planning consultants

Environmental Impact Statement – SSD 8184

Fairfield Sustainable Resource Centre

Hassall Street and Widemere Road, Wetherill Park

Prepared for: Fairfield City Council
August 2020

Printed: 25 August 2020
File Name: 8167G Hassall St & Widemere Rd, Wetherill Park - SRC Expansion EIS/Reports/Revised EIS_1
Project Manager: E Robertshaw
Client: Fairfield City Council
Project Number: 8167G

Document Control

Version	Prepared By	Reviewed By	Issued To	Date
Rev_1, Draft	E. Robertshaw	K Mackay	DPIE	12 August 2020
Rev_2, Final	E. Robertshaw	K. Mackay	DPIE	25 August 2020

11 Dartford Road, Thornleigh NSW 2120
207/506 Miller Street, Cammeray NSW 2062

PO Box 230
Pennant Hills NSW 1715

t: 02 9980 6933
e: dfp@dfpplanning.com.au

DFP Planning Pty Limited
ACN 002 263 998

www.dfpplanning.com.au

Contents

Contents

Contents

Figures

Contents

Tables

Appendices

Contents

Abbreviations

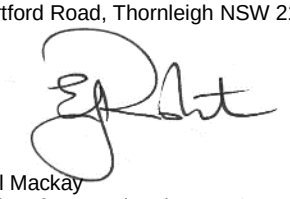
AADT	annual average daily vehicle trips
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AS	Australian Standard
ASS	acid sulfate soils
BC Act	Biodiversity Conservation Act 2016
BCA	Building Code of Australia
BTA	bushfire threat assessment
CC	construction certificate
CIV	capital investment value
Council	Fairfield Council
DA	development application
DCP	development control plan
DFP	DFP Planning Pty Limited
DPIE	NSW Department of Planning, Industry and Environment
DSI	Detailed Site Investigation
DVT	daily vehicle trip
EMP	Environmental Management Plan
ENM	excavated natural material
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPI	environmental planning instrument
EPL	Environmental Protection Licence
ESCP	erosion and sedimentation control plan
ESD	ecologically sustainable development
FPL	flood planning level
FSR	floor space ratio
GFA	gross floor area
GSC	Greater Sydney Commission
HIS	heritage impact statement
IPC	Independent Planning Commission
JRPP	Joint Regional Planning Panel
LEP	local environmental plan
LGA	local government area
LoS	level of service
LPP	Local Planning Panel
NPFI	Noise Policy for Industry
NPW Act	*National Parks and Wildlife Act 1974*
NPWS	NSW National Parks and Wildlife Service
PA	planning agreement
OEH	NSW Office of Environment and Heritage
PAD	potential archaeological deposit
PVT	peak hour vehicle trip
REP	regional environmental plan
RFI Act	*Rivers and Foreshore Improvement Act 1948*
RFS	NSW Rural Fire Service
RF Act	*Rural Fires Act 1997*
RL	reduced level
RMS	NSW Roads and Maritime Services
SC	Subdivision Certificate

Contents

Abbreviations

SCC	site compatibility certificate
SCI	site contamination investigation
SEPP	state environmental planning policy
SIS	species impact statement
SRC	Sustainable Resource Centre
SSD	State Significant Development
SULE	safe useful life expectancy
SWMP	Soil and Water Management Plan
TSC Act	*Threatened Species Conservation Act 1995*
TSP	total suspended particulates
VENM	virgin excavated natural material
vtph	vehicle trips per hour
WM Act	*Water Management Act 2000*
WSUD	water sensitive urban design

DECLARATION

Applicant Name:	Fairfield City Council
Applicant Address:	PO Box 21, Fairfield NSW 1860
Land to be developed:	Corner of Hassall Street and Widemere Road, Wetherill Park • Lot 1 DP 515773; • Lot 34 DP 657040; • Lots 35 and 37 DP 3082 • Lot 100 DP 1220637; • Lots 1 and 2 DP 620755; and • Lot 1 DP 368374.
Proposed development:	Expansion of the Fairfield Sustainable Resource Centre (SRC)
ENVIRONMENTAL IMPACT STATEMENT	This report is an Environmental Impact Statement (EIS) which addresses all relevant matters required by Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).
DECLARATION	The undersigned certify that we have prepared the contents of this Environmental Impact Statement and to the best of our knowledge it: • addresses the relevant matters in Part 4 of the EP&A Act and under Schedule 2 of the EP&A Regulation; • contains all available information that is relevant to the environmental assessment of the development to which the EIS relates; and • is not, by its presentation or omission of information, false nor misleading.
PREPARED BY	
Name: **Qualifications:**	Ellen Robertshaw Bachelor of Applied Science (Environmental Planning), Charles Sturt University Certified Practicing Planner MPIA
Address:	11 Dartford Road, Thornleigh NSW 2120
Signature:	
Name: **Qualifications:**	Kendal Mackay Bachelor of Town Planning, UNSW Master of Transport Planning, Monash
Address:	11 Dartford Road, Thornleigh NSW 2120
Signature:	
Date:	25 August 2020

Executive Summary

Introduction

This Environmental Impact Statement (EIS) has been prepared by DFP Planning Pty Ltd (DFP) on behalf of Fairfield City Council (Council) to accompany a development application (DA) to the NSW Department of Planning and Environment (DPE) for the expansion of the Fairfield Sustainable Resource Centre (SRC) at Widemere Road and Hassall Street, Wetherill Park.

The proposal meets the criteria for State Significant Development (SSD) pursuant to Schedule 1 Clause 23(3) of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) as it involves handling of 550,000 tonnes of waste per year, which exceeds the SSD threshold under SEPP SRD of 100,000 tonnes per year of waste.

This EIS has been prepared in accordance with Secretary's Environmental Assessment Requirements (the SEARs) for SSD 8184 issued on 6 May 2019, Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) to provide the DPE and relevant NSW State Government Agencies with all relevant information necessary to assess the proposed development.

The Minister for Planning (or delegate) is the consent authority for the DA in accordance with Section 4.5(a) of the EP&A Act.

The Proposal

The proposal seeks to increase the processing capacity of the facility to 550,000 tonnes of recyclable construction material per year. No change to the approved types of material is proposed, which includes:

- VENM;
- Building and demolition waste including roof tiles, clay bricks, concrete;
- Asphalt waste (including asphalt resulting from road construction and waterproofing); and
- Soils.

The proposal also seeks to undertake physical works as follows:

- Filling a gully through the centre of the site, known locally as 'Canal Road' and a small area of land to the south east of Canal Road fronting Hassall Street and use of this area for stockpiling of materials. Fill material is to be Excavated Natural Material (ENM), Virgin Excavated Natural Material (VENM) and potentially stockpiled material;
- Construction of a new formalised carparking area and new entry driveway off Widemere Road including vegetation removal;
- Construction of new sediment detention basins to manage stormwater, provide for on-site water use and offset flood impacts.

Due to demand and to maximise operational efficiencies, it is also proposed to extend the operating hours of the facility as follows:

- Receiving and loading/unloading of trucks – 24hrs/7 days;
- Crushing operations - 5.00am – 6.00pm; and
- Pug Mill operations - 3.00am – 4.00pm.

The proposal has an estimated Capital Investment Value (CIV) of $1,000,000 and works relating to the filling of the gully, construction of sediment basins and flood storage, construction of the car park and works relating to the entry driveway is estimated to be undertaken progressively over a 2-year period.

Justification and Alternatives

The *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* (NSW EPA, 2014) sets targets for avoiding and reducing waste, increasing recycling rates, diverting more waste from landfills, improving waste management and reducing litter and illegal dumping.

Executive Summary

By providing an alternative to landfill for construction and demolition waste, recycling and providing recycled product for future construction works, the facility not only facilitates the key result areas of recycling and diverting waste from landfill, it also effects waste avoidance and reduction by providing a source of material for new construction other than quarrying or otherwise producing new material that will ultimately become waste in future. Additionally, by providing a lower-cost alternative to waste disposal at landfill, the facility may result in a reduction of illegal dumping.

The alternatives to the proposed development include a "Do Nothing" option, a larger expansion of the existing facility (than that proposed) or development of a new facility on another site.

It was considered that the "Do Nothing" option would not assist to meet the demand for recycling of construction materials and increase the risk of illegal dumping and increased landfill, thereby not assisting to meet NSW Government waste targets.

The option to seek a larger capacity (i.e. 750,000t processing capacity per annum) was considered although this option would require upgrade of existing plant and machinery, potentially require more intense operations during daytime hours or a smaller processing capacity over longer operating hours. Accordingly, this option was considered likely to result in greater environmental impacts.

The development of a new facility off-site would require substantial financial investment and not take advantage of the existing operational capacity of the existing site. Furthermore, there is considered to be low prospects for acquiring a suitable alternative site within the Fairfield LGA, well-separated from residential development.

It was therefore decided that increasing the handling capacity of the existing facility utilising the existing plant and equipment and increasing the hours of operation of the facility (provided the extended hours was supportable from an impact perspective) represented the most balanced approach to addressing the increased demand for services provided by the SRC.

Environmental Assessment

Fairfield Local Environmental Plan 2013

Pursuant to *Fairfield Local Environmental Plan 2013* (the LEP), the site is primarily zoned IN1 General Industrial (the IN1 Zone) with some land along Prospect Creek zoned E2 Environmental Conservation and part of the eastern extremity of the site zoned RE1 Public Recreation. With the exception of a flood storage area, the SRC facility and all proposed works associated with the expansion of the SRC facility are located entirely within the IN1 Zone within which a 'resource recovery facility' is permissible with development consent. The proposal is consistent with the objectives of the IN1 Zone.

Development consent is required for earthworks and the assessment in this EIS demonstrates that the proposed earthworks are satisfactory with regard to the matters for consideration under clauses 6.2 of the LEP.

Pursuant to clause 6.3 of the LEP a flood assessment has been undertaken which indicates that part of the site is impacted by flooding and that, subject to the provision of compensatory flood storage, the proposed works will not result in any significant changes to flood levels or velocities.

The proposal includes some batter for the filled gully which is within a small area mapped by the LEP as riparian land pursuant to clause 6.6 of the LEP. The Biodiversity Assessment Report undertaken for the proposal demonstrates that the proposed works will not significantly adversely impact on water quality or flows along the creekline or flora and fauna habitat.

State Environmental Planning Policy No. 55 – Remediation of Land

A Detailed site Investigation (DSI) report has been prepared by WSP for the site and the area within which the proposed expansion works will occur. The DSI identified some contamination in the groundwater beneath the expansion area which is likely to be a result of the landfill leachate although there are no identified human health risks from soil or groundwater. Furthermore, the levels of metals and hydrocarbons present in standing water in the gully and in samples of Prospect Creek do not exceed any adopted assessment criteria. Accordingly, the site is considered suitable for use as resource recovery facility, with no remediation recommended although several recommendations have been

made with respect to construction management practices and waste classification for any excavated materials. Accordingly, the provisions of SEPP 55 are satisfied.

Waste Management

The WMA has considered the various waste streams which are brought to the site including brick, concrete, asphalt, terracotta tile, soil and rock waste and notes that the redirection of these materials to the facility for recycling has the following benefits:

- reducing waste volume to landfill;
- reducing the need for new material production;
- providing recycled materials at lower cost than production of new materials;
- consistency with the WARR Strategy (NSW EPA, 2014).

The expanded facility will continue to operate subject to the existing licencing (varied as required) and operational management procedures and subject to compliance with the conditions of relevant environmental licences and operational management procedures, the proposal is considered unlikely to result in adverse environmental impacts relating to waste management.

The current maximum stockpile capacity of 250,000 tonnes is considered appropriate for the facility. Even with the expanded capacity it is unlikely that this would be exceeded under normal operation.

The processes and procedures that are in place appropriately manage the operational capacity for which consent is sought. No mitigation measures specifically relating to waste management are considered necessary however there are potential impacts relating to increased water usage, dust emissions, noise emissions and traffic generation, impacts on water quality and ecological impacts which are associated with the use of the site as a waste and recycling centre. Management and mitigation relating to these impacts are addressed within this EIS and in the appended specialist reports.

Soil and Water Management

Water supply requirements for dust suppression, toilet flushing and operational uses will be met by two existing sediment basins, two new basins and a number of storage tanks in addition to the unchanged licenced take-off from Prospect Creek.

Upon completion of the proposed expansion works, existing Sediment Basin 3 will be decommissioned and proposed Sediment Basins 4 and 5 are to be constructed. Existing Sediment Basins 1 and 2 will be retrofitted to have a forebay and chemical dosing facilities to facilitate the sedimentation and removal of particulates. The SRC will continue to rely on the ability to draw water from Prospect Creek in accordance with the existing water extraction licence.

The existing berm which runs along the entire perimeter of the site and diverts surface runoff to on-site sediment basins will be maintained and is deemed adequate to manage stormwater runoff for the existing SRC.

The proposed expansion works will require the provision of additional sediment control basin.

It is proposed that the sediment basins will not be used as a primary water storage resource. This is to avoid the scenario of the basins overflowing in the event of a significant storm and the sediment washing unchecked in Prospect Creek. It is proposed that the water in the basins be maintained at a level which will allow the basins to fulfil their principal function as a sediment control device. In order to maintain the water levels, there may be times when the water in the basins needs to be pumped into the storage tanks.

The strategy of using the proposed sedimentation ponds for sediment capture and not as a source for water re-use storage will require more frequent pumping than is currently undertaken on site.

The proposed earthworks will be carried out in accordance with prevailing best practice soil and water management techniques including temporary vegetative stabilisation with any disturbed vegetation re-established and proposed batters planted with suitable ground cover. The existing vegetated buffer strip of approximately 100m will be maintained between the operational areas of the site and Prospect Creek.

Executive Summary

Air Quality

The nearest residential land uses are over 650m from the site with the nearest receivers being commercial and industrial uses on Widemere Road and Hassall Street. Dispersion modelling was undertaken to assess the potential odour and dust impacts associated with the proposed development which indicates that:

- The Predicted Peak Odour Concentration at identified sensitive receptors is well below the relevant assessment criterion;
- The modelled scenario complies with the established TSP and particulate matter criteria at all residential sensitive receptors however, the 24-hour average PM_{10} concentration and the 24-hour average $PM_{2.5}$ concentration is exceeded at several industrial/commercial receptors on Hassall Street. Notwithstanding, the contemporaneous assessments showed that no additional exceedances of the $PM_{2.5}$ criteria occurred due to impact from the project and that the PM^{10} exceedances occur during periods of elevated background levels in the dispersion model caused by bush fires in the baseline data year and the contribution from the project is considered minor;
- Deposited dust levels have been assessed as being below the impact assessment criteria at all sensitive receptors.

Notwithstanding the findings of the air quality modelling, several measures are recommended to manage odour and dust emissions to reduce the potential impact of site operations on local and regional air quality.

Noise and Vibration

Long-term noise monitoring was undertaken at representative locations including two residential locations (which are over 650m from the site) and a commercial/industrial location within 30m of the site on Widemere Road/Hassall Street. Noise modelling was undertaken to assess the potential impacts associated with the proposed development. The noise modelling indicates that:

- Operational noise emissions from the site fully comply with the relevant Noise Policy for Industry (npfi) Project Noise Trigger Levels at all identified receivers with respect to maximum operating conditions with full compliance predicted under neutral and prevailing adverse meteorological conditions;
- Operational activities would be expected to be inaudible at the closest residential receivers and accordingly, no specific requirements for mitigation have been identified to control operational noise although various noise management strategies are recommended which would further reduce the potential for noise issues during operations;
- The proposed gully filling, sedimentation basin and carparking construction would not result in off-site noise levels beyond those predicted for operational noise;
- Compliance with the Noise Policy for Industry (npfi) Project Noise Trigger Levels indicates that operational noise from the project would not be expected to result in any material increase in cumulative industrial noise levels;
- The sleep disturbance criterion would be met with consideration to the identified activities occurring during the night, including under neutral or adverse meteorological conditions; and
- Existing daytime and night time road traffic noise levels already exceed criteria on Widemere Road with similar exceedances considered likely to occur along other sections of the proposed arterial/sub-arterial routes where residences exist. Assuming up to an additional 6-7 truck movements per hour at night under the proposed operations, the resultant increase in traffic would be expected to contribute up to 0.6 dB to the overall level at the nearest residential receivers and this contribution and the incremental change in level is considered negligible in accordance with the NSW Road Noise Policy noting that a change in noise level of 1dBA is not perceptible to the human hear.

With regard to vibration impacts, any ground vibrations arising due to on-site activities would be imperceptible at the closest residential receivers and the anticipated levels are substantially below the

relevant criteria for building damage and human comfort recommended for offices at the closest commercial receivers.

Traffic and Transport

Automatic tube surveys of the site access driveways were undertaken over a full week of operations surveys of numerous nearby intersections were also undertaken. These surveys demonstrated that existing site operations generate traffic movements in a reasonably evenly dispersed nature between 8am and 2pm on weekdays with the maximum hourly traffic generation being 96 vehicle movements occurring between 10-11am on the Thursday surveyed.

The surveyed intersections were analysed utilising the SIDRA computer intersection analysis program with all surveyed intersections assessed to operate with an acceptable Level of Service (LoS) and a further safety assessment of the Widemere Road and Hassall Street intersection indicating that existing operations do not trigger a level of safety concern warranting infrastructure alteration.

It is estimated that the proposed increase in operations will involve an increase in traffic generation of 14% over existing operations.

An assessment of traffic impacts as a result of the proposed increase in capacity has assumed a worst case scenario based on an additional 14 vehicle movements to and from the site per hour, representing an average of one additional vehicle movement every four minutes. This assumed increase in traffic generation has been assessed as being unlikely to result in any noticeable impacts on the efficiency of the overall road network.

The proposal does not include any change to the existing classification of vehicles servicing the site. The swept path analysis of the proposed widening and formalisation of the existing site access driveways demonstrates that the altered site access arrangements can accommodate vehicles up to and including 25m long B-doubles in a safe and efficient manner, without unreasonable encroachment on opposing public road travel lanes and public road of driveway kerbs. In addition, the large scale of the processing and storage yards is such that vehicles up to and including 25m long B-doubles will be able to circulate and load / unload in a safe and efficient manner.

The operation of the weighbridge has also been assessed. The provided queuing area is approximately 55m and therefore will continue to provide adequate internal storage to account for normal fluctuations in entering traffic flows over short periods of time. In this regard, it is not expected that queuing associated with entering vehicles will extend into Widemere Road.

The proposed increase in formal parking from 13 parking spaces to 33 parking spaces will accommodate the peak demand of 26 parking spaces generated by the maximum number of staff on-site at any one time (32 employees) and provide for the limited number of visitors expected to access the site and the proposed internal parking and circulation areas comply with AS2890.1-2004 and AS2890.6-2009.

Flora and Fauna

A Biodiversity Assessment Report (BAR) has been prepared by SLR Consulting which indicates that due to extensive clearing, there is limited vegetation on the site and that vegetation located within the drainage line of the former Canal Road is limited in extent and is currently in a poor ecological condition.

There are two native vegetation plant community types (PCTs) mapped on the site - ‘Coastal Floodplain Wetlands’ and ‘Coastal Freshwater Lagoons’.

The Coastal Floodplain Wetlands on the site comprises PCT 835 ‘Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion’.

The Coastal Freshwater Lagoons on the site comprises PCT 781 ‘Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion’.

Native vegetation, where recorded on the site, is generally in low condition, with bare soil and/or exotic (non-native and/or weed) flora species.

Executive Summary

The site provides only limited flora habitat however, birds, frogs, mammals, reptiles and amphibians have been recorded on the site. No threatened species have previously been recorded on the site.

The proposed works avoid the identified biodiversity constraints of the site where possible by utilising areas of the site that have already been disturbed or cleared.

The final development footprint will involve some minor impacts to threatened ecological communities and habitat for threatened fauna species comprising the following direct impacts:

- Removal and disturbance of regrowth riparian forest within Canal Road gully, which is dominated by exotic weed species with a low cover and diversity of native species (this area is classed as low condition and does not need to be offset).
- Removal of a small portion of potential fauna foraging habitat, associated with tree removal in Canal Road gully, in particular for threatened microchiropteran bats species and Grey-headed Flying-fox.

The areas of native vegetation to be cleared have been carefully considered and all habitats of high conservation value have been avoided where possible. The proposal impacts will be limited to removal of highly disturbed regrowth vegetation that cannot be avoided.

No local populations of threatened species that generate species credits are likely to occupy the vegetation within the study area, on other than a transient basis when opportunistically foraging. Hence, the creation of species polygons for such species is not considered appropriate for this assessment and there are no species credit polygons that require offset as part of the proposed development.

The Biobanking Credit Calculator has been used to calculate the impacts of the proposed development and potential offset requirements, in accordance with Section 8 of the FBA.

In this regard:

- No species credits are required to offset the impacts of the proposed development.
- The loss in landscape value score is 9.

In accordance with the FBA, copies of the BioBanking credit reports are provided in Appendix G to the BAR. The results of the Credit Reports indicate that:

- No ecosystem credits are required to offset the proposed development impacts.
- No species credits are required to offset the proposed development impacts.

According to the thresholds for biodiversity offsets, impacts "*for which the assessor is not required to determine an offset*" are impacts on PCTs that have a site value of score of <17 and are not associated with threatened species habitat. Accordingly, the removal of vegetation within the site to allow construction and operation of the proposed development does not require an offset in accordance with the FBA. Accordingly, there is no requirement for a biodiversity offset strategy.

Flooding

The site is located within the Prospect Creek catchment and is immediately adjacent to the Hassall Street Detention Basin with parts of the site subject to flooding in the 1% AEP.

As the proposed changes to the existing carpark entry/exit are located above the 1% flood extent, those works will not have adverse flood impact offsite.

Additional flood storage will be required to be provided on site to compensate for the filling of the Canal Road gully. A flood storage area will a capacity of 1,500m^3 is proposed to be provided to the north-east of the expansion area. This area will only function as a storage area for the 1% AEP flood event. Outside of flood times, it will be dry.

Flood modelling for the proposed development demonstrates that the proposed flooding conditions are generally unchanged from predeveloped conditions with flood levels outside of proposed works areas largely similar (within 10mm difference) to existing and changes to 1% AEP velocities not materially significant. Accordingly, the hydraulic hazard has not changed significantly.

Executive Summary

Fire Safety

The proposal does not involve any new buildings or alteration/additions to any existing buildings and accordingly, a BCA Assessment is not relevant in this instance.

As the FRNSW's Fire Safety Guideline – *Fire in waste facilities* applies to waste facilities that process and store combustible waste materials, its relevance to the existing and proposed operations is limited as those operations relate to the processing and storage of non-combustible construction materials and soils. Notwithstanding, the existing operations are subject to an Environmental Protection Licence (EPL) which requires an Emergency Response Plan and if approved, the proposed future operations will be subject to a new EPL which is likely to include a similar requirement. The current Emergency Response Plan outlines processes to minimise potential risk of fire and procedures for emergency responses and if necessary, a condition of development consent could require an update of this Emergency Response Plan.

Aboriginal Heritage

The Aboriginal Heritage Archaeological Assessment prepared for the site concludes that:

- No previously recorded Aboriginal sites are located within the study area;
- No archaeological material was identified on the ground surface within the study area; and
- The study area is assessed as having no potential for subsurface archaeological deposits and this is confirmed by the site inspection.

Accordingly, no further Aboriginal archaeological assessment is required prior to works commencing and a condition of consent can require an unexpected finds protocol.

Historical Heritage

The Historical Heritage Assessment prepared for the site concluded that:

- No previously registered historical sites are located within the study area assessed for this project.
- No archaeological material was identified on the ground surface of the SRC study area.
- The study area has been disturbed through previous land use activities.
- The study area has no historical significance.
- The proposed development will not have any heritage impacts.

Accordingly, no further archaeological assessment is required prior to works commencing and a condition of consent can require an unexpected finds protocol.

Visual Impact

A Visual Impact Assessment was prepared for the proposed development which assesses the existing visual character of the site and the surrounding urban landscape, determines the extent and nature of potential visual impacts of the proposal and identifies any measures to mitigate and minimise those impacts.

The assessment concludes that the proposed development generally has a negligible to moderate visual impact as a result of the existing vegetation surrounding the site, which minimises its visibility from the public domain. Notwithstanding, various measures are recommended to be employed during construction and future operations to mitigating any potential visual impacts.

Other Approvals and Licences

The proposed development will require a varied or new EPL to reflect the modified extent of the proposed operations and the proposed hours of operation.

No other permits, licences or approvals are likely to the required to accommodate the proposed development.

Executive Summary

Statement of Commitments/Mitigation Measures

Section 7 of this EIS provides a summary of the mitigation and management measures identified in the EIS and supporting documentation.

These mitigation and management measures will be undertaken before and during construction and during the operational phase of the facility to minimise any identified or potential adverse environmental and amenity impacts.

Conclusion

The expansion of the existing resource recovery facility at Widemere Road and Hassall Street, Wetherill Park has been assessed within this EIS and supporting documentation in accordance with SEARs, Part 4 of the EP&A Act and Schedule 2 of the EP&A Regulation.

The potential environmental, social and economic impacts of the proposal have been identified and assessed and it is considered that the development will result in minimal adverse environmental impacts subject to implementation of the recommended mitigation and management measures.

The development is considered to be consistent with the relevant provisions of applicable legislations, environmental planning instruments and assessment guidelines and is considered to provide for positive impacts by assisting to reduce waste streams that would otherwise be directed to landfill or illegal dumping and to assist minimising the use of newly extracted natural resources.

Accordingly, the development is considered to be in the public interest and it is recommended that the consent authority grant development consent subject to conditions relating to management and mitigation measures identified in this EIS.

1 Introduction

1.1 Purpose of this Report

DFP Planning Pty Ltd (DFP) has been commissioned by Fairfield City Council (Council) to prepare an Environmental Impact Statement (EIS) to accompany a development application (DA) to the NSW Department of Planning, Industry and Environment (DPIE) to regularise the existing operations of the Fairfield sustainable resource centre (SRC) and to facilitate the proposed expansion of the area to be used for the purposes of the SRC.

The Fairfield Sustainable Resource Centre (SRC) is located on Widemere Road and Hassall Street at Wetherill Park.

The proposal meets the criteria for State Significant Development (SSD) pursuant to Schedule 1 Clause 23(3) of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) as the expanded facility will have the capacity to handle 550,000 tonnes of waste per year, which exceeds the SSD threshold under SEPP SRD of 100,000 tonnes per year of waste.

On 6 May 2019, the Secretary of the DPE issued Secretary's Environmental Assessment Requirements (the SEARs) for SSD 8184 (see **Appendix 1**).

This report has been prepared in accordance with the SEARs, Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) to provide DPIE and relevant NSW State Government Agencies with all relevant information necessary to assess the proposed development. Specifically, this EIS has been prepared in accordance with the requirements of clauses 6 and 7 of Schedule 2 of the Regulation. **Appendix 1** provides a SEARs reference table to summarise and identify the sections of this EIS which address SEARs.

The Minister for Planning (or delegate) is the consent authority for the DA in accordance with Section 4.5(a) of the EP&A Act.

Approval is sought for a resource recovery centre processing up to 550,000 tonnes of waste per annum.

1.2 Background

The site was used for landfill during the 1980s however review of historical aerial photographs indicate that the eastern part of site may have been used for land fill as far back as 1975.

By 1991 the land fill activities had ceased, and the site was subsequently capped. Around this time, aerial photographs indicate that stockpiling of materials was occurring on the western part of the site. The current site level is several metres above the cap and all operations are at this level to ensure that the integrity of the capping is maintained.

On 12 December 1996, development consent DA 478/95 was granted for a Roads Materials Recycling Centre with a processing capacity of 180,000 tonnes per annum at the site. The facility continues to operate and accepts construction and demolition waste including roof tiles, clay bricks, concrete and asphalt. The construction waste is crushed or milled to produce recycled materials such as sand, road base, cement stabilised sands and aggregates for use in civil construction, landscaping and domestic building applications. A copy of DA 478/95 is provided at **Appendix 2**.

In December 2003, Council granted development consent for office buildings and concrete storage bins.

On 21 June 2013, a Section 96 application (No. 5311.2/95) was approved to modify development consent No. 478/95 to replace the pug mill (blending/mixing) plant on the site. This work has been completed and the new pug mill is operational.

1 Introduction

On 5 November 2013, development consent DA 237.1/2013 was granted for site improvements including replacement of the weighbridge, associated wheel wash facility and alterations to the existing car parking facility (copy provided at **Appendix 2**).

The most recent consent issued in relation to the SRC site is in relation to DA 165.1/2019. Consent was issued on 10 December 2019 for *tree removal, earthworks and the construction of an industrial building including the construction of an internal road and associated hardstand manoeuvring area, signage, drainage works and landscaping for the purpose of a drop-off Community Recycling Centre.*

The approved community recycling centre will primarily receive e-waste. The consent is yet to be acted upon.

1.3 Overview of the Proposal

The proposed development is for the regularisation of the existing SRC facility and expansion of the SRC activity area to facilitate a processing capacity to up to 550,000 tonnes of recyclable construction material per year. The concrete crushing plant has a design capacity to process up to 600,000 tonnes of waste material per annum and the pug mill has a design capacity to process up to 150,000 tonnes of waste material per annum and therefore the site equipment is capable of processing the proposed 550,000 tonnes of recycled material.

The proposed expansion of the SRC will be facilitated through the filling of a gully running north-south through the centre of the site, known locally as 'Canal Road' (an unmade road) and levelling of a small area of land to the south east of Canal Road (fronting Hassall Street). The old reserve for Canal Road has been extinguished and the land (now Lot 100 1220637) is under the ownership of Council. The land will be filled with Excavated Natural material (ENM), Virgin Excavated Natural Material (VENM) and potentially stockpiled material.

The filling of the former 'Canal Road' and the small area of land to its south east will create a more level site and provide operational efficiencies. This will ensure that the SRC is also capable of accommodating future industrial activities on the site.

In conjunction with these works, and to improve soil and water management on the site, two new sediment basins are also proposed together with modifications to two other basins. A redundant basin will be infilled and incorporated into the new stockpiling area.

To maximise operational efficiencies, the car parking area is also proposed to be extended to provide parking for 33 vehicles.

Consistent with its current operations, the expanded SRC will continue to receive, recycle and store the following waste:

- VENM;
- Building and demolition waste including roof tiles, clay bricks, concrete;
- Asphalt waste (including asphalt resulting from road construction and waterproofing); and
- Soils.

The construction waste is crushed or milled to produce recycled materials such as sand, road base, and aggregates for use in civil construction, landscaping and domestic building applications. The SRC will store waste materials and stockpile recycled products.

The facility currently accepts and delivers recycled materials 6 days a week and the current SRC hours of operation are:

- Monday to Friday 7am – 4pm; and
- Saturday 7am – 4pm.

1 Introduction

Due to demand, the SRC is proposing to amend its operating hours to the following:

- Receiving and loading/unloading of trucks – 24hrs/7 days;
- Crushing operations - 5.00am – 6.00pm; and
- Pug Mill operations - 3.00am – 4.00pm.

1.4 Project Alternatives

Three alternatives in relation to this project were considered:

- Do Nothing (Alternative 1);
- Larger expansion of the facility (Alternative 2); and
- New off-site facility (Alternative 3).

Alternative 1 - Do Nothing

The do-nothing option would involve the SRC operating in accordance with current practices. The SRC is currently receiving and processing construction waste at higher levels than that originally envisaged, and operation has expanded incrementally in terms of site area and volumes of waste processed.

The do-nothing option is not considered a viable or appropriate option as demand for resource recovery and recycling is increasing and thus is not considered to be an environmentally or sustainably appropriate option.

The do-nothing option also does not take advantage of the opportunity to utilise the now abandoned 'Canal Road' reserve which traverses through the site.

Alternative 2 - Larger Expansion of the facility

Alternative 2 was to seek approval for a larger operational capacity than now proposed. It was originally proposed to seek approval for an annual processing capacity of 750,000 tonnes. This was based on the design capacity of the pug mill and concrete crushing plan. The existing concrete crushing plant has a design capacity to process up to 600,000 tonnes of waste material per annum and the pug mill has a design capacity to process up to 150,000 tonnes of waste material per annum.

Therefore, the application could, theoretically, seek approval for a greater processing capacity than the current proposal.

During the preparation of the EIS, Council undertook a further review of operational requirements. The operational and environmental investigation identified potential constraints associated a processing capacity of 750,000 tonnes of waste material per annum, including areas available for stockpiling.

Notwithstanding, there is demand for the SRC to operate during night-time hours to receive waste from night-time construction works, in particular night road works. Therefore, the preferred project is for the proposed project which seeks approval for a processing capacity of 550,000 tonnes per year and amended operating hours.

Alternative 3 – New off-site Facility

Alternative 3 would entail establishing a new facility at an alternative location. Acquisition of an alternate parcel of land for a new resource recovery centre would introduce considerable cost and not take advantage of the existing operational capacity and locational advantages of the existing site.

The acquisition of an alternative site (if one is available) is unlikely to be within the Fairfield LGA. The existing site is well separated from residential development and the development of an alternative site based on a hypothetical superior outcome to the current proposed is not considered to be a viable option.

1 Introduction

1.5 Risk Assessment

There is the potential for risks associated with this project during the construction phase and also as a result of the operation of the SRC. A number of mitigation measures can be implemented to minimise risks, particularly to the public and nearby property owners, tenants and residents. The recommended measures are detailed in **Section 7** to this EIS.

Table 1 below is an assessment of potential environmental impacts associated with the proposed development and specifies the nature of the impact, its level/scale, consequence, likelihood and level of risk.

Table 1 Risk Assessment

Potential Impact	Level/Scale of impact	Consequence	Likelihood	Risk
Construction Phase				
Spillage of fuel or oils from or for use in Machinery	Limited to small capacity fuel tanks of on-site machinery	Minor	Unlikely	Low
Excessive noise or vibration resulting from use of construction machinery	Subject to machinery used, level of impact is limited to the site and immediate surrounds.	Minor	Occasionally	Low
Increase in construction traffic	Limited to roads immediately surrounding the site.	Minor	Unlikely	Low
Safety of the public	Personal injury due to construction practices/materials	Severe	Unlikely	Low
Potential identification of items of archaeological significance during construction phase	Disturbance of archaeological artefacts (unexpected finds)	Minor	Unlikely	Low
Potential identification of contaminated materials during construction phase	Limited due to cut activities being limited to areas with no historical fill.	Minor	Unlikely	Low
Potential for reduced air and water quality during construction phase	Movement of vehicles and fill material displacing earth/dust, potentially impacting surrounding development.	Moderate	Occasionally	Low
Visual or amenity impacts resulting from new built form	Limited to small number of industrial properties near the new driveway and carpark on Widemere Road	Minor	Unlikely	Low
Operational Phase				
Increase in noise due to vehicular traffic	Limited as negligible increase over existing scenario	Minor	Unlikely	Low
Increase in noise due to internal machinery	Nil and as no new machinery proposed	Minor	Unlikely	Low
Increase in odour to on-site operations	Limited as no putrescible waste is accepted or stored on-site	Minor	Unlikely	Low
Increase in dust due to on-site operations	Limited as no new machinery proposed	Minor	Unlikely	Low
Reduced water quality	Limited as new sedimentation basins have been designed to capture site flows	Minor	Unlikely	Low
Visual impact due to stockpiles on previously unused parts of the site	Limited as vantage points of gully fill area are limited to one area in the nearby recreational lands	Minor	Unlikely	Low

1 Introduction

As indicated within this EIS, the existing SRC facility operates in accordance with a series of Management Plans including plans relating to emergency responses. A list of the numerous documents that comprise the Operational Management Plan is provided at **Appendix 4** for reference. Copies of these documents can be provided if required.

Amongst other things, these documents include process and procedures for mitigation and management of environmental risks. As part of the mitigation measures, it is recommended that an overarching environmental management plan be prepared for the site. This can draw on the salient sections of the existing management plans as well as incorporating the recommended mitigation measures as set out in this EIS.

2 Proposed Development

2.1 Overall site Operations

The Fairfield Sustainable Resource Centre (SRC/Centre) currently operates under a number of different development consents.

This proposal seeks to consolidate the existing operations of the SRC and the proposed expansion of the SRC under one operational development consent.

The existing household 'drop off' recycling centre and approved community e-waste recycling facilities, although located on the same site, operate as separate entities and are not part of the primary SRC operations.

The overall objectives of the project are to improve the operational efficiency of the SRC, expand the area of operations and increase the approved processing capacity of the site by:

- Filling the gully known as 'Canal Road';
- Providing additional stockpile areas;
- Providing additional water storage for operational use (e.g. dust suppression);
- Providing compensatory flood storage area;
- Amending the operating hours to enable night-time activities such as receiving and processing of waste; and
- Regularising the planning approvals for the site.

2.1.1 Materials Handling and Processing

The existing concrete crushing plant has a design capacity to process up to 600,000 tonnes of waste material per annum and the pug mill has a design capacity to process up to 150,000 tonnes of waste material per annum. The site equipment is capable of processing at least 550,000 tonnes of recycled material.

Typical site operations involve the receipt of excavated material from road construction and maintenance and receipt of other recyclable building and construction material. Consistent with its current operations, the expanded SRC will continue to receive, recycle and store the following waste:

- Asphalt waste (including asphalt resulting from road construction and waterproofing);
- Concrete and rock (from works such as road, stormwater drainage, kerb and guttering etc)
- Spoil (mixed soils);
- Building and demolition waste including roof tiles, clay bricks, concrete;
- VENM; and
- Soils.

The waste is crushed or milled to produce recycled materials such as sand, road base, and aggregates for use in civil construction, landscaping and domestic building applications.

Materials are processed by one or more of the following methods:

- Stockpiling of material where no processing is required;
- Material requiring screening only (e.g. roadbase material, topsoil);
- Material requiring crushing (e.g. concrete, sandstone, oversized aggregate); and
- Blended products (e.g. topsoil blends, roadbase blended mixes, crushed concrete blended mixes).

The SRC stores and stockpiles waste materials for processing and recycling until dispatched from the site. Stockpile heights and locations vary to suit operational requirements and

demand. The EPA licence limits the height of the stockpile to 8m and the volume of material able to be stockpiled on site to 250,000 tonnes. No variation to these ELA Licence limits is sought.

Outgoing processed material includes:

- Road Gravel (50mm, 75mm and 150mm);
- Recycled Roadbase;
- Crushed Asphalt;
- Aggregate;
- Sand and soils; and
- Clean fill.

2.2 Existing Operations

The existing SRC accepts construction and demolition waste including roof waste building material comprising terracotta, brick, concrete and asphalt and supplies aggregate, sand, topsoil and crushed concrete. The waste is crushed or milled to produce recycled materials such as sand, road base, cement stabilised sands and aggregates for use in civil construction, landscaping and domestic building applications.

The existing facility is approved and licenced to receive 180,000 tonnes per year. The facility has, however, been operating in excess of this limit for some time.

The SRC includes the following facilities and equipment:

- Single storey office building;
- Weighbridge;
- Car parking areas;
- Concrete materials storage bays;
- Materials crushing and mixing plant machinery;
- Pug mill (blending/mixing plant);
- Water retention dams;
- Trucks, utility vehicles, and earthmoving and road building equipment;
- Vehicle circulation roadways; and
- Stockpiles of crushed materials.

The site has two access points off Widemere Road, including a primary ingress/egress for the SRC site and a secondary entrance providing access to the waste depot and recycling facility at the northern end of the site.

The plant and machinery used on site includes:

- Pug mill (1);
- Main Crushing plant (1);
- 2 mobile crushing plants;
- Front end loaders – 7 maximum operating on the site;
- Excavators – 4 maximum operating on the site;
- 3 Screeners (operating with the 3 crushing plant units);
- Trucks – unloading/loading;

- 1 water cart (for dust suppression); and
- 2 site vehicles (utes).

2.3 Proposed New Works

It is proposed to expand the processing capacity of the SRC to regularise the existing operations, improve efficiency of operations and provide additional land for stockpiling purposes by undertaking land filling. This will facilitate an overall processing capacity of up to 550,000 tonnes of recycled construction materials per year.

The materials that will be received, processed, recycled and stored will be consistent with existing operations and EPA Licensing:

- VENM;
- Building and demolition waste including roof tiles, clay bricks, concrete;
- Asphalt waste (including asphalt resulting from road construction and waterproofing); and
- Soils.

The expansion of the existing facility will involve filling of the Canal Road gully and levelling of land to the east of the existing operational area of the site. The expansion area will comprise approximately 2.8ha of land.

The project will also include expanding a paved carpark area, construction of a flood compensation area to the north east of the expansion area and creation of a new sedimentation basin in the north of the facility as well as a basin within the expansion area. The proposed site layout plan is included at **Figure 1**. An architectural plan showing the layout of the site is included at **Appendix 5** to this EIS.

The key components of the new works are summarised below:

- Importation of approximately 31,000m^3 metres of ENM and VENM for site fill.
- site earthworks and grading to establish a level site, including construction of batters.
- Removal of an existing stormwater basin and construction of two new larger sediment basins and stormwater harvesting basins.
- Bulk earthworks to provide compensatory flood storage area with a total capacity of 1,500m^3.
- Modifications to the main site entry and exit and carparking area to provide additional car parking spaces.
- Change to the site operating hours to the following:
  - Receiving and loading of trucks – 24hrs/7 days;
  - Crushing operations 5.00am – 6.00pm (Monday to Friday);
  - Pug mill operations 3.00am – 4.00pm (Monday to Friday).
- Vegetation and tree removal to facilitate the proposed works and replacement tree planting.
- Associated infrastructure and services works.

2 Proposed Development

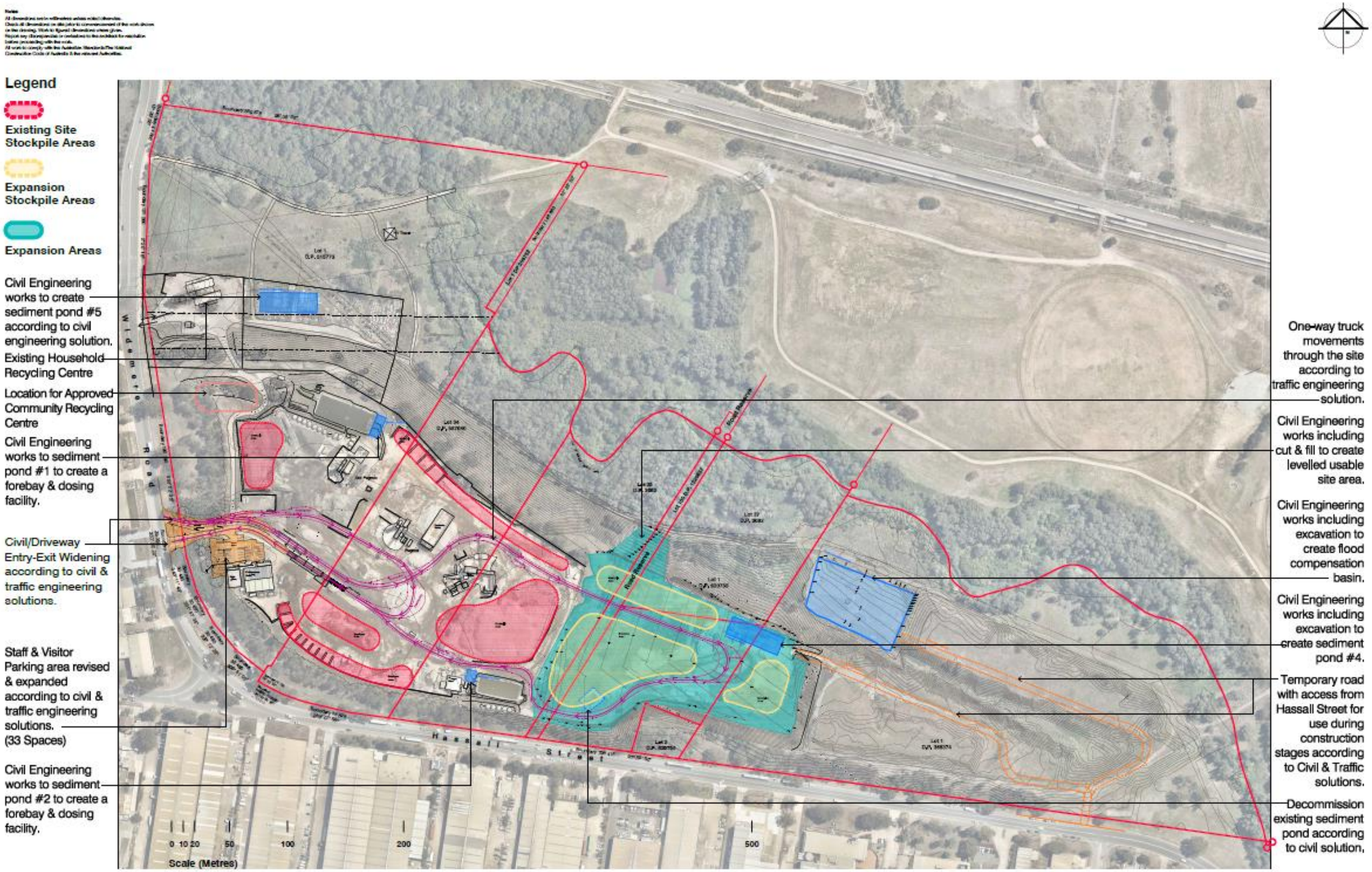


Figure 1 Extract from Architectural Site Plan prepared by 4d Architects – refer Appendix 5

2 Proposed Development

2.4 Earthworks

The reserve for Canal Road has been extinguished and the land (now Lot 100 1220637) is under the ownership of Fairfield Council. The gully will be filled with ENM, VENM and potentially stockpiled material.

The filling of the 'Canal Road' gully (an unmade road) will create a more level site and provide an area suitable for accommodating additional stockpile locations. Filling of the Canal Road gully will also create operational efficiencies between stockpiling and operational areas of the site. The earthworks (cut and fill) to the east of the existing operations area will provide a level area for additional stockpiling and processing.

There will also be bulk earthworks relating to the creation of the two proposed sediment ponds and the infilling of another redundant pond as well as creation of the flood compensation area.

The bulk earthworks across the SRC site will include:

- Total Cut 13,236m^3
- Sediment Pond Cut 2,991m^3
- Fill Volume 48,516m^3
- Flood Compensation cut 1,500m^3
- Balance 30,789m^3 (fill)

The bulk earthworks plan is shown at **Figure 2**. The bulk earthworks plan has been extracted from the Civil engineering plan set prepared by WSP which are attached to this EIS at **Appendix 6**.

Figure 2 Extract from Civil Plans (Appendix 6) showing bulk earthworks – Refer Drawing No. C021/Rev E

2.5 Site Entry Works and Car Parking

Minor modifications to the main site entry and exit arrangements from Widemere Road are proposed including:

- Provision of right turn lane into the staff/visitor car parking area;
- Realignment and widening of the site exit to provide appropriate swept paths for exiting trucks.

- Redesign and extension of the staff and visitor parking areas to provide an additional 20 car parking spaces (totalling 33 car parking spaces).

Details of the design for the car park and entry/exit arrangements are provided in the plans prepared by Mepstead and Associates. A copy of these plans is included at **Appendix 5** to this EIS.

2.6 Landscaping

Landscaping to supplement the existing boundary landscaping along the site road frontages and to Prospect Creek in the vicinity of the expansion is proposed.

Landscaping within the edge areas of the Prospect Creek riparian zone will comprise species representative of the Cumberland Riverflat Forest.

The flood storage area is proposed to be landscaped using species suitable for frog habitat.

Additional tree planting will be provided within the Widemere Road setback to compensate for the trees to be removed to facilitate construction of the reconfigured access off Widemere Road and the extended car park.

The landscape plans for the site, including the expansion area, are included at **Appendix 20** to this EIS.

2.7 Water Use and Management

Two new sediment control and stormwater harvesting basins are proposed to be provided to assist with stormwater management in conjunction with the operation of the SRC. One basin will be located in the north east corner of the site (Basin #5) and a second basin will be located within the expansion area (Basin #4). A smaller existing stormwater harvesting and sediment basin adjacent to the Canal Road gully will be decommissioned and filled.

Two existing basins (Basin #1 and Basin #2) will be retrofitted to improve their efficiency.

At present, the water from the sediment basins is used to fill the various above ground water storage tanks located around the site. The water in these tanks is then pumped into water cart trucks and is used for dust suppression.

No on-site mains water is used for dust suppression operations. Water is stored in the sediment basins and used for dust suppression including the operation of the pug mill and crushing plant. Roof runoff is also captured from the office and work-shed and reused at the toilet facilities of the site.

2.8 Timing of Works

The filling of the Canal Road gully and construction of the new sedimentation ponds and flood compensation area will take approximately 2 years to complete.

It is not anticipated that existing processing capacity will be affected as a result of the proposed works. Access for construction vehicles will be separated from the access for vehicles associated with the existing operations of the SRC.

The processing and storage capacity of the SRC will not be able to increase until such time as the works in relation to the expansion area (including the additional sediment control basins and the flood compensation area) have been completed and the area been assessed as being structural stable and suitable for use.

3 Site Context

3.1 Location

The SRC is located in the Fairfield Local Government Area (LGA), in the Wetherill Park Industrial Precinct, southeast and downstream of the Prospect Reservoir (see **Figure 3**). The site has two access points off Widemere Road, including a primary entrance for the SRC and a secondary entrance for public access to the recycling drop-off centre to the north.

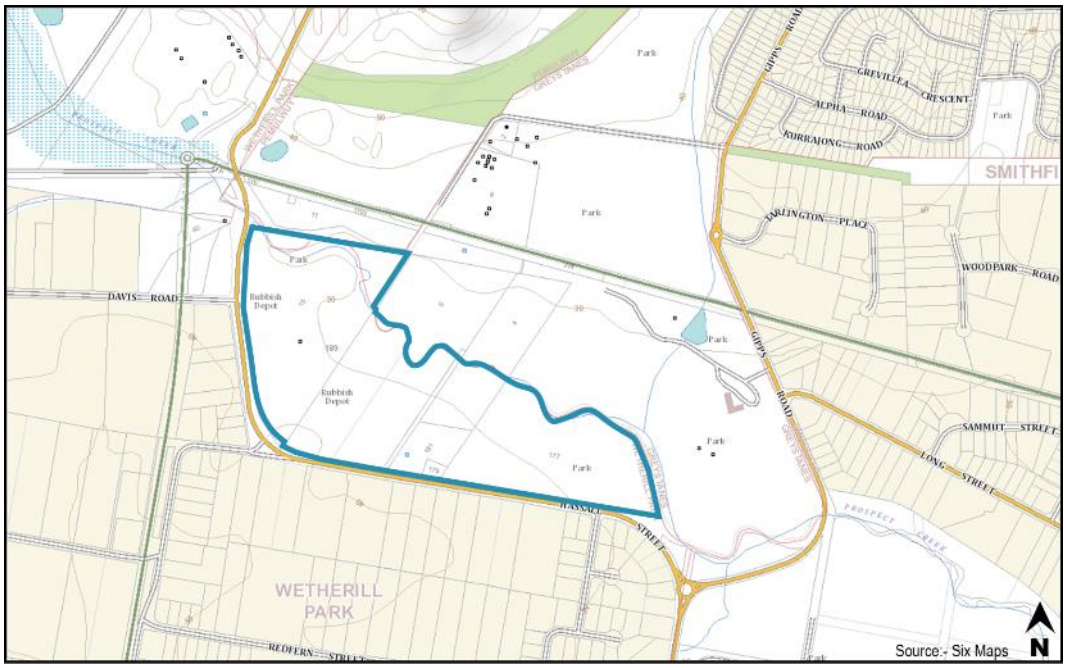


Figure 3 Site Location

3.2 Site Description

The lots that comprise the site are described in **Table 2**. **Figure 4** is an aerial photograph of the SRC site, with the cadastre included.

Table 2 Site Description

Lot / DP	Built/Natural Features	Area (m^2)
Lot 1 DP 515773	Two separate vehicular entrances, public recycling drop-off area on unfilled land, resource centre, administration building, maintenance shed, informal car parking, water detention basin, weighbridge, materials stockpiles and storage bays on filled land. Vegetation generally limited to Widemere Road frontage.	89,406.1
Lots 34 DP 657040	Pug mill, crushing plant, water detention basin, materials stockpiles and storage bays on filled land. Vegetation along Hassall Street frontage and along creekline.	37,153.3
Lot 35 DP 3082	Crushing plant, materials stockpiles and storage bays on filled land. Vegetation along Hassall Street, eastern boundary and creekline.	31,227.0
Lot 100 DP 1220637	Former Canal Road (unmade) road reservation. Vegetated except for an internal vehicular path in the south.	3,043.3
Lot 37 DP 3082	Predominantly vegetated to the north along the creekline bounded to the south by an open grass area and a small area used for materials stockpiles on filled land.	17,547.1
Lot 1 DP 620755	Materials stockpiles and a small water detention basin on filled land with vegetation primarily along the Hassall Street frontage.	13,389.8
Lot 2 DP 620755	Vacant land covered with grass and trees along Hassall Street.	17,307.0
Lot 1 DP 368374	Predominantly vacant and grass-covered with small area used for materials stockpiles on filled land with trees along the Hassall Street frontage and creekline.	85,310.0
	Total	**294,383.6**

3 Site Context

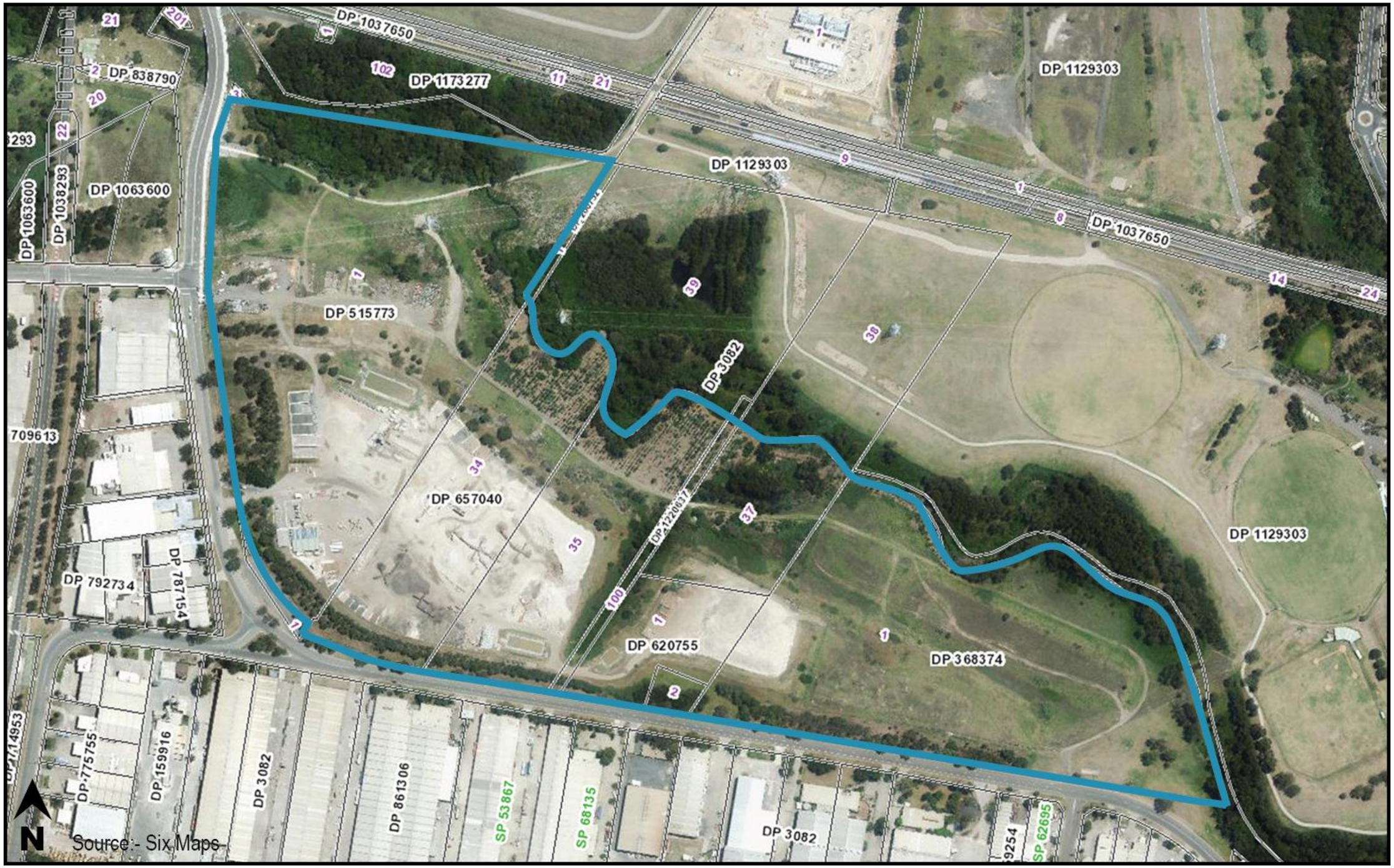


Figure 4 Aerial photograph of the site.

3 Site Context

The site was used for land-fill in the late 1970s up until the early 1990s and as a result has a modified and raised land mass which is generally flat and drops to natural ground level to the north and northeast of the site where the land adjoins Prospect Creek. Due to previous land uses, the majority of the vegetation on the site has been removed, with the exception of vegetation proximate to Prospect Creek, along the Canal Road gully and within the landscaped setbacks to Widemere Road and Hassall Street.

The expansion area is located at approximately 40m AHD and is raised 5m to10m above the surrounding area by engineered fill above a former landfill cell. The area is generally flat with slopes down in all directions at the edges of the filled portion. To the west of the expansion area is a gully where Canal Road was proposed to be constructed. The general area around the SRC slopes to the north-east toward Prospect Creek.

3.2.1 Existing Vegetation

The site operated as landfill during the 1980s and the majority of the site is substantially cleared of vegetation, with some scattered trees along the Widemere Road and Hassall Street frontages. The 'Canal Road' gully is also vegetated and generally comprises a mix of exotic and weed species. Some remnant native vegetation and regrowth native vegetation is present on the site, generally in the vicinity of Prospect Creek. Prospect Creek and associated riparian vegetation traverse the site along its northern boundary which is zoned E2 Environmental Conservation.

There are two native vegetation plant community types (PCTs) mapped on the site - 'Coastal Floodplain Wetlands' and 'Coastal Freshwater Lagoons'.

The Coastal Floodplain Wetlands on the site comprises PCT 835 'Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion'.

The Coastal Freshwater Lagoons on the site comprises PCT 781 'Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion'.

Native vegetation, where recorded on the site, is generally in low condition, with bare soil and/or exotic (non-native and/or weed) flora species.

The site provides only limited flora habitat however, birds, frogs, mammals, reptiles and amphibians have been recorded on the site. No threatened species have previously been recorded on the site.

The majority of vegetation on the site is highly modified and has been significantly altered from its original condition by earthworks, clearing, disturbances to natural soil and weed-infestation.

3.3 Site Analysis

An analysis of the existing Fairfield SRC and the surrounding environment is included as part of the architectural plan set at **Appendix 5**. An extract of the Site Analysis Plan is reproduced in **Figure 5**.

Appendix 7 to this EIS are photographs of the site.

3 Site Context

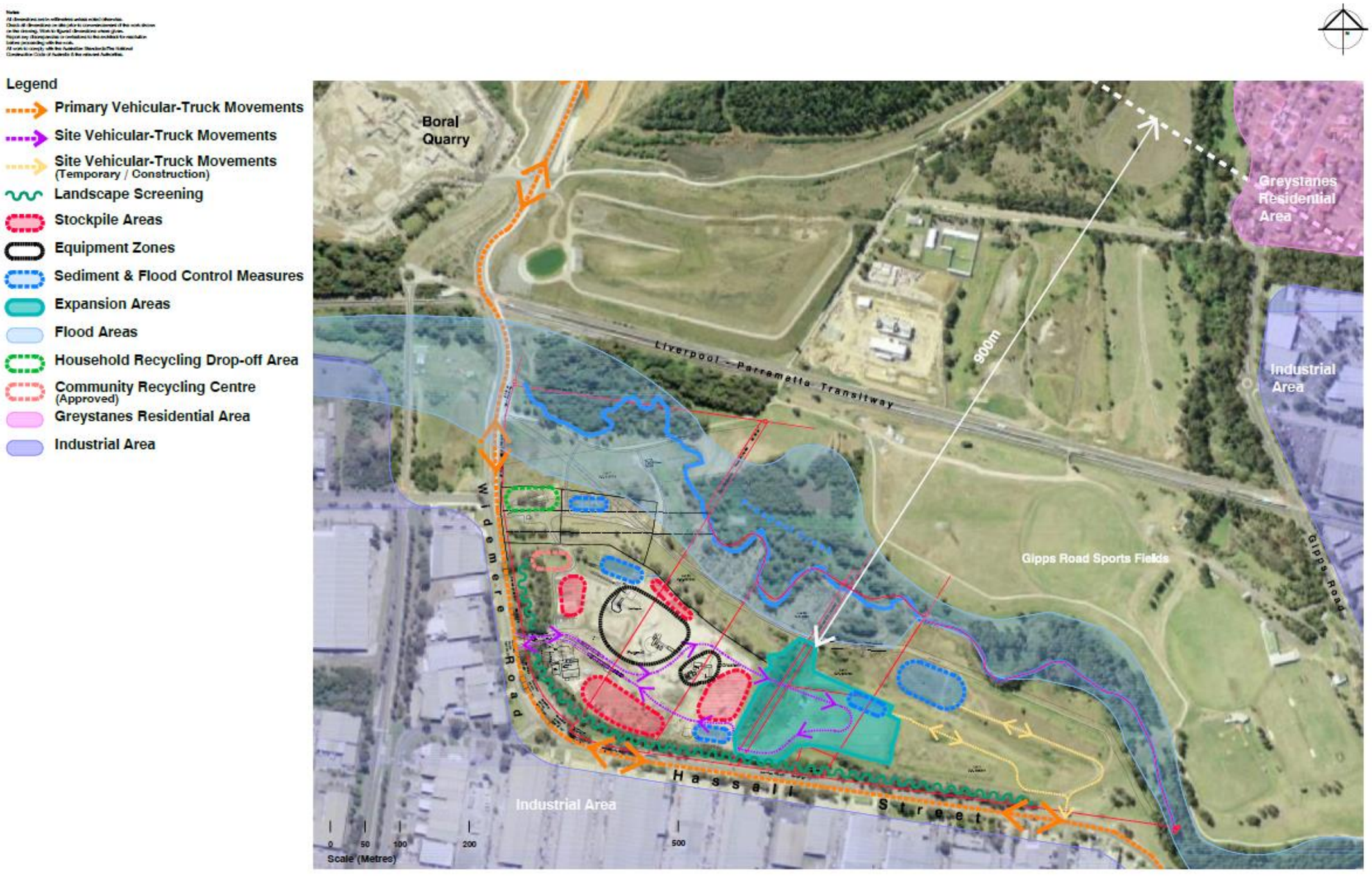


Figure 5 Site Analysis Plan prepared by 4d Architecture

3 Site Context

3.4 Existing Site Facilities and Infrastructure

The SRC operation comprises the majority of the site and includes the following development:

- Single storey office building;
- weighbridge;
- car parking areas;
- materials storage bays;
- materials crushing and mixing plant machinery;
- Pug mill;
- water retention dams;
- Trucks, utility vehicles, and earthmoving machinery;
- Vehicle movement/circulation paths; and
- Stockpiles of crushed materials.

3.5 Surrounding Development

To the north and east the site is bound by Prospect Creek. North of Prospect Creek is Boral Quarry and a new industrial development known as Quarry at Greystanes. Development in Quarry at Greystanes includes industrial buildings which are used for logistics, warehousing, manufacturing and storage uses. To the north and east of Prospect Creek is the Gipps Road Sporting Complex and further east is industrial land in Smithfield. To the south and west is the Wetherill Park industrial complex. The closest residential development is within the suburb of Greystanes which is approximately 900m to the north-east of the Fairfield SRC.

The relationship of the site to its surroundings is demonstrated in the Site Analysis Plan – **Appendix 5** and **Figure 5**.

3.6 Existing Licences and Permits

3.6.1 EPA Licence

The SRC is a scheduled resource recovery and waste storage facility licensed by the NSW Environment Protection Authority (EPA) under the *Protection of Environment Operations Act 1997* (PoEO Act) and a copy of Environment Protection Licence (EPL) No. 5713 for the site is provided at **Appendix 8**. This EPL does not expire unless revoked or surrendered and under the terms of EPL, the facility can store and process the following waste for resource recovery:

- VENM;
- Building and demolition waste;
- Asphalt waste (including asphalt resulting from road construction and waterproofing); and
- Soils.

The EPL does not impose a limit on the volume of resource recovery material that can be received and processed. However, the EPL licence limits the amount of waste permitted on the site at any time to 250,000 tonnes and limits the height of any waste stockpile at a maximum of 8m.

No variation to the stockpiling volume limit or height is sought as part of this SSDA.

3 Site Context

3.6.2 Water Extraction

On 1 July 2011 the NSW Department of Primary Industries (Water) (DPI Water) granted Approval No. 10WA103763 for Licence No. 10AL103762 (refer to **Appendix 8**). The licence expires on 17 December 2025.

The licence permits Council to draw water from Prospect Creek for dust suppression purposes. The water is pumped from Prospect Creek to the water storage basin (Basin 1 near the pug mill).

4 Consultation

Consultation in accordance with the SEARs has been undertaken with NSW government agencies and nearby landowners and occupiers located in Widemere Road and Hassall Street. The agencies and landowners/occupiers were provided details of the proposed expansion of the SRC facility.

This consultation was undertaken in response to the SEARs that were originally issued on 27 January 2017. The SEARs for this project were reissued on 6 May 2019 however the extent of consultation required to be undertaken did not vary from that detailed in the original SEARs. Given that the scope of works proposed did not vary from that detailed as part of the original consultation, follow up consultation was not deemed necessary.

Table 3 summarises the responses to the consultation that has been undertaken and where issues raised are addressed in this EIS report.

Table 3 Summary of Consultation

Stakeholder	Response	Where addressed in this Report
Cumberland Council	No response received	n/a
Environment Protection Agency	No further comments to those expressed in the SEARs.	**Waste** - see Section 6.1.1 Appendix 9. **Air Quality** – see Section 6.1.5 and Appendix 10. **Noise** – see Section 6.1.6 and Appendix 11.
Office of Environment and Heritage	No response received	**Biodiversity** - see Section 6.1.8 and Appendix 12. **Aboriginal Heritage** – see Section 6.1.11 and Appendix 13. **Historical Heritage** – see Section 6.1.10 and Appendix 14. **Water and Soils** - see Section 6.1.4 and Appendix 6. **Flooding** – see Section 6.2.2 and Appendix 16.
Department of Primary Industries	No response received	**Water** - see Section 6.1.4 and Appendix 6
WaterNSW	No comments or particular requirements for the EIS given the site's location more than 1km downstream of Prospect Reservoir.	N/A
Fire and Rescue NSW	- If relevant, a BCA consultant should address the fire safety requirements of new buildings. - Consideration be given to FRNSW's Fire Safety Guideline – Fire in waste facilities - Request that FRNSW be consulted during design and development of fire safety measures - Recommended that an Emergency Response Plan be developed	**Fire Safety** – see Section 6.1.13
Roads and Maritime Services	Transport and Traffic Assessment to include: 1. Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required). 2. Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (i.e.: turn paths, sight distance requirements, aisle width, etc). 3. Proposed number of car parking spaces and compliance with the appropriate parking codes.	**Traffic and Transport** - see Section 6.1.7 and Appendix 17.

4 Consultation

Table 3 Summary of Consultation		
Stakeholder	**Response**	**Where addressed in this Report**
	4. Details of service vehicle movements (including vehicle type and likely arrival and departure times).	
Nearby landowners and occupiers	Two (2) submissions were received, with one submission raising no objection and the other raising the following concerns: - Dust generated on site and from vehicle traffic and potential for asbestos - Traffic and safety concerns relating to the location of the entry driveway - Poor record of consultation with local businesses	**Air Quality** – see Section 6.1.5 and Appendix 10 **Traffic and Transport** – Section 6.1.7 and Appendix 17. **Mitigation Measures** – see Section 7

5 Strategic and Statutory Context

5.1 Strategic Context

5.1.1 General

This section provides an environmental assessment of the proposed development in respect of the relevant matters for consideration under section 4.15(1) of the EP&A Act and the matters specifically identified for assessment in the SEARs.

5.1.2 Environmental Planning and Assessment Act, 1979 and Regulation 2000

Section 1.3 - Objects of the EP&A Act

Section 1.3 of the EP&A Act sets out the Objects of the Act. An assessment of the proposed development's consistency with these Objects is provided in **Table 4**. It is considered that the development is consistent with the relevant Objects of the Act.

Table 4 Proposed Development's Consistency with the Objects of the EP&A Act

Object of the EP&A Act	Assessment	Consistent
To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The proposal will facilitate operational efficiencies for the SRC and allow it to recycle up to 550,000 tonnes of materials that might otherwise have gone to land fill	Yes
To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The proposal will result environmentally sustainable development (ESD). The additional sediment basins will not only contribute to positive water quality outcomes, they will also provide additional sources of water for dust suppression such that the development might need to be less reliant on extracting water from Prospect Creek.	Yes
To *promote the orderly and economic use and development of land,*	That part of the site that is used for the SRC activities is zoned for industrial purposes. The site has been used for the purposes of a sustainable resource centre for the recycling of construction materials for over 25 years. The proposed expansion of the facility will provide operational efficiencies. Therefore, the proposal will result in the orderly and economic development of the land.	Yes
To promote the delivery and maintenance of affordable housing,	This objective is not applicable to the proposal.	N/A
To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The existing SRC operates in a manner which minimises impacts on the natural environment. The existing facility and the proposed expansion will avoid the riparian zone adjacent to Prospect Creek. Implementation of the recommendations of the Soil and Water Management Plan (**Appendix 6**) will result in improved water quality outcomes for the site and the facility. The ecological assessment (**Appendix 12**) concludes that the development will have negligible impacts on the natural environment.	Yes
To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	Assessments of historical heritage (**Appendix 14** and **Section 6.2.10**) and Aboriginal heritage (**Appendix 13** and **Section 6.2.11** of the EIS) have been undertaken.	Yes

Table 4 Proposed Development's Consistency with the Objects of the EP&A Act		
Object of the EP&A Act	**Assessment**	**Consistent**
	The site has been assessed as having no items of significance with respect to Aboriginal cultural heritage.	
To promote good design and amenity of the built environment,	Mitigation measures to maintain the amenity of the surrounding environment in the context of the operations of the SRC have been recommended – Refer **Section 7.**	Yes
To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	No buildings are proposed as part of the development. The safety and amenity of site workers and visitors is a fundamental objective of the SRC and there are management plans in place to ensure standards are adhered to.	Yes
To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, and	The proposed development has been assessed against the various Commonwealth and State statutes and local policies and has involved consultation with relevant levels of government. The existing facility operates in accordance with relevant licences.	Yes
To provide increased opportunity for community participation in environmental planning and assessment.	The proponent has actively engaged with relevant government agencies and undertaken community consultation (see **Section 4** of the EIS). Further consultation will be undertaken during the statutory assessment process.	Yes

EP&A Regulation 2000

Notwithstanding that the proposed development is declared as being Designated Development pursuant to Schedule 3 Part 2 of the EP&A Regulation (being a waste management facility or work that stores and recycles more than 30,000 tonnes per year of building demolition material), Section 4.10 of the EP&A Act provides that Designated Development does not include SSD despite any such declaration by an EPI or the EP&A Regulation.

5.1.3 Greater Sydney Region Plan – *A Metropolis of Three Cities*

Greater Sydney Region Plan - A Metropolis of Three Cities (the Plan) is the key strategic document for the growth of Sydney. The plan was prepared by the Greater Sydney Commission and was released in March 2018, providing a growth framework for Sydney over the next 20 years.

The Plan is clear in its strategic intent to create cities where residents live within 30 minutes of their jobs, education, health and recreation requirements. The plan identifies three cities which are each able to function independently. Fairfield is located within the Western City District and has a connection with the Western Parkland City and the Western Economic Corridor which is focussed on the Western Sydney Airport – Badgerys Creek Aerotropolis.

There are four key strategic themes of the Plan – Infrastructure and Collaboration, Liveability, Productivity and Sustainability. Under each theme are a series of directions.

Under the Sustainability theme/Direction – An efficient City – is the Objective – More waste is reused and recycled to support the development of a circular economy (Objective 35). The expansion of the SRC will assist in meeting this objective by diverting waste that might otherwise have gone to landfill and processing it for reuse for a variety of purposes including construction activities relating to infrastructure projects.

5.1.4 Western City District Plan

The Western City District Plan includes the same four themes as the Sydney Region Plan. Under each theme is a set of planning priorities relevant to the Western City District.

The Western City District Plan identifies the importance of *safeguarding industrial and urban services land to facilitate industries of the future, including creative industries and environmental services such as waste management and recycling facilities.*

Planning Priority W19 which relates to managing energy, water and waste efficiency. In this regard, *new approaches to how waste materials and resources are re-used within a circular economy will help reduce impacts on the environment* has been identified as a planning priority. The expansion and continued operation of the Fairfield SRC is consistent with this planning priority.

Action 83 under Planning Priority W19 relates to protecting existing waste recycling facilities. The Fairfield SRC is a well located existing facility and expansion of this facility will support this Action.

5.1.5 Fairfield Local Strategic Planning Statement (LSPS)

The Fairfield LSPS is titled Fairfield City 2040 – A Land Use Vision. It was adopted on 30 March 2020.

The LSPS *provides the strategy for the Fairfield community's economic, social and environmental land use needs over the next 20 years. It implements and provides a line-of-sight to the Priorities and Actions of the Western City District Plan (2018) and the Goals and Outcomes of the Fairfield City Plan (Community Strategic Plan)…and sets short, medium and long-term actions to deliver the priorities for the community's future.*

One of the themes for shaping the City is that of Environmental Sustainability. In this regard, the LSPS notes that:

> *Council will continue to ensure that its planning controls for new development require best practice requirements in relation to managing energy, water and waste efficiently.*

Planning Priority 10 under the Environmental Sustainability theme relates to natural hazards and environmental impacts. Action 10.3 under Planning Priority 10 states the following:

> *Council will, in collaboration with other levels of government, identify approaches/opportunities that support reducing emissions and managing energy, water and waste efficiently, in line with the pathways to net-zero emissions identified in the District Plan.*

It is considered that rationalisation and expansion of the existing SRC to facilitate the processing and reuse of up to 550,000 tonnes of construction waste per annum will assist in achieving the goals set down in the LSPS.

5.1.6 Western Sydney Regional Avoidance Resource Recovery Strategy 2014 -2017

The *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* (NSW EPA, 2014) sets targets for avoiding and reducing waste, increasing recycling rates, diverting more waste from landfills, improving waste management and reducing litter and illegal dumping.

By providing an alternative to landfill for construction and demolition waste, recycling and providing recycled product for future construction works, the facility not only facilitates the key result areas of recycling and diverting waste from landfill, it also effects waste avoidance and reduction by providing a source of material for new construction other than quarrying or otherwise producing new material that will ultimately become waste in future. Additionally, by providing a lower-cost alternative to waste disposal at landfill, the facility may result in a reduction of illegal dumping.

5 Strategic and Statutory Context

5.2 Biodiversity Conservation Act 2016

The proposal is subject to the transitional provisions of the *Biodiversity Conservation Act 2016* (BC Act) and ecological impacts are to be assessed in accordance with the Framework for Biodiversity Assessment pursuant to s142B(1)(c) of the *Threatened Species Conservation Act 1995*.

An ecological assessment in accordance with the Framework for Biodiversity Assessment (FBA) is included at **Appendix 12** to this EIS and discussed at **Section 6.1.8**.

5.3 Statutory Context

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

Schedule 1 Clause 23(3) of SEPP SRD identifies development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste as SSD. The proposed expansion involves handling of 550,000 tonnes of waste per year and therefore meets the criteria for SSD.

A resource recovery facility is defined as 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.

In accordance with Section 4.5(a) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) the Minister for Planning (or delegate) is the consent authority for SSD unless the Independent Planning Commission (the Commission) is declared to be the consent authority by an Environmental Planning Instrument (EPI). No EPI declares the Commission to be the consent authority and accordingly, Minister for Planning (or delegate) is the consent authority for the proposed development.

5.3.2 State Environmental Planning Policy No 55 – Remediation of Land

Clause 7 of SEPP 55 requires a consent authority to consider the potential for contamination of land and be satisfied the land is suitable for the proposed use, before granting consent for a development application.

A Detailed site Investigation (DSI) report has been prepared by WSP (see **Appendix 18**) for the site including the area of the proposed expansion. The methodology undertaken in relation to the site investigation and the findings and recommendations of the DSI are discussed in **Section 6.1.2** of this EIS.

Relevantly, as a result of those investigations, the project environmental site assessor concluded:

> *The site is considered suitable for the continued use as a recycling centre, with no remediation recommended based on the findings of this investigation.*

Having regard to the investigations, assessment and recommendations of WSP, DPIE can be satisfied that Clause 7 of SEPP 55 has been addressed and no remediation works are recommended to facilitate the continued use of the land as a sustainable resource centre and the proposed expansion of that facility is also appropriate.

5.3.3 Greater Metropolitan Regional Environmental Plan No 2—Georges River Catchment

The Fairfield SRC site is located within the area to which GMREP No. 2 applies.

Amongst other things one of the objectives of GMREP No. 2 is *to maintain and improve the water quality and river flows of the Georges River and its tributaries and ensure that development is managed in a manner that is in keeping with the national, State, regional and local significance of the Catchment* (clause 5(1)(a)).

Prospect Creek is (ultimately) a tributary of Georges River and forms the northern boundary of the SRC site. Implementation of the water quality measures recommended in the Soil and Water Management Plan (SWMP) will assist in minimising impacts on the quality of water in Prospect Creek as a result of activities on the SRC site.

Furthermore, although there is a series of environmental management plans (EMP) relating to the various operations on the SRC site (refer **Appendix 4**), it is recommended that, as part of the expansion of activities on the site, an overarching EMP that integrates the operational requirements of the existing plans with the recommendations of the specialist reports accompanying this SSDA be prepared.

In relation to the specific planning principles (clause 9 of GMREP No. 2) which are of relevance to the SRC site and activities on the site, the following comments are made:

- Bank disturbance – No development is occurring on the site which will impact on the banks of Prospect Creek.
- Flooding – This is addressed in the Flood Impact Assessment (**Appendix 16**) and also in **Section 6.2.2** of this EIS.
- Industrial Discharge – This is addressed in the Leachate Assessment (**Appendix 19**) and also in **Section 6.1.3** of this EIS.
- Land Degradation - This is addressed in the SWMP (**Appendix 6**) and also in **Section 6.1.4** of this EIS
- Vegetated Buffer Areas – The existing riparian corridor along Prospect Creek will be retained and enhanced by the provision of additional plantings. Refer Ecological Assessment (**Appendix 12**) and Landscape Plan (**Appendix 20**) as well as discussion in **Section 6.1.8** of this EIS.

5.3.4 State Environmental Planning Policy (Infrastructure) 2007

The existing SRC facility triggers the provisions of the Infrastructure SEPP in relation to traffic generating development. The traffic impact assessment (TIA) at **Appendix 17** to this EIS has been prepared having regard to the provisions of the Infrastructure SEPP.

5.3.5 State Environmental Planning Policy No 19—Bushland in Urban Areas

Part of the SRC site is zoned RE1 Public Recreation and therefore the provisions of SEPP 19 are a relevant consideration.

SEPP 19 aims to protect and preserve bushland within the urban areas to protect its value to the community as part of the natural heritage, its aesthetic value, and its value as a recreational, educational and scientific resource.

Clause 9 applies to land which adjoins bushland zoned or reserved for public open space purposes.

For the purposes of this clause, bushland is defined as follows:

> *bushland means land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation.*

The SEPP does not define 'natural vegetation of the land' however it has been assumed that references to 'natural vegetation' is a reference to vegetation which is indigenous to the Fairfield LGA and not necessarily a reference to native vegetation in general.

A Biodiversity Assessment Report (BAR) has been prepared by SLR Consulting (see **Appendix 12**) according to the methods set out in the FBA and according to the SEARs for this Project.

That assessment identified two Plant Community Types (PCTs) within the boundary of the site including: Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion; and Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion;

The existing facility and the proposed expansion area avoid those areas identified as having biodiversity constraints.

The vegetation within the adjoining RE1 zoned land will not be impacted as a result of the existing operations on the SRC site or the proposed expansion area, including the flood compensation area.

Therefore, the proposal is considered to be appropriate in terms of the provisions of clause 9 of SEPP 19.

A specific plan of management (clause 8) is not considered necessary in this instance.

5.3.6 State Environmental Planning Policy No 33—Hazardous and Offensive Development

A preliminary screening and hazard assessment pursuant to SEPP 33 has been undertaken by WSP – refer **Appendix 23**.

The purpose of that assessment is to confirm inventory and types of dangerous goods that will be stored and handled on-site and undertake a preliminary risk screening and, if required, a preliminary hazard analysis (PHA) in accordance with SEPP 33 criteria.

WSP concluded that the existing SRC and proposed expansion is a low risk hazardous and/or offensive operation because there are no dangerous goods other than 10,000 litres of diesel fuel (C1 or Category 4 Flammable Liquid) currently stored and handled on-site. A qualitative hazard and risk assessment was also undertaken and that assessment demonstrated that the residual risks as low as reasonably practicable.

In view of that assessment and risk analysis, it is considered that the existing SRC operations and proposed expansion is consistent with the objectives of SEPP 33 and the facility does not pose a significant risk.

5.3.7 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

This SEPP aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State and preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

No trees will be required to be removed to facilitate the proposed expansion of the SRC.

Seven trees will be required to be removed to facilitate the extension to the car park.

The ecological assessment has considered the impacts of the removal of these trees and has concluded that there will be no adverse impacts as a result of their removal – refer discussion in **Section 6.1.8** of this EIS.

The landscape plans (**Appendix 20**) identify additional tree planting within the setback area to Hassell Street.

The extent of tree removal has been assessed as being satisfactory.

5.3.8 Draft Environment SEPP

DPIE exhibited the proposed SEPP until 31 January 2018. The draft SEPP seeks to protect and manage the natural environment and proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland, and Willandra Lakes World Heritage Property.

It proposes consolidating the following seven existing SEPPs:

- *State Environmental Planning Policy No. 19 – Bushland in Urban Areas*
- *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*
- *State Environmental Planning Policy No. 50 – Canal Estate Development*
- *Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment*
- *Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No.2-1997)*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- *Willandra Lakes Regional Environmental Plan No. 1 – World Heritage Property.*

The previous SEPP assessments within this report and the environmental assessment within **Section 6** consider relevant matters within the Draft SEPP and conclude that the proposal is acceptable in this regard.

5.3.9 Fairfield Local Environmental Plan 2013

Clauses 2.2 and 2.3 – Zoning and Permissibility

Pursuant to clause 2.2 of *Fairfield Local Environmental Plan 2013* (the LEP), the land on which the SRC is located is primarily zoned IN1 General Industrial (the IN1 Zone) with some land along Prospect Creek zoned E2 Environmental Conservation and part of the eastern extremity of the site zoned RE 1 Public Recreation (see **Figure 6)**.

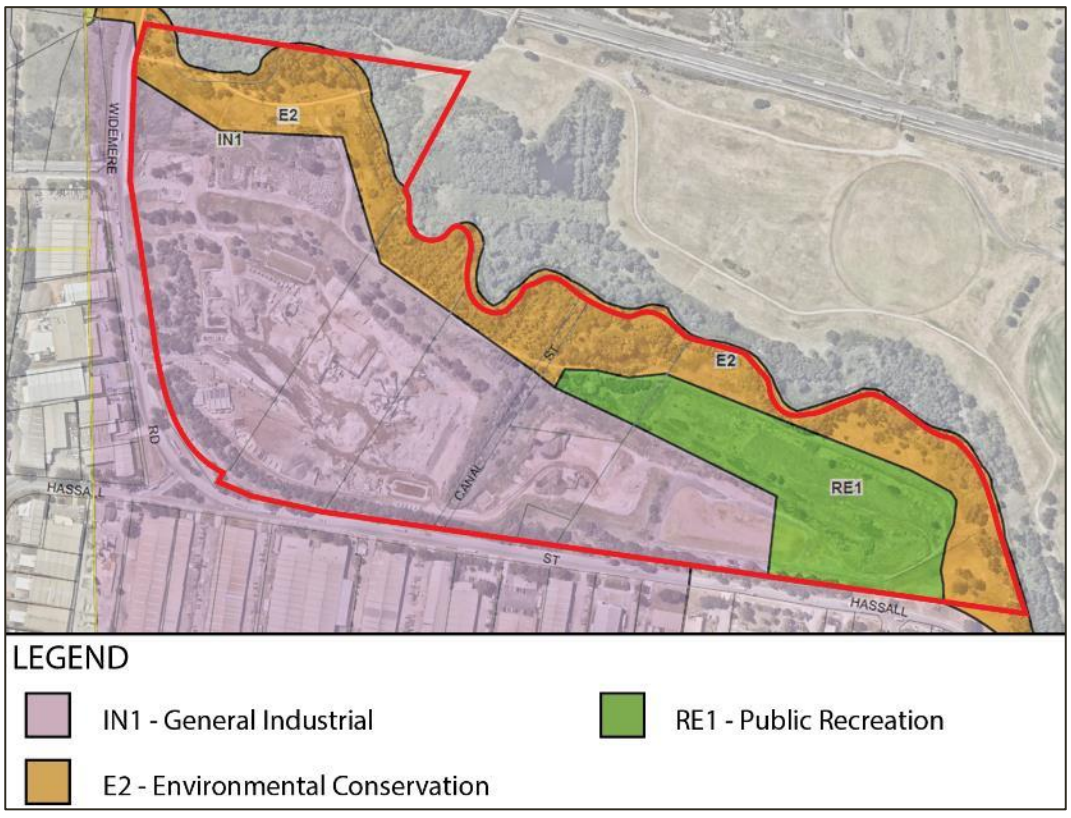


Figure 6 Extract of Zoning Map from Fairfield LEP 2013.

5 Strategic and Statutory Context

With the exception of the flood storage area, all existing and proposed works are located entirely within land zoned IN1 General Industrial and pursuant to clause 2.3, a '*resource recovery facility*'[1] is permissible with development consent in the IN1 Zone (NB: a '*resource recovery facility*' is a type of '*waste or resource management facility*'[2]). The flood storage area is partially located on land zoned IN1 and partially on land zoned RE1.

The flood storage area is required in order to compensate for the filling of the Canal Road gully. The flood storage area will comprise earthworks to provide a shallow dry basin which will have the capacity to store 1,500m^3 of flood water in the event of a 1% ARI event. The flood compensation area will not store water for any extended period.

The flood compensation area is permitted with consent in the RE1 zone as *flood mitigation works* which are defined as follows:

> ***flood mitigation work*** *means work designed and constructed for the express purpose of mitigating flood impacts. It involves changing the characteristics of flood behaviour to alter the level, location, volume, speed or timing of flood waters to mitigate flood impacts. Types of works may include excavation, construction or enlargement of any fill, wall, or levee that will alter riverine flood behaviour, local overland flooding, or tidal action so as to mitigate flood impacts.*

Pursuant to clause 2.3(2) of the LEP, a consent authority must have regard to the objectives of the zone within a development is proposed. The objectives of the IN1 General Industrial Zone are as follows:

- *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 ensure development is not likely to detrimentally affect the viability of any nearby business centre.*

The proposed development is consistent with the relevant objectives of the IN1 Zone as it:

- is an activity which can be likened to and is compatible with industrial land uses;
- provides employment opportunities;
- can be managed to minimise adverse environmental impacts on other surrounding land uses which are predominantly industrial in nature;
- will support other industrial activities by providing resource recovery of industrial and construction by-products without reducing the supply of industrial land; and
- will not include any activities that would detrimentally affect the viability of any nearby business centres as the proposed activities are not permissible in business centres.

The objectives of the RE1 zone are:

- *To enable land to be used for public open space or recreational purposes.*
- *To provide a range of recreational settings and activities and compatible land uses.*

[1] **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.

[2] **waste or resource management facility** means any of the following:
(a) a resource recovery facility,
(b) a waste disposal facility,
(c) a waste or resource transfer station,
(d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).

- *To protect and enhance the natural environment for recreational purposes.*

The proposed flood compensation works are consistent with the relevant objective of the RE1 zone in that the area, once regraded will be replanted with vegetation suitable as potential frog habitat in accordance with the recommendations of the project ecologist. Details of the revegetation of the flood compensation area are provided on the landscape plans at **Appendix 20**.

Clause 4.1 - Minimum subdivision lot size

The site is subject to a minimum subdivision lot size of 930m^2. The proposal does not include subdivision of land and accordingly, this provision is not relevant in this instance.

Clause 4.3 – Height of Buildings and Clause 4.4 – Floor Space Ratio

The site is not subject to a maximum building height or floor space ratio under the LEP.

Clause 5.10 – Heritage Conservation

The site is not mapped as being a Heritage Item or within a Heritage Conservation Area and the site is not proximate to a Heritage Item or Heritage Conservation Area.

Clause 6.1 – Acid Sulfate Soils

Clause 6.1 of the LEP requires development consent for the carrying out of certain works on land mapped on the Acid Sulfate Soils Map. No part of the site is mapped on the Acid Sulfate Soils Map and accordingly, this clause does not apply.

Clause 6.2 – Earthworks

Clause 6.2 requires development consent for earthworks and requires that before granting development consent for such works, a consent authority must consider various matters. An assessment in regard to these matters is provided in **Table 5**.

Table 5 Assessment against matters listed in Clause 6.2(3) of Fairfield LEP 2013

Matter to be considered	Assessment
(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality of the development,	The proposed earthworks relating to the expansion area and new sediment ponds have been designed to minimise the potential for any adverse drainage of soil stability impacts (see **Section 6.1.4 and Appendix 6.**
(b) the effect of the development on the likely future use or redevelopment of the land,	The proposed earthworks primarily relate to filling of a gully and creating a more uniform level across part of the site to facilitate the ongoing existing use. In addition, two new sediment basins are proposed together with a flood storage area to compensate for the filling of the Canal Road gully. These works are not considered to be detrimental to any potential future use of the land which is within an industrial zone.
(c) the quality of the fill or the soil to be excavated, or both,	It is anticipated that material excavated from the site to create detention basins will comprise either ENM or VENM material will be reused for filling within the site. If the excavated material is contaminated (and unable to be remediated), it will be removed from the site to an appropriate facility.
(d) the effect of the development on the existing and likely amenity of adjoining properties,	The areas of proposed earthworks relating to the expansion area and sediment basins are generally removed from the boundaries of the site. Potential impacts relating to dust and noise have been considered within this EIS.
(e) the source of any fill material and the destination of any excavated material,	Any fill used will be ENM or VENM sourced from within the site or received from off-site using industry standard validation methods. It is not proposed to remove any excavated material from the site.
(f) the likelihood of disturbing relics,	Given the substantial disturbed nature of the site and change in natural levels over many years, the likelihood of disturbing relics is low (see **Section 6.1.11** and **Appendix 13**).

Table 5 Assessment against matters listed in Clause 6.2(3) of Fairfield LEP 2013	
Matter to be considered	**Assessment**
	Notwithstanding a mitigation measure has been included in the event relics are unearthed during the site works – refer Mitigation Measures table in **Section 7** to this EIS..
(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,	The proposed earthworks and drainage system have been designed to minimise their potential impact on Prospect Creek and the adjoining riparian land and are considered to be acceptable (see **Sections 6.1.4 and 6.1.8.**). Furthermore, the site is more than 1km downstream of Prospect Reservoir and outside the drinking water catchment and WaterNSW has indicated that it has no requirements of the proposal.
(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.	**Section 7** of this EIS outlines various measures to minimise or mitigate potential adverse impacts associated with the proposed development.

Clause 6.3 – Flood Planning

Clause 6.3 of the LEP relates to land at or below the flood planning level[3]. The Flood Risk Management Report prepared by Bonacci (see **Section 6.2.2** and **Appendix 16**) indicates that part of the site is impacted by flooding and that the proposed works will not result in any significant changes to flood levels or velocities.

In order to compensate for the filling of the Canal Road gully area, an additional flood storage area is proposed to be provided. This has been located to be clear of existing in ground infrastructure – Jemena Eastern gas pipeline and Sydney Water sewer main – and the riparian area adjacent to Prospect Creek.

The flood storage area will have capacity to store 1,500m^3 of flood water and would only function as flood storage in the event of a 1 in 100 year flood event.

Clause 6.5 – Terrestrial Biodiversity

Land along Prospect Creek within the site is mapped as Biodiversity on the Terrestrial Biodiversity Map (see **Figure 7**). No works are proposed within this part of the site.

Notwithstanding, a Biodiversity Assessment Report has been prepared which considers the potential impact of the continued operation of the SRC and the works relating to the proposed expansion of the facility on the site's biodiversity (see **Section 6.1.8** and **Appendix 12**) and that report concludes that the proposal is acceptable.

[3] **flood planning level** means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metre freeboard.

5 Strategic and Statutory Context

Figure 7 Extract of Terrestrial Biodiversity Map from Fairfield LEP 2013.

Clause 6.6 - Riparian land and watercourses

Land along Prospect Creek within the site is also identified as Riparian Area on the Riparian Lands and Watercourses Map (see **Figure 8**). The proposed works are substantially outside of this mapped area with only part of the flood compensation area and a small 'toe' of batter for the proposed Canal Road gully filling extending into the mapped area. The Biodiversity Assessment Report (see **Section 6.1.8** and **Appendix 12**) and Soil and Water Management Plan (see **Section 6.1.4** and **Appendix 6**) have considered the impacts of the proposal in accordance with cl6.6(3) of the LEP and those assessments can be summarised as follows:

- The proposal will not adversely impact on water quality and flows within Prospect Creek;
- The proposal will have a direct impact on a small area of River-flat Eucalypt Forest vegetation although this is not considered to be a significant impact in respect of the wider aquatic and riparian species, habitats and ecosystems of the watercourse;
- The proposed works are not proximate to the bed and banks of Prospect Creek and will not therefore impact on the stability of the watercourse;
- The works will not interfere with the free passage of fish and other aquatic organisms within or along Prospect Creek;
- Given the limited and low significance of any impacts on riparian vegetation, the proposed works are considered unlikely to adversely impact on any future rehabilitation of Prospect Creek or its riparian environs;
- No increase in water extraction from Prospect Creek is proposed; and
- Appropriate measures to avoid, minimise or mitigate the impacts of the development have been incorporated in the design or are suggested as construction management or operational conditions (see **Section 7**).

Accordingly, the consent authority may satisfy itself that the matters pursuant to cl6.6(4) of the LEP have been adequately considered.

5 Strategic and Statutory Context

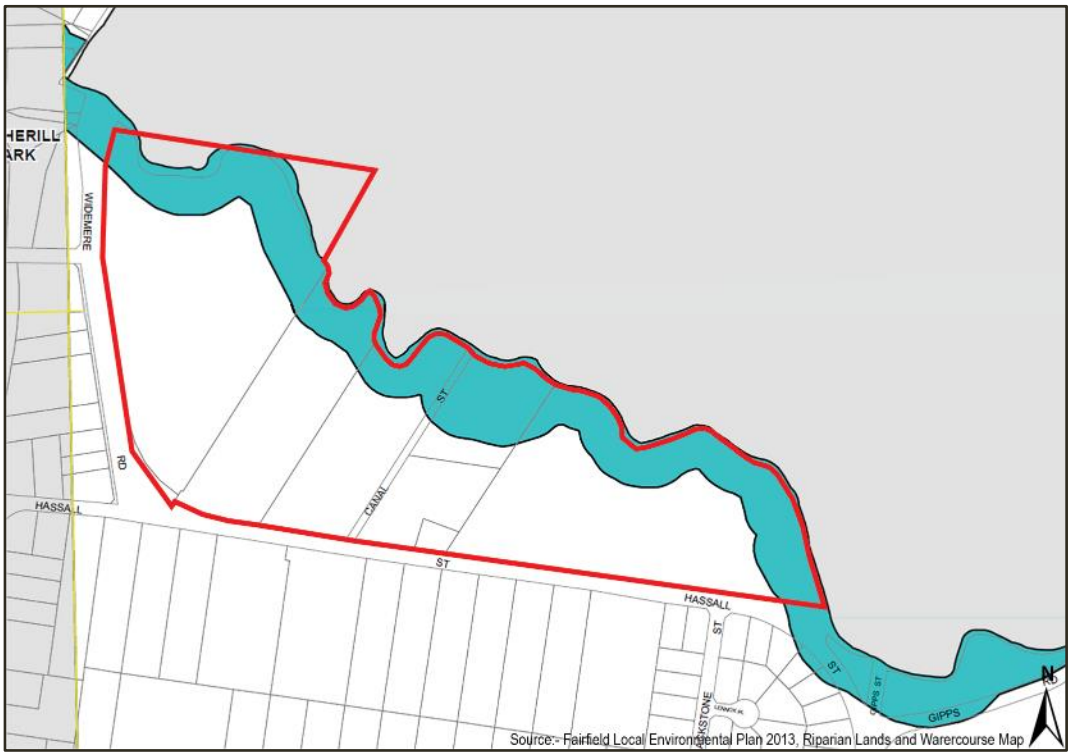


Figure 8 Extract of the Riparian Lands and Watercourses Map from Fairfield LEP 2013.

6 Environmental Impact Assessment

6.1 General

This section provides an environmental assessment of the proposed development in respect of the relevant matters for consideration under section 4.15(1) of the EP&A Act and the matters identified for assessment in the SEARs.

Specifically, this section:

- Identifies the potential impacts as a result of the operation of the existing SRC and the proposed expansion of the area to be used for activities relating to the operation of the SRC.
- Considers how impacts can be avoided or if impacts cannot be avoided, how impacts can be minimised or offset, including identification of specific mitigation measures.
- Identifies any residual impact and considers whether these are acceptable.

This assessment has considered the operation of the SRC as a whole, including the expansion area. Therefore, all cumulative impacts have been considered as part of this assessment.

6.1.1 Waste Management Assessment

A Waste Management Assessment (WMA) has been prepared by WSP (see **Appendix 9**) having regard to the relevant provisions of the SEARs.

The WMA has considered the various waste streams which are brought to the site including brick, concrete, asphalt, terracotta tile, soil and rock waste and notes that the redirection of these materials to the facility for recycling has the following benefits:

- reducing waste volume to landfill;
- reducing the need for new material production;
- providing recycled materials at lower cost than production of new materials;
- consistency with the WARR Strategy (NSW EPA, 2014).

Below is a summary of the existing operations employed at the Fairfield SRC with respect to:

- The types of wastes accepted by the facility;
- The materials that are produced by the facility;
- The processing that takes place on site;
- The stockpiling of materials;
- The volumes of materials imported into and exported from the facility;
- The quality control measures that have been, and will continue to be, implemented;
- Transport, handling and storage.

Waste Types and Materials Produced

The site is licensed by the NSW EPA for waste storage and resource recovery. Under environment protection licence (EPL) number 5713, the site is licensed to accept the following types of waste:

- VENM, as defined in Schedule 1 of the POEO Act;
- Building and demolition waste, as defined in Schedule 1 of the POEO Act;
- Asphalt waste, as defined in Schedule 1 of the POEO Act;
- Soils that meet the contaminant threshold (CT) for general solid waste, CT1, from the waste classification guidelines (NSW EPA, 2014), provided they also meet the additional limits listed — waste that is below licensing thresholds in Schedule 1 of the POEO Act.

6 Environmental Impact Assessment

The waste brought to site is processed through a variety of methods and materials for construction are produced including:

- Graded aggregates of crushed or recycled materials;
- Densely graded base (DGB) and heavily graded base of natural or recycled materials;
- Cement-stabilised DGB of natural or recycled materials;
- Sand and cement mixtures of natural or recycled materials;
- Crushed and/or graded sandstone;
- Natural or recycled sand;
- Top dressing soil.

Waste Processing Methodology

The SRC processes the imported waste streams by screening, blending and crushing.

Screening

Material is screened to produce outputs which have specific particle size requirements, e.g. road base, sands, aggregates. Screening is done by a moveable screening plant. The material is fed into the hopper of the screener using a front-end loader and screened material leaves the plant on a conveyor belt.

Blending

Blending of materials using the pug mill is undertaken to combine recycled materials with water and cement to create stabilised products in accordance with customer specifications. The required recycled material is tipped into the feeder bin using a front end loader. The mill operator initiates the blending process, which is automated by computer. A truck is positioned beneath the pug mill discharge chute to collect the finished blended product.

Crushing

The crushing process is used to process concrete, brick, roof tiles and asphalt into aggregates. Any pieces too large for the crusher are broken up by a hammer/pulveriser. The material is then loaded into the mobile crusher. A magnet is used to remove steel from the material (e.g. reinforced concrete) before crushing.

Crushed material is then screened, and any remaining oversize material is returned for additional crushing or disposed of, depending on composition.

Waste Volumes and Stockpiling

Stockpiles

The current licence for the facility restricts material stockpiles at the site to a maximum of 250,000 tonnes and a maximum stockpile height of 8 m. No area restrictions for individual stockpile footprints have been set.

The currently licensed facility area has a number of areas for stockpiling incoming material, which cover approximately 16,450m^2. These are shown on the existing site plan which is part of the Architectural Plan set at **Appendix 5** to this EIS.

A volumetric survey undertaken by WSP in 2020 identified that there was approximately 94,481 tonnes of stockpiled material at the site. This is significantly less that the licence allowance of 250,000 tonnes.

6 Environmental Impact Assessment

Waste Volumes

In terms of incoming and outgoing waste volumes, records provided by Fairfield Council indicate the following annual tonnages in period from 2015/16 – 2018/19 – Refer **Table 6**:

Table 6 Yearly incoming and outgoing tonnages for Fairfield SRC

Period (Financial Year)	Total Incoming Tonnages	Total Outgoing Tonnages
2015/16	454,289 tonnes	532,078 tonnes
2016/17	459,337 tonnes	504,559 tonnes
2017/18	451,285 tonnes	452,709 tonnes
2018/19	476,443 tonnes	534,818 tonnes

Source: Fairfield City Council

As previously noted, these volumes are in excess of the processing volumes permitted by conditions of the 1996 development consent (which limited the total annual volume of materials to 180,000 tonnes).

Quality Control for Waste Processing

Quality control for the processed material includes procedures for the feed stock, before processing, and the output after processing. To ensure the processed product meets quality requirements, the feed stock must be free of contaminants, including asbestos, clay, rubbish, vegetation, etc. To maintain the feedstock quality, three stages of inspections are used before material is accepted to the site for processing (refer **Figure 9**):

- Inspection via closed-circuit television (CCTV) at the weighbridge. If contaminants are identified the truck is turned around and not permitted to tip off.
- Visual inspection from the spotter's tower platform. If contaminants are identified the truck is turned around and not permitted to tip off.
- Physical inspection of material once it has been tipped and back bladed by a front-end loader in the designated stockpile area. If contaminants are identified, the load is wetted and re-loaded onto the vehicle from which it was tipped.

If potential contamination is identified in a stockpile of processed end-product, a physical inspection of the stockpile is carried out. Processed product that does not meet the relevant specifications is quarantined by wetting the stockpile with water before it is transported to the quarantine bay. The SRC coordinator and the work health and safety, environment, quality and training (WHSEQT) officer make arrangements for the removal of the contaminated stockpile within 24 hours to a suitably licensed landfill site.

The stockpile is then reassessed. If contaminants have been removed from the stockpile and the results of the test sample (which has been analysed at a National Association of Testing Authorities (NATA) accredited laboratory are acceptable, the quarantine will be lifted and the material will be able to be reused – refer **Figure 10**. .

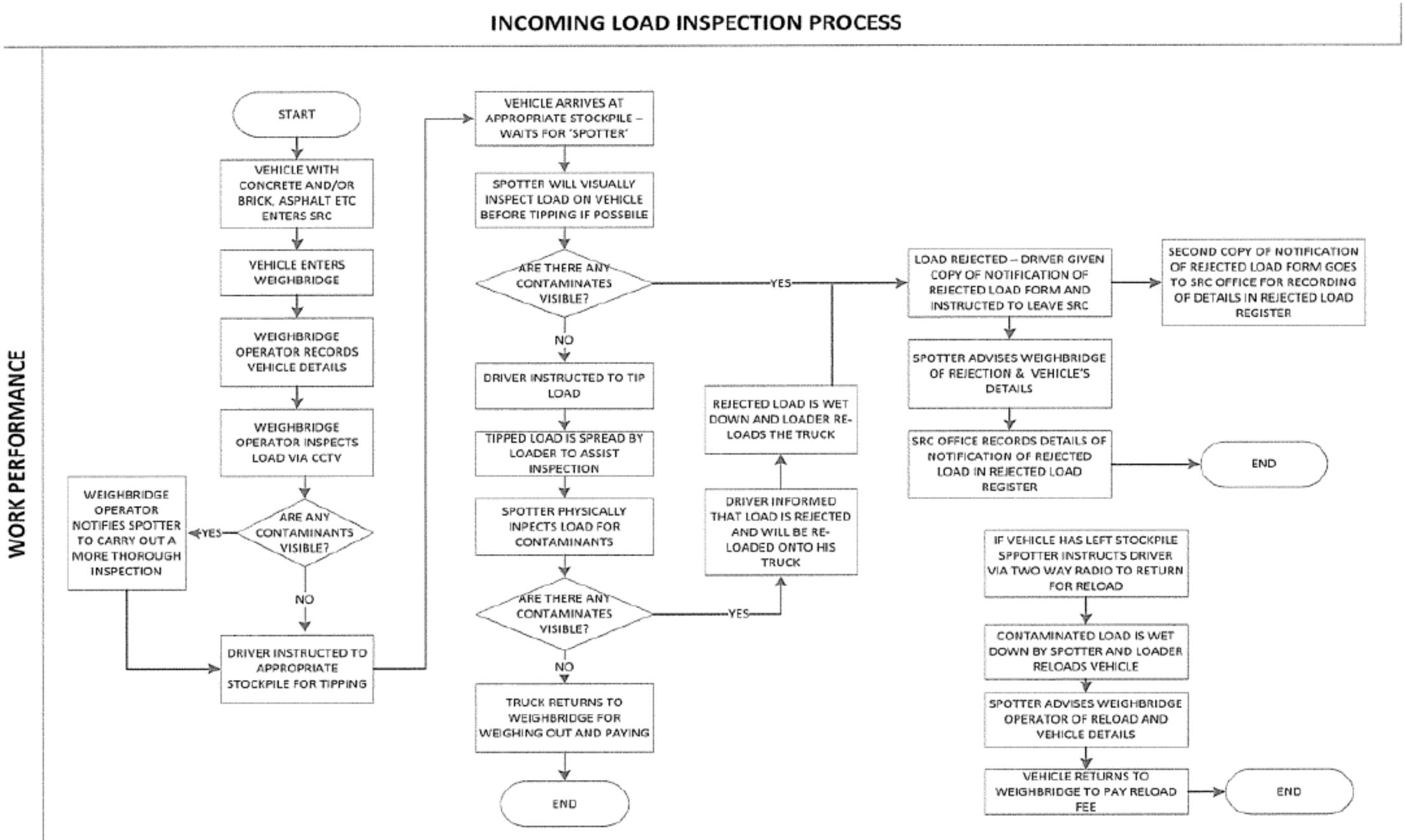


Figure 9 Procedures to be followed in relation to assessment of incoming loads

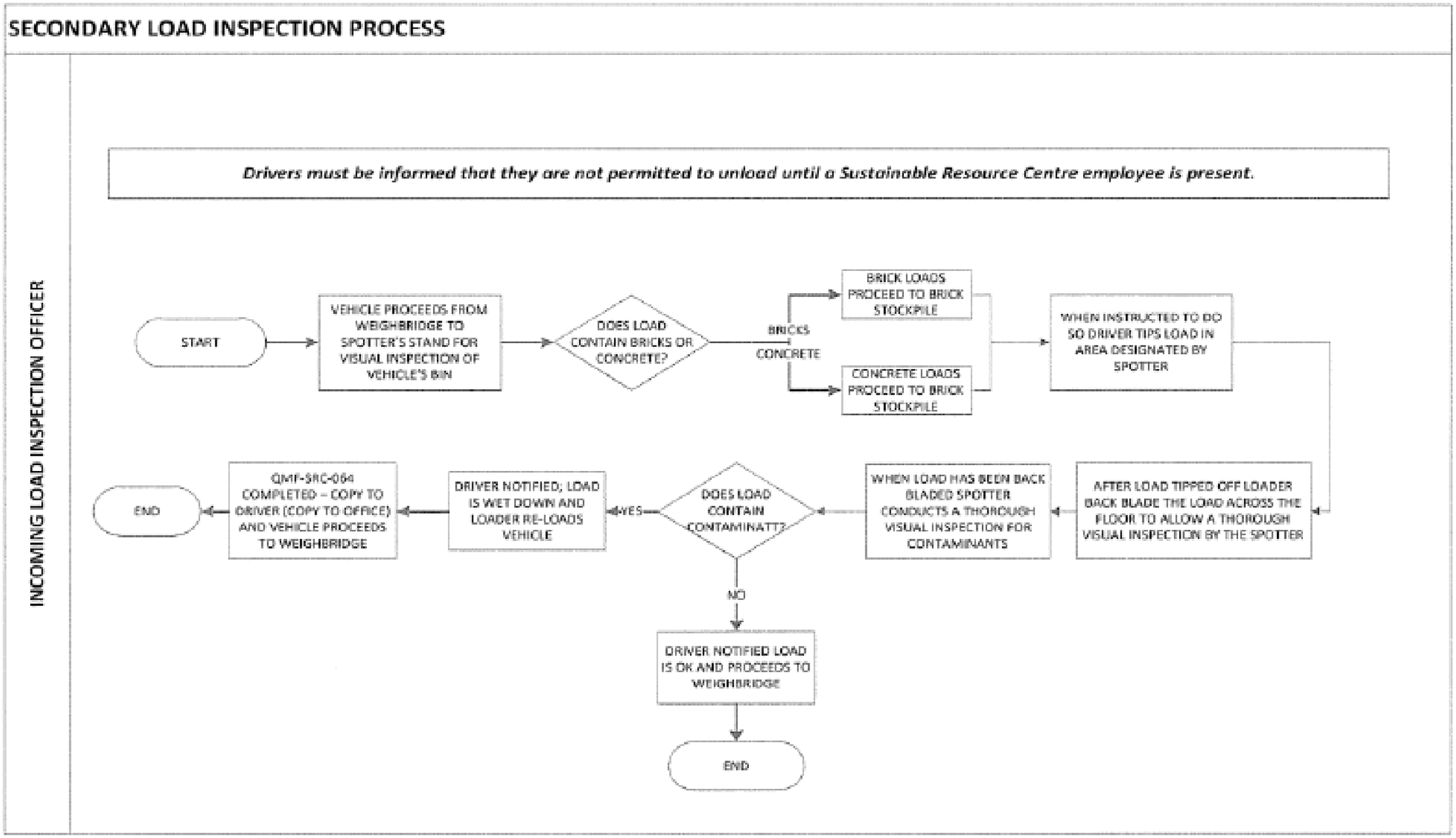


Figure 10 Procedures to be followed in relation to Secondary Inspection Process

Waste Storage, Handling and Transport

Incoming material loads are weighed at the on-site weighbridge upon entrance to site to determine the amount of material and confirm they are within weight limits. Depending on the weight limits applied, loads might be accepted or rejected. Overweight and rejected loads are recorded.

Incoming loads are inspected using the methodologies detailed above.

Cleared loads are then directed to a designated stockpile location and a further inspection is undertaken before and during tipping. The tipped load is spread out using a front-end loader to assess the potential for contamination. Any loads determined to be contaminated will be subject to the process described in the quality control section above.

Accepted material will be stockpiled according to the type of material and damped down using water from the water tankers if there is the potential to create dust.

Material will be taken from the stockpiles using front end loaders for processing as required.

Processed and unprocessed material leaving site is loaded by front-end loader to either an SRC truck or the customer's truck. The truck is weighed on the weighbridge to confirm product weight and compliance with weight restrictions before leaving the site.

Proposed Expansion Area

Approval is being sought to regularise the existing operation and to expand the stockpiling area to facilitate more efficient operation on the site.

Approval is being sought to allow a maximum volume of 550,000 tonnes of recyclable materials to be imported to the SRC. **Table 7** provides further detail on the types of materials to be processed.

Table 7 Potential Maximum Throughput – Fairfield SRC

Material	Estimated Maximum Incoming Volumes (Tonnes)		
	Daily	Weekly	Yearly
VENM	216	1,400	65,000
Building and demolition waste	1,791	10,500	430,000
Asphalt waste	166	1,080	50,000
Soil	20	120	5,000
Total	**2,193**	**13,100**	**550,000**

Source: Table 3.1 WSP Waste Management Assessment, August 2020

No variation to the types of materials accepted and processed at the SRC is sought as part of this application.

The expansion area (approximately 2.8ha) is located to the east of the existing SRC operations area as noted on the architectural site plan at **Appendix 5,** and will provide for approximately 5,000m^2 of additional material stockpiling area. . The expansion area will be facilitated through the filling of the Canal Road gully and regrading of the adjacent land to create a level area for stockpiling and vehicle manoeuvring.

The storage, handling and transport procedures will be as per the current operation. No changes are proposed to the materials handling procedures for the site.

Potential Impacts

Potential impacts from the expansion of the licensed operations have been identified as those relating to increased water usage, dust emissions, noise emissions and traffic generation, impacts on water quality and ecological impacts.

Management and mitigation relating to these impacts are addressed within this EIS and in the appended specialist reports.

With regard to waste management, no potential impacts have been identified. The proposed increased capacity will bring the facility in line with the current operation of the SRC.

The processes and procedures that are in place appropriately manage the operational capacity for which consent is sought. No mitigation measures are considered necessary.

The current maximum stockpile capacity of 250,000 tonnes is considered appropriate for the facility. Even with the expanded capacity it is unlikely that this would be exceeded under normal operation.

6.1.2 Contamination

A detailed site investigation (DSI) has been prepared by WSP having regard to the SEARs issued on 6 May 2019. This DSI relates to the entire SRC site, including the proposed expansion area. A copy of the DSI is included at **Appendix 18** to this EIS.

The objectives of the site investigations were to:

- Assess the condition of the soil at the facility, including in the proposed expansion area;
- Assess the groundwater quality beneath the expansion area;
- Assess the condition of soil, groundwater and any standing water present in the gully;
- Assess groundwater quality between the SRC facility and Prospect Creek.

Methodology

The following investigations were undertaken in order to inform the DSI:

- Desktop assessment of the history and current operation of the current SRC and the expansion area to select intrusive investigation locations;
- Intrusive investigation at 40 sampling locations (refer **Figures 11 and 12**) comprising:
  - Excavation of 27 test pits in the expansion area and adjacent to the gully (**Figure 11**);
  - Hand digging 8 locations in the existing facility (**Figure 12**);
  - Drilling and installation of 3 wells in the expansion area (Figure 4 of WSP DSI report);
  - Drilling and installation of 2 shallow wells between the existing SRC facility and Prospect Creek;
- Surface water sampling of Prospect Creek upstream of the SRC facility, at the facility and downstream of the facility (Figure 3 of WSP DSI report);
- Surface water sampling of standing water in the gully where Canal Road is proposed to be filled.

6 Environmental Impact Assessment

In addition, surface water sampling was undertaken in 2018 and 2019 as part of a surface water discharge assessment at the request of the NSW Environment Protection Authority (EPA). The sampling was undertaken after periods of heavy rainfall when ponding was present in the northern portion of the site.

Figure 11 Extract from WSP DSI report – Soil Investigation Location Plan

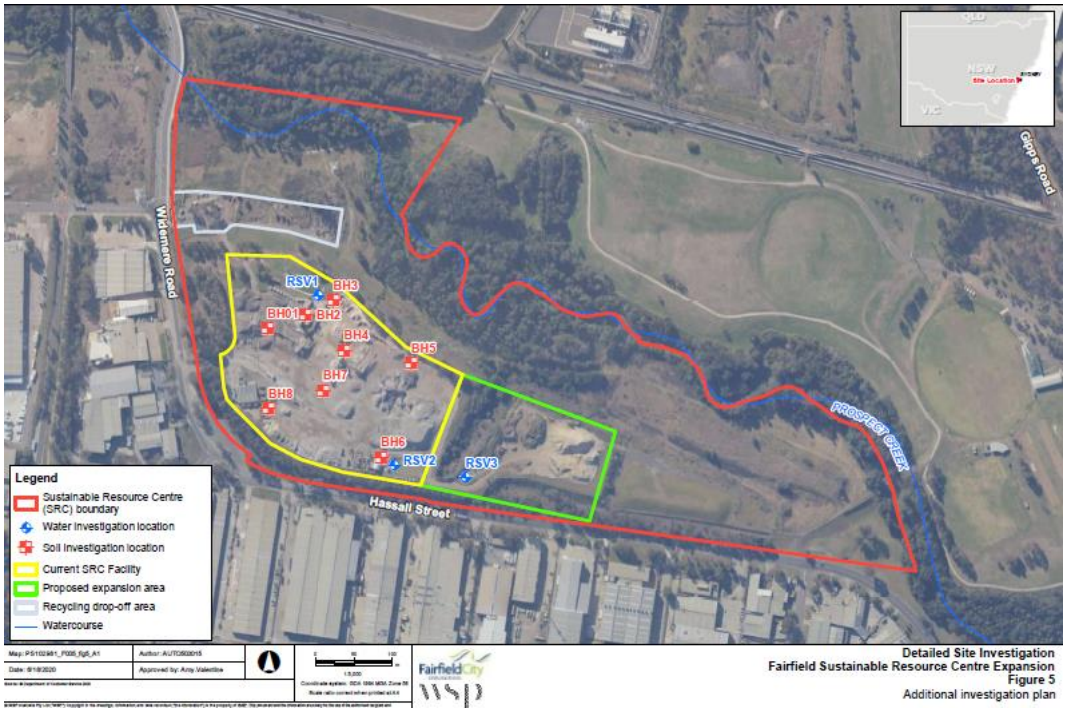


Figure 12 Extract from WSP DSI report – Plan showing location of additional investigation boreholes

Testing Results

The results of these investigations are summarised as follows:

- No evidence of potential acid sulfate soil was encountered during the intrusive investigation.
- The works within the proposed expansion are not anticipated to disturb the landfill cell and no structures with potential for vapour accumulation are anticipated as part of the proposed use. Therefore, even if material in the landfill cell contains significant contamination it would not represent a risk to future site users.
- Groundwater conditions beneath the expansion area indicate that some contamination is present, likely due to the landfill material. No human health risk to the future users of the site was identified, although the potential for human health or ecological risk to downgradient surface water receptors was present, for benzene, naphthalene and some metals.
- The groundwater sampled between the current facility and Prospect Creek did not identify any human health or environmental risk from the SRC or the landfill leachate.
- Some contamination (likely a result of the landfill leachate) in the groundwater beneath the expansion area. The potential leachate impact on the creek is not a result of surface seepage. The assessment has revealed that there are no identified human health risks from soil or groundwater.
- The downgradient sample of water in Prospect Creek and outflow sample did not have any health or ecological criteria exceedances.
- No human health exceedances were noted within the sediment basins and the use of the water for dust suppression is not considered to pose a risk.
- Metals in Prospect Creek exceeded the fresh water criteria, particularly during heavy rainfall events. This is likely the result of the industrial setting of the creek and the potential for it to include naturally occurring metals. Based on the findings of the DSI the levels that were present in the upgradient sample and in groundwater across the wells and in standing water and in the creek were within a similar range. Therefore, it is not considered that the SRC is contributing significantly to the water quality of the creek.
- Soil and groundwater in the gully were unable to be assessed due to the vegetation present although test pits and soil bores were undertaken adjacent to the gully and a sample of the surface water outflow was collected. The outflow sample contained hydrocarbons, although no risks were identified.

Car Park Extension and Northern Sediment Basin

The areas of the site where the carpark expansion and the new sediment basin in the north of the site are proposed were not assessed during the site investigation however, WSP has concluded that only limited potential risks are likely to be associated with the carpark expansion and new sedimentation basin, comprising management of spoil, dust generation and water runoff, and these risks can be adequately managed during the construction phase under a construction environmental management plan. Soil sampling for waste classification should be undertaken on any spoil material created during these works.

The excavation to create the new sediment basin in the north-east of the expansion area will be a maximum of 2 metres below ground level (mBGL), and is not anticipated to disturb the landfill cell as the capping layer is at least 3 m thick based on the test pits excavated in the vicinity of the proposed basin. No structures with potential for vapour accumulation are anticipated as part of the proposed use, therefore even if material in the landfill cell does contain contamination it would not represent a risk to future site users.

Flood Compensation Area

The flood compensation area has been assessed separately to the DSI investigations. The flood compensation area has a capacity of 1,500m^3 and a surface area of 4,154m^2. This means it has an average 'depth' of less than 0.4m.

The test pits identified that the topsoil thickness varied from 0.1m to 0.2m and the fill thickness varied from 0.6m to 2.5m.

The results of the soil testing in the area of the flood compensation area indicated that the waste identified beneath the investigation area generally comprised non-putrescible wastes with only minimal identifiable putrescibles. Based on the findings of the DSI for the majority of the SRC site, it is considered that the potential for the area to be used as flood compensation area to be contaminated to the extent that there is a risk to human health is unlikely.

From a geotechnical perspective, the observed waste type was not considered to substantially contribute to differential settlement, however, differential settlement is still likely to present a hazard which is required to be factored into design due to the evidence of poor compaction during test pitting works.

Contamination Conclusion

The DSI concluded as follows:

> *Based on the results of the DSI neither the current operation of the facility or the proposed redevelopment of the site, including the expansion of the SRC and the filling of Canal Road, is considered to represent a risk to human health or the environment. During the construction phase controls to limit dust generation and manage water runoff would be included in a construction environmental management plan. The presence of the landfill material is not expected to impact the proposed redevelopment due to the thickness of the capping material.*
>
> *The site is considered suitable for the continued use as a recycling centre, with no remediation recommended based on the findings of this investigation.*

The DSI included recommendations which have been included as mitigation measures in relation to potential contamination issues – refer **Section 7**.

6.1.3 Leachate

WSP has undertaken a leachate assessment of the SRC site to assess potential risks associated with leachate generation from the site activities and to assess any changes the existing leachate regime within the landfill. A copy of the leachate assessment report is included at **Appendix 19** to this EIS. The leachate assessment also includes recommendations with respect to amending the current monitoring regime to reflect the proposed expansion of the SRC activities on the site.

The leachate assessment has had regard to the historical use of the site as a land fill site for general waste, including putrescible waste. The land filling took place over seven stages between the late 1970s until the early 1990s. The land fill stages are referred to as 'cells'. A previous report by Woodward Clyde (August 1994) indicates that the waste emplaced within the landfill comprised sanitary and industrial waste including household garbage and to a lesser extent, commercial and industrial wastes.

WSP noted that the Woodward Clyde report cites design drawings which indicate that each landfill cell was designed to have a clay perimeter embankment with a crest of one metre and an internal batter slope of 1:1.5 and an external batter slope of 1:4 or 1:1.5 depending upon location. WSP is unclear as to whether these structures remain in place across the site[4].

[4] In those locations that were tested, the cap structures above the landfill were intact.

Leachate Characterisation

Contaminant concentrations of water/leachate were monitored beneath the expansion area in October 2017.

The results indicated that leachate generated from the waste mass beneath the expansion area contained the following contaminants:

- Heavy end hydrocarbons in all monitoring well samples.
- Light end hydrocarbons including naphthalene and benzene in MW03.
- Elevated chromium, nickel and zinc in all monitoring well samples.
- Elevated arsenic and copper in MW01.

WSP noted that the concentrations of chromium, zinc and copper were only marginally above the limit of detection and may have been naturally occurring.

Surface Leachate Seepage

In relation to the existing facility, historical investigations found no evidence of leachate seepage, dieback of vegetation or scouring in the vicinity of the landfill cells on that part of the site. WSP undertook a field inspection of the caps and batters of Stages 1, 2 and 4 cells (which are the cells located on the existing SRC facility) in 2020 and found no evidence of leachate seepage.

Based on these investigations WSP noted there is no known history of surface seepage of leachate out of the existing landfill cells.

No landfill leachate interacts with the surface drainage runoff generated at the SRC as it is approximately 7 m below the surface. Currently there are no leachate management systems are in place for the SRC for the landfill cells beneath the facility. However, Council does procure regular samples of the upstream and downstream waterways to ensure water quality objectives are exceeding the prescribed guidelines.

The activities within the expansion area will be an extension of the activities already occurring to the west in the existing SRC, which is situated above Stage 1 and 4 cells. Because no surface seepage has been identified within these areas to date it is considered unlikely that the proposed activities within the expansion area will result in an increased risk of leachate seepage. In fact, WSP considered that the designed regrading of the expansion area surface and construction of the sedimentation basin should facilitate improved shedding of water off the cap and batter surface and thus reduce the potential for infiltration and subsequent leachate generation.

Leachate to Groundwater Migration

WSP also undertook an assessment of target contaminants considered to be representative of leachate within the waste mass and these have been compared to concentrations considered to be representative of downgradient groundwater.

The results showed that the majority of target contaminants in downgradient bores were either undetectable or substantially lower than the concentrations within waste mass leachate. This indicated that, at the time of monitoring, downgradient groundwater was not being demonstrably affected by target leachate contaminants within the waste mass.

WSP concluded that the proposed expansion works are unlikely to directly affect existing leachate migration regime in groundwater as the filling is above the groundwater level and the regrading of the expansion area surface and construction of the sedimentation basin should facilitate improved shedding of water off the cap and batter surface and thus reduce the potential for infiltration and subsequent leachate generation.

Potential SRC Expansion Leachate

Leachate generated from the SRC expansion area is anticipated to comprise alkaline pH, elevated suspended solids and heavy metals and occasional elevated concentrations of oil

and grease and heavy end hydrocarbons. The design controls in place (i.e. drainage to a centralised point on the expansion area surface and a sedimentation dam) is anticipated to reduce the potential for off-site migration of leachate generated as part of SRC activities within the expansion area.

However, as indicated by the non-conformances against the Environmental Protection Licence (EPL) for the existing SRC, there is potential for runoff containing contaminated leachate to leave the works area even with the engineering controls that are proposed. This leachate has the potential to enter off-site surface water bodies (most notably Prospect Creek to the north) and impact upon water quality if adequate controls are not put in place.

Given the potential risk of leachate (notwithstanding the controls that are proposed), WSP recommends that:

- A regime of ongoing inspection, monitoring and management of the leachate/runoff controls along with contingencies and a review process be implemented.
- In addition to the water diversion bunds around the outer extent of the greater expansion area further diversions upgradient and around the stockpile processing areas of the site be installed to minimise overland flow from entering the processing and processed stockpile storage areas potentially generating lower quality runoff.

  Runoff from these diversions should drain into the sedimentation basin prior to discharge off-site or potential reuse on the site as dust suppression in accordance with the EPL requirements. These controls should be incorporated into the civil plans and SWMP for the expansion area.

Conclusion

Based upon review of available information, WSP considers that the changes to the expansion area are not likely to impact leachate generation within the underlying landfill waste mass. This conclusion is based on the understanding that:

- The ground surface across the expansion area will be regraded, the Canal Road floodway filled, water diversion bunds and sedimentation basin as specified in the civil engineering plans will be installed; and
- These structures will be adequately constructed and maintained to ensure ongoing operation for their intended purpose.

WSP recommends that the sedimentation basins are designed, constructed and maintained to ensure that they do not become a localised area of surface water infiltration into the underlying waste mass, where it may subsequently contribute to leachate generation.

Whilst the engineering controls to be implemented within the expansion area are anticipated to reduce both the risk of generation and discharge of leachate from the expansion area there is still considered to be a potential risk.

Given that leachate is present in the waste and the site activities also have the potential to release water of reduced quality, WSP recommend that a program of ongoing inspection and monitoring be implemented as part of the ongoing operation of the SRC, including the expansion area. The requirements for this system of inspection and monitoring can be contained within an overarching Environmental Management Plan to be implemented for the site.

Further, in addition to the water diversion bunds around the outer extent of the greater expansion area, WSP also recommends installing further diversions upgradient and around the stockpile processing areas of the site to minimise overland flow from entering the processing and processed stockpile storage areas potentially generating lower quality runoff. Runoff from these diversions should drain into the sedimentation basin prior to discharge off-site or potential reuse on the site as dust suppression in accordance with the EPL requirements.

These recommendations have been incorporated into the mitigation measures which are detailed in **Section 7** of this EIS.

6.1.4 Soil and Water Management

A Soil and Water Management Plan (SWMP) for the SRC facility, including the proposed expansion area, has been prepared by WSP having regard to the SEARs. A copy of the SWMP and associated civil engineering plans for the site are included at **Appendix 6** to this EIS.

As well as the civil works associated with the proposed expansion of the SRC facility, the SWMP also includes associated erosion and sediment controls including, but not limited to, the creation of two additional sedimentation ponds and the retrofitting of the two large sediment ponds on site to increase efficiency.

The SWMP has been prepared based on the following:

- A processing capacity of up to 550,000 tonnes of recycled construction materials per year for the entire facility.
- Importation of approximately 35,280m^3 of Virgin Excavated Natural Material (VENM) for site fill.
- Site earthworks and grading to establish a level site, including the construction of batters.
- Decommissioning of one stormwater sediment basin and construction of two additional stormwater sediment basins.
- Retrofitting two existing sedimentation basins to have a forebay and chemical dosing system.
- Receiving, processing, recycling and storage of the following waste material, consistent with existing operations and EPA licensing:
    - VENM;
    - Building and demolition waste including roof tiles, clay bricks, concrete;
    - Asphalt waste (including asphalt resulting from road construction and waterproofing);
    - Spoil and Soils.
- Change to the site operating hours to the following:
    - Receiving and loading of trucks – 24hrs/7 days;
    - Crushing operations 5.00am – 6.00pm (Monday to Friday);
    - Pug Mill operations 3.00am – 4.00pm (Monday to Friday).
- Vegetation and tree removal to facilitate the proposed works and replacement tree planting.
- Flood compensation area limited to regarding the existing vegetated area to the north east of the expansion area.
- Oil, fuel and chemical storage facilities.
- Associated erosion and sediment control devices.

Proposed Civil Works

To accommodate the proposed expansion of the SRC, filling of the existing Canal Road gully is required. As part of the filling works and to facilitate improved stormwater management and reuse ability, two new sedimentation basins are proposed. Earthworks plans have been prepared which detail the following scope of works:

- Site regrading;
- Extent of battering;
- Proposed levels;
- Filling of the existing sediment basin;
- Two new sediment basins;
- Stormwater drainage augmentation;
- Regrading of land to provide compensatory flood storage.

The extent of civil works described above is detailed on the civil plans at **Appendix 6** to this EIS.

In addition to these works, some minor earthworks are associated with the car park extension and reconfiguration of the driveway access off Widemere Road. The details of those works are shown on the car park plans at **Appendix 5**.

These works have been designed having regard to other studies and to accommodate site constraints such as flood storage capacity of the area, contamination issues due to the previous use of the site, erosion and sediment control and site access.

Based on previous flood modelling (Bewsher 2010, Prospect Creek Floodplain Management Plan Review) any filling in the floodplain above RL 30.90 needs to be compensated. Given that filling of the Canal Road gully is proposed, the design must maintain the flood storage of the site. This is proposed to be provided in the form of a flood compensation area to the north east of the expansion area. This area will serve only as flood storage and does not require maintenance exceeding its current requirements, i.e. - mowing.

Site Water Management

In terms of existing water capacity, the site contains three sediment basins (with a total capacity 3,063KL), 30 above ground water tanks (with a total capacity 785KL) and a creek off-take pump (licence no. 10CA103730) – refer **Figure 13**.

Water requirements for dust suppression on the existing SRC site are met by water cart trucks transporting water from the various above ground water storage tanks. These tanks are filled from the three sediment basins located on site. No on-site mains water is used for dust suppression operations. Water is stored in the sediment basins and used for dust suppression including the operation of the pug mill and crushing plant. Roof runoff is also captured from the office and work-shed and reused at the toilet facilities of the site. The demand for water usage associated with dust suppression exceeds available on site water storage. The balance of water required for this purpose is sourced from Prospect Creek (via the water extraction licence). The site has a licence from the NSW Department of Primary Industries to draw 192 KL per day of water from Prospect Creek and is pumped into existing Sediment Basin 1.

6 Environmental Impact Assessment

Figure 13 Extract from Figure 2 of SWMP showing existing site erosion and sediment control measures

However, in the future it is proposed that the sediment basins will not be used as a water storage resource. This is to avoid the scenario of the basins overflowing in the event of a significant storm and the sediment washing unchecked in Prospect Creek. It is proposed that the water in the basins be maintained at a level which will allow the basins to fulfil their principal function as a sediment control device. In order to maintain the water levels, there may be times when the water in the basins needs to be pumped into the storage tanks.

The strategy of using the proposed sedimentation ponds exclusively for sediment capture and not for water re-use storage will require more frequent pumping than is currently undertaken on site.

To counter this, installing additional storage tanks adjacent to the proposed sedimentation ponds 4 and 5 in order to increase total tank storage capacity, could be an option if required.

In addition, the new sediment basins together with the proposed retrofitting of existing basins #1 and #2 will result in higher functioning basins compared to the existing facilities, which will in turn result in improved water quality.

Stormwater Management

As noted above, water supply requirements for dust suppression, water reuse and operational uses are currently met by three existing sediment basins and approximately 30 water storage tanks.

MUSIC Modelling

WSP has undertaken MUSIC water quality modelling of the existing SRC facility and the proposed expansion.

The modelling has taken into account:

- Rainfall and evaporation;
- Water demands of the facility;
- Water storage; and

- Catchment contributions

In terms of water storage, WSP estimates that, taking into account the proposed four sediment basins, together with the 30 above ground tanks, total water storage capacity on the site is 4,995KL.

The modelling assessed the effectiveness of the various treatment trains provided on site taking into account the above variables. Those results are detailed in the table at Figure 4 in the SWMP. Figure 4 is reproduced below in **Figure 14**.

Treatment Train Effectiveness - Receiving Node

	Sources	Residual Load	% Reduction
Flow (ML/yr)	51.4	30.8	40
Total Suspended Solids (kg/yr)	44900	894	98
Total Phosphorus (kg/yr)	19.7	4.16	78.9
Total Nitrogen (kg/yr)	104	50.3	51.9
Gross Pollutants (kg/yr)	418	0	100

Figure 14 Water Quality Outcomes – Extract of Figure 4 in the SWMP

The water balance modelling is shown in **Figure 15** (extract from Table 6 of SWMP):

Total Runoff	44,350 KL/year
Total Demands	45,600 KL/year
Rainwater Supplied	19,600 KL/year
Percentage Demands Met	43%
Total Tank Top-up from Creek Off-take	26,000 KL/year

Figure 15 Water Storage modelling results

Based on the WSP water balance modelling for the year, the site's stormwater harvesting yield is approximately 43%. WSP has identified that any overflows during a large storm event would sheet flow over approximately 100m of grass and vegetation buffer zone which treats flows before they enter Prospect Creek. On this basis, water quality treatment is considered to be adequate.

Future Management

Upon completion of the proposed expansion works, existing Sediment Basin 3 will be decommissioned and proposed Sediment Basins 4 and 5 are to be constructed. Existing Sediment Basins 1 and 2 will be retrofitted to have a forebay and chemical dosing facilities to facilitate the sedimentation and removal of particulates. The SRC will continue to rely on the ability to draw water from Prospect Creek in accordance with the existing water extraction licence.

Stormwater runoff from the site is managed by a berm which runs along the entire perimeter of the site and diverts surface runoff to nearby sediment basins. The entrance driveway is designed to divert runoff to a vegetated buffer zone to the north where it is filtered prior to reaching the downstream waterway to the north.

Runoff that bypasses the berm or overtops the sediment basins, sheet flows down the site's vegetated batters and vegetation buffer zones prior to reaching the downstream waterway of

Prospect Creek. Overtopping would only occur in extreme weather events, for example, a 100 year storm.

This current arrangement will be maintained upon the expansion of the facility and is deemed adequate to manage stormwater runoff from a site of this nature.

Flood Management

The site is located within the Prospect Creek flood plan. Previous flood studies undertaken have determined that any filling in the floodplain above RL 30.90 would need to be compensated. Based on the survey data (**Appendix 3**), levels along the SRC are approximately 10m above the 1% AEP flood level, however, the proposed works partially encroach into the flood storage area.

WSP has identified the need to provide a flood volume compensation area of approximately 1500m³ area to the north east of the expansion area to compensate for this flood storage loss.

The flood compensation area works will comprise of regrading the existing land below RL 30.90 to achieve the approx. 1500m³ storage requirement. The recontoured land would drain by gravity into the existing overland flow path. The flood compensation area will not store water for any extended period or act as a basin. The flood compensation area will be planted according to the Landscape Plans (**Appendix 20**).

Construction Erosion and Sediment Control

WSP has prepared an erosion and sediment control plan which identifies the measures to be installed prior to commencement of works relating to the expansion area. The erosion and sediment control plan forms part of the civil plan set at **Appendix 6**.

WSP recommends that temporary vegetative stabilisation will be carried out in accordance with Council guidelines and the Managing Urban Stormwater: Soils and Construction guidelines (Landcom).

The existing sedimentation basins will be utilised during construction as well as for the ongoing operation of the facility to treat runoff from the exposed areas to a suitable quality before being dewatered either to the tanks available on site used for dust suppression or discharged overland to the creek. The existing vegetated buffer strip of approximately 100m between the site and Prospect Creek will act as a further water treatment measure.

WSP recommends that appropriate care be exercised during the construction phase to ensure that the sediment basin will continue to function correctly and are maintained for their design intent for the integrity of the clay capping over the underlying landfill. This will involve excavating up to two metres into the capping material, which is documented as being at least 3m thick. The basin will not be permitted to extend past the capping layer into the landfill below.

Dust suppression using existing on site water carts may be required during construction to dampen exposed areas. Dust minimisation during construction can also be managed by limiting speed limits on internal haul roads, minimising traffic movements, surface roughening, and stabilising and covering of exposed areas as soon as practical.

Erosion and Sediment Control – Ongoing

WSP has identified the following fundamental concepts which will be required to form the foundation of the site's erosion and sediment control measures:

- Any exposed surfaces shall be stabilised as soon as practicable using sand and gravel compacted haul road surfaces;
- Sediment control devices are favoured;
- Divert all stormwater runoff around the site and disturbed areas using the currently existing and proposed sedimentation basins;

- Sedimentation basins to be designed and constructed as Type A High Efficiency in accordance with the International Erosion Control Association (IECA) guidelines.

Given the site is not currently meeting the erosion and sediment control targets as detailed in the SEARs, WSP has adopted the more conservative IECA standards.

WSP has noted that the calculated sediment loss for each calculated catchment area within the site will be less than that IECA standard – refer Table 11 in the SWMP at Appendix 6. **Figure 16** is an extract from Table 11.

SITE ELEMENT	AREA	SEDIMENT CONTROL STANDARD	CALCULATED SEDIMENT LOSS PER CATCHMENT AREA
TOTAL SITE AREA	7.84 ha	150 t/ha/year	111 t/ha/year
EXISTING SEDIMENT POND 1	3.48 ha	150 t/ha/year	28 t/ha/year
EXISTING SEDIMENT POND 2	1.74 ha	150 t/ha/year	29 t/ha/year
PROPOSED SEDIMENT POND 4	2.27 ha	150 t/ha/year	27 t/ha/year
SITE ELEMENT	**AREA**	**SEDIMENT CONTROL STANDARD**	**CALCULATED SEDIMENT LOSS PER CATCHMENT AREA**
PROPOSED SEDIMENT POND 5	1.74 ha	150 t/ha/year	27 t/ha/year

Figure 16 Extract from Table 11 of SWMP – Site Specific Rationalised Soil Loss Sediment Control Standard

As noted previously, the water management regime for the site in the future will rely on the basins functioning as sediment basins only; they will not operate as a primary source of water for dust suppression activities.

Leachate generated by the SRC, in the form of surface water that interacts with the waste stockpiled or processed at the site, is collected in the sedimentation basins, as described in Section 4.3.2 of the SWMP. This system is considered adequate for the facility.

Notwithstanding, the leachate assessment undertaken by WSP for this project recommended for the preparation of an operational environmental management plan (EMP) to implement inspection and monitoring protocols related to the management of leachate/runoff and the installation of additional water diversions around stockpile processing areas to minimise overland flow through material stockpiles.

All vehicles departing from the site shall ensure, as reasonably practicable, no sediment is being carried or transported off site. This is to be achieved using a wheel wash and shaker pad.

WSP recommends that sediment fences are installed downstream of batter slopes and around stockpile sites. Sediment fences are to only be placed where sheet flow is present and are not to be constructed in concentrated flow paths.

Stockpile sites are to be located within the existing SRC area and the expansion area. No stockpiling of materials is to occur outside of these areas.

Soil stockpiles are to have sediment fences positioned around the external batters to control runoff as necessary. Soil stockpiles should be located so that they are not down stream of an overland flow path or external catchment. If this cannot be avoided, a diversion device which directs surface flows around soil stockpiles is required.

The efficiency of sediment basins will be enhanced by:

- The basins being dewatered prior to or post each storm event. Details of dewatering are included in the SWMP.

- The basins only being utilised for sediment and erosion control.
- The basins not being utilised for the storage of water for use as dust suppression. Notwithstanding, excess water from the basins will be pumped into the storage tanks for dust suppression.
- The basins being dosed with an appropriate chemical anti-coagulant. This will physically bind clay and colloidal particles together or destabilise the charge on clay or colloidal particles respectively.

In order to ensure the recommended erosion and sediment control measures function appropriately, WSP recommends that regular inspections of the measures be undertaken. The recommended inspection regime can be included in the overarching EMP which is to be prepared for the SRC facility.

6.1.5 Air Quality and Odour

An air quality impact statement (AQIS) has been prepared by Wilkinson Murray in accordance with the SEARs and a copy is included at **Appendix 10** to this EIS.

The AQIS has been prepared having regard to the surrounding context of the Fairfield SRC. In this regard, Wilkinson Murray noted that site is located within a predominantly industrial area with the closest residential area located approximately 950m to the north-east and 650m to the south-east and the Gipps Road sporting fields located between the residential suburb of Greystanes and the site. The locations of the sensitive receptors in relation to the site are detailed in Figure 2-1 of the AQIS. Figure 2-1 is reproduced in **Figure 17** of this EIS.

Figure 17 Extract from Figure 2-1 of Wilkinson Murray AQIS – Location of sensitive receptors

In preparing the AQIS, Wilkinson Murray had regard to the prevailing meteorological conditions within which the Fairfield SRC operates, and in particular wind speed, wind direction, temperature, relative humidity, and rainfall.

Wilkinson Murray also had regard to local ambient air quality and in particular odour and dust.

6 Environmental Impact Assessment

Odour

Odour concentrations are defined in odour units. The number of odour units represents the number of times that the odour would need to be diluted to reach a level that is just detectable to the human nose. Thus, by definition, odour less than one odour unit (1 OU), would not be detectable to most people.

The NSW criteria for acceptable levels of odour range from 2 to 7 OU, with the more stringent 2 OU criteria applicable to densely populated urban areas and the 7 OU criteria applicable to sparsely populated rural areas. For the purposes of this assessment, the more conservative 2.0OU/m^3 has been adopted.

No sources of offensive or nuisance odour were detected at sensitive receptors as a result of activities associated with the Fairfield SRC. Further, the Fairfield SRC has no history of odour complaints. Therefore, existing odour levels at sensitive receptors are understood to be negligible.

Despite all precautionary measures there might be occasions when a load which contains some putrescible waste is delivered to the site. As a worst case, it is assumed that a partial load of putrescible waste would spend no more than 1 – 2 hours on-site. Wilkinson Murray has also assumed that a partial load of putrescible waste would cover no more than 100m^2 of the tipping floor.

Overall the 99th percentile odour concentrations are predicted to be well below the established impact assessment criterion of 2.0 OU/m^3 at the most potentially affected sensitive receptors.

Dust

There are five dust deposition gauges located around the boundary of the SRC site – refer **Figure 18** for the locations of the gauges.

6 Environmental Impact Assessment

Figure 18 Locations of dust deposition gauges on SRC site

Table 2-3 in the AQIS identifies the monthly average dust deposition (based on grams of dust per square metre per month (g/m^2/month) between 2011 and 2017. During that period only four exceedances were recorded. The benchmark criteria against which dust deposition is measured is 4g/m^2/month.

6 Environmental Impact Assessment

Table 2-3 is reproduced in **Figure 19** of this EIS. Wilkinson Murray indicate that on site exceedances do not necessarily result in exceedances at sensitive receptors.

Year	Monthly average dust deposition (g/m²/month)				
	DDG1	DDG2	DDG3	DDG4	DDG5
2011	2.8	1.4	**4.2**	**4.7**	3.8
2012	1.9	1.7	2.4	3.3	2.3
2013	2.2	2.7	2.6	3.5	2.3
2014	2.1	3.1	3.3	3.9	1.5
2015	2.2	**6.6**	**4.1**	3.2	2.6
2016	2.0	**6.9**	3.4	3.4	2.0
2017	1.9	2.6	2.9	3.6	1.7

Figure 19 Extract from Table 2-3 of Wilkinson Murray AQIS

Wilkinson Murray does not consider the on-site dust deposition gauge data to be representative of the ambient dust deposition due to the impact from current operations on the site.

Given that there is no site-specific data available to determine the existing ambient concentrations of dust and particulate matter at sensitive receptors near the site, Wilkinson Murray has used data from NSW Office of Environment and Heritage (OEH) air quality monitoring station location at Prospect. The OEH air quality monitoring stations measure the level of particulate matter[5] in the air against relevant criteria.

The Prospect air monitoring station is located approximately 4.5 kilometres to the north of the site.

The Prospect monitoring site did not have $PM_{2.5}$ data available prior to 2015. The nearest monitoring site that has $PM_{2.5}$ monitoring data is Chullora which is located 15km to the south-west of the site.

The data from these monitoring sites has been used to understand how or if the activities associated with the SRC facility are impacting on air quality in the area.

When considering typical ambient air quality, extreme events, such as bushfires and dust storms are excluded as they skew the results. Excluding these extreme events, the maximum 24-hour average PM_{10} and $PM_{2.5}$ concentrations measured at Prospect and Chullora were 36.7µg/m^3 (for $PM1_0$) at Prospect in 2013 and 49.2µg/m^3 (for $PM_{2.5}$) at Chullora in 2013. These values have been adopted for assessment purposes.

The historic deposited dust levels at the site are not considered representative of the ambient levels due to the impact of the site's existing operations. The Prospect and Chullora monitoring sites do not measure specific Total Suspended Particulates (TSP); however, estimates of the background levels of TSP for the area are required to assess the impacts of the operation of the SRC on TSP and deposited dust.

[5] PM is a measure of the particulate matter in the air.
Particulates; Particulate Matter – A criteria air pollutant. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose and throat irritation and other health problems.

There are three relevant criteria with respect to the measure of particulate matter:

- Parts Per Billion (ppb)/Parts Per Million (ppm) – Units commonly used to express contamination ratios, as in establishing the maximum permissible amount of a contaminant in water, land, or air.
- PM10 is measure of particles in the atmosphere with a diameter of less than 10 or equal to a nominal 10 micrometers.
- PM2.5 is a measure of smaller particles in the air.

6 Environmental Impact Assessment

Wilkinson Murray identified that estimates of the annual average background TSP concentrations can be determined from a relationship between measured PM_{10} concentrations. This relationship assumes that 40% of the TSP is PM_{10} and was established as part of a review of ambient monitoring data collected by co-located TSP and PM_{10} monitors operated for reasonably long periods of time in the Hunter Valley (NSW Minerals Council, 2000).

Applying this relationship with the 2013 annual average PM_{10} concentration of 19.2 µg/m^3 at the Prospect monitoring station estimates an annual average TSP concentration of 48.0 µg/m^3.

To estimate annual average dust deposition levels, a similar process to the method used to estimate TSP concentrations is applied. This approach assumes that a TSP concentration of 90 µg/m^3 will have an equivalent dust deposition value of 4 g/m^2/month; and indicates a background annual average dust deposition of 2.13 g/m^2/month for the area surrounding the project.

Table 2-6 in the Wilkinson Murray AQIS summarises the background air quality that has adopted for assessment purposes. **Figure 20** is a reproduction of Table 2-6 from the Wilkinson Murray AQIS.

Pollutant	Averaging period	Adopted background concentration/level
PM_{10}	24-hour	36.7 µg/m^3
	Annual	19.2 µg/m^3
$PM_{2.5}$	24-hour	21.7 µg/m^3
	Annual	8.8 µg/m^3
TSP	Annual	48.0 µg/m^3
Deposited Dust	Annual	2.13 g/m^2/month

Figure 20 Extract from Table 2-6 in AQIS – Background Air Quality

The EPA Approved Methods specifies air quality assessment criteria for assessing impacts from dust generating activities. These criteria are consistent with the National Environment Protection Measures for Ambient Air Quality (NEPC, 1998). The AQIS specifies the air quality goals for dust and particulate matter relevant to this project.

The most significant dust generating activities on site include waste vehicles driving on unsealed roads to deposit waste at the stockpiles, empty trucks driving on unsealed roads to collect processed materials, processing of materials including crushing and screening and material transfer including into trucks, out into stockpiles and processing equipment. For the purposes of the assessment, Wilkinson Murray has estimated worst case total suspended particulates (TSP) emissions of 18,456kg/year (based on the facility processing a maximum of 550,000 tonnes of waste per year. This includes the earthworks associated with the filling of Canal Road gully (estimated to be 3kg/year).

Table 3-2 is the Wilkinson Murray AQIS summaries the air quality goals for dust and particulate matter that have been adopted for this assessment. The air quality goals relate to the total concentrations of dust and particulate matter in the air and not just that from the facility. Therefore, some consideration of background levels needs to be made when using these goals to assess impacts.

Figure 21 is a reproduction of Table 3-2 from the Wilkinson Murray AQIS.

6 Environmental Impact Assessment

Pollutant	Averaging period	Impact	Criteria
Total suspended particulates (TSP)	Annual	Total	90 µg/m³
Particulate matter ≤10 µm (PM_{10})	Annual	Total	25 µg/m³
	24-hour	Total	50 µg/m³
Particulate matter ≤2.5 µm ($PM_{2.5}$)	Annual	Total	8 µg/m³
	24-hour	Total	25 µg/m³
Deposited dust (DD)	Annual	Total	4 g/m²/month
	Annual	Incremental	2 g/m²/month

Figure 21 Extract from Table 3-2 from Wilkinson Murray AQIS – Impact Assessment Criteria: Dust and Particulate Matter

For the purposes of assessing the impacts of dust, Wilkinson Murray applied dispersion modelling. Whilst when considered on an annual basis, the modelling demonstrated that the SRC will comply with the impact assessment criteria at all receptors, there are times when the 24-hour average PM_{10} concentration is exceeded. This occurs at sensitive receivers R17, R18 and R20[6]. The 24-hour average $PM_{2.5}$ concentration is exceeded at sensitive receivers R18 and R20. In accordance with Approved Methods, a contemporaneous assessment has been undertaken to demonstrate that no additional exceedances of the criteria occur.

The contemporaneous modelling identified that the total PM10 and PM2.5 concentrations for the majority of days is below the criteria. However, there were instances when the PM10 criterion are exceeded when background and incremental levels are combined. These exceedances are detailed in Table 5-3 of the Wilkinson Murray AQIS. Table 5-3 has been reproduced in **Figure 22**.

Receiver	Pollutant	Exceedances	
		Ambient only	With development
R17	PM_{10}	4	5
	$PM_{2.5}$	3	3
R18	PM_{10}	4	6
	$PM_{2.5}$	3	3
R20	PM_{10}	4	5

Figure 22 Extract from Table 5-3 of Wilkinson Murray AQIS – Number of Exceedances of ambient criteria with and within development.

In terms of predicted dust deposition, the modelling indicates that even with the expanded SRC operating, deposited dust levels will be below the impact assessment criteria at all sensitive receptors.

Conclusion

Quantitative assessment of potential odour and dust impacts from the operation of the SRC indicate that odour and dust at sensitive receptors due to the operation of the SRC comply with the established criteria at all sensitive receptors.

More stringent testing with respect to dust emissions identified some non-compliances at three sensitive receiver locations however these exceedances coincided with bushfire events. As

[6] The affected sensitive receivers are:

Receptor	Type	Address	Distance to site boundary (m)
R17	Commercial	130 Hassal Street	70m
R18	Commercial	122 Hassal Street	50
R19	Commercial	7 Hyland Street	560
R20	Commercial	114 Hassal Street	50

the air quality at the time of these exceedances was already compromised, the contribution from the SRC was considered to be minor.

The AQIS has demonstrated that, subject to implementation of the recommended mitigation measures, the SRC is capable of operating in accordance with all relevant NSW air quality policies principally the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016) and no further mitigation methods are required (e.g. such as enclosing stockpiles in buildings). The recommended mitigation measures have been included in **Section 7** of this EIS.

6.1.6 Noise and Vibration

A noise and vibration impact assessment has been prepared by Wilkinson Murray. The assessment considered the types of activities carried out on site, including the equipment used on site as well as the proposed expansion of the facility. The number and types of vehicles servicing the site together with the proposed increase in operating hours has also been assessed. A copy of the noise and vibration impact assessment is included at **Appendix 11** to this EIS.

The assessment has identified the nearest residential received as being located within the suburbs of Smithfield (approximately 650m to the south-east of the site) and Greystanes (approximately 950m to the north-east).

Existing Conditions

In order to determine the existing level of noise exposure to the identified sensitive receivers and to allow for the development of project specific noise criteria, long-term noise monitoring was undertaken at three representative locations as follows:

- 73 Munro Street, Greystanes (approximately 800 m north–east of the site);
- 60 Rosford Street, Smithfield (approximately 650 m south–east of the site); and
- 1A Widemere Road, Wetherill Park (approximately 30 m west of the site).

Noise loggers were deployed at the identified monitoring locations for a period of ten days to establish the long-term noise ambient noise levels. All measurements were undertaken in general accordance with *AS1055:1997: Acoustics – Description and Measurement of Environmental Noise* and the NSW Noise Policy for industry (NPfI) (EPA, 2017).

Baseline background noise levels and traffic noise levels have been estimated by Wilkinson Murray and are presented in **Table 8 and Table 9.** For the purposes of assessing the baseline background noise levels, extraneous noise sources and adverse weather conditions were excluded.

Table 8 Baseline Traffic Noise Levels ($LA_{eq,Period}$)

Location	Logging Period	Day (7am–10pm)	Night (10pm–7am)
1A Widemere Road	24/7/17 – 2/8/17	64dBA	60

Note: The Road Noise Policy (RNP) considers daytime (7.00am-10.00pm); and night time (10.00pm-7.00am).

Source: Table 4-4 of Wlikinson Murray Noise and Vibration Assessment, August 2020

Table 9 Baseline Rating Background Levels in dBA

Location	Logging Period	Day (7am–6pm)	Evening (6pm–10pm)	Night (10pm–7am)
60 Rosford Street	24/7/17 – 2/8/17	42	42	40
73 Munro Street	24/7/17 – 2/8/17	51	47	40
1A Widemere Road	24/7/17 – 2/8/17	57	42	39

Source: Table 4-3 of Wlikinson Murray Noise and Vibration Assessment, August 2020

6 Environmental Impact Assessment

The noise monitoring locations are shown with green dots on **Figure 23**.

Figure 23 Noise monitoring locations (green dots)

Construction Noise Impacts

It is proposed to expand the area of the SRC to the east of the existing operations and stockpiling area. This will involve filling of the Canal Road gully and other associated earthworks including construction of two sediment basins.

Construction works are subject to Noise Management Levels consistent with the requirements of the NSW Interim Construction Noise Guideline (ICNG). However as the gully filling and basin construction works will use the same earth moving equipment that is used during normal operations on the site, noise from this construction activity has been assessed with the more stringent trigger levels of the Noise Policy for Industry based on the rational that compliance with project trigger levels will mean compliance with the ICNG will be achieved. Therefore, a separate assessment of construction noise impacts has not been undertaken. It is assumed that construction activities will be limited to the standard hours for construction being 7.00am – 6.00pm Monday to Friday and 8.00am – 1.00pm Saturday.

Operational Noise Impacts

The current Environment Protection Licence for the subject site is EPL 5713, which was most recently reviewed on 15 October 2015. This license includes noise limits, as follows:

L3 Noise limits

L3.1 Noise from the premises must not exceed:

a) an LA10 (15 minute) noise emission criterion of 65 dB(A) (7am to 10pm); and

b) at all other times, an LA10 (15 minute) noise emission criterion of 55 dB(A).

Noise from the premises is to be measured at any point within one metre of the plant boundary to determine compliance with this condition. 5 dB(A) must be added to the measured level if the noise is substantially tonal or impulsive in character.

L3.2 *Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 49dB(A).*

Noise from the premises is to be measured at any point within one metre of any residential boundary or other noise sensitive area to determine compliance with this condition. 5 dB(A) must be added to the measured level if the noise is substantially tonal or impulsive in character.

L3.3 *The crushing, grinding and separating must not be operated on the premises:*

a) between the hours of 4:30pm and 7am, Monday to Friday;

b) before 7am and after 4:00pm Saturdays, and

c) on Sundays or Public Holidays.[7]

Assessment Criteria

The NSW Noise Policy for Industry (NPfI) provides the framework for deriving noise limits for consents and licences that enables the EPA to regulate premises that are scheduled under the *Protection of the Environment Operations Act 1997* (POEO Act). The policy sets out two noise criteria to assess the potential noise impacts resulting from industrial activity. The first is used to control short-term intrusive noise and its impacts on residences whilst the second is used to maintain noise level amenity for particular land uses including residences.

The amenity noise levels recommended by the NPfI for residential receivers located in urban areas, recreational receivers and commercial and industrial receivers are detailed in Table 5-1 of the Wilkinson Murray Noise and Vibration Impact Assessment. Table 5-1 is reproduced below – refer **Figure 24**.

Receptor Location	Recommended *NPfI* Amenity Noise Levels - $L_{Aeq,Period}$ dBA		
	Daytime (7.00am-6.00pm)	Evening (6.00pm-10.00pm)	Night time (10.00pm-7.00am)
Residential Receivers	60	50	45
Recreational Receivers	55 (When in use)	55 (When in use)	55 (When in use)
Commercial Receivers	65 (When in use)	65 (When in use)	65 (When in use)
Industrial Receivers	70 (When in use)	70 (When in use)	70 (When in use)

Notes: The recommended amenity noise levels refer only to noise from industrial sources. However, they refer to noise from all such sources at the receiver location, and not only noise due to a specific project under consideration.

Figure 24 Extract from Table 5-1 of Wilkinson Murray Noise and Vibration Impact Assessment – Recommended NPfI Amenity Noise Levels

In accordance with the NPfI, to ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels, a project amenity noise level specific to the SRC, of Recommended Amenity Noise Level minus 5 dB has been adopted.

[7] Modification of the EPL conditions will be required to reflect the proposed changes to the hours of operation

6 Environmental Impact Assessment

The project noise trigger levels (PNTLs) applicable to the operation of the SRC are identified in bold font in Table 5-2 of the Wilkinson Murray Noise and Vibration Impact Assessment. **Figure 25** is a reproduction of Table 5-2.

Receptor Location	Intrusiveness Noise Levels $L_{Aeq,15min}$ dB(A)			Project Amenity Noise Levels $L_{Aeq,15min}$ dB(A)		
	Day	Evening	Night	Day	Evening	Night
Residential Receivers (Rosford Street)	**47** 42+5=47	**47** 42+5=47	45 40+5=47	58 60-5+3=58	48 50-5+3=48	**43** 45-5+3=43
Residential Receivers (Munro Street)	**56** 51+5=56	52 47+5=52	45 40+5=47	58 60-5+3=58	**48** 50-5+3=48	**43** 45-5+3=43
Recreational Receivers (Gipps Road Sporting Complex)	n/a	n/a	n/a	**53** 55-5+3=53	**53** 55-5+3=53	**53** 55-5+3=53
Commercial Receivers (Widemere Road)	n/a	n/a	n/a	**63** 65-5+3=63	**63** 65-5+3=63	**63** 65-5+3=63
Industrial Receivers (Widemere Road)	n/a	n/a	n/a	**68** 70-5+3=68	**68** 70-5+3=68	**68** 70-5+3=68

Figure 25 Extract from Table 5-2 of Wilkinson Murray Noise and Vibration Impact Assessment – Project Noise Trigger Levels

The PNTLs are relevant to the noise contribution from the operation of the Project only and exclude the contribution from the background noise level, road traffic noise and industrial activities on other sites.

As the hours of operation are proposed to be extended to include the night time period, noise sources of short duration and high level may cause disturbance to sleep if occurring during the night time have also been considered.

The project specific maximum event screening levels at all receivers are:

- L_{Amax} 55 dBA; and
- $L_{Aeq,15min}$ 45 dBA.

The trigger levels for the maximum noise level event assessment are only applicable to the night time (10.00 pm to 7.00 am) period.

Noise Impact Assessment

For the purposes of this assessment it has been conservatively assumed that the identified on-site operational plant (refer Table 6-2 of the Wilkinson Murray report) would operate continuously and simultaneously as this represents a worst-case scenario in terms of potential noise emissions from the site. However, it is noted that this condition would rarely occur (under normal operational circumstances).

Based on these operational assumptions, worst case $LA_{eq,15min}$ noise levels have been predicted at the closest sensitive receivers during the daytime, evening and night time under the identified standard and noise-enhancing meteorological conditions. The results are provided in Table 6-3 of the Wilkinson Murray Noise and Vibration Impact Assessment and are reproduced in **Figure 26**.

6 Environmental Impact Assessment

Receiver	Met Condition	Predicted Noise Levels $L_{Aeq,15min}$ (dBA)			Project Noise Trigger Levels $L_{Aeq,15min}$ (dBA)	Exceedance
		Day	Eve	Night	Day/Eve/Night	
Smithfield Residential Receivers (Rosford Street)	Neutral	33	<30	<30	47 / 47 / 43	Nil
	Adverse	36	<30	32	47 / 47 / 43	Nil
Greystanes Residential Receivers (Munro Street)	Neutral	41	<30	40	56 / 48 / 43	Nil
	Adverse	44	<30	43	56 / 48 / 43	Nil
Recreational Receivers (Gipps Road Sporting Complex)	Neutral	47	<30	42	53 / 53 / 53	Nil
	Adverse	50	<30	46	53 / 53 / 53	Nil
Commercial Receivers (Widemere Road)	Neutral	59	<30	59	63 / 63 / 63	Nil
	Adverse	63	<30	63	63 / 63 / 63	Nil
Industrial Receivers (Widemere Road)	Neutral	59	<30	59	68 / 68 / 68	Nil
	Adverse	63	<30	63	68 / 68 / 68	Nil

Note: The predicted $L_{Aeq,15min}$ noise levels (with consideration to a typical worst-case scenario) are shown. The levels shown for the Smithfield receivers represent the highest levels predicted on Rosford Street. The levels shown for the Greystanes receivers represent the highest levels on Munro Street. The $L_{Aeq,Period}$ noise levels are estimated to be lower than the $L_{Aeq,15min}$ levels by at least approximately 2-3 dB, due to the intermittency of operational noise (and energy averaging) over the relevant daytime, evening and night time periods. Full compliance with the *NPfI* Project Noise Trigger Levels is predicted under all relevant meteorological and operational conditions.

Figure 26 Extract from Table 6-3 of Wilkinson Murray Noise and Vibration Impact Assessment – Predicted $LA_{eq,15min}$ Operational Noise Levels

The results indicate that operational noise emissions from the SRC site would be expected to fully comply with the relevant PNTLs at all identified receivers with respect to maximum operating conditions. In addition, given the existing background noise levels experienced by the closest residential receivers to the site, operational activities would be expected to be rendered inaudible at these localities.

In relation to the works associated with the construction of the basins and filling of the Canal Road gully, assuming the works are undertaken during standard daytime hours only (between 7.00am – 6.00pm, Monday to Friday and 8.00am – 1.00pm Saturday), predictions indicate that these works would not result in off-site noise levels beyond those set out in Table 6-3 of the Wilkinson Murray report. Therefore no noise mitigation is required to control construction noise to satisfactory levels.

In terms of cumulative noise impacts, it is not expected that operational noise from the project would result in any material increase in cumulative industrial noise levels experienced by the existing residents.

In terms of the proposed extended hours of operation, the sleep disturbance screening criterion when assessed external to dwellings is 55 dBA L_{Amax}. The maximum sound power

level for the variety activities on the site (including operation of the pug mill and crushing mill and truck movements, including reversing alarms, will be 120 L_{Amax} dBA).

Modelling results indicate that the sleep disturbance criterion would be met with consideration to the identified activities occurring during the night, under neutral or adverse meteorological conditions (F-class temperature inversion). Maximum noise levels of up to 39 dBA L_{Amax} are predicted at Smithfield and 45 dBA $L_{A1,1min}$ at Greystanes under adverse conditions. These levels are less than the 55 dBA screening criterion and materially lower than the existing L_{Amax} noise levels experienced by the receivers throughout the night, due to local road traffic movements. On this basis, no sleep disturbance impacts are anticipated due to on-site night time operations.

Road Traffic Noise

Criteria for off-site road traffic noise are specified in the NSW Road Noise Policy (RNP). The applicable criteria are summarised in Table 5-3 of the Wilkinson Murray Noise and Vibration Impact Assessment. Table 5-3 is reproduced in **Figure 27**.

Type of Development	Assessment Criteria – dB(A)	
	Daytime (07:00-22:00)	Night (22:00-07:00)
Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq,15\ hour}$ 60 (external)	$L_{Aeq,9\ hour}$ 55 (external)
Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq,1\ hour}$ 55 (external)	$L_{Aeq,1\ hour}$ 50 (external)

Figure 27 Extract from Table 5-3 of Wilkinson Murray Noise and Vibration Impact Assessment – RNP Criteria for Road Traffic Noise

The road traffic noise levels on Widemere Road have been measured by Wilkinson Murray and are detailed in Table 7-1 of their report. Table 7-1 is reproduced in **Figure 28** of this EIS.

Address	Logging Period	Daytime Traffic Noise Level $L_{Aeq,15\ hour}$	Night time Traffic Noise Level $L_{Aeq,9\ hour}$	Daytime $L_{Aeq,15\ hour}$ Criteria Base	Night time $L_{Aeq,15\ hour}$ Criteria Base
1A Widemere Road (Free-field location, approximately 12 m from roadside)	24/7/17 – 2/8/17	66	62	60	55

Note: The traffic noise criteria apply at residential building facades. As the monitoring was undertaken in the free-field, an adjustment of +2.5 dBA has been applied to the measured levels to account for the façade reflection. The adjusted levels are shown above. Application of this adjustment results in acute façade noise levels (at equivalent distance from the road).

Figure 28 Extract from Table 7-1 of Wilkinson Murray Noise and Vibration Impact Assessment – Measured Road Traffic Noise Levels on Widemere Road

Table 7-1 (**Figure 28**) shows that existing daytime and night time road traffic noise levels already exceed RNP criteria on Widemere Road at a setback distance of 12m from the roadside. Existing exceedances are considered likely along other sections of the arterial/sub-arterial routes where residences exist.

The proposed expansion of the SRC will result in an additional 6-7 truck movements per hour at night. Based on this, the additional traffic would be expected to contribute up to 0.6 dB to the overall level at the Hassall Street residential receivers. This contribution and the incremental change in level is considered negligible.

Given the relatively high existing traffic volumes identified, the additional traffic that would be generated would not be expected to result in a noticeable change in traffic noise levels on the surrounding road network. A relative increase of less than 1 dB is anticipated on the proposed off-site routes, based the information available, and therefore the potential for noise impacts associated with the additional traffic movements is considered negligible in accordance with the NSW Road Noise Policy.

Vibration

The human comfort criteria for vibration goals are specified in DECCW's *Assessing Vibration – A Technical Guide.* The preferred day time (7.00am to 10.00pm) goal (when measured in peak particle velocity (PPV) (in mm/second) for residences, offices and workshops are:

- Residences 0.28 (8.6)
- Offices 0.56 (18.0)
- Workshops 1.1 (18.0)

The impulsive vibration goals are shown in brackets.

The greatest potential for vibration impacts would result from the use of a vibratory roller when compacting the fill in the Canal Road gully. The vibratory rollers have been monitored at distances of 10m, 20m and 30m based on the rollers operating on high speed and high amplitude settings. Although those vibration levels are above the human comfort criteria for vibration goals as specified in DECCW's *Assessing Vibration – A Technical Guide, g*iven the substantial setback distances to the closest residential receivers, any ground vibrations arising due to on-site activities would be unnoticeable at these locations and significantly below the relevant guideline criteria for human comfort and structural damage.

The closest existing commercial buildings on Widemere Road are setback from the Canal Road gully location by at least 50 m. Any ground vibrations arising due to on-site activities would be substantially reduced by this distance from the source. Notwithstanding a conservative building damage criterion of 20 mm/s for commercial/industrial buildings has been adopted. The anticipated levels are substantially below this criterion, and therefore no material risk of building damage from vibration effects is anticipated for these receivers.

Conclusion

Whilst no noise or vibration exceedances due to the operation of the SRC or the proposed expansion have been predicted (and therefore no specific noise control measures are warranted), to ensure best practice management is maintained, Wilkinson Murray has made a number of recommendations with respect to operation of the SRC. These are detailed in **Table 10** in **Section 7** of this EIS.

6.1.7 Traffic and Transport

A traffic impact assessment (TIA) has been prepared by Stanbury Traffic Planning. The TIA has taken into account the existing SRC facility as well as the proposed expansion of that facility and is included at **Appendix 17** to this EIS.

The assessment has been based on the facility functioning in accordance with current operations with a maximum processing capacity of 550,000 tonnes per annum and operating in accordance with the following hours of operation:

- Receiving and loading of vehicles – 24 hours, seven days;
- Crushing operations – 5:00am – 6:00pm Monday to Friday; and
- Pug mill operations – 3:00am – 4:00pm Monday to Friday.

Staffing numbers have the potential to increase from 28 to 32 employees to take into account the extended hours of operation.

In terms of the types of vehicles that visit the site:

- 18% of vehicles were passenger vehicles (including passenger vehicles towing trailers);
- 10% of vehicles were Small Rigid Vehicles (SRVs);
- 19% of vehicles were Medium Rigid Vehicles (MRVs);
- 25% of vehicles were Heavy Rigid Vehicles (HRVs); and
- The remaining 28% of vehicles were articulated vehicles (AVs) including semitrailers, truck and dog combination vehicles and B-double vehicles.

No variation to the types or proportions of vehicles entering and leaving the site is anticipated as a result of the increased processing capacity or expansion of the facility.

On the basis of passenger vehicles, SRVs, MRVs, HRVs and AVs providing approximate lengths of 6m, 6.5m, 9m, 13m and 22.5m, respectively, the average length of vehicle entering the site is extrapolated to be in the order of 13m.

Traffic Volumes

The traffic volumes detailed in the TIA are based on surveys undertaken in August 2017. However, they are still considered relevant to the facility for the following reasons:

- It was not considered practical to update the surveys given the significant alteration to overall network demands during the COVID-19 period;
- the results remain valid with respect to standard (non-COVID) operational characteristics. In this regard, operational characteristics during the 2018/2019 financial year indicate that the centre processed 473,244 tonnes during the 2018/2019 financial year, which is consistent with that previously reported upon during the 2017 calendar year (480,663 tonnes).

Based on the surveys it was found that traffic movements were reasonably evenly dispersed between 8:00am and 2:00pm on weekdays, when maximum hourly demands of between 80 – 95 vehicle movements are generally generated. Traffic generation demands were negligible before 4am and after 5pm on weekdays.

On Saturdays, the hourly traffic demands were approximately half of the demands generated on weekdays. There were no traffic demands attributed to the SRC on Sundays as the centre does not currently operate on a Sunday.

Based on the proposed increased processing capacity, it is anticipated that traffic volumes could increase by up to 14%. On this basis, the maximum surveyed hourly traffic generating capacity of the site could be expected to increase to 110 vehicle movements.

For the purposes of the traffic impact assessment, it has been assumed that the additional 14 vehicles to and from the site (i.e. – 7 in/7 out) will occur in any given single hourly period over and above that surveyed in 2017.

The impacts of the additional traffic have been analysed utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the nearby public road network.

The existing conditions have been modelled utilising the peak hour traffic volumes and are presented in Figure 3 of the TIA. Figure 3 is reproduced below in **Figure 29**.

6 Environmental Impact Assessment

TABLE 3 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE		
	AM	PM
Widemere Road & Davis Road		
Delay	24.2	21.0
Degree of Saturation	0.82	0.64
Level of Service	B	B
Widemere Road & Site Access Road		
Delay	23.0	21.6
Degree of Saturation	0.41	0.44
Level of Service	B	B
Widemere Road & Hassall Street		
Delay	27.3	33.1
Degree of Saturation	0.31	0.56
Level of Service	B	C
Hassall Street & Gipps Road		
Delay	9.8	11.9
Degree of Saturation	0.86	0.92
Level of Service	A	A
Redfern Street & Frank Street		
Delay	10.5	10.4
Degree of Saturation	0.24	0.32
Level of Service	A	A
Victoria Street & Walter Street		
Delay	30.1	47.9
Degree of Saturation	0.72	0.91
Level of Service	C	D

Figure 29 Extract from Table 3 of TIA – SIDRA output: Operation of Existing Intersections

Table 3 indicates the following during weekday peak periods:

- The signalised junction of Widemere Road and Davis Road provides a level of service B, representing minimal delay and spare capacity;
- The priority controlled junction of Widemere Road and the site access roadway provides a level of service B, representing acceptable delay with spare capacity;
- The signage controlled junction of Widemere Road and Hassall Street provides a level of service C representing satisfactory operation;
- The roundabout controlled junction of Hassall Street and Gipps Road provides a level of service A representing little or no delay;
- The priority controlled junction of Redfern Street and Frank Street provides a level of service A representing good conditions; and
- The signalised junction of Victoria Street and Walter Street provides a level of service D representing operation near capacity.

The surrounding public road intersections have been modelled in order to estimate that likely impact on traffic safety and efficiency utilising the projected traffic volumes incorporating the expanded facilities. A summary of those results are included in Table 4 of the TIA. **Figure 30** is a reproduction of Table 4.

6 Environmental Impact Assessment

TABLE 4 SIDRA OUTPUT EXISTING AND PROJECTED PEAK HOUR PERFORMANCE				
	Existing Conditions		Projected Conditions	
	AM	PM	AM	PM
Widemere Road & Davis Road				
Delay	24.2	21.0	24.4	21.0
Degree of Saturation	0.82	0.64	0.83	0.64
Level of Service	B	B	B	B
Widemere Road & Site Access Road				
Delay	23.0	21.6	23.4	22.0
Degree of Saturation	0.41	0.44	0.41	0.44
Level of Service	B	B	B	B
Widemere Road & Hassall Street				
Delay	27.3	33.1	27.6	33.5
Degree of Saturation	0.31	0.56	0.32	0.56
Level of Service	B	C	B	C
Hassall Street & Gipps Road				
Delay	9.8	11.9	9.8	12.0
Degree of Saturation	0.86	0.92	0.86	0.92
Level of Service	A	A	A	A
Redfern Street & Frank Street				
Delay	10.5	10.4	10.6	11.8
Degree of Saturation	0.24	0.32	0.24	0.32
Level of Service	A	A	A	A
Victoria Street & Walter Street				
Delay	30.1	47.9	30.2	48.4
Degree of Saturation	0.72	0.91	0.73	0.90
Level of Service	C	D	C	D

Figure 30 Extract from Table 4 of TIA – SIDRA output: Existing and Projected Peak Hour Performance

Taking into account existing traffic conditions (based on 2017 data), and trip assignment routes, it has been assessed that that the additional traffic generated by the development is not projected to have noticeable impacts on operation of the surrounding public road intersections with only minor impacts projected with respect to delay and degree of saturation. In this regard, the intersection levels of service are projected to remain unaltered, representing reasonable conditions. It is accordingly not expected that the development will necessitate any upgrades to surrounding public road intersections.

Site Access

The separated entry/exit driveway to Widemere Road is proposed to be upgraded to formalise and widen the existing site access driveways. This will ensure all vehicles can enter and exit the site in a safe and efficient manner. Swept paths for the site access driveways have been prepared.

These demonstrate the ability of the altered site access arrangements to accommodate vehicles up to and including 25m long B-doubles in a safe and efficient manner, without unreasonable encroachment on opposing public road travel lanes and public road of driveway kerbs.

Parking

The proposal results in the existing formal parking provision of 13 spaces being increased to 33 formalised parking spaces.

There are no car parking requirements within the Fairfield DCP 2013 for sustainable resource centres, with the suitability of the parking provision being a factor of the maximum number of staff on-site at any one time and the number of visitors expected to access the site.

The expanded centre is expected to accommodate a maximum of 32 staff on-site at any one time. On the basis of 80% of staff drive to and from the site on a daily basis (the remaining 20% utilising public transport or car-pooling), a peak staff parking demand of 26 spaces is expected. The provision 33 spaces, thereby allows up to seven visitor vehicles to be on-site at any one time. The facility generates negligible visitors, being on average less than one per day. The proposed parking provision is therefore considered to be satisfactory.

The parking and circulation areas have been designed in accordance with AS2890.1-2004 and AS2890.6-2009. Swept path plans illustrate that passenger vehicles can manoeuvre throughout and enter and exit the most difficult passenger vehicle parking spaces within the parking area. The proposed parking area layout is considered to be satisfactory.

The rationalisation of the existing on-site parking areas to a single location will allow for direct connectivity to the existing office and maintenance building and remove the need for visitors to cross the main access road. This will result in improved pedestrian safety outcomes for the facility.

Internal Circulation

The proposal involves the general rationalisation and formalisation of potential internal vehicular movements. Upon entering the site, motorists are to be provided with three site ingress lanes as follows:

- The left lane is proposed to provide connectivity to the open yard access road to the north of the weighbridges;
- The central lane is proposed to provide connectivity to the ingress weighbridge; and
- The right lane is proposed to form a dedicated right turn lane servicing the rationalised and enlarged passenger vehicle parking area.

The through lanes servicing the open yard access road and the weighbridge are 3.5m in width, widening as necessary further within the site. The right turn lane servicing the parking area is to provide a width of 3.0m.

Signage and line marking will be required to be provided immediately inside the site to ensure motorists are able to select the appropriate lane.

The above altered internal circulation alterations are expected to reduce the potential for internal conflict between entering vehicles and the overall level of safety and efficiency of internal access traffic movements.

Weighbridge Operation

The weighbridge operation currently requires motorists to drive onto the weighbridge, liaise with the control office staff and attend to a transaction if appropriate. This process has been observed to take, on average, approximately 45 seconds to complete. The existing peak number of vehicles accessing the entry weighbridge has been reported to be 52 vehicles in any given single hourly period.

The projected peak number of vehicles expected to access the entry weighbridge is envisaged to be 59 vehicles in any given single hourly period.

Based on an assessment of the current operation of the weighbridge, the average number of vehicles projected to be waiting to be serviced on approach to the weighbridge is between one

and two vehicles which equates to an average queue length of 23m. This has been assessed as follows:

- The entry weighbridge services up to 59 vehicles in any given single hourly period;
- The average arrival rate of vehicles is accordingly 1 vehicle every 1.07 minutes (a = 0.93);
- The average service time at the weighbridge is 45 seconds (or 0.75 minutes);
- The average service rate is accordingly 1 vehicle every 0.75 minutes (s = 1.33);
- The utilisation rate is the arrival rate divided by the service rate (p =0.70); and
- The average vehicles is the queue is 1.63 vehicles [$E(m) = \mathrm{p}^2/1\text{-p}$].

The queuing analysis has been undertaken in accordance with standard Markov (M/M/1) procedures:

$$a = arrival\ rate$$

$$s = service\ rate$$

$$p = utilisation\ rate\ (\frac{a}{s})$$

$$E(m) = Mean\ number\ of\ vehicle\ in\ queue\ (\frac{p2}{1-p})$$

The provided queuing area is approximately 55m and therefore will continue to provide adequate internal storage to account for normal fluctuations in entering traffic flows over short periods of time. In this regard, it is not expected that queuing associated with entering vehicles will extend into Widemere Road.

Internal Yard Manoeuvring

In order to demonstrate the general manoeuvring throughout the internal yard, a series of swept path plans have been prepared having regard to indicative locations for stockpiling (as detailed on the architectural plans at **Appendix 5**).

The swept path plans illustrate that vehicles up to and including 25m long B-double vehicles are capable of manoeuvring throughout the internal yard, providing additional internal roadway width to allow for circulation, loading / unloading and passing as required.

Construction Traffic Management

The majority of the works associated with the expansion of the facility are located within the eastern portion of the site which is largely not currently operational. A temporary construction only site access location is proposed to be established to / from Hassall Street, immediately to the west of Blackstone Street. Swept paths for a 19m long truck and dog combination vehicle using this temporary construction access have been included in the Traffic Impact Assessment at **Appendix 17**. The swept paths demonstrate that these vehicles can enter and exit the site in a forward direction.

By using Hassell Street as a construction access, construction traffic will be separated from the operational site access driveway connecting with Widemere Road, thereby minimising the potential conflicts of construction vehicles with ongoing facility operation. At the completion of works the temporary construction access to Hassall Street will be removed.

In order to manage this temporary construction access, it is recommended that the construction site access and egress movements are to be strictly controlled by appropriately qualified traffic controllers.

It is anticipated that the construction works could generate a maximum of six heavy vehicles servicing the site during peak periods. These vehicles will be associated with the transportation of fill to the site.

In general, the construction activities are projected to generate less traffic than the assessed to be generated by the proposed centre expansion.

Conclusion

The TIA concludes that there are no traffic related issues that would prevent approval of the subject application.

The recommendations with respect to management of traffic associated with the construction activities can be incorporated into a detailed construction management plan which will be prepared prior to commencement of any works relating to the expansion of the facility occurring on site.

6.1.8 Biodiversity

An ecological assessment of the Fairfield SRC site, including the expansion area, has been undertaken by SLR Consulting. The assessment has been prepared in accordance with the Framework for Biodiversity Assessment (FBA) (OEH 2014) as required by the SEARs issued 6 May 2019. A copy of the ecological assessment is included at **Appendix 12** to this EIS.

In undertaking their assessment, SLR has considered the landscape features of the site and the surrounding area (referred to as the Study Area in the SLR report). The landscape features that have been identified as being within the Study Area include:

- IBRA[8] regions and subregions. The Study Area lies in the Sydney Basin bioregion and the Cumberland IBRA subregion. The Cumberland IBRA subregion is described as "*being characterised by low rolling hills and wide valleys in a rain shadow area below the Blue Mountains*."

  The Cumberland subregion vegetation comprises *"Grey box, forest red gum, narrow-leaved ironbark woodland with some spotted gum on the shale hills. Hard-leaved scribbly gum, rough-barked apple and old man banksia on alluvial sands and gravels. Broad-leaved apple, cabbage gum and forest red gum with abundant swamp oak on river flats. Tall spike rush, and juncus with Parramatta red gum in lagoons and swamps"* (OEH, 2017b).

- Mitchell landscapes. There are two Mitchell landscapes mapped within the Study Area comprising the Georges River Alluvial Plain including lower elevated floodplain areas around Prospect Creek with alluvial soils and the Cumberland Plain landscape which includes higher elevated area on shale-derived soils.

- Soils. NSW Soil and Land Information Systems Soil Profile Report describes the soils at the site as strong, light to dark brown clays with little to no recorded mottles.

- Native vegetation extent. This includes an assessment of cleared areas.

  The extent of native vegetation within the outer assessment circle[9] (of the Study Area) was calculated using the Sydney Metro vegetation mapping (OEH 2013a), Cumberland Plain mapping (OEH 2013b) and aerial photograph interpretation.

  Within the outer assessment circle, SLR estimates that there is a total of 80ha of native vegetation comprising the following native vegetation:

  - Castlereagh Shale-Gravel Transition Forest 5ha
  - Coastal Freshwater Wetland 1ha
  - Cumberland River-flat Forest 18ha
  - Cumberland Shale Plains Woodland 19ha
  - Cumberland Swamp-Oak Riparian Forest 37ha

[8] Interim Biogeographic Regionalisation for Australia (IBRA)
[9] The outer assessment circle incorporates 1,000ha of land, centred on the site

- Topography. The topography of the SRC is highly modified. It is generally flat, with notable exceptions being the gully of Canal Road and a steep embankment that runs parallel to parts of Prospect Creek within the site.
- Rivers and streams. There are no significant waterbodies on the Development Site. Prospect Creek, a second order stream, is the only significant waterbody within the Study Area. Prospect Creek and associated riparian vegetation extends from the south eastern corner of Prospect Reservoir and traverses the northern boundary of the study area providing a link between the Study Area and the vegetation around Prospect Reservoir.
- Wetlands. There are several small wetlands within the Study Area outside of the proposal footprint. These wetland areas are associated with the floodplain of Prospect Creek.
- Biodiversity corridors and links. The site is predominantly cleared and disturbed due to a history of agriculture and other development, and therefore habitat connectivity is limited to riparian habitats along Prospect Creek, with only small, isolated pockets of remnant native vegetation or areas of planted vegetation in other sections of the Study Area.
- Landscape Value. In relation to a site based development, landscape attributes to be assessed are native vegetation cover, vegetation connectivity and patch size.

  In terms of native woody vegetation cover, considering the proposal will not require substantial clearing of habitat, there will be no change to the percentage of native cover classes before and after the proposed development. Consequently, the percentage native vegetation cover score in the Credit Calculator is 0.

  A connectivity score was calculated according to the FBA. The broadest connecting link from the site is to the east comprising riparian vegetation along Prospect Creek connecting to habitats downstream of the Study Area. This connecting link is approximately 50 metres wide, and therefore falls within the greater than 30-100 metres category in the BioBanking Credit Calculator. This connecting link or any other connecting links will not be impacted by the proposal and so the same category has been assigned before and after the development. Therefore, a connectivity value of 0 is assigned in the Credit Calculator.
- The patch size of native vegetation that occurs on the development site that is in moderate to good condition and extends to include adjacent areas of moderate to good condition native vegetation that are separated by gaps of less than 100 m (or ≤30 m for non-woody ecosystems) has been calculated using GIS as 60 ha. This generates a patch size score of 9.

  Based on the above attributes, and in accordance with Section 4.2 of the FBA, the proposed development has a landscape score of 9 in the BioBanking Credit Calculator.

Ecological Assessment of the Site

Most of the site/Study Area has been historically cleared and used for landfill and more recently resource recovery. The main part of the proposed works involves the filling and levelling of the existing Canal Road gully. The gully, which is (evidently) artificially formed by filling and earthworks on the surrounding land, forms a small intermittent tributary of Prospect Creek. The gully supports riparian vegetation that is dense and highly weed infested, with a small stand of emergent Swamp Oak *Casuarina glauca*.

Patches of remnant native vegetation, including forest and wetland areas, are limited to the floodplain adjoining Prospect Creek (**Figure 31**) and a minor drainage line on the southern boundary of the site.

6 Environmental Impact Assessment

Figure 31 Riparian Vegetation along Prospect Creek (Photo 2 from SLR Biodiversity Assessment Report)

The area proposed for the northern sediment basin (referred to as Basin #.5 in the civil engineering plans at **Appendix 6**) is located on a flat area of disturbed ground in the northern parts of the site. The area contains a ground layer of exotic grasses (mainly Kikuyu and Buffalo Grass) with bare soils and disturbed ground.

No fauna habitats or resources of importance are present in this area. The vegetation present does not constitute a patch of native vegetation and so has not been included as a vegetation zone. Additionally, the area does not represent potential habitat for any threatened species. Accordingly, the area proposed for the stormwater basin does not require further assessment, in accordance with Section 9.5 of the FBA.

There are two native vegetation plant community types (PCTs) mapped on the site - 'Coastal Floodplain Wetlands' and 'Coastal Freshwater Lagoons'.

The Coastal Floodplain Wetlands on the site comprises PCT 835 'Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion'.

The Coastal Freshwater Lagoons on the site comprises PCT 781 'Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion'.

Native vegetation, where recorded on the site, is generally in low condition, with bare soil and/or exotic (non-native and/or weed) flora species.

Figure 32 shows the distribution of these plant community types relative to the areas in which the additional works are proposed.

6 Environmental Impact Assessment

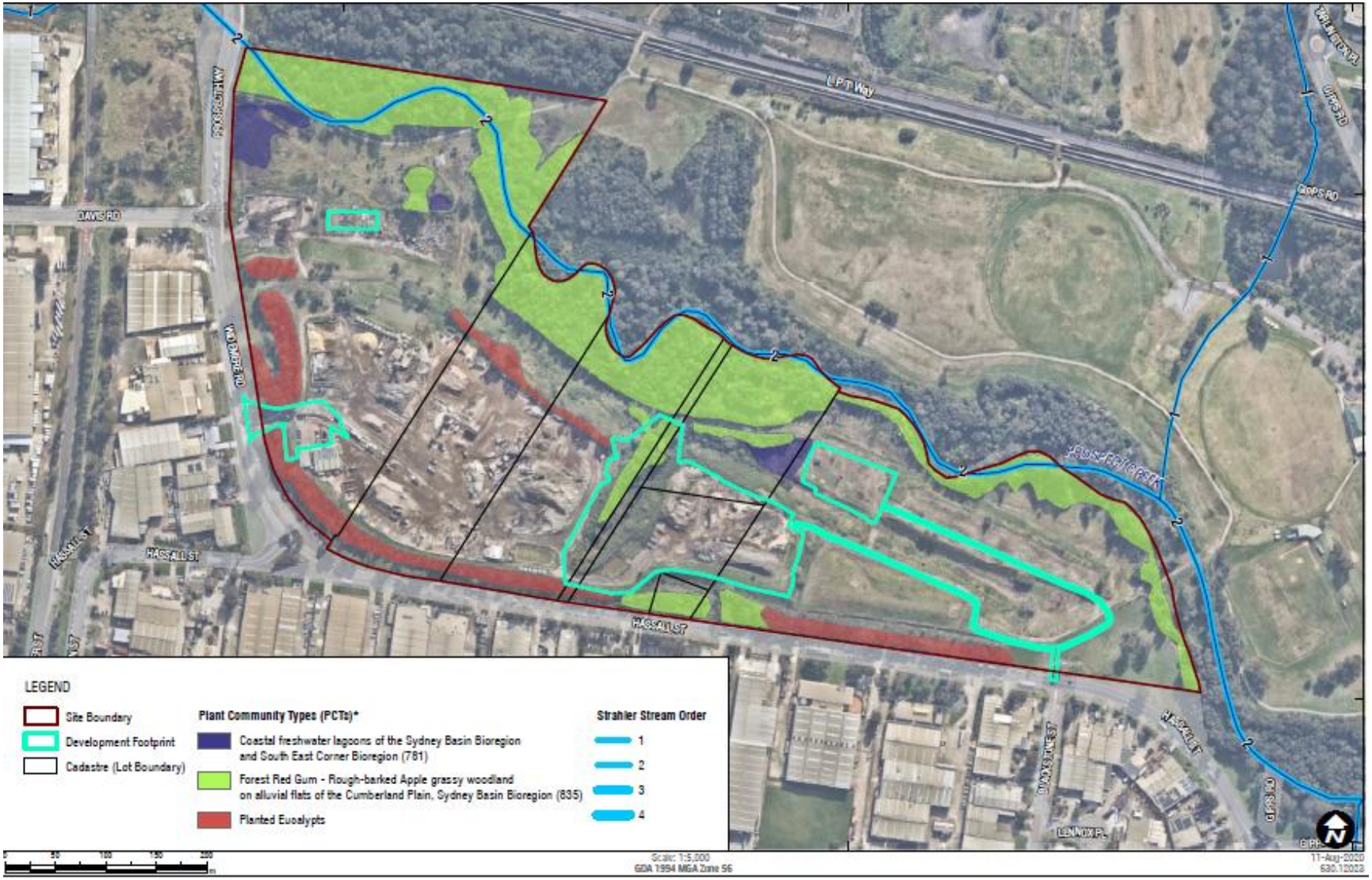


Figure 32 Plant community types mapped within the development site

6 Environmental Impact Assessment

The site contains two vegetation zones:

- Vegetation Zone 1 - River-flat Eucalypt Forest (moderate to good condition) - two FBA plot/transects were completed in this zone: one in the Canal Road Gully and another on the southern boundary.
- Vegetation Zone 2 - Freshwater Wetland (moderate to good condition) – this vegetation zone is outside of the proposed development footprint and no clearing of this vegetation zone is required; accordingly, no FBA plots were completed in this community.

The potential ecological impact from the proposed development will be relatively small, with a disturbance footprint of approximately 3.56 ha and these areas are devoid of high conservation habitats. Commercial activity associated with the development will be largely confined to this area.

The vegetation zones relative to the works associated with the expansion area, including the flood compensation area, are detailed on the plan at Figure 6 in the BAR. Figure 6 is reproduced in **Figure 33** of this EIS.

Figure 33 Vegetation Zones within the Development Footprint

Direct Impacts

The final development footprint will involve some minor impacts to threatened ecological communities and habitat for threatened fauna species comprising the following direct impacts:

- Removal and disturbance of regrowth riparian forest within Canal Road gully, which is dominated by exotic weed species with a low cover and diversity of native species (this area is classed as low condition and does not need to be offset).
- Removal of a small portion of potential fauna foraging habitat, associated with tree removal in Canal Road gully, in particular for threatened microchiropteran bats species and Grey-headed Flying-fox.

The areas of native vegetation to be cleared have been carefully considered and all habitats of high conservation value have been avoided where possible. The proposal impacts will be limited to removal of highly disturbed regrowth vegetation that cannot be avoided.

The residual impacts are limited to highly disturbed regrowth of riparian forest within the Canal Road gully. These areas of native vegetation would be replaced with permanent infrastructure for the proposed facility and therefore impacts on native vegetation (and associated habitats)

would be permanent (and unavoidable). The development will impact on 0.22ha of moderate/good-poor of Forest Red Gum – Rough-barked Apple grassy woodland (River-flat Forest EEC).

Indirect Impacts

There is some potential for indirect impacts to habitats along Prospect Creek from the filling of Canal Road gully. Potential indirect impacts in relation to the proposed development include:

- Sedimentation and run-off during construction of the fill embankment. These are to be managed using appropriate sediment and erosion control measures and in accordance with an engineered stormwater management system.
- Increased weed presence, including the introduction of new weed species (through vehicle movements into and out of the site), and/or the spread of weeds into new areas that are currently weed free. Several priority weeds have been identified in the development footprint. Weed management is to be integrated into the construction and operational management measures.

Considering the high degree of existing disturbance to habitats along Prospect Creek downstream of the development footprint including sedimentation, poor water quality, weed infestations and limited native vegetation cover in the understorey, potential minor indirect impacts from the proposal are unlikely to substantially decrease the baseline ecological condition of these habitats.

Impacts on Western Sydney Parklands

Prospect Nature Reserve to the northwest of the site is part of the Western Sydney Parklands. The potential for the identified indirect impacts impacting any Western Sydney Parklands is unlikely considering Prospect Nature Reserve is upstream of the SRC site and is therefore unlikely to be indirectly impacted by sedimentation and water pollution. Weed propagules are unlikely to be spread from the development footprint to any Western Sydney Parklands.

The main potential for indirect impacts is to habitats on Prospect Creek directly downstream of the development footprint, however potential minor indirect impacts from the proposal are unlikely to substantially decrease the baseline ecological condition of these habitats.

Impact Summary

Areas that do not require further assessment are those that do not contain native vegetation, as per Section 9.5 of the FBA SEARs). The development site supports highly disturbed native vegetation dominated by exotic flora with a site value score of less than 17. Therefore, according to the FBA, these areas are classified as low condition and/or cleared land and do not require further assessment. These areas do not contain tree hollows or other important habitats or resources for native fauna, such as hollow logs, rocks or caves. These areas have been assessed for the potential occurrence of threatened species (i.e. those that generate species credits).

According to Section 9.3 of the FBA, impacts on native vegetation that require an offset include:

- impacts on EECs and CEECs, unless specifically nominated in the SEARs as an impact requiring further consideration; and
- impacts on PCTs associated with threatened species habitat and in a vegetation zone that has a site value score of >= 17.

All vegetation zones mapped with the site have current site value scores of less than 17 and do not represent habitat for threatened species. Considering the highly disturbed nature of the PCTs in the development footprint and the lack of important roosting/breeding habitats, clearing of these vegetation zones does not require an offset in accordance with the FBA.

No local populations of threatened species that generate species credits are likely to occupy the vegetation within the study area, on other than a transient basis when opportunistically foraging. Hence, the creation of species polygons for such species is not considered appropriate for this assessment and there are no species credit polygons that require offset as part of the proposed development.

The Biobanking Credit Calculator has been used to calculate the impacts of the proposed development and potential offset requirements, in accordance with Section 8 of the FBA.

In this regard:

- No species credits are required to offset the impacts of the proposed development.
- The loss in landscape value score is 9.

In accordance with the FBA, copies of the BioBanking credit reports are provided in Appendix G to the Biodiversity Assessment Report. The results of the Credit Reports are summarised as follows:

- No ecosystem credits are required to offset the proposed development impacts.
- No species credits are required to offset the proposed development impacts.

According to the thresholds for biodiversity offsets, impacts "*for which the assessor is not required to determine an offset*" are impacts on PCTs that have a site value of score of <17 and are not associated with threatened species habitat. Accordingly, the removal of vegetation within the site to allow construction and operation of the proposed development does not require an offset in accordance with the FBA. Accordingly, there is no requirement for a biodiversity offset strategy.

Subject to the mitigation measures detailed in Section 6.5 (Table 15) of the Biodiversity Assessment Report, the ecological impacts of the continued use of the site as a material recycling centre, and the proposed expansion of that facility, are considered to be minimal. Implementation of the mitigation measures, which have been included in **Table 10** of **Section 7** will avoid or reduce impacts on threatened species.

6.1.9 Visual Impact

DFP Planning Pty Ltd has prepared a Visual Impact Assessment for the proposed development (see **Appendix 21**) which assesses the existing character of the site and the surrounding urban landscape, determines the extent and nature of potential visual impacts of the proposal and identifies any measures to mitigate and minimise those impacts. The Visual Impact Assessment can be summarised as follows:

- The VIA has been prepared with regard to industry standards including:
  - Roads and Maritime Services "*Environmental Impact Assessment Practice Note: Landscape Character and Visual Impact Assessment EIA – NO4*" 2013; and
  - Landscape Institute with the Institute of Environmental Management and Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition*.
- The key viewpoints from surrounding areas are identified in **Figure 34**.
- Generally, the proposed development has a negligible to moderate visual impact due to the existing vegetation surrounding the site, which minimises its visibility from the public domain.
- Notwithstanding, the low level of visual impact various measures such as temporary screening, maintenance of existing landscaping and new landscaping can be employed during construction and future operations to mitigating any visual impacts and these measures are detailed in **Section 7** of this EIS.

6 Environmental Impact Assessment

Figure 34 Key viewpoints of the site identified in the Visual Impact Assessment (DFP, 2018)

6.1.10 Heritage

The Historical Heritage Assessment prepared by Apex Archaeology (see **Appendix 14**) concludes as follows:

- No previously registered historical sites are located within the study area assessed for this project.
- No archaeological material was identified on the ground surface of the SRC study area.
- The study area has been disturbed through previous land use activities.
- The study area has no historical significance.
- The proposed development will not have any heritage impacts.

Accordingly, the Historical Heritage Assessment indicates that no further archaeological assessment is required prior to works commencing.

6.1.11 Aboriginal Heritage

Apex Archaeology has prepared an Aboriginal Heritage Archaeological Assessment (see **Appendix 13**) which concludes as follows:

- No previously recorded Aboriginal sites are located within the study area;
- No archaeological material was identified on the ground surface within the study area; and
- The study area is assessed as having no potential for subsurface archaeological deposits and this is confirmed by the site inspection.

Accordingly, the Aboriginal Heritage Archaeological Assessment indicates that no further Aboriginal archaeological assessment is required prior to works commencing.

6.1.12 Hazardous Materials

As noted in **Section 5.3.6** of this EIS a preliminary screening and hazard assessment pursuant to SEPP 33 has been undertaken by WSP. A copy of that assessment is included at **Appendix 23** to this EIS.

WSP concluded that the existing SRC and proposed expansion is a low risk hazardous and/or offensive operation because there are no dangerous goods other than 10,000 litres of diesel fuel (C1 or Category 4 Flammable Liquid) currently stored and handled on-site. A qualitative

hazard and risk assessment was also undertaken and that assessment demonstrated that the residual risks as low as reasonably practicable.

In view of that assessment and risk analysis, it is considered that the existing SRC operations and proposed expansion is consistent with the objectives of SEPP 33 and the facility does not pose a significant risk.

6.1.13 Fire and Safety

FRNSW has been consulted to ascertain any particular requirements for assessment. The following paragraphs respond to the matters raised by FRNSW.

- BCA Compliance – The proposal does not involve any new buildings or alteration/additions to any existing buildings and accordingly, a review of the proposal by a BCA consultant is not relevant in this instance.
- FRNSW's Fire Safety Guideline – Fire in waste facilities – This guideline applies to waste facilities that process and store combustible waste materials. As discussed within this EIS, the SRC processes and stores non-combustible construction materials and soils. In addition, the existing operations are subject to an EPL which requires (Condition O4.1) an Emergency Response Plan and if approved, the proposed future operations will be subject to a new EPL which is likely to include a similar requirement. In accordance with the current EPL, the existing facility has an Operational Management Plan which includes processes and procedures for emergency responses (see **Appendix 4**). If necessary, a condition of development consent could require an update of the relevant components of this Operational Management Plan.
- FRNSW to be consulted during design and development of fire safety measures – As indicated above, should the existing fire safety management practices require amending, this can be required as a condition of development consent.
- Emergency Response Plan be developed – The existing facility has an Operational Management Plan that can be updated if required.

6.1.14 Ecologically Sustainable Development

The Precautionary Principle

This EIS and supporting technical assessments consider the potential environmental risks associated with the proposal relating to waste management, soil and water management, air quality, noise and vibration, traffic, biodiversity, flooding, fire safety, heritage and visual amenity.

No potential risks identified in preparing this EIS are considered to pose a threat of serious irreversible environmental damage and where potential for adverse environmental impact is identified, appropriate management and mitigation measures are recommended.

Inter-generational Equity

The proposed development entails expansion of an existing resource recovery facility for the construction and building demolition waste which will be processed on-site and sold for re-use off-site. This process of waste management will divert construction and building demolition waste that may otherwise have been directed to landfill and will therefore, minimise the need for new or expanded landfill sites and their associated environmental impacts.

Accordingly, the proposal will maintain and enhance the health, diversity and productivity of the environment for the benefit of future generations.

Conservation of Biological Diversity and Ecological Integrity

As discussed within this EIS, the proposed works will have no significant adverse environmental impacts in the immediate or wider locality and accordingly, there is not considered to be any adverse impact in respect of biological diversity or ecological integrity.

Improved Valuation, Pricing and Incentive Mechanisms

The proposed development provides for producers of waste (i.e. construction and building contractors) to deposit waste at the site in a cost-effective and environmentally managed manner and for that waste to be processed for sale to users of construction materials for off-site use in other activities.

Accordingly, there is an economic incentive for producers of waste and users of natural resources to utilise the services of the site rather than disposing of waste to landfill or reliance on newly sourced natural resources. In addition, the proposed development will contribute to the NSW State Government's waste reduction targets.

6.2 Suitability of the site

6.2.1 Location

The site has been used as a waste processing facility since the late 1970s. It is located within an industrial area with the closest residential areas being Smithfield (approximately 650m to the south east) and Greystanes (approximately 950m to the north-east).

It is proposed to expand the existing resource recovery facility on a site that has been heavily modified over many decades and which contains only limited biodiversity of significance. The proposed works will generally be limited to areas already impacted upon by existing operations. As a result, significant adverse impacts to the biophysical environment can be avoided.

It is recommended that a series of mitigation and management measures be implemented to minimise potential environmental harm. This is considered to be a superior outcome to identification and development of new facilities elsewhere in the Metropolitan area.

6.2.2 Flooding

A Flood Risk Management Report has been prepared by Bonacci (see **Appendix 16**) WSP has also undertaken some further analysis of flooding based on the Bonacci Flood Risk Management Report and having regard to investigations by others (which have informed the Bonacci report). Key aspects of the Bonacci report are:

- The site is located within the Prospect Creek catchment and is immediately adjacent to the Hassall Street Detention Basin (a minor portion of the proposed works extend into the basin).
- A review of previous flood studies was undertaken including:
  - a flood study completed for the catchment in 2004 by Cardno Wiling using a 2-dimensional hydraulic model, following a significant flood along Prospect Creek in January 2001 which flooded a number of properties;
  - a subsequent review of floodplain management studies prepared in 2006 by Bewsher Consulting which led to a revised Prospect Creek Floodplain Management Plan in 2010;
  - A 2012 site-specific review of the flooding constraints at 191 Hassall Street, Wetherill Park (Lot 1 DP 515773), immediately adjacent to subject site, by Floodmit Pty Ltd;
- Flood modelling, model update, validation and flood mapping have been completed by WMAwater (WMA). WMA were selected from Fairfield City Council's panel of 3 consultants that have access to Council's flood model. Bonacci has interpreted the results and ascertained the flooding impacts due to the proposed development based on the flood maps produced by WMA. The following summarises the results of the flood analysis:

- The site is impacted by Prospect Creek and Hassall St Detention Basin flooding in the 1% AEP;
- Flood waters generally flow from west to east along Prospect Creek;
- 1% AEP flood velocities are generally low at the creek bank (between 0-0.5m/s) and high velocities (>1/ms) are observed at the creek bed in both the existing and proposed design scenarios;
- The proposed changes to the existing carpark entry/exit are located above the 1% flood extent and will not have adverse flood impacts offsite;
- Outside of areas of proposed works, the 1% AEP velocities have not changed significantly (changes observed near Prospect creek bed and near Widemere Road are minor and not materially significant);
- The hydraulic hazard has not changed significantly. The hazard at the proposed sediment basin have increased to H4- Unsafe for all people and vehicles. It is not believed that vehicles or pedestrians have access to the area.

The site is located within the Prospect Creek flood plain. Previous flood studies (by others) have determined that any filling in the floodplain above RL 30.90 would need to be compensated. Based on the Mepstead survey data, levels along the northern edge of the operational area of the SRC are approximately 10m above the 1% AEP flood level.

Some works associated with the filling of the Canal Road gully and associated batters will encroach into the flood storage area. Therefore, compensatory flood storage of 1,500m^3 is proposed to be provided. This has been addressed in detail in **Section 6.1.4** of this EIS.

The provision of the compensatory flood storage will ensure that the proposed works will not result in off-site changes to flood levels or velocities and the site and associated activities can be protected from flood affectation (which could impact on water quality). Therefore, the site is considered suitable for continued use as a materials recycling centre and the proposed expansion of that facility is also acceptable based on the assessed flooding impacts.

6.2.3 Economic Impacts

The *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* (NSW EPA, 2014) sets targets for avoiding and reducing waste, increasing recycling rates, diverting more waste from landfills, improving waste management and reducing litter and illegal dumping.

By providing an alternative to landfill for construction and demolition waste, recycling and providing recycled product for future construction works, the facility not only facilitates the key result areas of recycling and diverting waste from landfill, it also effects waste avoidance and reduction by providing a source of material for new construction other than quarrying or otherwise producing new material that will ultimately become waste in future. Additionally, by providing a lower-cost alternative to waste disposal at landfill, the facility may result in a reduction of illegal dumping.

Accordingly, the proposed expansion works will enable the site to meet the demand for construction and demolition waste processing and recycling for reuse which will have positive economic impacts by:

- reducing the costs associated with new and enlarged landfill sites;
- reducing the costs to government associated with illegal dumping;
- reducing the costs associated with extracting new natural resources;
- providing for employment opportunities during the construction phase of the project.

6.2.4 Social Impacts

The proposed expansion of the existing facility will enable the SRC to meet the demands from the construction industry on a site well removed from residential areas and managed in such a way as to minimise potential impacts on nearby commercial/industrial receivers.

In addition, the proposal will reduce the costs to the community and government of landfill and natural resource extraction which is considered to be a significant positive social outcome.

7 Mitigation Measures

7.1 Introduction

The environmental assessment undertaken in **Section 6** of this EIS has been structured as follows:

- Identify potential impacts as a result of the operation of the existing SRC and the proposed expansion of the area to be used for activities relating to the operation of the SRC.
- Consider how impacts can be avoided. If impacts cannot be avoided, discussion as to how impacts can be minimised or offset has been included.
- Identify any residual impact and consider whether these are acceptable.
- Identify mitigation measures to be implemented to minimise or offset impacts that cannot be avoided.

This Section provides a summary of the mitigation and management measures identified in this EIS and supporting documentation.

The identified mitigation and management measures will be undertaken before and during construction and during the operational phase of the SRC to minimise any identified or potential adverse environmental and amenity impacts.

Fairfield Council and the other identified entities will implement the mitigation measures identified in **Table 10**. This can be readily required as a condition of consent issued by the approval authority.

The identified mitigation measures can be reinforced and supplement by various measures including:

- Performance based conditions
- Prescriptive conditions
- Management based conditions

Table 10 Mitigation Measures

Environmental Impact/Risk	Mitigation Measure	Responsibility
Construction Management		
CEMP	A Construction Environmental Management Plan (CEMP) for the construction phase must be prepared prior to commencement of works. The CEMP must address the recommendations of the various specialist consultant reports appended to this EIS and must include measures in relation to: • Soil and water management • Traffic management • Ecological management • Dust management • Noise management • Vibration management • Visual impacts • Soil sampling • Unexpected finds protocols As a minimum, the CEMP must also address: • Construction site access • Contractor parking • Haulage routes • Hours of construction • Complaints register	Building Contractor Certifier

7 Mitigation Measures

Table 10 Mitigation Measures		
Environmental Impact/Risk	**Mitigation Measure**	**Responsibility**
Site Induction	All contractors must undergo site induction before commencing work on the site. Site induction will include: • Site safety • Techniques for recognising archaeological material • Methods for implementation of the provisions of the CEMP	Principal building contractor and all sub-contractors
Erosion and Sediment Control	All required erosion and sediment control measures are to be installed prior to commencement of any construction works. The installed erosion and sediment control measures must be maintained at all times. Regular inspection of the installed erosion and sediment control measures must occur but as a minimum the installed measures are to be inspected once a week and immediately before and after rain events. Any repairs must be undertaken as soon as practicable.	Building Contractor
Leachate Management	Sedimentation basins are to be designed, constructed and maintained to ensure that they do not become a localised area of surface water infiltration into the underlying waste mass, where it would subsequently contribute to leachate generation.	Civil Engineer
Ecological Management – prior to commencement of works	Prior to commencement of construction works, the following actions are to be undertaken: • Delineate construction zone (to ensure no native vegetation outside construction zone is cleared) • Install and maintain erosion and sediment control measures in accordance with the requirements of the 'Blue Book'	Building Contractor
Ecological Management – prior to commencement of works	Prior to commencement of construction works seed collection and propagation of local native plant species for planting along Prospect Creek is to be undertaken	Fairfield City Council
Ecological Management – during construction works	During construction the following ecological mitigation measures are required to be implemented: • Fauna management – Tree felling is to be supervised to ensure any impacted fauna is rescued/recovered. • Weed management – Vehicles to be washed down as part of ongoing site maintenance. • Rubbish management - Rubbish (such as food scraps and building waste) are to be properly managed during construction and must not be stockpiled on areas of native vegetation • Revegetation - Seeding and planting of propagated (or otherwise) tubestock of local native plant species as per Landscape Plan. • Exposed soil surface management - Revegetation – using re-use of topsoil layers and seeding of with local native species	Building Contractor And Fairfield City Council
Environmental Management - Operational		
EMP	An overarching Environmental Management Plan incorporating the recommendations of the various specialist consultant reports appended to this EIS is to be prepared. The EMP will draw on the various operational management plans and documents (where relevant) which are already in place in relation to the operation of the SRC (refer **Appendix 4** to this EIS). These existing operational management plans and documents will be supplemented by the recommendations of the specialist consultant reports appended to this EIS. As a minimum, the EMP must include address: • Soil and Water Management • Traffic management, including weighbridge operations • Ecological management • Landscape management • Dust management • Noise management • Leachate monitoring and management – see below • Screening protocols	Fairfield City Council SRC site manager

7 Mitigation Measures

Table 10 Mitigation Measures		
Environmental Impact/Risk	**Mitigation Measure**	**Responsibility**
	• Complaints procedures • Licence requirements	
Leachate Monitoring	A plan for the ongoing inspection, monitoring and management of the leachate/runoff controls along with contingencies and a review process which can be implemented. This plan should be incorporated into the overarching Environmental Management Plan for the greater SRC site. The plan should identify leachate as a hazard along with associated risks (based upon the findings of the WSP Leachate Assessment (**Appendix 19** to EIS) and any subsequent investigations). The EMP is to incorporate inspection and monitoring protocols specifically relating to management of leachate/runoff controls.	Fairfield City Council SRC site manager with input from Environmental consultant
Water management – leachate control	In addition to the water diversion bunds around the outer extent of the greater expansion area (as required by the SWMP), further diversions upgradient and around the stockpile processing areas of the site to minimise overland flow from entering the processing and processed stockpile storage areas potentially generating lower quality runoff are to be implemented. Runoff from these diversions should drain into the sedimentation basin prior to discharge off-site or potential reuse on the site as dust suppression in accordance with the EPL requirements. These controls should be incorporated into the civil plans and SWMP for the expansion area.	Civil Engineer
Implementation of the EMP	The requirements of the EMP are to be implemented at all times	Fairfield City Council SRC site manager
Contamination		
CEMP	A Construction Environmental Management Plan (CEMP) for the construction phase should include controls to limit dust generation and manage water runoff.	Building Contractor Certifier
Soil sampling	Soil sampling for waste classification should be undertaken on any spoil material created during these works	Building Contractor Certifier Environmental consultant
Waste screening	Loads that are deemed to contain putrescible waste or asbestos are rejected from the site	Fairfield City Council Spotters
Air Quality		
Odour management	Strong odours around the site are to be reported to the site manager	Fairfield City Council SRC staff
Dust management	• Provide water sprays to suppress visible dust leaving the site. • Limit vehicle speeds to 20km/h. • Cover vehicle loads if transporting material off-site. • Reduce drop heights during loading and unloading of material. • Use water carts to suppress visible dust leaving the site (Level 2 watering in excess of 2l/m^2/hour). • Minimise areas of exposed surfaces. • Minimise amount of stockpiled materials. • Drop heights are to be reduced during loading and unloading of material. • Where possible, apply barriers, covering or temporary rehabilitation to exposed areas. • Apply final capping and/or rehabilitate areas as soon as practicable.	Fairfield City Council SRC staff
Dust monitoring	Maintain the existing 5 dust deposition gauges located around the boundary of the site to monitor dust.	Fairfield City Council SRC site manager

7 Mitigation Measures

Table 10 Mitigation Measures		
Environmental Impact/Risk	**Mitigation Measure**	**Responsibility**
Acoustic		

Operational acoustic monitoring	• Engines of trucks and mobile plant to be switched off when not in use.
	• Maintain and service plant in accordance with manufacturer's specifications.
	• All on-site fleet are to be appropriately maintained and in correct operational order.
	• Where possible, machinery engine covers are to be kept closed,
	• A 20 km/hr on site speed limit for all vehicles is to be maintained.
	• Silencers/mufflers are to be used as appropriate.
	• Awareness training for staff and contractors in environmental noise issues is to be provided. This includes:
	  • Minimising the use of horn signals and maintaining a low volume. Alternative methods of communication should be considered.
	  • Avoiding any unnecessary noise when carrying out manual operations and when operating plant.
	  • Switching off any equipment not in use for extended periods.
	• A complaints register is to be maintained. Should noise complaints be received, they should be immediately investigated. Where substantiated, reasonable and feasible measures would be implemented to reduce noise impacts.
		Fairfield City Council SRC site manager

Fire Safety		
Emergency Response Plan	If required by the new Environmental Protection Licence (EPL), prepare a revised Emergency Response Plan.	Fairfield City Council SRC site manager
Consultation with FRNSW	FRNSW to be consulted during design and development of any revised fire safety measures	
Visual Impact		
Construction	During construction, screen hoardings and/or shade cloth screens are to be installed around works areas.	Building Contractor
Post Construction	Disturbed areas not required for use as part of the SRC are to be rehabilitated.	Building Contractor
Operational	Stockpile height markers are to be installed within the expansion area and stockpile heights are to be adhered to at all times	Fairfield City Council SRC site manager
Landscaping		
Construction	Existing vegetation is to be retained and protected (unless otherwise approved for removal).	Building Contractor
Post Construction	Landscaping is to be undertaken in accordance with the approved landscape plan as soon practicable following completion of construction works	Building Contractor
Maintenance of landscaping	Landscaping must be maintained and protected wherever possible, particularly on the embankments facing Widemere Road and Hassall Street and along the riparian area of Prospect Creek.	Fairfield City Council SRC site manager
Heritage – Aboriginal Heritage and Non-Aboriginal Heritage		
Unexpected Finds	Should unanticipated archaeological material be encountered during site works, all work in the vicinity of the find must cease and an archaeologist contacted to make an assessment of the find. Further archaeological assessment may be required prior to the recommencement of works. Any historical objects must be reported to the OEH under Division 9, Section 146 of the Heritage Act	Building Contractor
Ecological		
Weed management	Limit spread of weeds along with landscape maintenance program	Fairfield City Council SRC site manager

7 Mitigation Measures

Table 10 Mitigation Measures		
Environmental Impact/Risk	**Mitigation Measure**	**Responsibility**
Waste management	Appropriate systems will be implemented to ensure that each waste stream generated by the development is effectively managed and/or disposed of off-site (see detail in EIS). There will not be any on-site stockpiling or disposal of waste materials.	Fairfield City Council SRC site manager
Plant maintenance	Watering, weeding, replacement of dead plants, within Prospect Creek revegetation areas, as per Landscape Plan.	Fairfield City Council SRC site manager/Council
Surface water and run-off	Surface water and stormwater to be managed according to Soil and Water Management Plan (WSP 2020)	Fairfield City Council SRC site manager
Soil and Water Management – Construction		
Construction works	Erosion and sediment control measures in accordance with the plans prepared by WSP are to be implemented prior to commencement of works	Contractor
Construction works	Temporary vegetative stabilisation is to be carried out in accordance with Council guidelines and the Managing Urban Stormwater: Soils and Construction guidelines (Landcom).	Contractor
Construction works	Care must be exercised during the construction phase to ensure that the sediment basins continue to function correctly and are maintained for their design intent for the integrity of the clay capping over the underlying landfill. Excavation for the basins must not extend beyond the capping material.	Contractor
Dust suppression	Dust suppression using existing on site water carts to dampen exposed areas is to be undertaken as required. Dust minimisation during construction can also be managed by limiting speed limits on internal haul roads, minimising traffic movements and surface roughening, and stabilising and covering of exposed areas as soon as practical	Contractor
Soil and Water Management - Operational		
Dust suppression	Dust suppression using existing on site water carts to dampen exposed areas is to be undertaken as required. Dust minimisation can also be managed by limiting speed limits on internal haul roads, minimising traffic movements and surface roughening.	Fairfield City Council
Leachate runoff	Preparation of an overarching Environmental Management Plan (EMP) for the site incorporating ongoing inspection, monitoring and management of the leachate/runoff controls. The plan should identify leachate as a hazard along with associated risks (based upon the findings of this assessment and any subsequent investigations), and provide inspection and monitoring protocols specifically relating to management of leachate/runoff controls	Fairfield City Council
Water diversion bunds	Provision of bunds around the outer extent of the greater expansion area. The bunds are to be installed to provide further diversions upgradient and around the stockpile processing areas of the site to minimise overland flow from entering the processing and processed stockpile storage areas.	Fairfield City Council
Sediment Control	All vehicles departing from the site shall ensure, as reasonably practicable, no sediment is being carried or transported off site. This is to be achieved using a wheel wash and shaker pad.	Fairfield City Council
Sediment Control	Sediment fences are to be installed downstream of batter slopes and around stockpile sites. Sediment fences are to only be placed where sheet flow is present and are not to be constructed in concentrated flow paths.	Fairfield City Council
Sediment Control – soil stockpiles	Soil stockpiles are to have sediment fences positioned around the external batters to control runoff as necessary. Soil stockpiles should be located so that they are not down stream of an overland flow path or external catchment. If this cannot be avoided, a diversion device which directs surface flows around soil stockpiles is required.	Fairfield City Council

7 Mitigation Measures

Table 10 Mitigation Measures		
Environmental Impact/Risk	**Mitigation Measure**	**Responsibility**
Basin Maintenance	• The basins are to be dewatered prior to or post each storm event. Details of dewatering are included in the SWMP. • The basins are to be dosed with an appropriate chemical anti-coagulant	Fairfield City Council
Inspection	The erosion and sediment controls measures on site are be inspected in accordance with the regime detailed in the EMP	Fairfield City Council
Construction Traffic and Pedestrian Management		
CTMP	A construction traffic management plan (CTMP) is be prepared prior to commencement of construction works including appropriate traffic and pedestrian management measures. Refer TIA at Appendix 17	Building Contractor
Hazardous Materials		
Storage	All hazardous materials are to be stored on site in accordance with approved methods	Fairfield City Council SRC site manager
Screened material	Should any hazardous materials be found within loads brought to the site, the protocols set in place under the existing environmental management plans must be enacted immediately. If required, relevant authorities are to be contacted	Fairfield City Council SRC site manager SRC spotters

8 Evaluation and Conclusion

8.1 Justification

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the EP&A Act specifies that justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project should proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not.

The development comprises an expansion of the existing SRC that has been operating since 1995. The assessment therefore considers the identification and appraisal of the effects of the existing operations as well as the proposed expansion having regard to the environmental condition of the site and its surrounding context.

Various components of the biophysical, social and economic environments have been addressed in this EIS and are summaries below.

8.1.1 Biophysical

The proposed development seeks to expand an existing resource recovery facility on a site that has been heavily modified over many decades and which contains only limited biodiversity of significance. The proposed works will be generally limited to those areas already impacted upon by previous site uses and the existing operations and therefore adverse impacts to the biophysical environment are minimised. Notwithstanding, implementation of the recommended mitigation and management measures will avoid potential environmental harm. This is considered to be a superior outcome to relocation of the services provided on the SRC site elsewhere in the Metropolitan area.

8.1.2 Economic

The *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* (NSW EPA, 2014) sets targets for avoiding and reducing waste, increasing recycling rates, diverting more waste from landfills, improving waste management and reducing litter and illegal dumping.

By providing an alternative to landfill for construction and demolition waste and providing recycled product for future construction works, the facility not only facilitates the key result areas of recycling and diverting waste from landfill, it also effects waste avoidance and reduction strategies by providing a source of material for new construction other than quarrying or otherwise producing new material that will ultimately become waste in future. Additionally, by providing a lower-cost alternative to waste disposal at landfill, the facility may result in a reduction of illegal dumping.

Accordingly, the proposed expansion works will enable the site to meet the demand for construction and demolition waste processing and recycling for reuse which will have positive economic impacts by:

- reducing the costs associated with new and enlarged landfill sites;
- reducing the costs to government associated with illegal dumping;
- reducing the costs associated with extracting new natural resources;
- providing for employment opportunities during the construction phase of the project.

8.1.3 Social

The proposal will enable the existing facility to meet the increasing demands from the construction industry on a site well removed from residential areas and managed in such a way as to minimise potential impacts on nearby sensitive receivers.

In addition, the proposal will reduce the costs to the community and government of landfill and natural resource extraction which is considered to be a significant positive social outcome.

8 Evaluation and Conclusion

8.1.4 Ecologically Sustainable Development

The Precautionary Principle

This EIS and supporting technical assessments consider the potential environmental risks associated with the proposal relating to waste management, soil and water management, air quality, noise and vibration, traffic, biodiversity, flooding, fire safety, heritage and visual amenity.

No potential risks identified in preparing this EIS are considered to pose a threat of serious irreversible environmental damage and where potential for adverse environmental impact is identified, appropriate management and mitigation measures are recommended.

Inter-generational Equity

The proposed development entails expansion of an existing resource recovery facility for the construction and building demolition waste which will be processed on-site and sold for re-use off-site. This process of waste management will divert construction and building demolition waste that may otherwise have been directed to landfill and will therefore, minimising the need for new or expanded landfill sites and their associated environmental impacts.

Accordingly, the proposal will maintain and enhance the health, diversity and productivity of the environment for the benefit of future generations.

Conservation of Biological Diversity and Ecological Integrity

As discussed within this EIS, the proposed works will have no significant adverse environmental impacts in the immediate or wider locality and accordingly, there is not considered to be any adverse impact in respect of biological diversity or ecological integrity.

Improved Valuation, Pricing and Incentive Mechanisms

The proposed development provides for producers of waste (i.e. construction and building contractors) to deposit waste at the site in a cost-effective and environmentally managed manner and for that waste to be processed for sale to users of construction materials for off-site use in other activities.

Accordingly, there is an economic incentive for producers of waste and users of natural resources to utilise the services of the site rather than disposing of waste to landfill or reliance on newly sourced natural resources. In addition, the proposed development will contribute to the NSW State Government's waste reduction targets.

8.2 Conclusion

The proposed SSD for expansion of the existing resource recovery facility at Widemere Road and Hassall Street, Wetherill Park has been assessed within this EIS and supporting documentation in accordance with SEARs, Part 4 of the EP&A Act and Schedule 2 of the EP&A Regulation.

The potential environmental, social and economic impacts of the proposal have been identified and assessed and there are considered to be minimal adverse environmental impacts associated with the expansion works subject to the mitigation and management measures detailed in **Section 7** of this EIS.

The development is considered to be consistent with the relevant provisions of applicable legislations, environmental planning instruments and assessment guidelines and is considered to provide for positive impacts by assisting to reduce waste streams that are directed to landfill or illegal dumping and to assist minimising the use of newly extracted natural resources.

Accordingly, the proposed development is considered to be in the public interest and it is recommended that the consent authority grant development consent subject to conditions relating to management and mitigation measures identified in this EIS.