Fire Safety Engineer who will prepare a Fire Safety Engineering Brief (FSEB) for submission to N.S.W Fire & Rescue for comment.

Following comment of the Fire & Rescue N.S.W the Fire Safety Engineer shall submit to Fire & Rescue N.S.W a Fire Safety Engineering Report complete with computer generated Fire Modelling computations indicating that the alternative is equal to or better than the deemed to satisfy requirements of the Building Code of Australia.

Non compliance of Section C2.4 Perimeter Vehicular Access has been identified in this report as a non compliance with the Deemed to Satisfy Provisions.

This item can be addressed under the provisions of Performance Requirements CP9.

In addition the owner of the property may not wish to install an Automatic Fire Sprinkler System due to the cost and inconvenience.

This non compliance of a Sprinkler System installation required by Clause C2.4 and E1.5 can be addressed under the Performance Requirements EP1.4.

5.0 SUMMARY

This report addresses the Fire Safety Matters relating to the property of 23 Tattersall Road, Kings Park.

Each Building as a standalone building, ***Does Not Comply*** with the Deemed to Satisfy Provisions of the Building Code of Australia.

The Fire Safety Measures of the property will need to be addressed so that all Fire Safety Measures satisfy the requirement of the performance provisions and the Deemed to Satisfy requirements of the Building Code of Australia as appropriate and the relevant Australian Standards, as appropriate and the approved Performance Based Engineered Report.

6.0 CONCLUSION

The primary objective of this report is to assess the Building against the provisions of the BCA and in preparedness for the Redevelopment of the site to ensure the occupants have a work environment which corresponds to Current Building Standards and community expectation.

The Buildings ***Do Not Comply*** with the Deemed to Satisfy Provisions of the Building Code of Australia.

7.0 RECOMMENDATIONS

It is recommended that the following steps be taken to ensure an adequate level of Fire Safety;

1. All aspects of the building relating to the safe evacuation of the occupants shall be addressed.
2. The Fire Hose Reel System shall comply with Section E1.4 of the Building Code of Australia.
3. The Fire Hydrant System shall comply with Section E1.3 the Building Code of Australia.
4. Install an Automatic Fire Sprinkler System to the existing building complying with Section E1.5 the Building Code of Australia.
5. Exit & Emergency Lighting shall comply with Section E4 the Building Code of Australia.
6. It is recommended that the following items be addressed under the Performance Provisions listed below;
    i) CP1 Structural Stability
    ii) CP2 Spread of Fire
    iii) CP9 Perimeter Vehicular Access
    iv) EP1.4 Fire Sprinklers

8.0 REFERENCES

i. Building Code of Australia BCA Volume 1 2013
ii. Environmental Assessment & Planning Regulation 2000
iii. N.S.W Fire Brigades Vehicle Requirements (Guidelines for Emergency Vehicle access) OS-E-98/02-04059
iv. Australian Standard AS 1221 – 1997/Amdt 1 -2003 Fire Hose Reels
v. Australian Standard AS 1670.1 – 2004/Amdt 1-2005 Fire Detection, Warning, Control and Intercom Systems – System Design, Installation and Commissioning – Fire
vi. Australian Standard AS 1670.3 – 2004 Fire Detection, Warning, Control and Intercom Systems – System Design, Installation and Commissioning – Fire Alarm Monitoring
vii. Australian Standard AS 1735.12 – 1999 Lifts, escalators and moving walks – Facilities for persons with disabilities
viii. Australian Standard AS 1851 – 2012 Maintenance of Fire Protection Equipment
ix. Australian Standard AS 1905.1 – 2005 Components for the Protection of Openings in Fire-resistant Walls – Fire-resistant doorsets
x. Australian Standard AS 2118.1 – 1999 Automatic Fire Sprinkler Systems – General Requirements
xi. Australian Standard AS 2118.4 – 1995 Automatic Fire Sprinkler Systems – Residential
xii. Australian Standard AS 2293 – 2005 Emergency Escape Lighting and Exit Signs
xiii. Australian Standard AS 2293.1 – 2005/Amdt 1-2008 Emergency Escape Lighting and Exit Signs for Buildings – System Design, Installation and Operation
xiv. Australian Standard AS 2419.1– 2005 Fire Hydrant Systems, Design Installation & Commissioning
xv. Australian Standard AS 2419.2 – 2009 Fire Hydrant Installations Part 2, Fire Hydrant Valves
xvi. Australian Standard AS 2419.3 – 2012 Fire Hydrant Installations Part 3, Fire Brigade Booster Connections
xvii. Australian Standard AS 2441 – 2005/Amdt 1-2009 Installation of Hose Reels
xviii. Australian Standard AS 2444 – 2001 Portable Fire Extinguishers and Fire Blankets, Selection and Location
xix. Australian/ New Zealand Standard AS/NZS 2890.1 – 2004/Amdt 1-2005 Parking Facilities – Off-street Car Parking
xx. Australian Standard AS 2941 – 2008 Fixed Fire Protection Installations – Pumpset Systems
xxi. Australian/New Zealand Standard AS/NZS 3500 National Plumbing and Drainage, Parts 1 to 4 – 2003, and Part 5 – 2000
xxii. Australian Standard AS 3745 – 2010 Planning for Emergencies in Facilities
xxiii. Australian Standard AS 3786 – 1993/Amdt 1 & 2-1995/Amdt 3-2001/ Amdt 4-2003 Smoke Alarms

This Report was prepared by:

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- ♦ Advanced Cert. Fire Technology
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9.0 APPENDIX A

B.C.A. ASSESSMENT EXISTING BUILDING

1.0 SECTION A BUILDING CLASSIFICATION

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
A1.1	Definitions					
A1.2	Adoption of Standards	1 - 6	NO	YES	Application of standards as required.	
A1.3	Referenced standards	1 - 6	NO	YES	Refer to Specification A1.3 for edition of particular Australian Standard.	
A2.1	Suitability of materials	1 - 6	NO	YES	Building to be constructed as required by the provisions of the BCA ie Sections A to J as is required.	
A2.3	Classification of building	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings.	Building classified as Class 5, 7b, 8.
A4.1	United building	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

2.0 SECTION B STRUCTURAL ELEMENTS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Part B1	**Structural Elements**					
B1.0 to B1.4	Structural provisions	1 - 6	YES	YES	Structural design of the building must take into account the loads, actions and structural resistance that are required under this section of the BCA.	

3.0 SECTION C FIRE SEPARATION/COMPARTMENTATION

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Part C1	**Fire Resistance & Stability**					
C1.1	Type of Construction required	1 - 6	YES	YES	This section ***IS APPLICABLE*** to this building.	
C1.2	Calculation of rise in storeys	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings.	Buildings 1 & 2 = 2 Buildings 3, 4, 5 & 6 = 1
C1.3	Buildings of multiple classification	1 - 6	YES	YES	This section ***IS APPLICABLE*** to this building. ***BUILDING COMPLIES***.	
C1.4	Mixed types of construction	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.5	Two storey Class 2, 3 or 9c buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.6	Class 4 parts of buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.7	Open spectator stands and indoor sports stadiums	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.8	Lightweight construction (based on material selection)	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.9	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
C1.10	Fire hazard properties	1 - 6	YES	YES	This section ***IS APPLICABLE*** to this building. ***BUILDING TO COMPLY.*** The provision has application to surface finishes, floor coverings, false or suspended ceilings, light admitting roof sheets & materials that are used within paths of travel to exits. Verification of these materials are to be provided to the Certifying Authority.	The certifying authority shall obtain Certification that proposed and existing finishes comply with C1.10

(Section C continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
C1.11	Performance of external walls in fire	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C1.12	Non-combustible materials	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Part C2	**Compartmentation & Separation**					
C2.1	Application of Part	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.2	General floor area and volume limitations	2 - 6	YES	YES	This section ***IS APPLICABLE*** to this building. ***BUILDING DOES NOT COMPLY***.	Refer to Section C2.3 Large Isolated Building.
C2.3 (NSW) variation	Large isolated building	2 - 6	NO	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	To be addressed under the Performance Provisions CP1, CP2, CP9 & EP1.4.
C2.4	Requirements for open space and vehicular access	2 - 6	NO	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY*** when Sprinklers are installed.	Requirements for open space and perimeter access does not comply where sprinkler protection is to be removed under the Performance Provisions.
C2.5	Class 9a & 9c buildings Smoke & Fire compartments	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.6	Vertical separation of openings in external walls	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.7	Separation by fire wall	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
C2.8	Separation of Classifications in the same storey	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.9	Separation of Classifications in different storeys	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.10	Separation of lift shafts	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.11	Stairways and lifts in one shaft	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section C continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
C2.12	Separation of Equipment	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.13	Electrical Supply System	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C2.14	Public corridors in Class 2 & 3 buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Part C3	**Protection of Openings**					
C3.1	Application of Part	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.2	Protection of openings in External Walls	1 - 6	NO	NO	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
C3.3	Separation of External Walls and associated openings in different fire compartment.	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building for Type C Construction.	
C3.4	Acceptable methods of protection	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building for Type C Construction.	
C3.5	Doorways in fire walls	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
C3.6	Sliding Fire Doors	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.7	Protection of Doorways in horizontal Exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.8	Openings in Fire-isolated exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.9	Service penetrations in fire Isolated Exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.10	Openings in Fire Isolated Lift Shafts	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.11	Bounding Construction; Class 2, 3 & 4 Buildings	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.12	Openings in Floors & Ceilings for Services	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section C continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
C3.13	Openings in Shafts	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.14	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
C3.15	Openings for Service Installations	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
C3.16	Construction Joints	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
C3.17	Columns protected with lightweight Construction to achieve an FRL	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

4.0 SPECIFICATION C1.1 FIRE-RESISTING CONSTRUCTION

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	General Requirements					
Clause 2.1	Exposure to fire source features (FSF)	1 - 6	YES	YES	FSF see definition under A1.1	
Clause 2.2	Fire protection for a support of another part	1 - 6	YES	YES	This provision will need to be considered when the Structural Engineer's reports are available.	
Clause 2.3	Lintels	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 2.4	Attachments not to impair fire-resistance	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Specification C1.1 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2.5 (a) (b) (c) (d) (e) (f)	General Concessions Steel Columns Timber Columns Structures on roofs Curtain Walls and Panel Walls *(intentionally left blank)* Balconies and verandahs	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 2.6	Mezzanine floors: Concession	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 2.7	Enclosure of shafts	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 2.8	Carparks in Class 2 and 3 buildings	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 2.9	Residential aged care building: Concession	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Type A fire-resisting construction	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.1	Fire-resistance of building elements	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.2	Concessions for floors	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.3	Floor loading of Class 5 and 9b buildings: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.4	Roof superimposed on concrete slab: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.5	Roof: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Specification C1.1 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 3.6	Rooflights	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.7	Internal columns and walls: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.8	Open spectator stands and indoor sports stadiums: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.9	Carparks	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.10	Class 2 buildings: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Type B fire resisting construction	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4.1	Fire-resistance of building elements	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4.2	Carparks	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4.3	Class 2 buildings: Concession	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Type C fire resisting construction	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
Clause 5.1	Fire-resistance of building elements	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings.	The Buildings generally satisfy this Clause, however a Structural Engineers' report should consider and take into account the provisions of Clause 5.1 of Specification C1.1.
Clause 5.2	Carparks	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	

5.0 SPECIFICATION C1.8 STRUCTURAL TESTS FOR LIGHTWEIGHT CONSTRUCTION

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Application	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 3	Tests	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 3.1	Walls of certain Class 9b buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 3.2	Walls of shafts and fire-isolated exits generally	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 3.3	Additional requirements for lift shafts	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 3.4	Walls generally	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 4	Test Specimens	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 4.1	General	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 4.2	Testing in-situ	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
Clause 4.3	Testing of specimens	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	

(Specification C1.8 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 5	Test Methods					
(a)	Material tests	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
(b)	For resistance to static pressure	N/A	NO	NO		
(c)	For resistance to impact	N/A	NO	NO		
(d)	For resistance to surface indentation	N/A	NO	NO		
(e)	For resistance to lift shaft construction to repetitive load	N/A	NO	NO		
Clause 6	Criteria for compliance					
(a)	Materials	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to this building.	
(b)	Damage	N/A	NO	NO		
(c)	Deflection – static pressure	N/A	NO	NO		
(d)	Deflection – impact	N/A	NO	NO		
(e)	Surface indentation	N/A	NO	NO		

6.0 SPECIFICATION C1.10 FIRE HAZARD PROPERTIES

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Application					
Clause 3	Floor linings and floor coverings	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. The Buildings ***MUST COMPLY.***	Certification of the Existing and proposed Floor Coverings to be provided to the Certifying Authority.
Clause 4	Wall and ceiling linings	1 - 6	YES	YES	This section ***IS APPLICABLE,*** Buildings ***TO COMPLY.***	Certification of the Existing and proposed Floor Coverings to be provided to the Certifying Authority.
Clause 5	Air-handling ductwork	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Lift cars	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 7	Other materials	1 - 6	NO	YES	This section ***IS APPLICABLE,*** Buildings ***TO COMPLY.***	

7.0 SPECIFICATION C1.11 PERFORMANCE OF EXTERNAL WALLS IN FIRE

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Application	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	General requirements for external wall panels	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Additional requirements for vertically spanning external wall panels adjacent to columns	2 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

8.0 SPECIFICATION C2.5 SMOKE-PROOF WALLS IN HEALTH-CARE AND AGED CARE BUILDINGS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Smoke-proof walls required by C2.5 in Class 9a health care buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Smoke-proof walls required by C2.5 in Class 9c aged care buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Doorways in smoke proof walls Class 9a and 9c	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

9.0 SPECIFICATION C3.4 FIRE DOORS, SMOKE DOORS, FIRE WINDOWS AND SHUTTERS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Fire doors	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Smoke doors	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.1	General requirements	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3.2	Construction deemed to satisfy	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Fire shutters	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Fire windows	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

10.0 SPECIFICATION C3.15 PENETRATION OF WALLS, FLOORS AND CEILINGS BY SERVICES

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Application	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Metal pipe systems	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Pipes penetrating sanitary compartments	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Wires and cables	N/A	NO	NO	This section ***IS APPLICABLE,*** Building ***TO COMPLY.***	
Clause 6	Electrical switches and outlets	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 7	Fire-stopping					
(a)	Material	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
(b)	Installation	N/A	NO	NO		
(c)	Hollow construction	N/A	NO	NO		
(d)	Recesses	N/A	NO	NO		
(e)	Test	N/A	NO	NO		

11.0 SECTION D ACCESS AND EGRESS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Part D1	**Provision for Escape**					
D1.1	Application of Part					
D1.2	Number of exits required	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.3	When fire isolated stairways and ramps are required	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.4	Exit travel distances	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.5	Distance between alternative exits	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.6	Dimensions of Exits & paths of travel to exits	1 - 6	YES	YES	This section ***IS APPLICABLE*** to this building. ***BUILDINGS COMPLY***.	
D1.7	Travel via fire isolated exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.8	External Stairways or Ramps in lieu of Fire Isolated Exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.9	Travel by non fire isolated Stairways or Ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.10	Discharge from exits	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY.***	
D1.11	Horizontal Exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.12	Non Required Stairways, Ramps and Escalators	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section D continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
D1.13	Number of persons accommodated	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.14	Measurement of distances	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.15	Method of measurement	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D1.16	Plant rooms, lift machine rooms and electricity network substations: Concession	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D1.17	Access to lift pits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Part D2	**Construction of Exits**					
D2.1	Application of Part					
D2.2	Fire isolated stairways and ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.3	Non Fire Isolated Stairs & Ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.4	Separation of Rising & Descending Stair flights	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.5	Open Access Ramps & Balconies	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.6	Smoke Lobbies	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.7	Installations in exits & paths of travel	1 - 6	YES	YES	This Section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	Electrical switch boards to be enclosed in non combustible material.
D2.8	Enclosure of space under stairs and ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.9	Width of required stairways & ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section D continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
D2.10	Pedestrian Ramps	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.11	Fire Isolated Passageways	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.12	Roof as Open space	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.13	Goings & Risers	1, 2 & 3	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D2.14	Landings	1 & 2	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D2.15	Thresholds	1 - 6	YES	YES	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.16	Balustrades or other barriers	1 & 2	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	Balustrades in Buildings 1 & 2 shall comply with Section D2.16
D2.17	Handrails	1 & 2	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.18	Fixed Platforms, Walkways, Stairways and Ladders	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.19	Doorways & doors	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D2.20	Swinging Doors	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS COMPLY***.	
D2.21	Operation of latch	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY.***	All Latches shall be operable by a single downward action on a single device without the use of a key.
D2.22	Re-Entry from Fire Isolated Exits	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
D2.23	Signs on doors	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section D continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
D2.24	Protection of openable windows	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Part D3	**Access for People with a Disability**					
D3.1	General building access requirements				Not addressed in this Report.	
D3.2	Access to buildings				Not addressed in this Report.	
D3.3	Parts of buildings to be accessible				Not addressed in this Report.	
D3.4	Exemptions				Not addressed in this Report.	
D3.5	Accessible carparking				Not addressed in this Report.	
D3.6	Signage				Not addressed in this Report.	
D3.7	Hearing augmentation				Not addressed in this Report.	
D3.8	Tactile indicators				Not addressed in this Report.	
D3.9	Wheelchair seating spaces in Class 9b assembly buildings				Not addressed in this Report.	
D3.10	Swimming pools				Not addressed in this Report.	
D3.11	Ramps				Not addressed in this Report.	
D3.12	Glazing on an accessway				Not addressed in this Report.	

12.0 SPECIFICATION D1.12 NON REQUIRED STAIRWAYS, RAMPS AND ESCALATORS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 1	Scope	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 2	Requirements	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

13.0 SPECIFICATION D3.6 BRAILLE AND TACTILE SIGNS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 1	Scope				Not addressed in this Report.	
Clause 2	Location of braille and tactile signs				Not addressed in this Report.	
Clause 3	Braille and tactile sign specification				Not addressed in this Report.	
Clause 4	Luminance contrast				Not addressed in this Report.	
Clause 5	Lighting				Not addressed in this Report.	
Clause 6	Braille				Not addressed in this Report.	

14.0 SPECIFICATION D3.10 ACCESSIBLE WATER ENTRY/EXIT FOR SWIMMING POOLS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 1	Scope				Not addressed in this Report.	
Clause 2	Fixed or moveable ramp				Not addressed in this Report.	
Clause 3	Zero depth entry				Not addressed in this Report.	
Clause 4	Platform swimming pool lift				Not addressed in this Report.	
Clause 5	Sling-style swimming pool lift				Not addressed in this Report.	
Clause 6	Aquatic wheelchair				Not addressed in this Report.	

15.0 SECTION E SERVICES AND EQUIPMENT – PART E1 FIRE FIGHTING EQUIPMENT

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E1.1	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
E1.2	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
E1.3	Fire hydrants	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Fire Hydrant System is to be upgraded with a ring main around Buildings 2, 3 & 4 Complying with Section C2.3 and AS 2419.1 – 2005. Additional Fire Hydrants required throughout the site.
E1.4	Fire hose reels	1 - 6	YES	YES	This section ***IS APPLICABLE*** to this building, ***BUILDING DOES NOT COMPLY***.	Control Valves must be installed in the water supply system to ensure that the Fire Hose Reels supply is not interrupted during domestic fixture maintenance. Additional Fire Hose Reels required to satisfy Section E1.4.
E1.5	Sprinkler system	1 - 6	NO	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Install an Automatic Fire Sprinkler System Complying with AS 2118.1 – 1999 and Specification E1.5 as required under Clause C2.3.
E1.6	Portable fire extinguishers	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY.***	Portable Fire Extinguishers shall be installed in accordance with AS 2444.
E1.7	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
E1.8	Fire control centres	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section E – Part 1 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E1.9	Fire Precautions During Construction	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E1.10	Provisions for special hazards	2, 3 & 4	NO	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS TO COMPLY.***	Install Fire Monitors in Areas of High Hazard.

16.0 SPECIFICATION E1.5 FIRE SPRINKLER SYSTEMS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Adoption of AS 2118	2 - 4	NO	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Automatic Fire Sprinkler System to be addressed under the Performance Provisions CP1, CP2, CP9 & EP1.4.
Clause 3	Separation of sprinklered and non-sprinklered areas	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY.***	Automatic Fire Sprinkler System to be addressed under the Performance Provisions CP1, CP2, CP9 & EP1.4.
Clause 4	Protection of openings	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Fast response sprinklers	2, 3 & 4	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Sprinkler valve enclosures	2, 3 & 4	YES	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Valve set enclosure to comply with Specification E1.5.
Clause 7	Water supply	2, 3 & 4	NO	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Water supply to comply with AS 2118.1 - 1999.
Clause 8	Building occupant warning system	2, 3 & 4	NO	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	Building occupant warning system to be installed complying with Specification E1.5 & AS 1670.

(Specification E1.5 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 9	Connection to other systems	2, 3 & 4	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 10	Anti-tamper devices	2, 3 & 4	NO	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS DO NOT COMPLY***.	All valves to be fitted with anti-tamper device.
Clause 11	Sprinkler systems in carparks	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 12	Class 9c aged care buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 13	Sprinkler systems in lift installations	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

17.0 SPECIFICATION E1.8 FIRE CONTROL CENTRES

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Purpose and content	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Location of fire control centre	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Equipment not permitted within a fire control centre	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Ambient sound level for a fire control centre	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Construction of a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 7	Protection of openings in a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 8	Doors to a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 9	Size and contents of a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Specification E1.8 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 10	Ventilation and power supply for a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 11	Sign for a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 12	Lighting for a fire control room	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

18.0 SECTION E SERVICES AND EQUIPMENT – PART E2 SMOKE HAZARD MANAGEMENT

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E2.1	Application of Part					
E2.2 (a)(ii)	General requirements	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E2.2 (b)	General requirements	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Table E2.2a	General provisions	1 - 6	YES	NO	This section ***IS NOT APPLICABLE*** to these buildings.	Exiting Smoke Detection System in the office is non compliant however is not required. Smoke Hazard Management of Buildings No.2, 3 & 4 to be addressed under the Performance Provision EP2.2.
Table E2.2b	Specific provisions	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E2.3	Provision for special hazards	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

19.0 SPECIFICATION E2.2a SMOKE DETECTION AND ALARM SYSTEMS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Type of system	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Smoke alarm system	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Smoke detection system	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Smoke detection for smoke control systems	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Building occupant warning system	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 7	System monitoring	2, 3 & 4	YES	YES	This section ***IS APPLICABLE*** to these buildings.	Fire system monitoring shall be maintained as part of the Fire Service Upgrade strategy.

20.0 SPECIFICATION E2.2b SMOKE EXHAUST SYSTEMS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Smoke exhaust capacity	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Smoke exhaust fans	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Smoke reservoirs	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Smoke exhaust fan and vent location	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Make-up air	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 7	Smoke exhaust system control	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Specification E2.2b continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 8	Smoke detection	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

21.0 SPECIFICATION E2.2c SMOKE-AND-HEAT VENTS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 1	Adoption of AS 2665	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 2	Controls	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	

22.0 SECTION E SERVICES AND EQUIPMENT – PART E3 LIFT INSTALLATIONS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E3.1	Lift installations	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.2	Stretcher facility in lifts	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.3	Warning against use of lifts in fire	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.4	Emergency lifts	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.5	Landings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.6	Passenger lifts	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.7	Fire service controls	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

(Section E – Part E3 continued)

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E3.8	Aged care buildings	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.9	Fire service recall operation switch	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E3.10	Lift car fire service drive control switch	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

23.0 SPECIFICATION E3.1 LIFT INSTALLATIONS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
Clause 2	Lift cars exposed to solar radiation	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 3	Lift car emergency lighting	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 4	Cooling of lift shaft	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 5	Lift foyer access	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
Clause 6	Emergency access doors in a single enclosed lift shaft	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

24.0 SECTION E SERVICES AND EQUIPMENT – PART E4 EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS

BCA 2013	Deemed to Satisfy Provision	Building No.	Existing	Required	Comment	Work to be Completed
E4.1	* * * * *				The BCA states *"THIS CLAUSE HAS BEEN DELIBERATELY BEEN LEFT BLANK"*	
E4.2	Emergency lighting requirements	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	Emergency Lighting to be installed throughout both Buildings, Complying with AS 2293.1 – 2005.
E4.3	Measurement of distance	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings, ***BUILDINGS MUST COMPLY***.	Emergency Lighting System to comply with AS 2293.1 – 2005 and amendments.
E4.4	Design and operation of emergency lighting	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	Emergency Lighting to be installed throughout both Buildings, Complying with AS 2293.1 – 2005.
E4.5	Exit signs	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS DO NOT COMPLY***.	Additional Exit Signs shall be installed throughout both Buildings in accordance with AS 2293.1 – 2005.
E4.6 NSW	Direction signs	1 - 6	NO	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS TO COMPLY***.	Exit Lighting System to comply with AS 2293 – 2005 and amendments.
E4.7	Class 2 and 3 buildings and Class 4 parts: Exemptions	N/A	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	
E4.8	Design and operation of exit signs	1 - 6	YES	YES	This section ***IS APPLICABLE*** to these buildings. ***BUILDINGS TO COMPLY***.	Exit Lighting System to comply with AS 2293 – 2005 and amendments.
E4.9	EWIS Sound systems and intercom systems for emergency purposes	1 - 6	NO	NO	This section ***IS NOT APPLICABLE*** to these buildings.	

Annex P

Quantity Surveyor's Report

(QPC&C)

21st February 2014

QPC & C Pty Limited
ABN 78 074 731 963

Suite 1, Level 3
1C Grand Avenue, Rosehill
Postal Address:
PO Box 300, Oatlands NSW 2117
p 02 9638 5522
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info@capital-qpc.com.au
www.capital-qpc.com.au

The General Manager
Blacktown City Council
PO Box 63,
Blacktown, NSW, 2148

RE : COST ASSESSMENT FOR NEW DEVELOPMENT
23-43 Tattersall Rd, Kings Park

Dear Sir / Madam,

As requested by the owner of the above property, we provide the following indicative development costs for the above mentioned project.

The project entails the Alterations & Additions to the existing Metal Recovery & Recycling Facility.

Upon reviewing drawings prepared by Lean Lackenby & Hayward, identified with file number 59760 and drawing numbers LD1 and Turn in a 1:400 scale; we advise as follows.

Our costing can be summarized as follows:

Total Cost of Works (Clause 255)	**$ 1,111,113.22** [1]
Cost of Works (Clause 25J)	**$ 1,111,113.22** [2]

[1] In accoprdance with Section 255 of the EP&A Regulation the development cost includes for goods & services tax, builders margin and all associated preliminaries & labour but excludes any project contingency.

[2] In accordance with Section 25 J of the EP&A Regulation the following costs are to be excluded from the estimate:
- The cost of any development that is provided as affordable housing, (*Not Applicable*)
- The costs of re use of a heritage item. (*Not Applicable*)
- The cost of furnishings (*Not Applicable*)

Attached is the Cost Assessment for Developments Valued in excess at $500,000, derived from Blacktown City Council standard form.

Should you have any queries, please do not hesitate to contact us on the below details.

Yours Faithfully,
Q.P.C. & C Pty. Ltd.

Tony Sassine B.App.Sc. (Hons) A.A.I.Q.S.
Managing Director

Registered Quantity Surveyor's Detailed Cost Report

for development costs in excess of $500,000

Prepared For:

Blacktown City Council

DATE OF REPORT:	*21st February 2014*
DEVELOPMENT APPLICATION No.	
CONSTRUCTION CERTIFICATE No.	

APPLICANT'S NAME:

APPLICANT'S ADDRESS:

DEVELOPMENT DESCRIPTION: *Alterations & Additions to the existing Metal Recovery & Recycling Facility*

DEVELOPMENT ADDRESS: *23-43 Tattersall Rd, Kings Park*

DEVELOPMENT DETAILS

Gross Floor Area - Commercial		m2
Gross Floor Area - Residential		m2
Gross Floor Area - Retail		m2
Gross Floor Area - Car Parking		m2
Gross Floor Area - Other		m2

Total Gross Floor Area	0	m2
Total Site Area	63,760	m2
Total Car Parking Spaces		No.

Total Development Cost	$	1,111,113
Total Construction Cost	$	1,078,751
Total GST *(Included Above)*	$	101,010

ESTIMATE DETAILS

Excavation	$	
Cost per m2 of site area	$	
Demolition & Site Preparation	$	700,659
Cost m2 metre of site area	$	10.99 /m2
Construction - Commercial	$	52,451
Cost per m2 of commercial area	$	N/A
Construction - Residential	$	
Cost per m2 of residential area	$	
Construction - Retail	$	
Cost per m2 of retail area	$	
Car Park	$	66,078
Cost per m2 of site area	$	N/A
Cost per space	$	N/A

Fit-Out - Commercial	$	259,563
Cost per m2 of commercial area	$	N/A
Fit-Out - Residential	$	
Cost per m2 of residentail area	$	
Fit-Out - Retail	$	
Cost per m2 of retail area	$	
Professional Fees	$	32,363
% of Development Cost	%	2.91
% of Construction Cost	%	3.00

Total Development Cost *incl GST*	$	**1,111,113**

I certify that I have:

- ✓ Inspected the plans the subject of the application for development consent or construction certificate.
- ✓ Prepared and attached an elemental estimate generally prepared in accordance with the Australian Cost Management Manuals from the Australian Institute of Quantity Surveyors.
- ✓ Calculated the development costs in accordance with the definition of development costs in the Section 94A Development Contributions Plan of the council at current prices.
- ✓ Included GST in the calculation of development cost
- ✓ Measured gross floor areas in accordance with the Method of Measurement of Building Area in the AIQS Cost Management Manual Volume 1 (Appendix A2)

Signed:

Name: *Tony Sassine* AIQS Membership Number: *1565*

Position & Qualifications: *Managing Director, B.App.Sci (Hons), AAIQS*

Trade Breakup

Job Name : SP - KINGS PARK
Client's Name: Sell & Parker
Site Address: 23-43 Tattersall Rd, Kings Park
Job Description: Industrial Development

Item No.	Item Description	Quantity	Unit	Rate	Mark Up %	Amount
Trade :	**1** ***Cost Analysis - 23-43 Tattersall Rd, Kings Park***					
	The project consists of Alterations & Additions to the existing Metal Recovery & Recycling Facility					
1	- Site Area	63,760.00	m2			
2						
3	The Following Estimate Excludes the Following:		Note			
4	- Authorities fees		Note			
5	- Sewer or Stormwater Encasements and Diversions		Note			
6	- Any major works not identified in the drawings.		Note			
7	- Groundworks		Note			
8						
	DEMOLITION & EXCAVATION					
9	Demolition of required structures and disposal off site.	9,195.00	m2	60.00	27.00	700,659.00
10	Trim & Level site (OTR) and removal of spoil off site.		Excl.			
11	Subtotal - Demolition & Excavation					*700,659.00*
12						
	CAR PARKING & DRIVEWAYS					
13	Widen Driveway, Crossing & Layback	1.00	Item	42,000.00	27.00	53,340.00
14	Variable Car Parking Components	2,006.00	m2	5.00	27.00	12,738.10
15	Subtotal - Car Parking					*66,078.10*
16						
	STRUCTURE					
	Existing Facilities					
17	Relocate Preshreadder	1.00	Item	4,000.00	27.00	5,080.00
18	Relocate Shear	1.00	Item	4,000.00	27.00	5,080.00
19	Extend and move Sound Walls	1.00	Item	3,300.00	27.00	4,191.00
20						
	New Facilities					
21	Weighbridges	1.00	Item	30,000.00	27.00	38,100.00
22	Subtotal - Commercial Structure					*52,451.00*
23						
	FIT OUT					

Trade Breakup

Job Name :	SP - KINGS PARK	**Site Address:**	23-43 Tattersall Rd, Kings Park
Client's Name:	Sell & Parker	**Job Description:**	Industrial Development

Item No.	Item Description	Quantity	Unit	Rate	Mark Up %	Amount
Trade :	**1** ***Cost Analysis - 23-43 Tattersall Rd, Kings Park***					*(Continued)*
24	Office Area Fixed Components	1.00	Item	26,600.00	27.00	33,782.00
25	New colourbond and electric fence	1.00	Item	11,250.00	27.00	14,287.50
26						
	SERVICES					
27	Hydraulic Services	1.00	Item	30,000.00	27.00	38,100.00
28	Mechanical Services	1.00	Item	51,780.00	27.00	65,760.60
29	Electrical Services	1.00	Item	71,000.00	27.00	90,170.00
30	Fire Services	1.00	Item	13,750.00	27.00	17,462.50
31	Subtotal - Commercial Fit Out					*259,562.60*
32						
33	Total - Construction Cost					*1,078,750.70*
34	Professional Fees (2%)	1.00	Item	32,362.52		32,362.52
35	Total - Development Cost (incl. GST)					*1,111,113.22*
36						
37						
38						
39						
40						
41						
42						
43						
	Cost Analysis - 23-43 Tattersall Rd, Kings Park				**Total :**	**1,111,113.22**

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