

Stormwater Management Plan Report

Recycling Facility

**25 Dunheved Cct
ST MARYS NSW 2760**



For

**reDirect Recycling Pty Ltd
21-25 Dunheved Cct
St Marys NSW 2760**

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2. Introduction and Background

2.1. Purpose

The purpose of this report is to investigate the properties of the existing stormwater system present at the development site and determine the remedial works required to ensure the system meets the specified performance requirements.

The principal objectives of this review are to provide:

- A summary of the stormwater system requirements.
- A summary of stormwater design parameters.
- A summary of the stormwater design strategy.

2.2. Site Description

The development site is described as Lot 143 in DP 1013185. This lot is addressed as 25 Dunheved Circuit, St Marys. The location of the site is shown in Figure 2.1.



Figure 2.1: Aerial Photograph of the Site Location (Nearmap, 3 August 2020)

The development site is presently an industrial recycling facility. It is bound by 21 Dunheved Circuit to the east, with which it shares a parking area; 84 Links Road to the north; 92-96 Links Road & 8 Kommer Place to the west; and 1-4, 5 & 6 Kommer Place to the south. All the surrounding lots are currently industrial. Stormwater at the current development is drained to the western boundary to an existing drainage easement.

The total site area is 6,140 m². The entire development consists of impervious roof and hardstand areas.

2.3. Existing Structures

The development site presently consists of the following structures:

- An industrial warehouse. Total roof area = 3,550 m².
- An administrative office. Total roof area = 180 m².
- External pavement, driveway, and car parking areas. Total pavement area = 2,410 m².

Figure 2.2 shows the overall stormwater drainage plan for the development. The full set of stormwater drawings is provided in Appendix A.

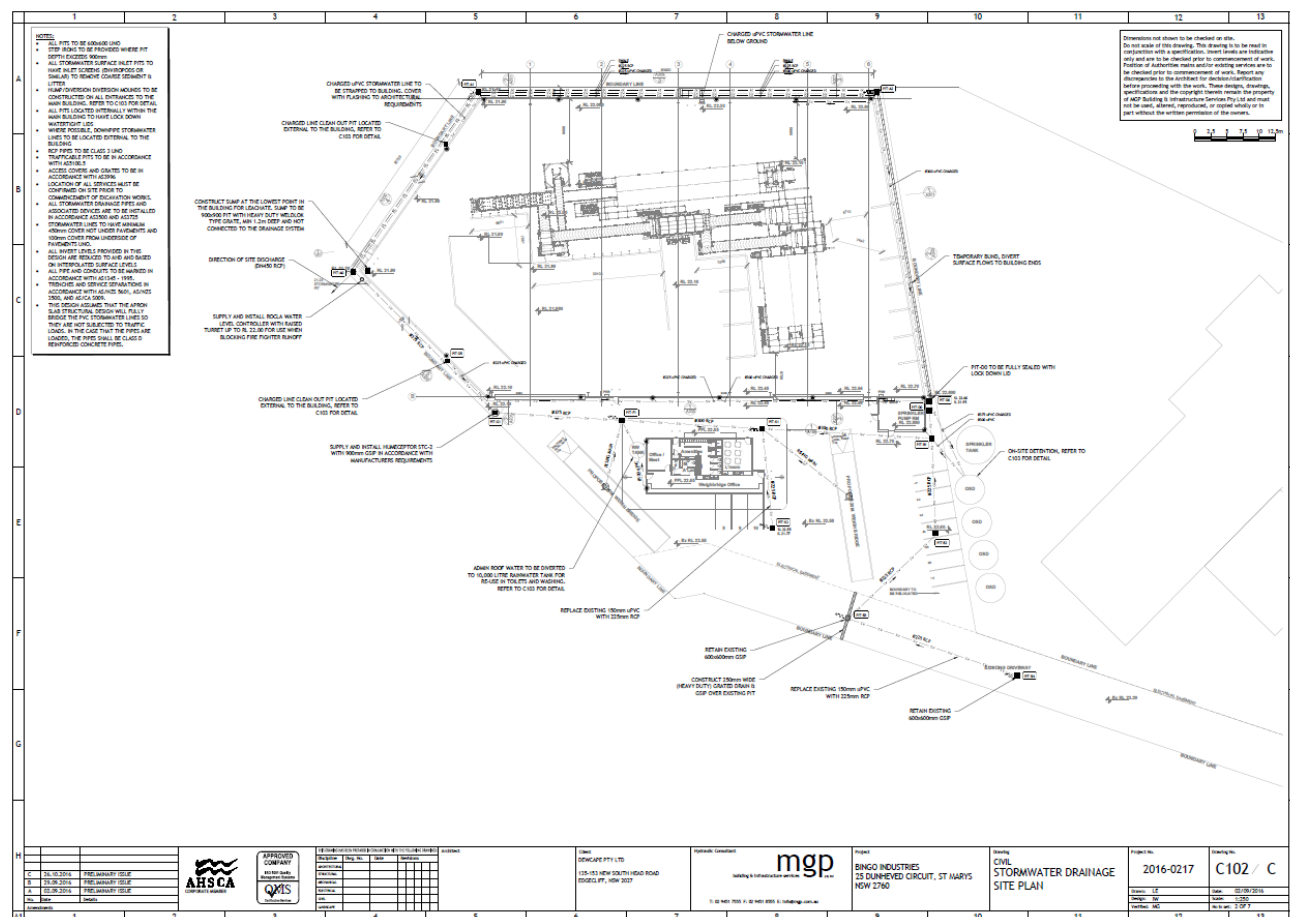


Figure 2.2: Stormwater Drainage Plan for the Existing Site

3. Proposed Site Use Changes & Reporting Requirements

3.1. Site Use

The site proponent (reDirect Recycling Pty Ltd) has proposed an increase in throughput for the existing resource recovery facility to process up to 150,000 tonnes per annum of general solid waste (non-putrescible) consisting of 110,000 tonnes per annum of wood waste, 30,000 tonnes per annum of plasterboard and 10,000 tonnes per annum of metal waste with a maximum storage capacity of up to 5,000 tonnes at any given time.

The proposed increase requires the preparation of an Environmental Impact Statement for the development which meets the Planning Secretary's Environmental Assessment Requirements (SEARs). It must meet the requirements in clauses 6 & 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. This report forms part of the Environmental Impact Statement for stormwater management.

3.2. Reporting Requirements

The following documentation of reporting requirements for stormwater management have been provided.

Planning Secretary's Environmental Assessment Requirements

The Planning Secretary's Environmental Assessment Requirements detail the following reporting requirements:

- *An assessment of potential surface and groundwater impacts associated with the development, including potential impacts on watercourses, riparian areas, groundwater, and groundwater dependent communities nearby*
- *A detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements*
- *Details of stormwater/wastewater management system including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water*
- *Description of the measures to minimise water use*
- *Detailed flooding assessment*
- *Description of the proposed erosion and sediment controls during construction*
- *Characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality control criteria (including details of the contaminants of concerns that may leach from the waste into the wastewater and proposed mitigation measure to manage any impacts to receiving waters and monitoring activities and methodologies) and*
- *Characterisation of the nature and extent of any contamination on the site and surrounding area.*

NSW Environment Protection Authority

The NSW EPA has provided the following inputs on the Secretary's Environmental Assessment Requirements with respect to stormwater management:

In general, development should maintain or restore the community's uses and values of waterways, including human and environmental health, through the achievement of relevant NSW Water Quality Objectives (WQO). The Environmental Impact Statement (EIS) should provide the following for the construction and operational phases of the proposal:

- *Provide an assessment of any potential impacts of the proposal on the surface and groundwater of the area, with particular focus on water quality and the community's agreed environmental values and human uses for relevant watercourses (the NSW WQO).*
- *Provide a Stormwater Management Plan that outlines the general stormwater management measures for the proposal, including erosion and sediment controls, first flush systems, and the use of*

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sustainability measures such as Water Sensitive Urban Design to create more resilient and adaptable urban environments.

- *Outline opportunities for the use of integrated water cycle management practices and principles to optimise opportunities for sustainable water supply, wastewater and stormwater management across the proposal.*
- *Provide details of any potential discharge of pollutants to water, including fugitive discharges such as fuel or oil leaks. The EIS should take into consideration the characteristics and hydrology of the receiving waters and provide details of how any potential water pollution caused by the proposal will be prevented or mitigated.*

The EPA would expect that the building(s) be constructed to exclude all stormwater and that internal surfaces be graded inwards to contain any contaminated water (being any water that has come into contact with waste). The EPA notes that even where all waste storage and processing is conducted within an enclosed building, waste may be tracked on to external surfaces leading to the generation of contaminated water. Any external areas where waste vehicles travel or wait for loading/unloading must drain to a stormwater quality treatment device sufficient to remove any contaminants, both solid and dissolved, prior to discharge offsite.

Penrith City Council

Penrith City Council have provided the following inputs on the Secretary's Environmental Assessment Requirements with respect to stormwater management:

Stormwater Drainage

The following is requested to be addressed in any state significant development application lodged for this site:

- *Demonstration that the existing on-site stormwater system is of adequate capacity and there will be no increase in stormwater runoff from the site as a result of this proposal.*
- *The applicant should be requested to demonstrate that there will be no increase in runoff from the site as a result of the development for all storms up to and including the 1% AEP event.*

Water Sensitive Urban Design

The application is required to address Council's Water Sensitive Urban Design Policy and Technical Guideline. Increase in impervious area may require the provision and implementation of a water sensitive urban design strategy that complies with Council's Technical Guideline.

The Planning Secretary's Environmental Impact Assessment Requirements, along with the input provided by the NSW Environment Protection Authority and Penrith Council have been provided in Appendices B, C & D.

3.3. Reporting Matrix

Table 3.1 below indicates the sections in which the relevant SEARs requirements are addressed.

Requirement	Addressed in Section
An assessment of potential surface and groundwater impacts associated with the development, including potential impacts on watercourses, riparian areas, groundwater, and groundwater dependent communities nearby.	Not addressed – development works do not have associated impacts on watercourses, riparian areas, groundwater, and groundwater dependent communities.
A detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements.	Section 5
Details of stormwater/wastewater management system including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water.	Sections 6 & 7
Description of the measures to minimise water use.	Section 5
Detailed flooding assessment	Section 8
Description of the proposed erosion and sediment controls during construction.	Not addressed – there are no proposed development works requiring sediment and erosion control.
Characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality control criteria (including details of the contaminants of concerns that may leach from the waste into the wastewater and proposed mitigation measure to manage any impacts to receiving waters and monitoring activities and methodologies).	Section 7
Characterisation of the nature and extent of any contamination on the site and surrounding area.	Not addressed – contamination of the site and surrounding area have not been investigated.

Table 3.1: SEARs Requirements in This Report

4. Hydrological Data

4.1. General

A DRAINS model has been prepared in the review of the on-site detention system used in discharge control of stormwater. The data shown in Table 4.1 was used in conjunction with procedures outlined in Australia Rainfall and Runoff 2019 to determine pre- and post-development discharge rates.

	Rainfall Depths (mm) [33.4125 (S), 151.2875 (E)] issued 7 September 2020						
	Exceedance per Year (EY)			Annual Exceedance Probability (AEP)			
Duration	1EY	0.5EY	0.2EY	10%	5%	2%	1%
1 min	1.99	2.53	3.25	3.81	4.44	5.29	5.95
2 min	3.26	4.08	5.11	5.96	6.9	8.2	9.24
3 min	4.53	5.68	7.16	8.35	9.69	11.5	13
4 min	5.7	7.17	9.1	10.6	12.4	14.7	16.6
5 min	6.76	8.53	10.9	12.7	14.8	17.6	19.8
10 min	10.7	13.7	17.6	20.7	24.2	28.8	32.4
15 min	13.4	17.1	22.1	26	30.3	36.1	40.6
20 min	15.4	19.5	25.2	29.7	34.6	41.2	46.3
25 min	16.9	21.5	27.7	32.5	37.9	45.1	50.7
30 min	18.2	23	29.6	34.8	40.5	48.2	54.2
45 min	21	26.5	33.8	39.6	46.1	54.9	61.8
1 hour	23.1	29.1	36.8	43.1	50	59.6	67.1
1.5 hour	26.3	32.9	41.3	48.2	55.9	66.7	75.2
2 hour	28.9	36	44.9	52.2	60.6	72.4	81.8
3 hour	33	41	50.8	59.1	68.7	82.1	92.9
6 hour	42.3	52.5	65.1	75.9	88.5	106	120
12 hour	55.6	69.5	87.4	103	120	145	164

Table 4.1: Bureau of Meteorology Rainfall Depths for the Development Site

The Antecedent Moisture Condition for the site has also been determined based on daily rainfall for a Bureau of Meteorology rainfall station local to the site. The chosen rainfall station is Orchard Hills Treatment Works (067084), which has a daily rainfall record spanning 1970 – 2020. The rainfall record from this site has returned an Antecedent Moisture Condition of 3.18 for the top 100 rainfall events in the available record. A summary of the calculations for the Antecedent Moisture Condition have been provided in Appendix E.

4.2. Discharge Calculations

A Horton/ILSAX hydrological model was utilised to determine the pre-development discharge rates from the site. The discharge rates shown in Table 4.2 summarise the critical results for a variety of storm durations.

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Rainfall Event	Pre-Development Flow (L/s)	Critical Storm Duration (min)
1EY	56	15
0.5EY	98	10
0.2EY	144	10
10%	197	15
5%	235	15
2%	274	10
1%	319	10

Table 4.2: Pre-Development Discharges and Critical Durations

5. Water Balance Analysis

5.1. Reuse Demand

Rainwater stored in above-ground tanks is collected and currently reused for flushing 3 toilets in the administrative building. Based on Penrith Council reuse modelling recommendations, toilets have been modelled as requiring 0.1 kL/day of recycled water.

The proposed development intends to use additional recycled water for filling of the truck wheel wash. The estimated daily reuse for the wheel wash is 300 L. As such, the total reuse demand for the site has increased from 0.3 kL/day to 0.6 kL/day.

5.2. Reuse Analysis

A rainfall reuse analysis has been conducted using daily rainfall data from Orchard Hills Treatment Works supplied by the Bureau of Meteorology. The analysis conducted resulted in a calculated percentage of 52.37% for the proportion of days in which reuse demand is met since the beginning of the rainfall record (1970).

A roof area of 217 m² plumbed to a 10 kL above-ground rainwater tank meets the reuse demand for this site.

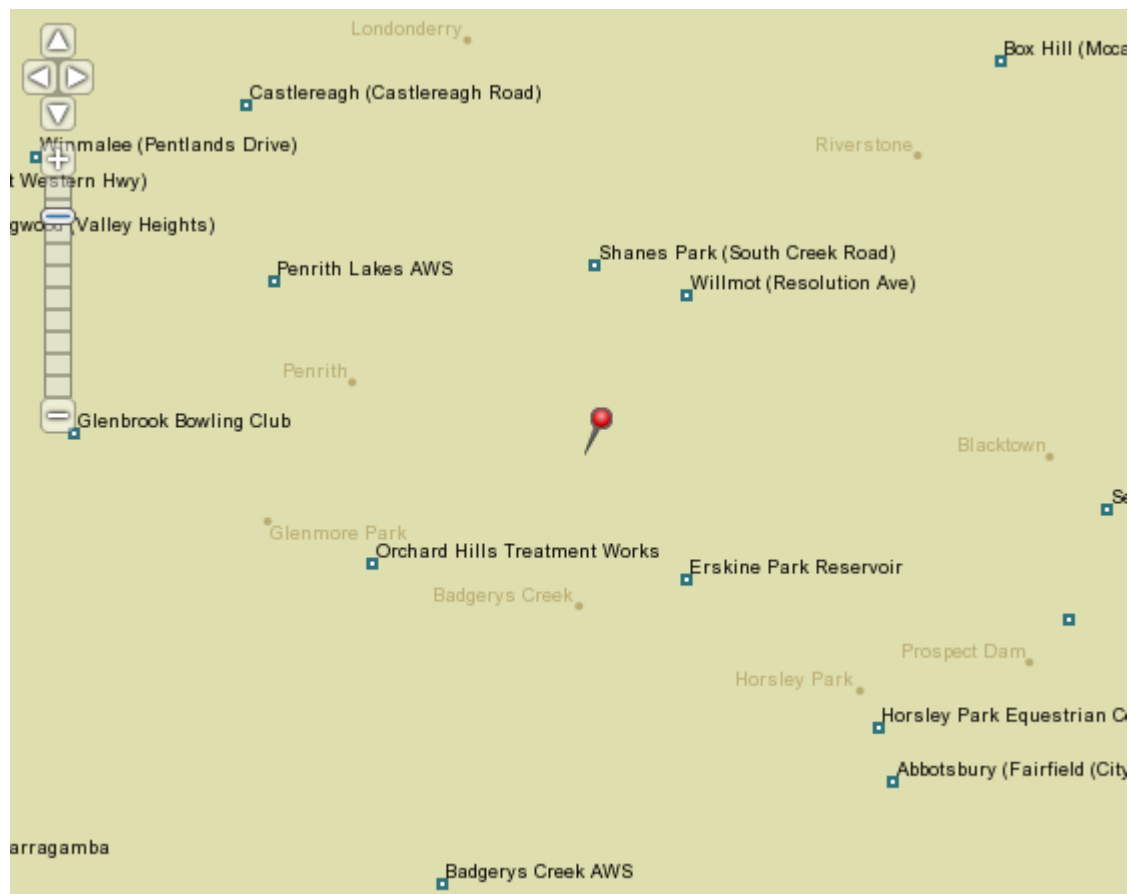


Figure 5.1: BOM Weather Stations Local to the Development

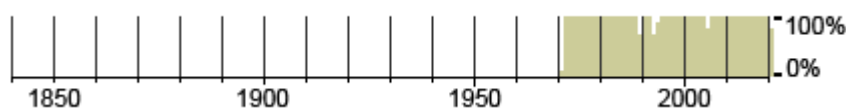


Figure 5.2: Available Daily Rainfall Data for Orchard Hills Treatment Works

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The full set of water balance calculations have been provided in Appendix F.

Penrith City Council generally require that 80% of the recycled rainwater reuse demand is met for new developments. It is acknowledged that the increase of recycled water demand for the site has resulted in reduced performance of the rainwater tank. The 10kL rainwater tank was originally sized to meet the demand of the 3 toilets only. The additional use of recycled water for the purpose of the wheel wash should be considered an additional reduction in the demand of potable water for the site.

6. Hydraulic Analysis

This section analyses how the OSD system designed for the development site may meet the requirements outlined in Section 3, while also contributing to the water quality treatment train. The content of this section discusses the method and results of the analyses used in the reporting of the design of this system.

6.1. On-Site Detention Parameters

The above-ground OSD tanks with discharge control contribute to both water quality and quantity exiting the site. Water quantity control is required such that the outflow from the site is limited to pre-development conditions in all rainfall events up to and including the 1% AEP event. The total site area draining to the OSD system is 6,140 m², and all rainfall on impervious areas are directed to the OSD system prior to discharge from the site.

The on-site detention characteristics are listed below:

- 4x 50 kL hydraulically linked OSD tanks.
- Diameter 120 mm orifice at RL 22.68.
- Diameter 300 mm high-level overflow pipe at TWL 25.75.

These characteristics have been assumed from on-site observations and Preliminary Stormwater Drainage Plans for the site prepared by MGP Building and Infrastructure Services. An extract of the OSD detail is shown in Figure 6.1 below, and the full drawing set is included in Appendix A.

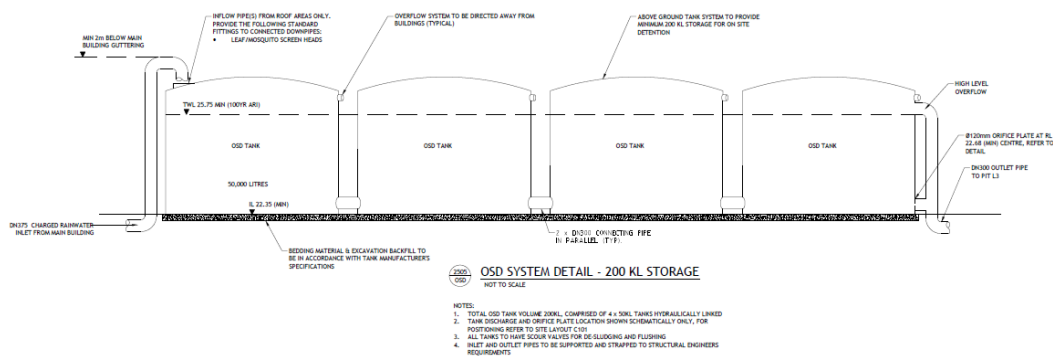


Figure 6.1: Preliminary OSD Arrangement for the Development Site

A summary diagram of the DRAINS model used to model the above parameters is shown in Figure 6.2.

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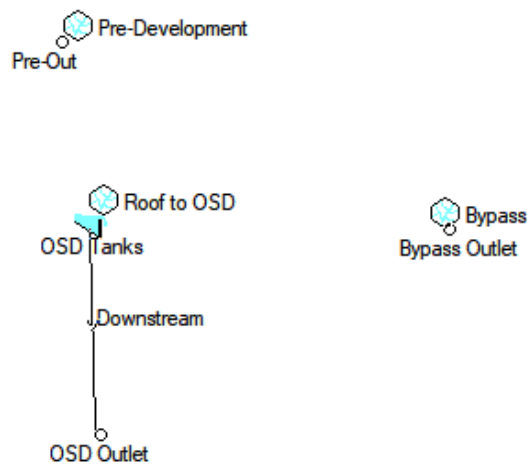


Figure 6.2: DRAINS Model Arrangement of the On-Site Detention System

A comparison of the pre-development and post-development critical outlet flows have been documented in Table 6.1 below. These results show that the post-development flows have been reduced to match the pre-development flows at a maximum in all rainfall events less frequent than the 0.5EY event.

Rainfall Event	Pre-Development Flow (L/s)	Post-Development Flow (L/s)
1EY	56	71
0.5EY	98	89
0.2EY	144	114
10%	197	132
5%	235	154
2%	274	183
1%	319	205

Table 6.1: Pre- and Post-Development Stormwater Discharge as Determined Using a DRAINS Model

7. Water Quality Analysis

7.1. General

The water quality for the site has been compared to the requirements of Penrith City Council's WSUD objectives as outlined in Section 3 which requires that the proposed development have pollutant load reductions as shown in Table 7.1.

To determine compliance with this requirement, a full analysis of the water quality of the stormwater discharge leaving the site was undertaken using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) software modelling package.

Pollutant	Percentage Reduction
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	60%
Total Nitrogen (TN)	45%
Gross Pollutants (GP)	90%

Table 7.1: Penrith City Council Pollutant Load Reduction Requirements

7.2. MUSIC Input Parameters

The input parameters representing the urban catchment areas across the site have been adopted from the default values required for Penrith City Council MUSICLink. The site has been divided into sub-catchments that drain into the various treatment nodes of the treatment train. Figure 7.1 and Table 7.2 provide an arrangement and summary of the input values used for source nodes in the MUSIC model of the existing system.

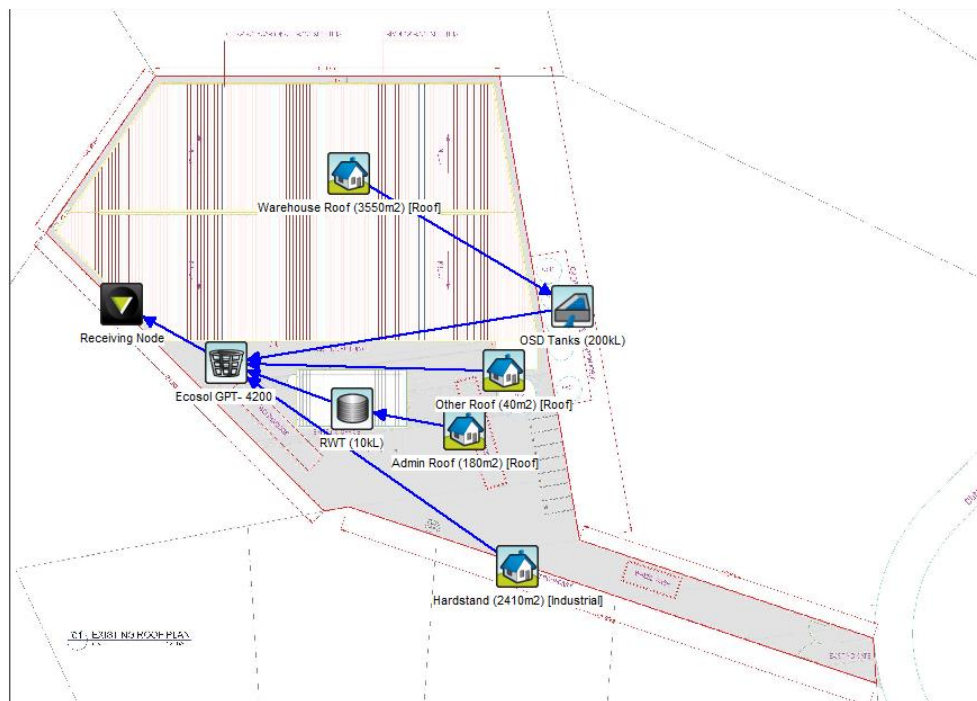


Figure 7.1: MUSIC Model Arrangement of the Treatment Train of the Existing Development

Data Type	Catchment Type		
	Roof Area	Hardstand Area	Landscaped Area
Area Parameters			
Impervious Area (%)	100	100	0
Pervious Area (%)	0	0	100
Rainfall Runoff Parameters			
Rainfall Threshold (mm/day)	1.4	1.4	1.4
Soil Storage Capacity (mm)	105	105	105
Initial Storage (%)	30	30	30
Field Capacity (mm)	70	70	70
Infiltration Capacity Coefficient	150	150	150
Infiltration Capacity Exponent	3.5	3.5	3.5
Total Suspended Solids (log mg/L)			
Base Flow	Mean	-	1.200
	Std Dev	-	0.170
Storm Flow	Mean	1.300	2.150
	Std Dev	0.320	0.320
Total Phosphorus (log mg/L)			
Base Flow	Mean	-	-0.850
	Std Dev	-	0.190
Storm Flow	Mean	-0.890	-0.600
	Std Dev	0.250	0.250
Total Nitrogen (log mg/L)			
Base Flow	Mean	-	0.110
	Std Dev	-	0.120
Storm Flow	Mean	0.300	0.300
	Std Dev	0.190	0.190

Table 7.2: MUSIC Model Input Parameters

7.3. Analysis Results

The pollutant reduction results for the designed treatment train are summarised in Table 7.3

	Pollutants Generated (kg/yr)	Residual Pollutants (kg/yr)	% Reduction Target	% Reduction Achieved
Total Suspended Solids	333	60.4	85	81.8
Total Phosphorus	0.777	0.431	60	44.5
Total Nitrogen	8.09	5.9	45	27.0
Gross Pollutants	104	0.0148	90	100

Table 7.3: Existing Treatment Train Effectiveness as Reported by MUSIC Model

The above table demonstrates that the existing stormwater system does not meet the water quality requirements of Penrith City Council. The MUSICLink report for the existing stormwater system is included in Appendix G.

7.4. Wastewater Prevention

It is noted that some industrial processes on the site will produce dirty water. Existing measures to prevent dirty water from entering the stormwater system will remain in place under the new site use. No wet waste directly producing wastewater will be processed at the site. Excess water from dust suppression will remain inside the

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confines of the building and runoff is directed to internal pits connected to the sewer system. Grading of the internal surface and bunding adjacent to doors ensures no wastewater enters the stormwater system.

8. Flood Analysis

The development site is subject to the catchment areas of South Creek and Ropes Creek. Flood studies of the area have been conducted previously for a range of rainfall events. This section discusses the impacts of various flood events on the development site.

8.1. Main Stream Flooding from South Creek

Worley Parsons conducted an Updated South Creek Flood Study commissioned by Penrith City Council in 2015. The extents of various flood events indicate that the development site is not impacted by the 20-year, 100-year and 200-year flooding events of South Creek. In the Probable Maximum Flood, the area is expected to be inundated to 26.8 mAHD, which is approximately 4 m above the finished surface level of the existing development. Figure 9.1 below indicates the extent of floodwaters in the Probable Maximum Flood. The flood extent maps for the development are included in Appendix H.

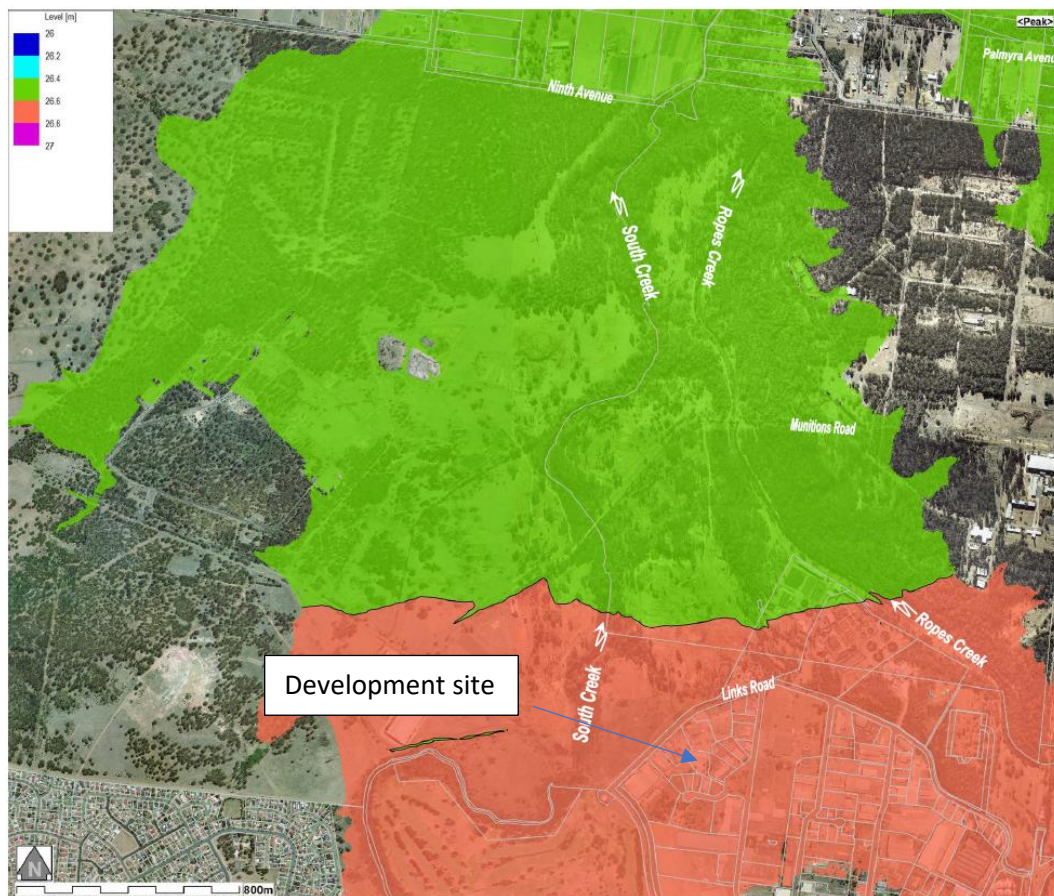


Figure 8.1: Extent of Flood Waters in the Probable Maximum Flood (Worley Parsons)

8.2. Overland Flooding

Cardno conducted an overland flow study in 2006 addressing the area surrounding the development site. An extract of the overland flow study shown in Figure 9.2 below shows that the development site is unaffected by overland flooding in the 20-year and 100-year flooding events but is affected during the PMF event.

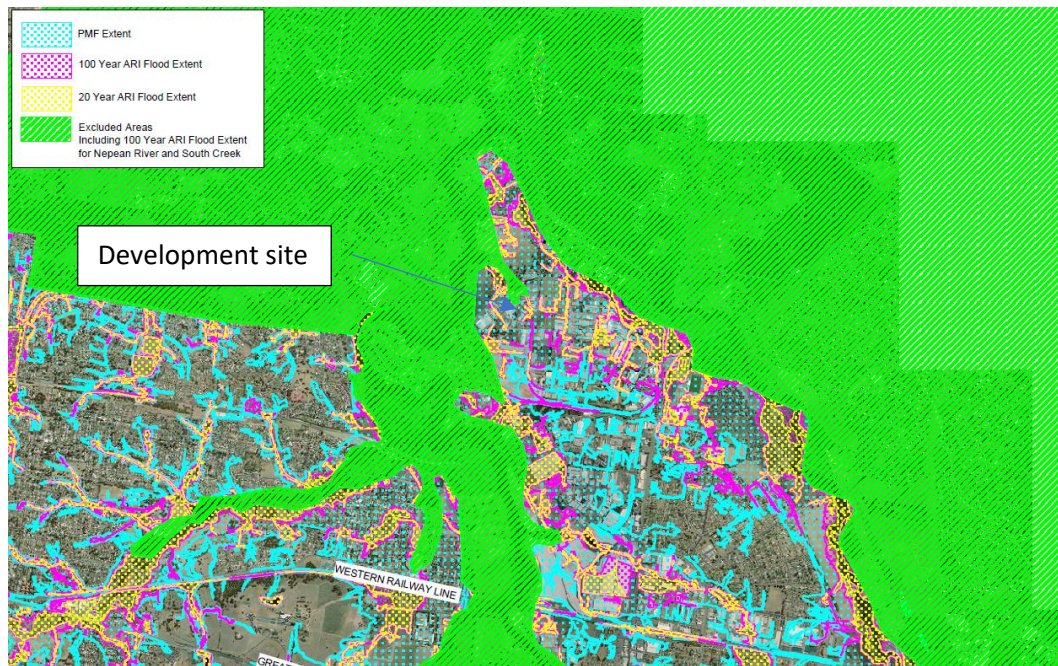


Figure 8.2: Extent of Flood Waters in Overland Flood Events (Cardno)

The development site is located outside the main stream and overland flooding extents for the 100-year ARI events. As such, a quantitative flood impact assessment is not required.

Appendix A: Stormwater Drainage Plans

- ALL PITS TO BE 600x600 400
- STEP IRONS TO BE PROVIDED WHERE PIT
- DEPTH EXCEEDS 900mm
- ALL STORMWATER INLET PITS TO
- HAVE 150mm DIA. (ENVIRONMENTAL OR
- SIMILAR) TO REMOVE COARSE SEDIMENT &
- LITTER
- HUMP/DIVERSION ON ENTRANCES TO BE
- CONSTRUCTED ON ALL INANCES TO THE
- MAIN BUILDING, REFER TO C103 FOR DETAIL
- ALL PITS LOCATED INTERNALLY WITHIN THE
- MAIN BUILDING TO HAVE LOCK DOWN
- WATERTIGHT LIDS
- WHERE POSSIBLE, DOWNPIPE STORMWATER
- LINES TO BE LOCATED EXTERNAL TO THE
- BUILDING
- RCP PIPES TO BE CLASS 3 UNDO
- TRAFFICABLE PITS TO BE IN ACCORDANCE
- WITH A53100.5
- ACCESS COVERS AND GRATES TO BE IN
- ACCORDANCE WITH A53100.5
- LOCATIONS OF SERVICES MUST BE
- CONFIRMED ON SITE PRIOR TO
- COMMENCEMENT OF EXCAVATION WORKS.
- ALL STORMWATER DRAINAGE PIPES AND
- ASSOCIATED DEVICES ARE TO BE INSTALLED
- IN ACCORDANCE A533000 AND A53725
- STORMWATER LINES TO HAVE MINIMUM
- 450mm COVER NOT UNDER PAVEMENTS AND
- 100mm COVER FROM UNDERSIDE OF
- PAVEMENTS UNDO.
- ALL INVERT LEVELS PROVIDED IN THIS
- DESIGN ARE REDUCED TO AHD AND BASED
- ON INTERPOLATED SURFACE LEVELS
- ALL PIPE AND CONDUITS TO BE MARKED IN
- ACCORDANCE WITH A51346 - 1995.
- TRENCHES AND SERVICE SEPARATIONS IN
- ACCORDANCE WITH A51346.5 5801, A5125
- AND A51346.5 5801.
- THIS DESIGN ASSUMES THAT THE APRON
- SLAB STRUCTURAL DESIGN WILL FULLY
- BRIDGE THE PVC STORMWATER LINES SO
- THEY ARE NOT SUBJECTED TO TRAFFIC
- LOADS, IN THE CASE THAT THE PIPES ARE
- LOADED, THE PIPES SHALL BE CLASS D
- REINFORCED CONCRETE PIPES.

[illegible]

This technical drawing illustrates a cross-section of a bridge structure. Key features include:

- Structural Elements:** A central pier supports two spans. The left span has a length of 88.01 units, and the right span has a length of 78.51 units.
- Elevation Points:** Several points are marked with elevations: RL 21.90 at the base of the piers, RL 22.08 at the top of the abutment, and RL 22.22 at the top of the pier.
- Boundary and Swale Lines:** A "BOUNDARY LINE" runs along the top of the embankment on the left. A "SWALE" is indicated below it.
- Stationing:** The drawing includes stationing information: "STATION 67+00.00" and "STATION 67+00.00".
- Other Labels:** "PT. A1" marks a specific point on the left side, and "RL 21.90" is repeated near the base of the structure.

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Do not scale of this drawing. This
in conjunction with a specification,
only and are to be checked prior to
Position of Authorities mains and/
be checked prior to commencement
discrepancies to the Architect for
before proceeding with the work.
specifications and the copyright to
of MCP Building & Infrastructure
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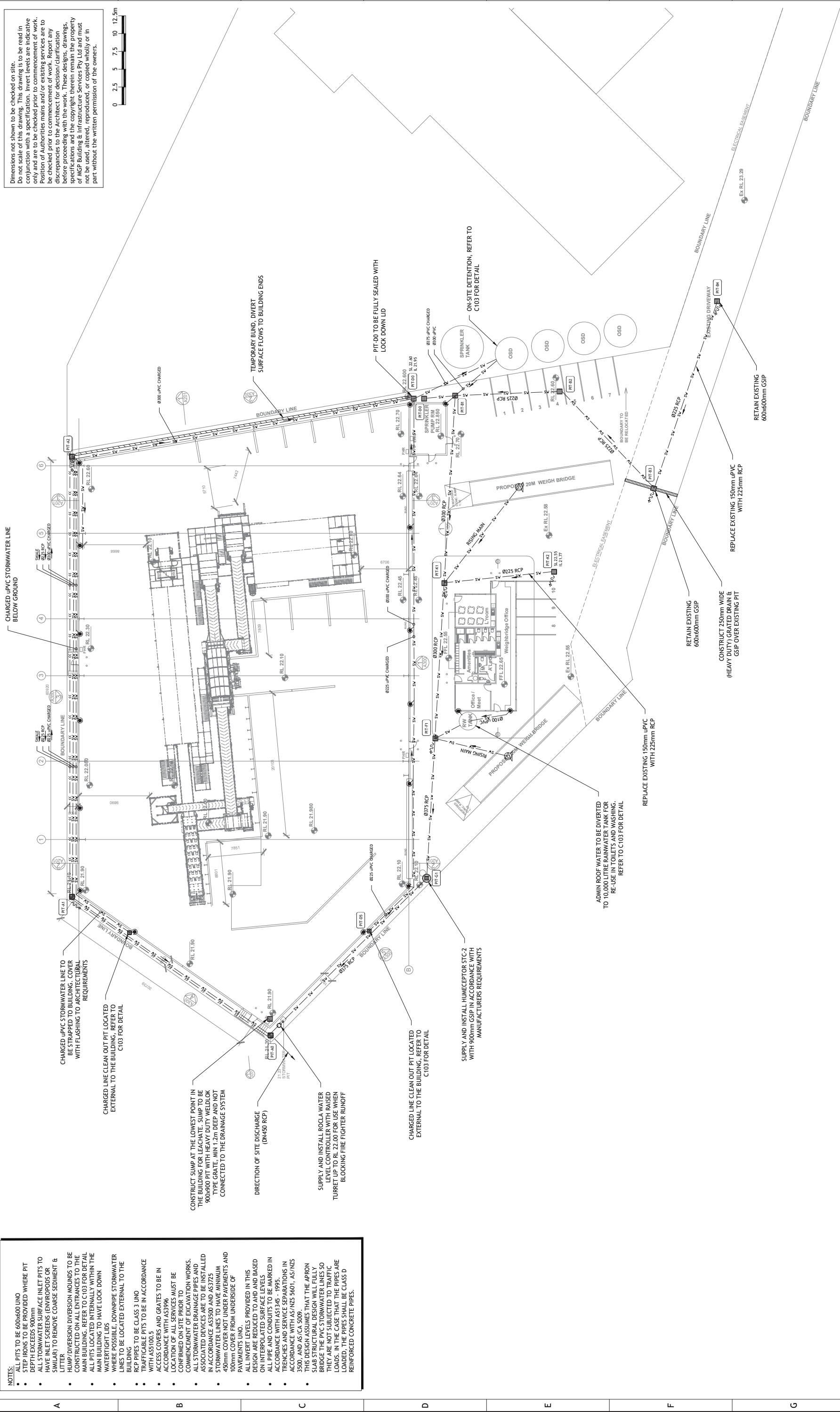
TEMPORARY BLIND, DIVERT
SURFACE FLOWS TO BUILDING ENDS

on site.

Drawing is to be read in
vert levels are indicative
existing services are to
of work. Report any
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these designs, drawings,
rein remain the property
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Appendix B: Planning Secretary's Environmental Assessment Requirements

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

Application Number	SSD-10474
Project Name	St Marys Resource Recovery Facility (Borg)
Development	The increase in throughput for an existing resource recovery facility to process up to 150,000 tonnes per annum (tpa) of general solid waste (non-putrescible) consisting of 110,000 tpa of wood waste, 30,000 tpa of plasterboard and 10,000 tpa of metal waste with a maximum storage capacity of up to 5,000 tonnes at any given time.
Location	25 Dunheved Circuit, St Marys; Lot 143 DP 1013185 within Penrith Local Government Area
Applicant	Borg Manufacturing Pty Limited
Date of Issue	DATEWILLBEINSERTEDHERE
General Requirements	<p>The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation). In addition, the EIS must include:</p> <ul style="list-style-type: none"> • a detailed description of the development, including: <ul style="list-style-type: none"> – an accurate history of the site, including development consents – the need for the proposed development – justification for the proposed development – likely staging of the development – likely interactions between the development and existing, approved and proposed operations in the vicinity of the site – plans of any proposed building works – contributions required to offset the proposal and – infrastructure upgrades or items required to facilitate the development, including measures to ensure these upgrades are appropriately maintained. • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments • consideration of issues discussed in Attachment 2 (public authority responses to key issues) • a risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment • a detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: <ul style="list-style-type: none"> – a description of the existing environment, using sufficient baseline data – an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes and – a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment • a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.

	<p>The EIS must also be accompanied by:</p> <ul style="list-style-type: none"> • high quality files of maps and figures of the subject site and proposal • a report from a qualified quantity surveyor providing: <ul style="list-style-type: none"> – a detailed calculation of the capital investment value (CIV) of the proposal (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate the applicable GST component of the CIV – an estimate of the jobs that will be created by the development during the construction and operational phases of the proposed development and – certification that the information provided is accurate at the date of preparation.
<p>Key issues</p>	<p>The EIS must include an assessment of the potential impacts of the proposal (including cumulative impacts) and develop appropriate measures to avoid, mitigate, manage and/or offset these impacts. The EIS must address the following specific matters:</p> <ul style="list-style-type: none"> • Statutory and strategic context – including: <ul style="list-style-type: none"> – detailed justification for the proposal and the suitability of the site – detailed justification that the proposed land use is permissible with consent – a detailed description of the history of the site, including the relationship between the proposed development and all development consents and approved plans previously and/or currently applicable to the site – demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted management plans and justification for any inconsistencies. This includes, but is not limited to: <ul style="list-style-type: none"> ○ State Environmental Planning Policy (Infrastructure) 2007 ○ State Environmental Planning Policy (State and Regional Development) 2011 ○ State Environmental Planning Policy No 55 – Remediation of Land ○ Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997) ○ Penrith Local Environmental Plan 2010 ○ Greater Sydney Region Plan: A Metropolis of Three Cities ○ Our Greater Sydney 2056: Central City District Plan ○ Future Transport Strategy 2056. • Suitability of the Site – including: <ul style="list-style-type: none"> – a detailed justification that the site can accommodate the proposed resource recovery facility, having regard to the scope of the operations of the existing facility and its environmental impacts and relevant mitigation measures. • Community and Stakeholder Engagement – including: <ul style="list-style-type: none"> – a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach – a report on the results of the implementation of the strategy including issues raised by the community and surrounding owners and occupiers that may be impacted by the proposal – details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal and – details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.

	<ul style="list-style-type: none"> • Waste Management – including: <ul style="list-style-type: none"> – a description of each of the waste streams that would be accepted at the site including maximum daily, weekly and annual throughputs and the maximum size for stockpiles – details of the source of the waste streams to justify the need for the proposed processing capacity – a description of waste processing operations (including flow diagrams for each waste stream), including a description of the technology to be installed, resource outputs and the quality control measures that would be implemented – details of how waste would be stored (including the maximum daily storage capacity of the site) and handled on site, and transported to and from the site including details of how the receipt of non-conforming waste would be dealt with – detail the developments waste tracking system for incoming and outgoing waste – detail the quality of waste produced and final dispatch locations – details of the waste management strategy for construction and ongoing operational waste generated – the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 and – details of consistency with the EPA's Standards for Managing Construction Waste in NSW. • Air Quality and Odour – including: <ul style="list-style-type: none"> – a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines – the details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings and – details of proposed mitigation, management and monitoring measures. • Soils and Water – including: <ul style="list-style-type: none"> – an assessment of potential surface and groundwater impacts associated with the development, including potential impacts on watercourses, riparian areas, groundwater, and groundwater-dependent communities nearby – a detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements – details of stormwater/wastewater management system including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water – description of the measures to minimise water use – detailed flooding assessment – description of the proposed erosion and sediment controls during construction – characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters and monitoring activities and methodologies) and – characterisation of the nature and extent of any contamination on the site and surrounding area. • Noise and Vibration – including: <ul style="list-style-type: none"> – a quantitative noise and vibration impact assessment undertaken by a suitably qualified person in accordance with the relevant Environment Protection Authority guidelines and including an assessment of nearby sensitive receivers – cumulative impacts of other developments and
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	<ul style="list-style-type: none"> – details and justification of the proposed noise mitigation, management and monitoring measures. • Traffic and Transport – including: <ul style="list-style-type: none"> – details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access / haul routes. Traffic flows are to be shown diagrammatically to a level of sufficient detail for easy interpretation – an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model – plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network – details and plans of any proposed internal road network, loading dock servicing and provisions, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards – swept path diagrams depicting the largest vehicles entering, exiting and manoeuvring throughout the site and – details of road upgrades, infrastructure works or new roads or access points required for the development if necessary. • Fire and Incident Management – including: <ul style="list-style-type: none"> – identification of the aggregate quantities of combustible waste products to be stockpiled at any one time – technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and containment measures – details regarding the fire hydrant system and its minimum water supply capabilities appropriate to the site's largest stockpile fire load – details of size and volume of stockpiles and their management and separation to minimise fire spread and facilitate emergency vehicle access – demonstration of consistency with the NSW Fire & Rescue Fire Safety Guideline – Fire Safety in Waste Facilities (February 2020) and – detailed information relating to the proposed structures addressing relevant levels of compliance with Volume One of the National Construction Code (NCC). • Ecologically sustainable development – including a description of how the development will incorporate the principles of ecologically sustainable development in the design, construction and ongoing operation of the development. • Hazards and Risk – including a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). • Visual – including an assessment of the potential visual impacts of the development on the amenity of the surrounding area. • Greenhouse gas and energy efficiency –including an assessment of the energy use of the proposal and all reasonable and feasible measures that would be implemented on site to minimise the proposal's greenhouse gas emissions. • Cultural Heritage and Aboriginal Cultural Heritage – including an assessment of Aboriginal cultural heritage values that satisfies the due diligence requirement of the <i>National Parks and Wildlife Act 1974</i>.
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	<ul style="list-style-type: none"> • Planning agreement/development contributions – including consideration of any applicable Section 7.11 Contribution Plan and/or details of any Voluntary Planning Agreement.
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. These documents should be included as part of the EIS rather than as separate documents.
Consultation	<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and potentially affected landowners. In particular you must consult with:</p> <ul style="list-style-type: none"> • Penrith City Council • Department of Planning, Industry and Environment, specifically the: <ul style="list-style-type: none"> ◦ Environment, Energy and Science Group (including the Climate Change and Sustainability Division) ◦ Water Group • Environment Protection Authority • Fire and Rescue NSW • Transport for NSW (including the former Roads and Maritime Services) • Sydney Water <p>The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>
Further consultation after 2 years	If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Planning Secretary in relation to the preparation of the EIS.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.

ATTACHMENT 1

Technical and Policy Guidelines

The following guidelines may assist in the preparation of the environmental impact statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:

<http://www.planning.nsw.gov.au>

<http://www.shop.nsw.gov.au/index.jsp>

<http://www.australia.gov.au/publications>

<http://www.epa.nsw.gov.au/>

<http://www.environment.nsw.gov.au/>

<http://www.dpi.nsw.gov.au/>

Plans and Documents

The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.

In addition, the EIS must include the following:

1. An existing site survey plan drawn at an appropriate scale illustrating:
 - the location of the land, boundary measurements, area (sqm) and north point
 - the existing levels of the land in relation to buildings and roads
 - location and height of existing structures on the site
 - location and height of adjacent buildings and private open space
 - all levels to be to Australian Height Datum (AHD).
2. Locality/context plan drawn at an appropriate scale should be submitted indicating:
 - significant local features such as heritage items
 - the location and uses of existing buildings, shopping and employment areas
 - traffic and road patterns, pedestrian routes and public transport nodes.
3. Drawings at an appropriate scale illustrating:
 - detailed plans, sections and elevations of the existing building, which clearly show all proposed buildings
 - detailed plans of proposed access driveways, internal roads, carparking and external alterations services infrastructure.
4. Schedule of materials, colours and additions. finishes.

Documents to be Submitted

Documents to submit include:

- electronic copy of all the documents and plans for review prior to exhibition
- other copies as determined by the Department once the development application is lodged.

Policies, Guidelines & Plans

Aspect	Policy / Methodology
Traffic, Transport and Access	
	Roads Act 1993
	State Environmental Planning Policy (Infrastructure) 2007
	Guide to Traffic Generating Development (RTA, 2002 as updated)
	Road Design Guide (RMS, 2015-2017)
	Guide to Traffic Management – Pt 12: Traffic Impacts of Development (Austroads, 2016)
	Guidelines for Planning and Assessment of Road Freight Access in Industrial Areas (Austroads, 2014)
	Bicycle Parking Facilities: Guidelines for Design and Installation (AS 2890.3:2015)
	Integrated Public Transport Service Planning Guidelines: Sydney Metropolitan Area (TfNSW, 2013)
	Future Transport Strategy 2056 (TfNSW, 2018)
	Greater Sydney Services and Infrastructure Plan (TfNSW, 2018)
	NSW Freight & Ports Plan 2018-2023 (TfNSW, 2018)
Soils and Water	
<i>Erosion and Sediment</i>	Managing Urban Stormwater: Soils & Construction (Landcom, 2004)
	Soil and Landscape Issues in Environmental Impact Assessment (DLWC, 2000)
	Wind Erosion – 2nd Edition (DIPNR, 2003)
<i>Groundwater</i>	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC, 2000)
	NSW State Groundwater Policy Framework Document (DLWC, 1997)
	NSW Aquifer Interference Policy (NOW, 2012)
	Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources (NOW, 2011)
	Storing and Handling Liquids: Environmental Protection (DECC, 2007)
<i>Stormwater</i>	Managing Urban Stormwater: Strategic Framework. Draft (EPA, 1996)
	Managing Urban Stormwater: Council Handbook. Draft (EPA, 1997)
	Managing Urban Stormwater: Treatment Techniques (DEC, 2006)
	Managing Urban Stormwater: Source Control. Draft (EPA, 1998)
	Managing Urban Stormwater: Harvesting and Reuse (DEC, 2006)
<i>Wastewater</i>	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC, 1997)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC, 2000)
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (EPHC, NRMCC & AHMC, 2006)

Policies, Guidelines & Plans

Aspect	Policy / Methodology
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) (EPHC, NRMMC & AHMC, 2009)
<i>Contamination</i>	State Environmental Planning Policy No. 55 – Remediation of Land
Hazards and Risk	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DoP, 2011)
Heritage	
	Heritage Act 1977
	NSW Heritage Manual (HO and DUAP, 1996)
	The Burra Charter (ICOMOS Australia, 2013)
	Statements of Heritage Impact (HO and DUAP, 2002)
	Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)
	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010)
Noise and Vibration	
	Assessing Vibration: A Technical Guide (DEC, 2006)
	Noise Policy for Industry (EPA, 2017)
	Environmental Criteria for Road Traffic Noise (EPA, 1999)
	Noise Guide for Local Government (EPA, 2013)
	Interim Construction Noise Guideline (DECC, 2009)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002
<i>Air Quality</i>	Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)
	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
<i>Odour</i>	Assessment and Management of Odour from Stationary Sources in NSW (DEC 2006)
<i>Greenhouse Gas</i>	AGO Factors and Methods Workbook (AGO, 2018)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Bushfire	
	Planning for Bushfire Protection (RFS, 2006)

Policies, Guidelines & Plans

Aspect	Policy / Methodology
Waste	<p>Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA)</p> <p>The National Waste Policy: Less Waste More Resources 2009</p> <p>Waste Classification Guidelines (EPA 2008)</p> <p>Environmental guidelines: Composting and Related Organics Processing Facilities (DEC 2004)</p> <p>Environmental guidelines: Use and Disposal of Biosolid Products (EPA 1997)</p> <p>Composts, soil conditioners and mulches (Standards Australia, AS 4454)</p> <p>NSW Energy from Waste Policy Statement (EPA 2015)</p> <p>Standards for Managing Construction Waste in NSW (EPA 2018)</p>
Visual	<p>Control of Obtrusive Effects of Outdoor Lighting (AS 2482)</p>
Social	<p>Social Impact Assessment Guideline (DPE, 2017)</p>

ECLIPSE

Appendix C: NSW Environment Protection Authority Input on Planning Secretary's Environmental Assessment Requirements



DOC20/512671-1

Ms Susan Fox
Industry Assessments
Department of Planning, Industry and Environment
PARRAMATTA NSW 2124

Via Major Projects Portal

Dear Ms Fox,

**Request for input to the Secretary's Environmental Assessment Requirements (SEARs)
St Marys Resource Recovery Facility (Borg) (SSD-10474) (Penrith)**

I refer to the request for the NSW Environment Protection Authority's (EPA) input to the Secretary's Environmental Assessment Requirements (SEARs) for a Resource Recovery Facility at 25 Dunheved Circuit St Marys (SSD-10474).

The EPA understands the applicant seeks consent for development comprising:

- Resource Recovery Facility with throughput of 150,000 tonnes per annum, consisting of 110,000 tonnes wood/timber waste and 30,000 tonnes of plasterboard.

Based on the information provided, the proposal may require an environment protection licence (EPL) under the *Protection of the Environment (Operations) Act 1997* (POEO Act). The EPA recommends the proponent reviews the relevant thresholds under the POEO Act and considers whether the activities meet the requirements for an EPL, including, but not limited to:

- Clause 34 of Schedule 1 of the POEO Act - *recovery of general waste*, meaning the receiving of waste (other than hazardous waste, restricted solid waste, liquid waste or special waste) from off site and its processing, otherwise than for the recovery of energy.
- Clause 41 of Schedule 1 of the POEO Act - *non-thermal treatment of general waste*, meaning the receiving of waste (other than hazardous waste, restricted solid waste, liquid waste or special waste) from off site and its processing otherwise than by thermal treatment.
- Clause 42(1) of Schedule 1 of the POEO Act - *waste storage*, meaning the receiving from off site and storing (including storage for transfer) of waste.

The EPA has provided recommendations for SEARs that should be considered in relation to the proposal. Please see **Attachment A** for details.

If you have any questions in relation to this letter, please contact Mr Jarrod Grimston on 9895 6602 or via email at Jarrod.Grimston@epa.nsw.gov.au

Phone 131 555
Phone 02 9995 5555
(from outside NSW)

TTY 133 677, then
ask for 131 155

Locked Bag 5022
PARRAMATTA
NSW 2124

4 Parramatta Square
12 Darcy Street
PARRAMATTA NSW
2150

info@epa.nsw.gov.au
www.epa.nsw.gov.au
ABN 43 692 285 758

Yours sincerely

A handwritten signature in dark ink, appearing to read 'L Borysko', with a stylized, cursive script.

8 July 2020

Larissa Borysko
A/Unit Head, Regulatory Operations Metropolitan West
Environment Protection Authority

Attachment A – EPA Recommendations for SEARs for Resource Recovery Facility at 25 Dunheved Circuit St Marys

ATTACHMENT A

EPA recommendations for SEARS for Resource Recovery Facility at 25 Dunheved Circuit St Marys

Environment Protection Licence

Based on the information provided, the proposal may require an environment protection licence (EPL) under the *Protection of the Environment (Operations) Act 1997* (POEO Act). The EPA recommends the proponent reviews the relevant thresholds under the POEO Act and considers whether the activities meet any of the requirements for an EPL. If the development is approved a licence application must be submitted to the EPA.

Appendix 1 of the EPA's *Guide to licensing under the Protection of the Environment Operations Act 1997* (EPA, 2016) provides a list of matters that must be considered when submitting a licence application to the EPA. An Environmental Impact Statement (EIS) should be prepared to include all the relevant matters listed in Appendix 1 of the Guide to licensing.

The Guide to licensing is available on the EPA's website at <https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/guide-to-licensing>

Noise

The EIS should include a Noise Impact Assessment (NIA) that takes into consideration the impacts of construction and operational noise for the life of the proposal. The NIA should be prepared in accordance with the following documents:

- *Noise Policy for Industry* (EPA, 2017);
- *Interim Construction Noise Guideline* (EPA, 2009); and
- *Assessing Vibration: a technical guideline* (EPA, 2006).

Water

In general, development should maintain or restore the community's uses and values of waterways, including human and environmental health, through the achievement of relevant NSW Water Quality Objectives (WQO). The Environmental Impact Statement (EIS) should provide the following for the construction and operational phases of the proposal:

- Provide an assessment of any potential impacts of the proposal on the surface and groundwater of the area, with particular focus on water quality and the community's agreed environmental values and human uses for relevant watercourses (the NSW WQO).
- Provide a Stormwater Management Plan that outlines the general stormwater management measures for the proposal, including erosion and sediment controls, first flush systems, and the use of sustainability measures such as Water Sensitive Urban Design to create more resilient and adaptable urban environments.
- Outline opportunities for the use of integrated water cycle management practices and principles to optimise opportunities for sustainable water supply, wastewater and stormwater management across the proposal.
- Provide details of any potential discharge of pollutants to water, including fugitive discharges such as fuel or oil leaks. The EIS should take into consideration the characteristics and hydrology of the receiving waters and provide details of how any potential water pollution caused by the proposal will be prevented or mitigated.

The EPA would expect that the building(s) be constructed to exclude all stormwater and that internal surfaces be graded inwards to contain any contaminated water (being any water that has come into contact with waste). The EPA notes that even where all waste storage and processing is conducted within an enclosed building, waste may be tracked on to external surfaces leading to the generation of contaminated water. Any external areas where waste vehicles travel or wait for loading/unloading must drain to a stormwater quality treatment device sufficient to remove any contaminants, both solid and dissolved, prior to discharge offsite.

Polluted Water

The EPA considers that polluted water means any water that has come into contact with waste.

Water which has come into contact with waste may become polluted with:

- gross pollutants;
- nutrients;
- organic matter;
- sediment;
- oil and grease; and/or
- dissolved contaminants / toxicants.

Polluted water may also refer to water that has come into contact with fuel or other chemicals. It is considered best practice to ensure that no polluted water is discharged from the Premises. However, discharge of polluted water should generally only be considered after other options have been shown to not be viable or to deliver less satisfactory environmental outcomes overall. The EPA only specifies pollutants on a licence where their discharge in all practical terms is unavoidable and measures to control the pollutants and their impacts can be feasibly implemented.

A licensee must demonstrate that it has considered all reasonable options for the prevention of pollution before the EPA will consider placing a discharge point on a licence.

Air Quality

The EIS for the proposal should include an Air Quality Impact Assessment (AQIA), prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2016*. The AQIA should include:

- Sources of all potential air emissions from the site, including vehicle movements, during construction and operation;
- Identification of sensitive receivers potentially impacted by air emissions during construction and operation;
- Assessment of potential impacts on identified sensitive receivers; and
- Details of air quality management and monitoring procedures proposed to minimise any impacts to the environment and human health during construction and operation.
- The AQIA should consider the proposals potential to produce odour and/or dust and the controls that will be put in place to reduce these impacts.

Wheel wash

Best practice waste management facilities contain a wheel wash to reduce risk of contaminants being tracked out onto public roads. The EPA notes that the Preliminary Environmental Assessment Report includes a plan that contains reference to a wheel wash for the site. The Proponent should set out in the EIS whether a wheel wash will be installed and if not, justification as to why a wheel wash will not be installed.

Waste Management

The EIS must include a detailed assessment of the waste management processes to be undertaken at the Premises. This includes but is not limited to:

- details of the sources of waste to be received at the Premises;
- details of the types and quantities of each type of waste to be received at the Premises;
- details of the maximum volume of waste to be stored on the Premises at any one time;
- details of the maximum annual throughput of waste to be processed at the Premises;
- a description of waste processing procedures for each waste type;
- a description of how the proponent will meet the EPA's record keeping and reporting requirements, including weighing material in and out of the Premises (refer to the EPA's Waste Levy Guidelines for more information – available at <http://www.epa.nsw.gov.au/your-environment/waste/waste-levy>);
- a detailed site plan(s) identifying areas for:
 - haulage;
 - waste receipt, processing, storage and loading (for each waste type)
 - quarantine;
 - infrastructure for environmental controls including dust, noise, water and wheel wash;
 - weighbridge;
 - site boundaries;
 - stormwater drainage areas; and
 - unused stabilised areas;
- details of the type and quantities of materials to be produced and their intended fate;
- details of any materials produced under a Resource Recovery Order, and the controls in place for meeting the conditions of that order;
- a description of procedures for dealing with non-conforming waste (i.e. waste not permitted to be received at the Premises).

Management of Dangerous Goods and Hazardous Materials

The EIS must provide details of the following for the construction and operational phase:

- Details of the type and quantity of all chemical substances to be used or stored on site; and
- Procedures for the classification, assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of as part of the proposal, in addition to the requirements for liquid and non-liquid wastes.

Incident Risks and Contingency Practices

The EIS must include a comprehensive assessment of the potential for an incident to occur at any stage of the proposal, the measures to be used to minimise the risk of incidents, and the procedures to be employed in the event of an incident.

Activities inside the Building

The EPA would like to reiterate that it will be a condition of any environment protection licence issued that all storage, processing, sorting, unloading and loading occur inside the building.

Changes to the Protection of the Environment Operations (Waste) Regulation

The Applicant should be aware that changes to the *Protection of the Environment Operations (Waste) Regulation* commenced on 16 November 2018, which legislates "Standards for managing construction waste in NSW" (<https://www.epa.nsw.gov.au/publications/managewaste/18p1270-standards-for-managing-construction-waste-in-nsw>). These standards must be complied with from 16 May 2019, regardless of when approval was given for the facility. The EPA encourages the

Proponent to be fully aware of these legislative requirements and ensure their operations are compliant.

Authorised amount and financial assurance

It should also be noted that there are several requirements for holders of environment protection licenses, including a limit on the maximum amount of waste permitted onsite at any one-time, monthly recording and reporting and provision of a financial assurance. The EPA would discuss these matters further if the proposal is approved and a licence application is submitted to the EPA.

This concludes the EPA's submission

Appendix D: Penrith Council Input on Planning Secretary's Environmental Assessment Requirements



Our reference: ECM: 9194843
Contact: Gavin Cherry
Telephone: 02 4732 8125

7 July 2020

Susan Fox
Email: Susan.fox@planning.nsw.gov.au

Dear Susan,

Response to Request for input into the Secretary's Environmental Assessment Requirements (SEARS) for St Marys Resource Recovery at 25 Dunheved Circuit, St Marys

I refer to the above request for SEAR's received by Council on 25 June 2020. Thankyou for the opportunity to comment on the proposed development. The following comments are provided for consideration and inclusion in the SEAR's response:-

Environmental Management Considerations

The proposal seeks to increase the processing capacity of the current resource recovery facility to 250 000 tonnes per annum of wood waste, metals and cardboard, with minor construction works also included. The activities carried out on site will be subject to an Environment Protection Licence (EPL) issued by the NSW Environment Protection Authority (EPA), as the development is considered a scheduled activity. In turn, the EPA is the regulatory body for environmental impacts associated with the use of the site and it is assumed that they will also provide comment on the proposal.

Nevertheless, the EIS prepared to support the state significant development application should provide a detailed and comprehensive description of the proposal. All environmental impacts of the proposal will need to be identified in the EIS and supported by technical assessment reports prepared by appropriately qualified persons and in accordance with applicable legislation, guidelines and standards. For this proposal, detailed information regarding how waste will be received, stored and processed is to be provided, and assessments of noise impacts, and impacts to local air quality are particularly important.

In carrying out the above required assessments, the applicant will need to identify all sensitive receivers. Though not yet constructed, it needs to be noted that Council has received an application for a town centre-type development in Jordan Springs East. The future residents of this development should be considered in any assessment relating to environmental impacts, such as potential noise and air quality impacts. These residents will be located less than one kilometre from the development site.

Also, it is important to acknowledge that SEPP 55 does require that the consent authority consider whether the site is suitable for the proposed use. Given that the current proposal does include hardstand works (though the extent is not known), it is considered that it would be an opportune time to ensure that the site is not contaminated prior to any further development. Should remediation works be required, development consent is to be obtained , as all remediation works in the



Penrith Local Government Area are considered Category 1 works as a result of SREP 20 (Clause 11(4)). In turn, should remediation works be necessary, they should be incorporated into the development proposal.

The SEAR's request also suggests that a BDAR waiver is intended to be sought. The appropriateness of this suggestion is a matter for the Department to consider and may warrant consultation with OEH, given any request for a waiver which suggests the mapping may not be appropriate is considered to warrant a review and amendment of the mapping, if it was deemed that there are no communities evident on site that warrants an assessment under the Biodiversity Offset Scheme.

Engineering and Traffic Management Considerations

Stormwater Drainage

The following is requested to be addressed in any state significant development application lodged for this site:-

- Demonstration that the existing on-site stormwater system is of adequate capacity and there will be no increase in stormwater runoff from the site as a result of this proposal.
- The applicant should be requested to demonstrate that there will be no increase in runoff from the site as a result of the development for all the storms up to and including the 1% AEP event.

Water Sensitive Urban Design

The application is required to address Council's Water Sensitive Urban Design Policy and Technical Guideline. Increase in impervious area may require the provision and implementation of a water sensitive urban design strategy that complies with Council's Technical Guideline.

Road Design and Car Parking / Access

It is noted that the applicant's submission in their "traffic" comments indicate that they do not consider that there will be any significant impact of their traffic on the road network and that they will address this in the EIS. The development however is a proposed expansion of the existing waste recovery business (previously Bingo) using the existing access and buildings. The resulting intensification of usage including heavy vehicle volumes and possibly types is a key consideration that is considered to warrant works to the road reserve to cater for the resulting impact. The existing access driveway, Dunheved Circuit and the roads in this industrial precinct are very narrow and congested but. They have been deemed acceptable for existing operations and intensity but the proposed expansion will warrant works to cater for the increased traffic generation. It is understood that this was a specific matter raised within a preceding SSD application for this site, which was suitably addressed by the applicant through the provision of proposed road works and kerb re-alignments. The SSD application was approved but did not eventuate.

The proposed development must therefore address the impact of the proposed heavy vehicle traffic on the existing access driveway and road network as well as the internal parking, manoeuvring and operational issues.

It is considered necessary that a detailed traffic and parking study be prepared and submitted by the applicant as part of the SSD application that addresses traffic volumes, frequency of movements, road capacity and infrastructure impacts and required civil works. This includes an analysis against the Australian Standards and Penrith DCP 2014. The report should also address the following:-

- Heavy vehicle traffic generation, access, and manoeuvring in the local road network, the site access and internal arrangements.
- The narrowness of Dunheved Circuit for the proposed heavy vehicle access
- Ongoing issues with heavy vehicle parking in the reserve area opposite the site
- Impact on traffic safety and congestion in Dunheved Circuit, intersection with Links Road, Links Road other inspections and including the intersection with Forester Road
- Consider and address the impact on traffic safety and congestion in Links Road which will increase due to current additional future traffic generated by the Lend Lease Central Precinct sub-division which will access Links Road
- Confirm the largest heavy vehicle proposed to access the site and these B-double turn or other heavy vehicle paths for entering / exiting (left in/ left out, right in/ right out) from their driveway into Dunheved Circuit loop and B-double turns (left in/left out, right in/right out) at Dunheved Circuit / Dunheved circuit loop (north leg and south leg) intersections. This will identify the road works required to accommodate this development and for which Council require the applicant to provide at their full cost.
- The applicant should then include suitable plans for works to accommodate these turns for assessment.
- Demonstration that all vehicles are to enter and leave the site in a forward direction;
- Demonstration that appropriate signage is to be installed to direct staff/delivery vehicle drivers/ visitors to on-site parking and delivery areas;
- Demonstration that signage which is clearly visible from the public road shall be directional signage and line marking shall be installed indicating directional movements and the location of loading areas and visitor/staff car parking to the satisfaction of the Principal Certifying Authority;
- Demonstration that all vehicle parking and manoeuvring must be in accordance with AS/NZS 2890.1:2004, AS/NZS 2890.1:2004/Amdt



1:2005, AS/NZS 2890.2:2002, AS 2890.3:1993, AS 2890.5:1993, AS 2890.6:2009 and Council's requirements. This includes vehicular access from Dunheved Circuit / Dunheved Circuit loop, access driveway and internal manoeuvring for a 4.6 metre high 26 metre long B-Double vehicle in accordance with Roads and Maritime Services guidelines, Austroads guidelines and AS2890.2:2002;

- Demonstration that all car spaces and loading areas are to be sealed/line marked and dedicated for the parking of vehicles only and not be used for storage of materials/products/waste materials etc;
- Demonstration that secure bicycle parking is to be provided at convenient locations at the facility in accordance with AS 2890.3:1993;
- Demonstration that accessible parking is to be provided at accessible paths of travel at the facility in accordance with AS 2890.6:2009;
- Demonstration that the required sight lines around the driveway entrances and exits are not to be compromised by street trees, landscaping or fencing;
- Demonstration that sight distance requirements at driveways are to be in accordance with AS 2890.1:2009.

Should you wish to discuss any matters further and allow for further dialogue as requested between officers, please do not hesitate to contact me on 4732 8125.

Yours sincerely,

Gavin Cherry
Development Assessment Coordinator

ECLIPSE

Appendix E: Antecedent Moisture Condition Summary Calculations

Product code	Bureau of Year	Month	Day	Rainfall Period (Quality)	Project No: 10113	25 Dunheved Circuit, St Marys										
IDCIAC0009	67084	1970	12	1	0	Y										
IDCIAC0009	67084	1970	12	2	0	Y										
IDCIAC0009	67084	1970	12	3	0	Y										
IDCIAC0009	67084	1970	12	4	0	Y										
IDCIAC0009	67084	1970	12	5	0	Y										
IDCIAC0009	67084	1970	12	6	5.3	1 Y										
IDCIAC0009	67084	1970	12	7	1.3	1 Y										
IDCIAC0009	67084	1970	12	8	9.7	1 Y										
IDCIAC0009	67084	1970	12	9	85.9	1 Y										
IDCIAC0009	67084	1970	12	10	28.7	1 Y										
IDCIAC0009	67084	1970	12	11	0	Y										
IDCIAC0009	67084	1970	12	12	13.7	1 Y										
IDCIAC0009	67084	1970	12	13	0	Y										
IDCIAC0009	67084	1970	12	14	0	Y										
IDCIAC0009	67084	1970	12	15	5.1	1 Y										
IDCIAC0009	67084	1970	12	16	0.5	1 Y										
IDCIAC0009	67084	1970	12	17	0	Y										
IDCIAC0009	67084	1970	12	18	0	Y										
IDCIAC0009	67084	1970	12	19	6.9	1 Y										
IDCIAC0009	67084	1970	12	20	0	Y										
IDCIAC0009	67084	1970	12	21	0	Y										
IDCIAC0009	67084	1970	12	22	0	Y										
IDCIAC0009	67084	1970	12	23	0	Y										
IDCIAC0009	67084	1970	12	24	7.9	1 Y										
IDCIAC0009	67084	1970	12	25	0.8	1 Y										
IDCIAC0009	67084	1970	12	26	0	Y										
IDCIAC0009	67084	1970	12	27	0	Y										
IDCIAC0009	67084	1970	12	28	2	1 Y										
IDCIAC0009	67084	1970	12	29	16.8	1 Y										
IDCIAC0009	67084	1970	12	30	19.1	1 Y										
IDCIAC0009	67084	1970	12	31	0	Y										
IDCIAC0009	67084	1971	1	1	0	Y										
IDCIAC0009	67084	1971	1	2	0	Y										
IDCIAC0009	67084	1971	1	3	0	Y										
IDCIAC0009	67084	1971	1	4	0	Y										
IDCIAC0009	67084	1971	1	5	2	1 Y										
IDCIAC0009	67084	1971	1	6	0	Y										
IDCIAC0009	67084	1971	1	7	0	Y										
IDCIAC0009	67084	1971	1	8	0	Y										
IDCIAC0009	67084	1971	1	9	0	Y										
IDCIAC0009	67084	1971	1	10	0	Y										
IDCIAC0009	67084	1971	1	11	0	Y										
IDCIAC0009	67084	1971	1	12	0	Y										
IDCIAC0009	67084	1971	1	13	1	1 Y										
IDCIAC0009	67084	1971	1	14	1.5	1 Y										
IDCIAC0009	67084	1971	1	15	0	Y										
IDCIAC0009	67084	1971	1	16	0	Y										
IDCIAC0009	67084	1971	1	17	13.2	1 Y										
IDCIAC0009	67084	1971	1	18	0.3	1 Y										
IDCIAC0009	67084	1971	1	19	0.3	1 Y										
IDCIAC0009	67084	1971	1	20	10.7	1 Y										
IDCIAC0009	67084	1971	1	21	0.5	1 Y										
IDCIAC0009	67084	1971	1	22	0	Y										
IDCIAC0009	67084	1971	1	23	0	Y										
IDCIAC0009	67084	1971	1	24	0	Y										
IDCIAC0009	67084	1971	1	25	0	Y										
IDCIAC0009	67084	1971	1	26	0	Y										
IDCIAC0009	67084	1971	1	27	0	Y										
IDCIAC0009	67084	1971	1	28	0	Y										
IDCIAC0009	67084	1971	1	29	25.1	1 Y										
IDCIAC0009	67084	1971	1	30	17.8	1 Y										
IDCIAC0009	67084	1971	1	31	23.6	1 Y										
IDCIAC0009	67084	1971	2	1	56.6	1 Y										
IDCIAC0009	67084	1971	2	2	3.8	1 Y										
IDCIAC0009	67084	1971	2	3	0	Y										
IDCIAC0009	67084	1971	2	4	7.6	1 Y										
IDCIAC0009	67084	1971	2	5	9.4	1 Y										
IDCIAC0009	67084	1971	2	6	0.8	1 Y										
IDCIAC0009	67084	1971	2	7	4.3	1 Y										
IDCIAC0009	67084	1971	2	8	0	Y										
IDCIAC0009	67084	1971	2	9	5.8	1 Y										
IDCIAC0009	67084	1971	2	10	0.5	1 Y										
IDCIAC0009	67084	1971	2	11	23.6	1 Y										
IDCIAC0009	67084	1971	2	12	0.5	1 Y										
IDCIAC0009	67084	1971	2	13	0	Y										
IDCIAC0009	67084	1971	2	14	0	Y										
IDCIAC0009	67084	1971	2	15	0	Y										
IDCIAC0009	67084	1971	2	16	0	Y										
IDCIAC0009	67084	1971	2	17	1.8	1 Y										
IDCIAC0009	67084	1971	2	18	11.2	1 Y										
IDCIAC0009	67084	1971	2	19	3	1 Y										
IDCIAC0009	67084	1971	2	20	2.8	1 Y										
IDCIAC0009	67084	1971	2	21	1.5	1 Y										
IDCIAC0009	67084	1971	2	22	0	Y										
IDCIAC0009	67084	1971	2	23	0	Y										
IDCIAC0009	67084	1971	2	24	4.3	1 Y										
IDCIAC0009	67084	1971	2	25	0.5	1 Y										
IDCIAC0009	67084	1971	2	26	0	Y										
IDCIAC0009	67084	1971	2	27	3	1 Y										
IDCIAC0009	67084	1971	2	28	0	Y										
IDCIAC0009	67084	1971	3	1	0	Y										
IDCIAC0009	67084	1971	3	2	0	Y										
IDCIAC0009	67084	1971	3	3	20.3	1 Y										
IDCIAC0009	67084	1971	3	4	1.5	1 Y										
IDCIAC0009	67084	1971	3	5	0	Y										
IDCIAC0009	67084	1971	3	6	1.5	1 Y										
IDCIAC0009	67084	1971	3	7	0	Y										
IDCIAC0009	67084	1971	3	8	8.6	1 Y										
IDCIAC0009	67084	1971	3	9	0.3	1 Y										
IDCIAC0009	67084	1971	3	10	0	Y										
IDCIAC0009	67084	1971	3	11	0	Y										
IDCIAC0009	67084	1971	3	12	0	Y										
IDCIAC0009	67084	1971	3	13	0	Y										

Appendix F: Water Balance Summary Calculations

Product code	Bureau of	Year	Month	Day	Rainfall	Period (Quality	Vol 10
IDCJAC0009	67084	1970	12	1	0	Y		0 ##
IDCJAC0009	67084	1970	12	2	0	Y		0 ##
IDCJAC0009	67084	1970	12	3	0	Y		0 ##
IDCJAC0009	67084	1970	12	4	0	Y		0 ##
IDCJAC0009	67084	1970	12	5	0	Y		0 ##
IDCJAC0009	67084	1970	12	6	5.3	1 Y		1 ##
IDCJAC0009	67084	1970	12	7	1.3	1 Y		0 ##
IDCJAC0009	67084	1970	12	8	9.7	1 Y		2 ##
IDCJAC0009	67084	1970	12	9	85.9	1 Y		19 ##
IDCJAC0009	67084	1970	12	10	28.7	1 Y		6 ##
IDCJAC0009	67084	1970	12	11	0	Y		0 ##
IDCJAC0009	67084	1970	12	12	13.7	1 Y		3 ##
IDCJAC0009	67084	1970	12	13	0	Y		0 ##
IDCJAC0009	67084	1970	12	14	0	Y		0 ##
IDCJAC0009	67084	1970	12	15	5.1	1 Y		1 ##
IDCJAC0009	67084	1970	12	16	0.5	1 Y		0 ##
IDCJAC0009	67084	1970	12	17	0	Y		0 ##
IDCJAC0009	67084	1970	12	18	0	Y		0 ##
IDCJAC0009	67084	1970	12	19	6.9	1 Y		1 ##
IDCJAC0009	67084	1970	12	20	0	Y		0 ##
IDCJAC0009	67084	1970	12	21	0	Y		0 ##
IDCJAC0009	67084	1970	12	22	0	Y		0 ##
IDCJAC0009	67084	1970	12	23	0	Y		0 ##
IDCJAC0009	67084	1970	12	24	7.9	1 Y		2 ##
IDCJAC0009	67084	1970	12	25	0.8	1 Y		0 ##
IDCJAC0009	67084	1970	12	26	0	Y		0 ##
IDCJAC0009	67084	1970	12	27	0	Y		0 ##
IDCJAC0009	67084	1970	12	28	2	1 Y		0 ##
IDCJAC0009	67084	1970	12	29	16.8	1 Y		4 ##
IDCJAC0009	67084	1970	12	30	19.1	1 Y		4 ##
IDCJAC0009	67084	1970	12	31	0	Y		0 ##
IDCJAC0009	67084	1971	1	1	0	Y		0 ##
IDCJAC0009	67084	1971	1	2	0	Y		0 ##
IDCJAC0009	67084	1971	1	3	0	Y		0 ##
IDCJAC0009	67084	1971	1	4	0	Y		0 ##
IDCJAC0009	67084	1971	1	5	2	1 Y		0 ##

Project No: **10113** **25 Dunheved Circuit, St Marys**

Rainwater Tank Volume: 10 kL
Rainwater Tank Catchment Area: 217 m2
Rainwater Tank Starting Volume: 100 %

Reuse for Toilets: 0.1 kL/day/toilet
Reuse for Landscaping: 0.4 kL/m2/year

No. Toilets: 3
Landscaping Area: 0 m2

Dust Suppression Average Flow: 0 L/minute
Dust Suppression Daily Use: 3.5 hours
Wheel Wash Daily Top Up: 300 L

Operational Days per Week: 7
Operational Hours per Work Day: 8

Reuse Demand: 0.60 kL/day

Demand Met 52.37 %



Appendix G: MUSICLink Report – Existing Site

MUSIC-link Report

Project Details		Company Details	
Project:	10113 - 21-25 Dunheved Cct, St Marys	Company:	ECLIPSE Consulting Engineers
Report Export Date:	13/05/2021	Contact:	Anthony Healey
Catchment Name:	10113 - 25 Dunheved Cct	Address:	305/12 Century Cct Norwest NSW 2153
Catchment Area:	0.626ha	Phone:	02 9894 8500
Impervious Area*:	100%	Email:	anthony@eclipseconsulting.com.au
Rainfall Station:	67113 PENRITH		
Modelling Time-step:	6 Minutes		
Modelling Period:	1/01/1999 - 31/12/2008 11:54:00 PM		
Mean Annual Rainfall:	691mm		
Evapotranspiration:	1158mm		
MUSIC Version:	6.3.0		
MUSIC-link data Version:	6.33		
Study Area:	Penrith		
Scenario:	Penrith Development		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node: Receiving Node	Reduction	Node Type	Number	Node Type	Number
Flow	2.57%	Detention Basin Node	1	Urban Source Node	4
TSS	81.8%	Rain Water Tank Node	1		
TP	44.5%	GPT Node	2		
TN	27%				
GP	100%				

Comments

MUSICLink report has been produced for examination of existing system only.

Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Detention	OSD Tanks (200kL)	Hi-flow bypass rate (cum/sec)	None	99	99
GPT	Ecosol GPT- 4200	Hi-flow bypass rate (cum/sec)	None	99	0.051
GPT	SPEL Stormsacks (6)	Hi-flow bypass rate (cum/sec)	None	99	0.066
Receiving	Receiving Node	% Load Reduction	None	None	2.57
Receiving	Receiving Node	GP % Load Reduction	90	None	100
Urban	Admin Roof (217m2)	Area Impervious (ha)	None	None	0.022
Urban	Admin Roof (217m2)	Area Pervious (ha)	None	None	0
Urban	Admin Roof (217m2)	Total Area (ha)	None	None	0.022
Urban	Hardstand	Area Impervious (ha)	None	None	0.247
Urban	Hardstand	Area Pervious (ha)	None	None	0
Urban	Hardstand	Total Area (ha)	None	None	0.247
Urban	Other Roof (40m2)	Area Impervious (ha)	None	None	0.004
Urban	Other Roof (40m2)	Area Pervious (ha)	None	None	0
Urban	Other Roof (40m2)	Total Area (ha)	None	None	0.004
Urban	Warehouse Roof (3525m2)	Area Impervious (ha)	None	None	0.353
Urban	Warehouse Roof (3525m2)	Area Pervious (ha)	None	None	0
Urban	Warehouse Roof (3525m2)	Total Area (ha)	None	None	0.353

Only certain parameters are reported when they pass validation

Failing Parameters

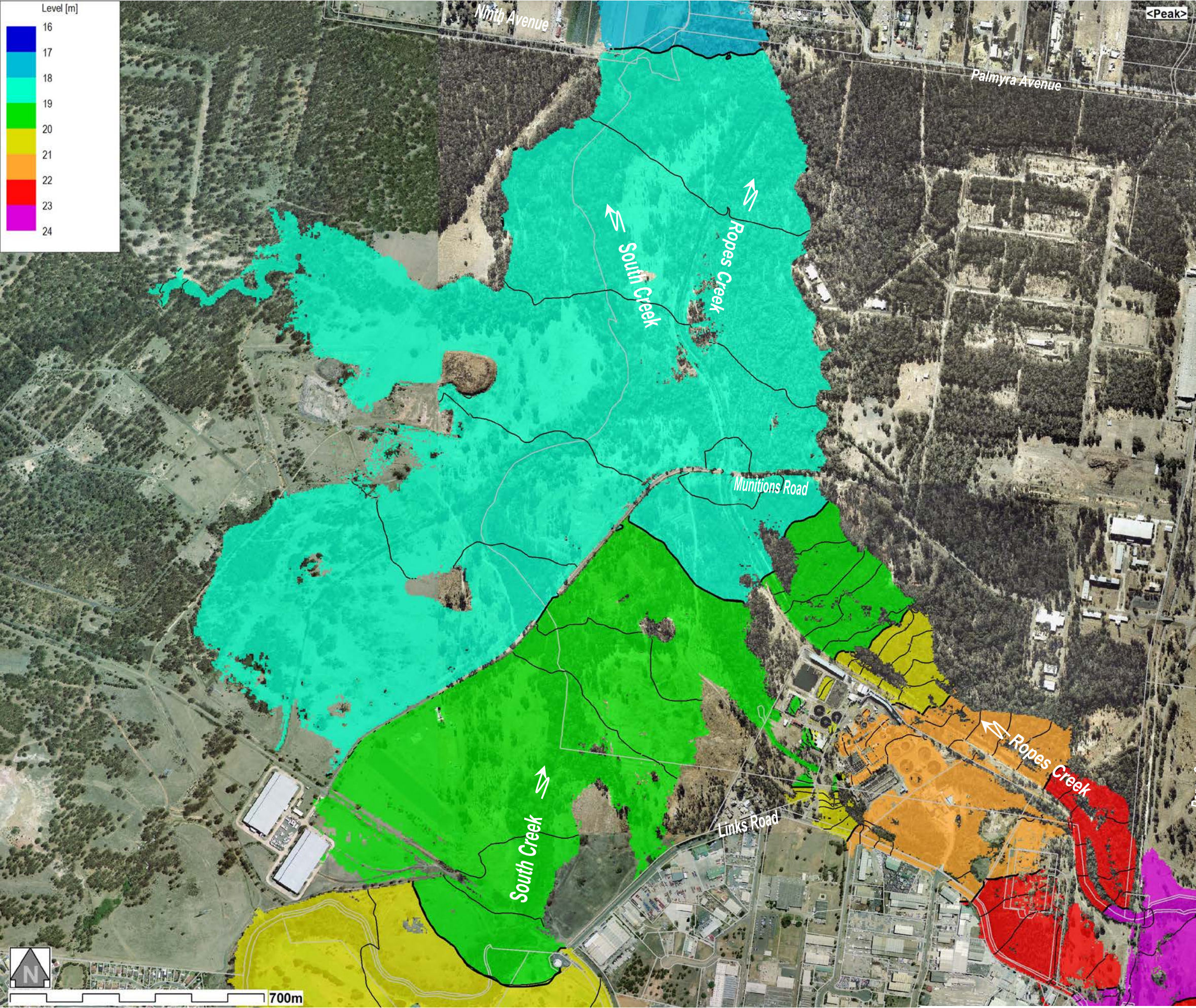
Node Type	Node Name	Parameter	Min	Max	Actual
Rain	RWT (10kL)	% Reuse Demand Met	80	None	43.9496
Rain	RWT (10kL)	Total Nitrogen - C** (mg/L)	0	0	1.4
Rain	RWT (10kL)	Total Phosphorus - C** (mg/L)	0	0	0.13
Rain	RWT (10kL)	Total Suspended Solids - C** (mg/L)	0	0	12
Receiving	Receiving Node	TN % Load Reduction	45	None	27
Receiving	Receiving Node	TP % Load Reduction	60	None	44.5
Receiving	Receiving Node	TSS % Load Reduction	85	None	81.8

Only certain parameters are reported when they pass validation

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Appendix H: Flood Extents for the Existing Development (Worley Parsons)

FIGURE 6.30

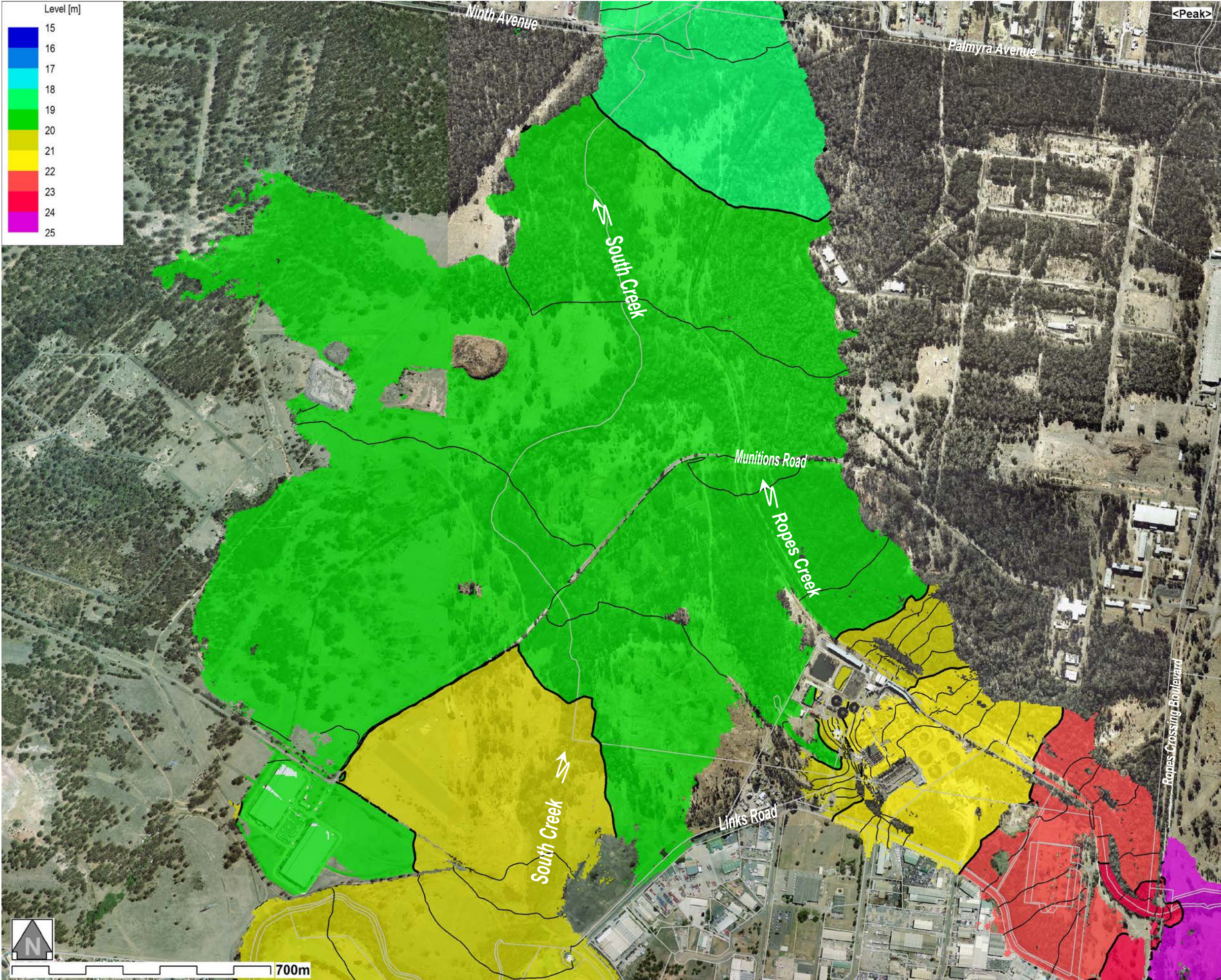


LEGEND:

- Flood Level Contour at 1 metre Interval
- Flood Level Contour at 0.2 metre Interval

PREDICTED FLOOD LEVELS AT THE
PEAK OF THE 20 YEAR RECURRENCE FLOOD
[EXTENT 9 OF 17]

FIGURE 6.47

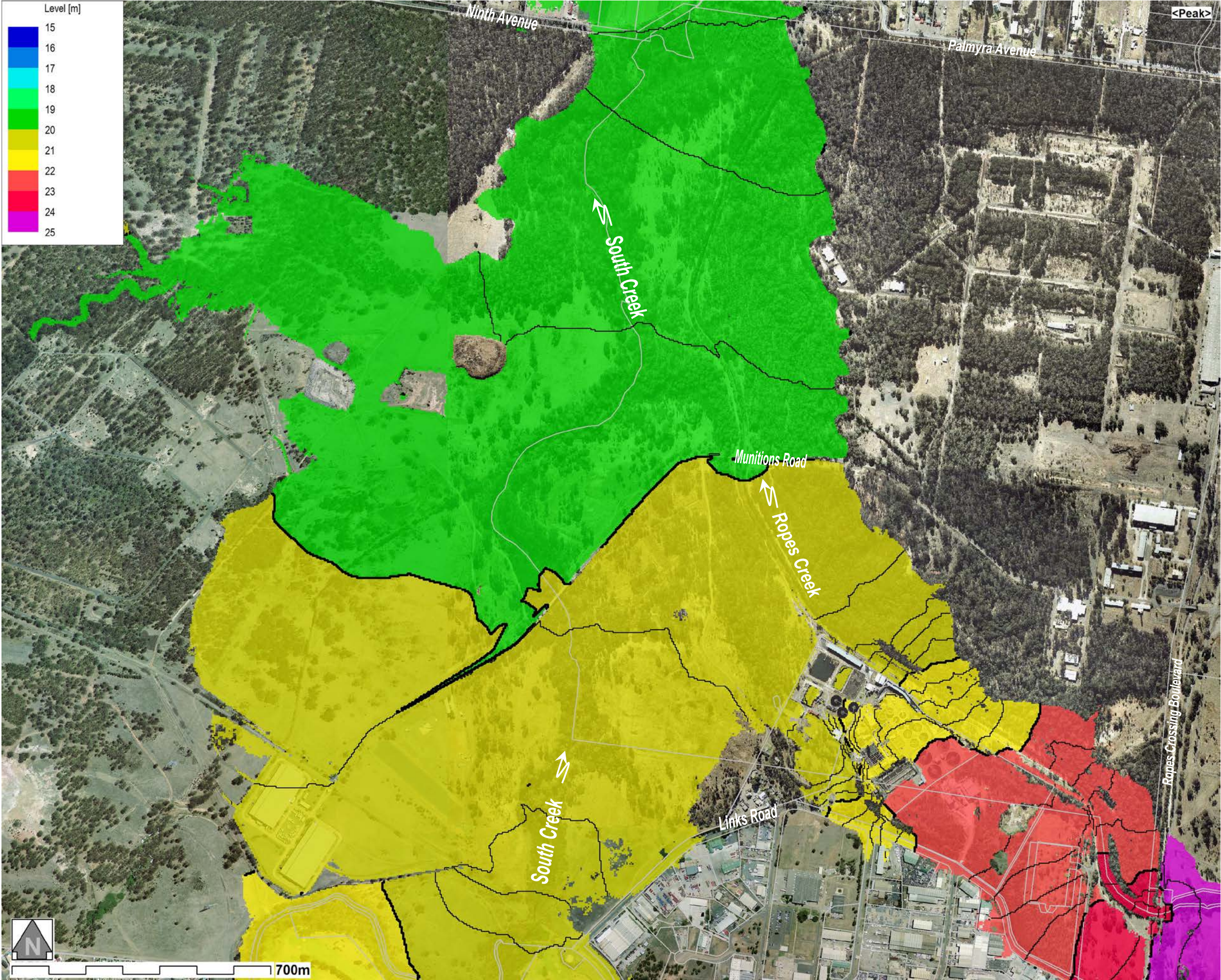


LEGEND:

- Flood Level Contour at 1 metre Interval
- Flood Level Contour at 0.2 metre Interval

PREDICTED FLOOD LEVELS AT THE
PEAK OF THE 100 YEAR RECURRENCE FLOOD
[EXTENT 9 OF 17]

FIGURE 6.64



LEGEND:



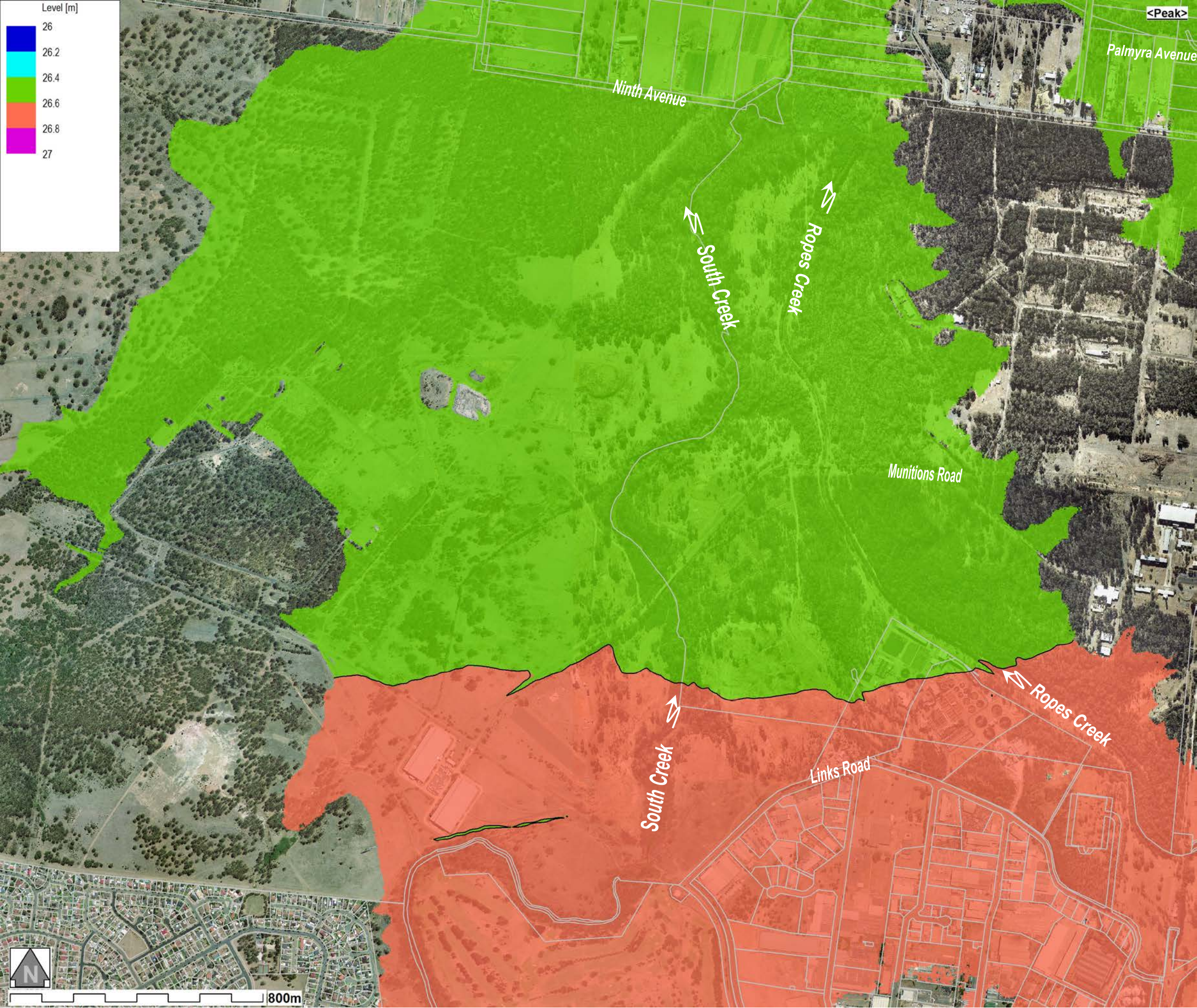
-  Flood Level Contour at 1 metre Interval
-  Flood Level Contour at 0.2 metre Interval

FIGURE 6.81



LEGEND:

- Flood Level Contour at 1 metre Interval
- Flood Level Contour at 0.2 metre Interval

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Appendix I: Overland Flooding Extents for the Existing Development (Cardno)

