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Integrated Water Management Plan

78 Lockwood Road Data Centre

Prepared for: STACK Infrastructure

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Revisions

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01	Draft SSDA Issue	04.07.2025	T. Wu	M. Buttarelli
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Executive Summary

The proposed development has been designed to meet the relevant Penrith City Council standards and SEARs requirements.

The pit and pipe stormwater system has been designed to convey the 5% AEP storm event including climate change factors. The overland flow paths during 1% AEP storm event have been designed to convey flow safely to the roadway or open space areas within the subject site.

On-site detention of stormwater is not required as regional detention infrastructure was constructed at the subdivision stage to suit the development.

Stormwater quality treatment is not required as part of the development as a regional treatment train was provided for the development at the subdivision stage. A replacement of the existing GPT is proposed to better suit the development layout.

2 x 250 kL (effective volume) rainwater tanks are proposed to capture 50% of runoff generated from data centre roofs to provide non-potable water for toilet flushing and landscaping irrigation.

Estimated potable water demand and peak sewer discharge rates have been calculated for the development, with Sydney Water undertaking assessment of the requested loads. If the projected load exceeds the capacity of the current infrastructure, demand will be managed through measures such as the installation of onsite storage tanks, upgrading the existing network, or establishing new connections.

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1 Introduction

This Integrated Water Management Plan has been prepared by ACOR Consultants Pty Ltd (ACOR) on behalf of STACK Infrastructure to accompany a State Significant Development Application (SSDA) for a proposed data centre development at 78 Lockwood Road, Erskine Park (the site).

The site is located in the Penrith Local Government Area (LGA) and is approximately 40km west of the Sydney Central Business District (CBD), 20km west of the Parramatta CBD, and 10km north-east of the future Wester Sydney International Airport.

The site is an irregular shaped 7.7-hectare lot bounded to the north by Lenore Drive and to the east by an E2 Environmental Conservation corridor that follows Ropes Creek. The site relies upon access from a cul-de-sac at the eastern end of Lockwood Road at the site's southern boundary. An aerial photograph is provided at Figure 1.

Figure 1. Aerial Map of Subject Site (Source: Urbis GIS, 2025)

The project comprises the construction of a data centre development including the following key components:

- Site preparation and bulk earthworks.
- Temporary construction access from Lenore Drive.
- Construction of a three-storey data centre comprising two buildings, with a maximum height of 26.5 metres and a total gross floor area (GFA) of approximately 56,506m², including technical data halls, office and administrative areas, and ancillary circulation space.
- At-grade under-croft car parking (34 spaces) within the building footprint, plus an additional 44 on-site spaces, providing a total of 78 parking spaces.
- Separate generator gantry accommodating 188 backup generators.
- Landscaping and associated public domain works.
- Extension and augmentation of physical infrastructure and utilities as required, including an on-site substation and water storage tanks integrated within the building footprints.
- Off-site works comprising the delivery of two 330kV transmission lines from the TransGrid Sydney West Substation site to the subject site, utilising existing road reserve along Lenore Drive.

Following exhibition of the SSDA, the project has been refined in response to submissions from authorities and ongoing design development. This has necessitated an update to the Integrated Water Management Plan as outlined below:

- Update of the rainwater storage volumes, rainwater reuse demand for landscaping and re-modelling of stormwater pollutant reduction targets and water balance calculations in MUSIC.
- Updates to the stormwater drainage plans to show location and sizing of roof drainage elements and downpipes.
- Reduction of the potable water demand for the site to reflect the change from a water-cooled to an air-cooled mechanical cooling system.
- Addition of the Penrith City Council Checklist for Stormwater Concept Plans as Appendix D.

2 Response to SEARs

This report has been prepared in response to the requirements contained withing the Secretary's Environmental Assessment Requirements (SEARs) dated 11 April 2025 issued for the SSDA (**SSD-82211208)**. Specifically, this report has been prepared to response to the SEARs requirements issued below in Table 1.

Table 1: SEARs Compliance

Item	Description of Requirement	Section Reference (this report)
14. Water Management	▪ Provide an Integrated Water Management Plan for the development that:	
	– Is prepared in consultation with local council and any other relevant drainage or water authority	Section 3
	– Outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision)	Section 6
	– Details the proposed drainage design (stormwater and wastewater) for the site including any on-site detention facilities, water quality management measures and nominated discharge points, on-site sewage management, and measures to treat, reuse or dispose of water.	Section 5.2, 5.3, 5.4 and Appendix A
	– Demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse downstream impacts	Section 5.3 and 5.4
	▪ Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed work that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority.	Appendix A

3 Stakeholder Engagement

This Integrated Water Management Plan was prepared in consultation with Penrith City Council's Development Engineering team. A phone conversation was conducted with Kumar Baral (Development Engineer) on 10 July 2025. Based on discussions conducted, the following conclusions were drawn from the correspondence:

- There is an existing Onsite Detention (OSD) Basin and Water Quality Treatment Train already provided for 78 Lockwood Road Erskine Park (the site) as part of subdivision development DA19/0818.
- The **is no additional OSD required** for the site as long as the proposed development does not exceed the impervious area percentage (85% impervious according to Erskine Park Industrial Estate Stormwater Management Report by Enspire 1st November 2019) allowed for in the original subdivision development and extended detention within the constructed wetland to the east of the site.
- A regional constructed wetland has been provided for the subject site and neighbouring western site to treat stormwater flows. This constructed wetland can be used to justify water sensitive urban design requirements (pollutant reduction targets) are satisfied for the development.

These discussions clearly outline the specific controls for the proposed development to satisfy Penrith City Council's requirements. The controls are further detailed in Section 5 of this report.

4 Detailed Site and Project Description

The site is located at 78 Lockwood Road, Erskine Park, within the Penrith Local Government Area (**LGA**), approximately 40km west of the Sydney Central Business District (**CBD**), 20km west of the Parramatta CBD, and 10km north-east of the future Western Sydney International Airport.

The site is an irregular shaped 7.7-hectare (**ha**) lot bounded to the north by Lenore Drive and to the east by a zoned E2 Environmental Conservation corridor that follows Ropes Creek. It relies upon access from a cul-de-sac at the eastern end of Lockwood Road at the site's southern boundary. An aerial photograph is provided at Figure 1.

The site is located within the 'Fitzpatrick Industrial Estate', an area of approximately 140-ha of land located on Lenore Drive. The estate is bounded by Ropes Creek to the east, the Erskine Park residential area to the north, and the Sydney Catchment Authority pipeline to the south. The Fitzpatrick Industrial Estate is located within the Western Sydney Employment Area (**WSEA**). The WSEA has long been identified as the single largest greenfield industrial precinct to serve the growing demand for industrial lands in the Sydney Metropolitan Area for the next 20 to 30 years.

The site is surrounded by a variety of industrial land use activities and significant transport and utilities infrastructure. Immediate surrounding development includes:

North: The site is bounded to the north by Lenore Drive and the adjacent AutoNexus, a provider of automotive logistics and supply chain solutions. Further afield is the Erskine Park residential area.

East: Ropes Creek adjoins the site to the east. This is zoned E2 – Environmental Conservation. An artificial wetland was established immediately east of the subject property boundary and within this E2 zoned land to support the industrial use of the site which results in stormwater runoff being conveyed to the E2 corridor.

South: The Sydney Catchment Authority Pipeline is located approximately 540 metres to the south.

West: Lot 101 and the remainder of the Fitzpatrick Industrial Estate comprise the surrounding land uses to the west. These include a variety of warehouse and logistics land uses.

Table 2 summarises the key features of the site. Table 3 summaries the project details.

Table 2: Site Description

Feature	Description
Site address	78 Lockwood Road, Erskine Park, NSW, 2759
Legal Description	Lot 101 in Deposited Plan 1268632
Site area	77,241.97sqm
Frontages	North (approx. 357m): Lenore Drive East (approx. 498m): Environmental conservation land, including an artificial dam at the immediate north-east and Ropes Creek further east South (approx. 292m): Lockwood Road (at south-west); Residual industrial land (along remainder of frontage) West (approx. 207m): Industrial land

Site Topography	The site is generally flat, however exhibits a fall of approximately 3m from the west to the east. The existing site levels were created following the approval of DA19/0818.
Vegetation	The site has been largely cleared of vegetation. There is a small strip of grass and young trees along the northern boundary alignment, on a temporary bund established under DA19/0818. This area of the site is not identified as having any significant biodiversity or environmental qualities. A small portion of the site area – approx. 538sqm of land at the south-east – is zoned C2 Environmental Conservation zone and contains a small amount of grass and tree canopy.
Built Environment	The site comprises vacant land and does not contain any existing built form structures. The site survey indicates that there is a drainage channel along the northern boundary of the site.
Contamination	Contamination issues on the site and across the broader, original landholding (being the Fitzpatrick Estate) were considered and resolved as part of development consent DA06/1646. A Validation Report dated 2007 outlined remediation works required and confirmed that the Fitzpatrick Estate lands could be made suitable for industrial uses. A later Validation Report, dated November 2008, was commissioned subsequent to site remediation. This report confirmed that the risk of contamination on the site was greatly reduced following the remediation works.
Flooding	The eastern portion of the site is identified as flood prone land.
Bushfire	The majority of the site is identified as Vegetation Category 2 bushfire land, with the exception of land along the norther boundary which is identified as Vegetation Buffer land.
Biodiversity	The site is predominantly cleared of all vegetation.
Salinity	The 'Salinity Potential of Western Sydney' map prepared in 2002 by the then Department of Infrastructure, Planning and Natural Resources identifies the site is an Area of Moderate Salinity Potential.
Acid Sulfate Soils	The land is not mapped as containing Acid Sulfate Soils.
European heritage	The land is not affected by any heritage listings or draft heritage listings. The site is not located within any listed or draft Heritage Conservation Area.
Aboriginal Heritage	Previous Aboriginal cultural investigations have confirmed that given the highly disturbed nature of the site, the potential for Aboriginal cultural relics on the land was found to be low.
Obstacle limitation surface	The land is affected by the Obstacle Limitation Surface (OLS) restrictions which apply to the Western Sydney Airport, pursuant to Chapter 4 of State Environmental Planning Policy (Precincts—Western Parkland City) 2021. Development on the land is restricted to a maximum height of RL 230.5m AHD.

Table 3: Detailed Project Description

Project Element	Summary
Project Summary	Site preparation and bulk earthworks. Temporary construction access from Lenore Drive. Construction of a three-storey data centre comprising two buildings, with a maximum height of 26.5 metres and a total GFA of approximately 56,506m², including technical data halls, office and administrative areas, and ancillary circulation space. At-grade under-croft car parking (34 spaces) within the building footprint, plus an additional 44 on-site spaces, providing a total of 78 parking spaces. Separate generator gantry accommodating 188 backup generators. Landscaping and associated public domain works. Extension and augmentation of physical infrastructure and utilities as required, including an on-site substation and water storage tanks integrated within the building footprints. Off-site works comprising the delivery of two 330kV transmission lines from the TransGrid Sydney West Substation site to the subject site, utilising existing road reserve along Lenore Drive.
Site/Project Area	The data centre development relates to Lot 101 in DP 1268632 which comprises an area of approximately 77,241.97m^2, together with land within Lenore Drive (public road, part C2 Environmental Conservation and Part IN1 General Industrial zone) associated with the proposed HV route.
Proposed uses	Data centre with ancillary office space
Data halls	32 data halls
GFA	56,506m^2
FSR	0.73:1
Site Coverage	43,313.09m^2 (56.07% of site)
Utilities	Provision of required utilities including: 188 x diesel generators accommodated with generator gantry structure. Two x above-ground water tanks for fire water. 330/132/11kV switching station.
Power consumption	450 MW

Maximum height	26.5m over three storeys
Vehicular Access	Vehicle access via Lockwood Road
Parking	78 car spaces including two accessible spaces
Bicycle Parking	30 spaces
Motorbike Parking	Three spaces
Deep Soil Area	15,806.37m^2 (20.5% of site)
Tree Canopy Coverage	8,181m^2 (10.59% of site)
Earthworks/Cut and Fill	Net fill of approximately 38,460m^3
Hours of Operation	The facility will be operated on a 24-hour, 7 day a week basis.
Jobs	Construction: 1,482 Operation: 200
Staging and Construction	The project is to be constructed over two stages: Stage 1 – Eastern data centre building, on-site substation, generator gantry, external plant and equipment, new Lockwood Road access, internal roads, car parking, and landscaping, External HV Cabling Route Stage 2 – Western data centre building, gantry expansion, external plant and equipment, additional car parking and landscaping.
Estimated Development Cost	$3,699,726,631.89

5 Technical Assessment and Mitigation of Impacts

5.1 Statutory Requirements, Design Standards and Guidelines

This Integrated Water Management Plan was prepared in conjunction with relevant standards and guidelines. The documents used as part of the design control are as followed:

- Australian Rainfall and Runoff (2019)
- Penrith City Council Guidelines:
  - Penrith Development Control Plan 2014:
    - Part C3 Water Management
    - Part D4 Industrial Developments
    - Part E6 Erskine Business Park
  - Design Guidelines for Engineering Works for Subdivision and Developments (1997)
  - Stormwater Drainage Specification for Building Developments
  - Water Sensitive Urban Design Policy
  - Water Sensitive Urban Design Technical Guidelines
  - Engineering Construction Specification for Civil Works
- Bureau of Meteorology IFD Data – sourced from www.bom.gov.au
- Australian Rainfall and Runoff Data Hub – sourced from data.arr-software.org
- Landcom Managing Urban Stormwater: Soils and Construction Volume 1 (2004)
- AS/NZS 3500.3

5.2 Stormwater Conveyance

5.2.1 Design Criteria

5.2.1.1 Pit and Pipe Design (Minor Storm)

The minor drainage system comprises of the below ground pit and pipe network and is designed to safely collect and convey stormwater flows generated during minor storm events. *Penrith City Council's Stormwater Drainage Specification of Building Development Section 3.1.1 Table 3* requires that the minor system on industrial sites be designed for the 5% Annual Exceedance Probability (AEP).

Additionally, the in-ground stormwater system has been designed with additional capacity to cater for the following:

- Allowance for climate change factors in the form of a rainfall intensity modifier (refer to Section 5.2.2.1 of this report for further details).

Rainfall data in Australia is supplied by the Bureau of Meteorology, which follows the AR&R standard design rainfall events.

5.2.1.2 Overland Flow Path (Major Storm)

The major drainage system incorporates overland flow routes through the circulation roadways. *Penrith City Council's Stormwater Drainage Specification of Building Development Section 3.1.1 Table 3* requires that the major system on industrial sites be designed for the 1% Annual Exceedance Probability (AEP). The major system also allows safe conveyance of flows should failure of the minor system occur.

In accordance with Council's requirements, the major drainage system is to be designed in a manner that ensures that personal safety is not compromised. As such, all overland flow routes for the site are to be designed so that the following criteria are satisfied:

- The maximum velocity-depth product shall not exceed $0.4m^2/s$
- The depth of flood water shall be less than 0.8m
- The velocity of flood water shall be less than 2m/s

Refer to Appendix A for the drainage design layout, long sections and catchment plans.

5.2.2 Design Methodology and Modelling

A hydrological model of the proposed site was created using runoff routing software DRAINS to assess the performance of the proposed site network. The initial losses / continuing losses (IL/CL) hydrological model has been used in DRAINS program to perform design and analysis calculations for urban stormwater systems.

The user data inputs required by the DRAINS IL/CL model include catchment areas, flow path lengths, time of concentration, pervious and impervious areas, IFD rainfall intensities and flow path roughness. Modelling is performed through the development of a network of pipes, pits and nodes to represent both the proposed scenario on site. The ARR2019 design methodology has been adopted for this project, in accordance with industry best practice.

5.2.2.1 Hydrological Modelling Parameters

Impervious Percentages

All catchments have been calculated based on an assumed 100% impervious area for flexibility and redundancy in the drainage design.

Time of Concentration (TOC)

Generally, catchments larger than 1 ha will adopt a time of concentration based on kinematic wave calculations of the catchment characteristics, however all sub-catchments within the subject site are less than 1 ha.

As such, a minimum Time of Concentration (TOC) of 5 minutes has been applied for all catchments in accordance with AS/NZS 3500.3.

Intensity Frequency Duration (IFD) and Temporal Patterns

IFD information has been sourced from the Bureau of Meteorology (BoM) using the coordinates provided below. The 20%, 10%, 5%, 2% and 1% AEP storm events were used for storm durations including the 5, 10, 15, 20, 25, 30, 45, 60, 90 and 120 minute storm events, with the rainfall depths presented in Table 4.

- Site Coordinates (nearest grid): -33.8125, 150.8125

ARR2019 analyses storm events against multiple temporal patterns to ensure the worst-case storm event is considered in designs. Temporal patterns have been provided from the ARR Data Hub website. The site is located within the East Coast South temporal pattern zone.

Table 4: Rainfall Depth (mm)

DURATION	20% AEP	10% AEP	5% AEP	2% AEP	1% AEP
5 mins	10.8	12.9	14.9	17.7	19.9
10 mins	17.5	20.9	24.3	28.9	32.4
15 mins	21.9	26.2	30.4	36.1	40.5
20 mins	25.0	29.9	34.8	41.3	46.3
25 mins	27.4	32.8	38.1	45.2	50.7
30 mins	29.4	35.1	40.8	48.4	54.3
45 mins	33.6	40.1	46.5	55.3	32.1
60 mins	36.7	43.7	50.7	60.2	67.7
90 mins	41.3	49.1	56.9	67.7	76.3
120 mins	45.0	53.5	62.0	73.8	83.3

Source: Bureau of Meteorology (BoM) 2025

Climate Change Factor

The design rainfall data adopted for the site stormwater model has incorporated a rainfall intensity modifier to account for climate change in accordance with ARR Chapter 6 *Climate Change Considerations*.

A 12% increase in rainfall intensity has been applied to all storm events within the stormwater drainage design model. This is based on ARR (2019) Book 1, Chapter 6 guidelines.

Loss Parameters

The loss parameters utilised in the DRAINS model have been summarised in Table 5.

Table 5: DRAINS Model Loss Parameters

PARAMETER	VALUE
Impervious Area Initial Loss (mm)	1
Impervious Area Continuing Loss (mm/hr)	0
Pervious Area Initial Loss (mm)	28.7
Pervious Area Continuing Loss (mm/hr)	0.92

Blockage Factors

Blockage factors have been applied to the on-grade and sag stormwater pit network to assess the effect of grates blocking with debris during a major storm event. *Penrith City Council's Stormwater Drainage*

Specification of Building Development Table 1 outlines the required parameters for use within hydrological models. Table 6 summarises the blockages factors implemented within the DRAINS model.

Table 6: DRAINS Model Blockage Factors

PIT TYPE	BLOCKAGE FACTOR
On Grade Pit	0.2
Sag Pit	0.5

5.2.3 Design Results

5.2.3.1 Proposed Scenario DRAINS Model

A DRAINS model of the proposed site stormwater system has been developed using the parameters specified in Section 5.2.2.1 above and demonstrates that the stormwater design requirements can be met in accordance with Council's requirements.

The layout of the DRAINS model is shown in Figure 2 below.

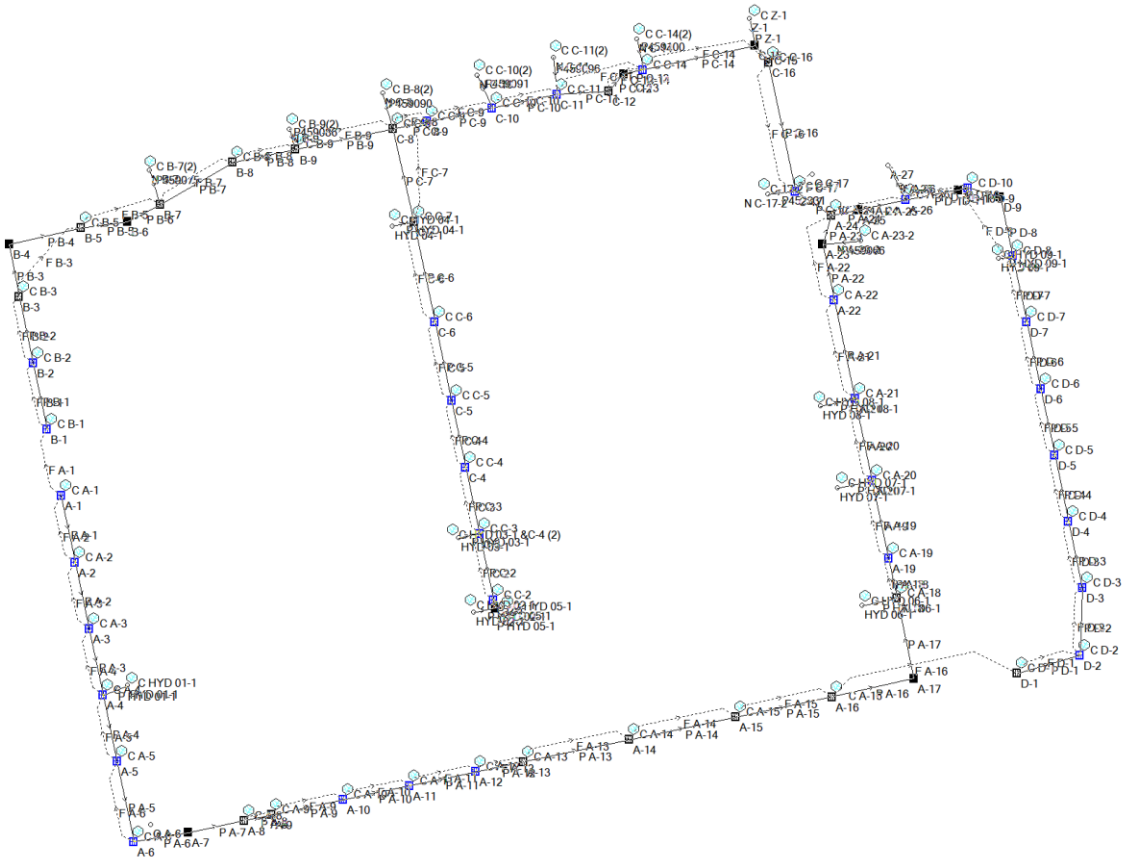

Figure 2. Proposed DRAINS Model

5.2.3.2 Pit and Pipe Design (Minor Storm)

All stormwater pits and pipes have been designed with sufficient capacity to collect and convey the 5% AEP storm event, including the nominated climate change factor for increase in rainfall intensity.

The DRAINS model results for the 5% AEP storm event are presented in Figure 3.

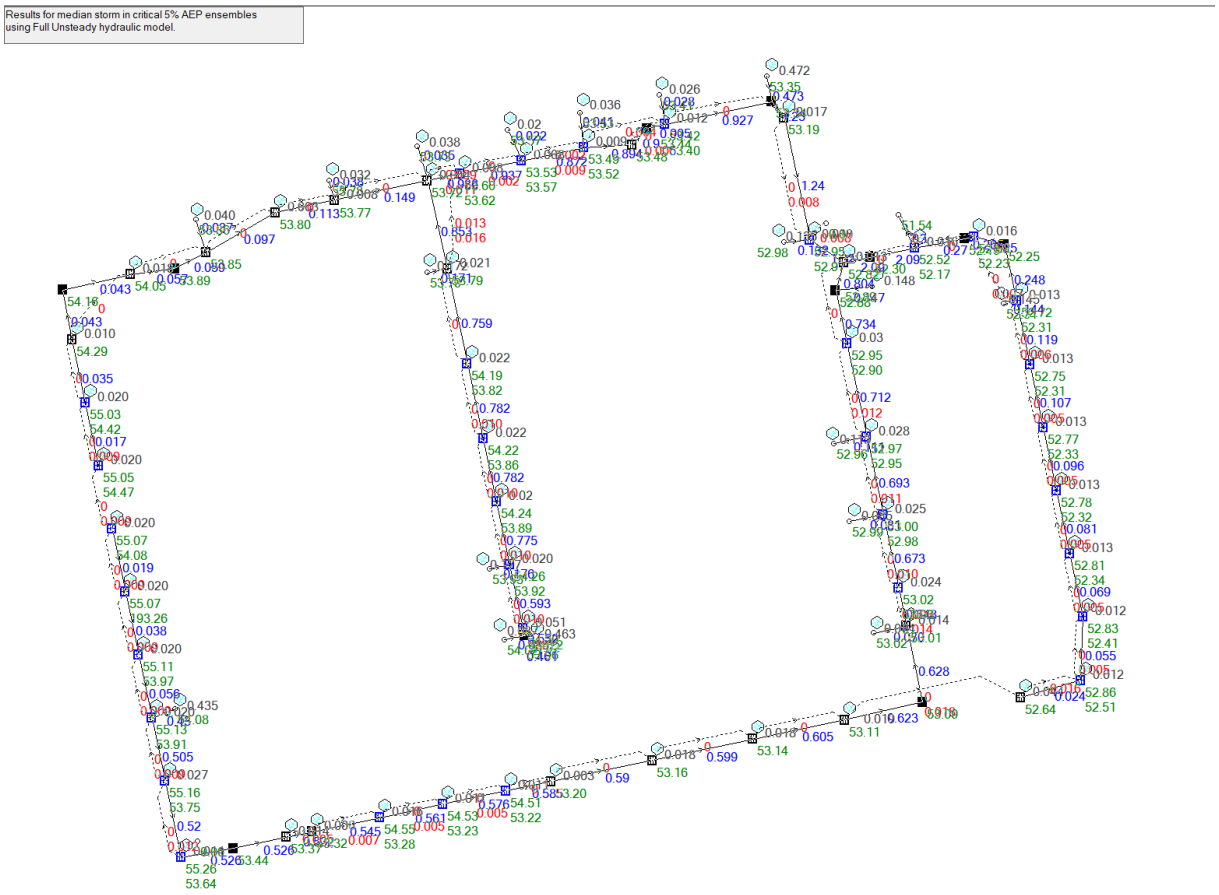

Figure 3. DRAINS Results 5% AEP Storm Event

5.2.3.3 Overland Flow Path (Major Storm) – Site Flows

The major system for stormwater conveyance for flows generated within the site consists of overland flow paths for all flows in excess of the minor system capacity above the 5% AEP and up to 1% AEP storm events.

The overland flow paths through the circulation roadways and open space areas have been designed to meet the following requirements:

- The maximum velocity-depth product shall not exceed 0.4m^2/s
- The depth of overland flows shall be less than 0.15m
- The velocity of overland flows shall be less than 2m/s

The DRAINS model results for the 1% AEP storm event are presented in Figure 4.

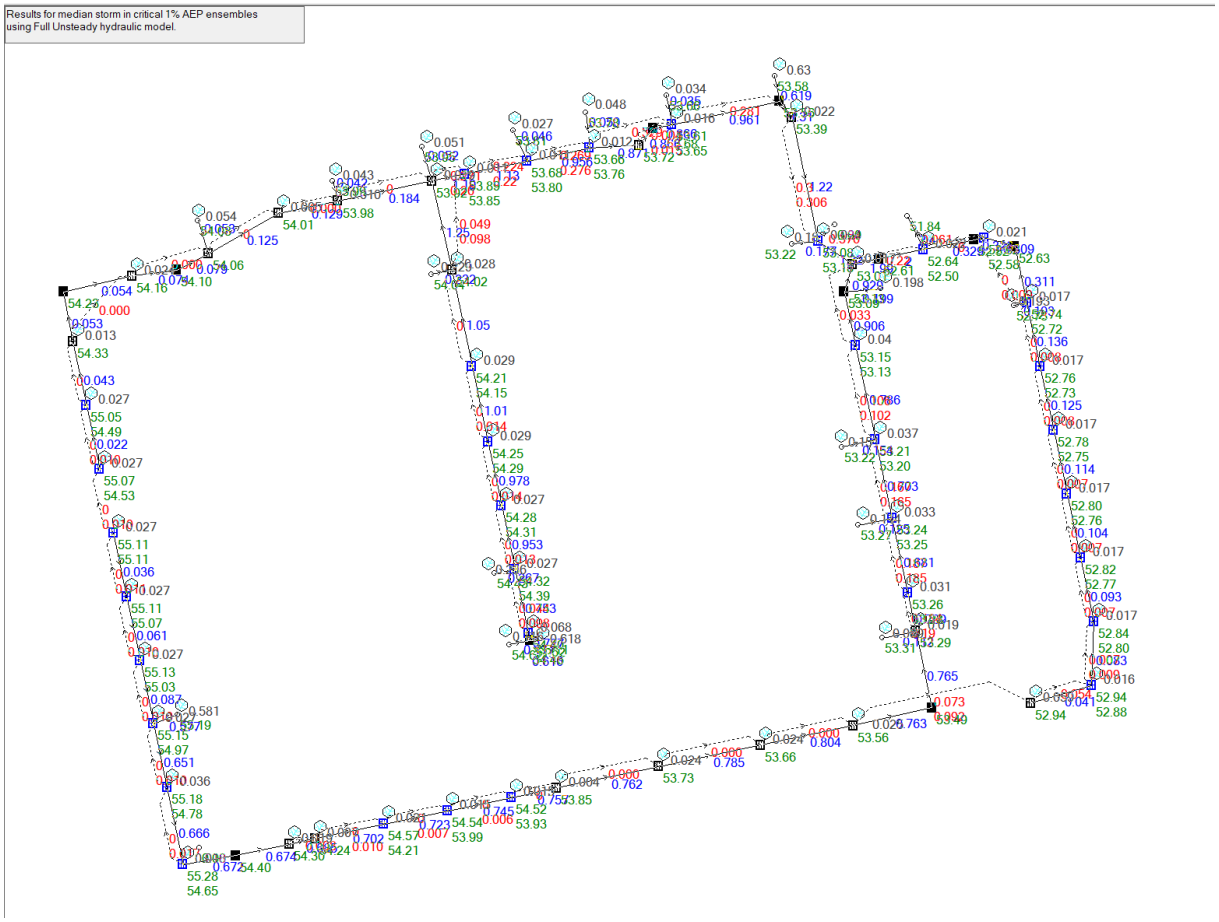

Figure 4. DRAINS Results 1% AEP Storm Event

5.2.3.4 Overland Flow Path (Major Storm) – External Catchment

An assessment of the existing drainage easement along the northern portion of the site which drains the western lot (CEVA Logistics site) has been undertaken to determine the estimated pipe capacity and overland flows during major storm events.

As-constructed data of the upstream catchment and hydraulic analysis of the easement pipeline system is not available, however based on the subdivision DA design (DA19/0818) prepared by Enspire and site survey information, the following key catchment and pipeline data can be utilised for design purposes:

Upstream Catchment Data

- Upstream catchment area = 52,100m^2 (refer to Figure 5)
- Percentage Impervious area = 85%
- Time of concentration = 10 minutes
  - 1% AEP, 10 minute intensity frequency duration = 194 mm/hr
- Q100 flow rate (ILSAX) = 2.67 m^3/s

Easement Pipeline Data

- Pipeline diameter = 1050mm (varies along easement, smallest diameter utilised for design purposes)
- Pipeline material = steel reinforced concrete

- 1% AEP downstream tailwater level = RL 51.84m AHD (wetland top water level)
- Pipeline hydraulic grade = 0.8% (1 in 125)
- Pipeline capacity (full but not under pressure) = 3.0 m^3/s

Based on the above, the stormwater easement pipeline design indicates that the pipeline has been designed to convey the 1% AEP flows from the upstream catchment. Thus it is expected that overland flows will not eventuate from the adjoining western lot and enter the subject site.

Notwithstanding, it is noted that the proposed data centre buildings will have a minimum of 700mm freeboard to the surcharge pit within the adjoining lot (surcharge pit grate RL 55.20, building finished floor level RL 55.90), thus there is sufficient protection to the building should surcharge flows occur.

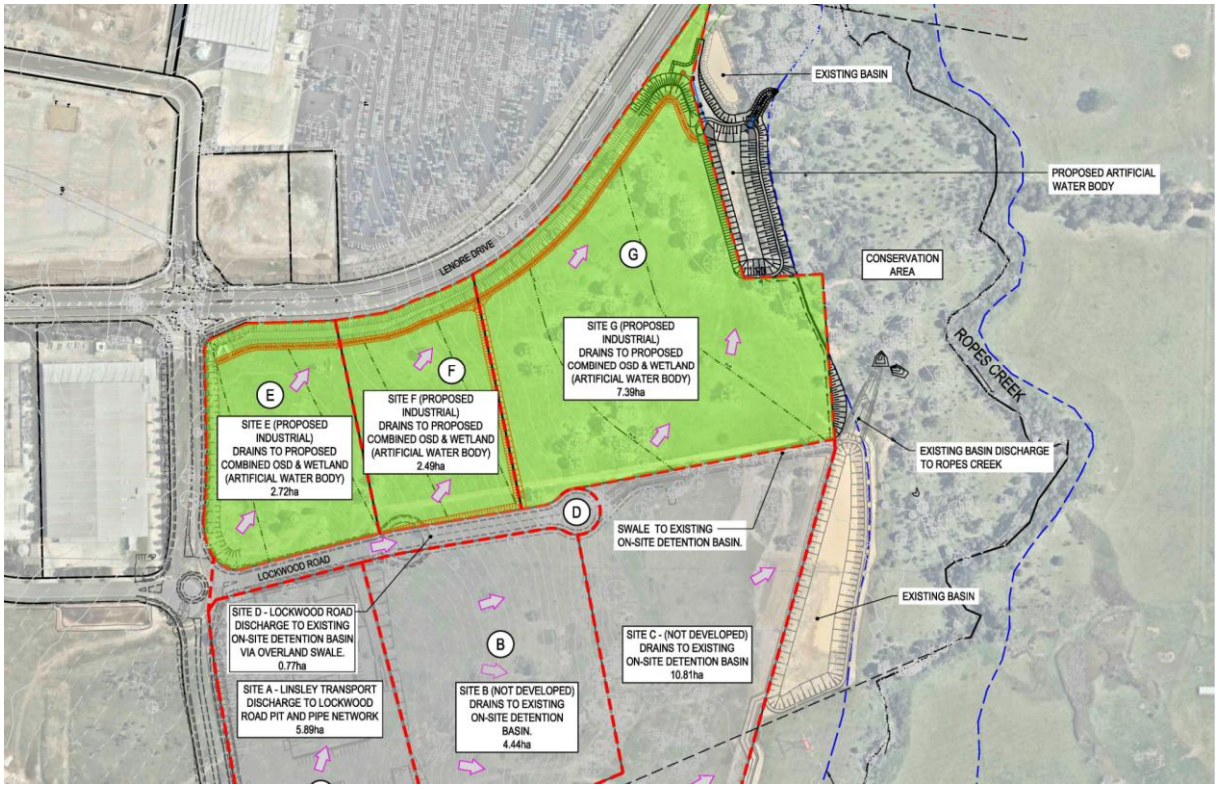

Figure 5. Subdivision Catchment Plan (DA19/0818). Source: Enspire

5.3 Stormwater On-Site Detention

As outlined in Section 3 of this report, regional drainage infrastructure, including a detention basin, was constructed as part of the subdivision stage (DA19/0818). Onsite detention will not be required for the development as long as the total impervious percentage does not exceed 85%.

The total approximate landscaping area included within the development is in the order of 15,806.37 m^2, covering 20.50% of the total site area. The remaining impervious area is 79.50%.

As the proposed impervious area is less than the accommodated impervious area, no additional onsite detention will be required to service the development.

5.4 Stormwater Quality

5.4.1 Treatment Train and MUSIC Model

As outlined in Section 3 of this report, a regional constructed wetland was constructed as part of the subdivision stage (DA19/0818) for the subject site and neighbouring lot to the west.

To validate that the existing stormwater quality treatment train infrastructure, along with proposed additional stormwater quality treatment devices, have been modelling in MUSIC software to demonstrate compliance with Penrith Council pollutant reduction targets.

The existing and proposed stormwater treatment system are as following:

Existing Stormwater Treatment System:

- Constructed Wetland – 750m^2 treatment area with a 1695m^2 pond area
- Rocla CDS 1012 gross pollutant trap

The above details are based on the available subdivision design plans prepared by Enspire within DA19/0818.

Proposal Stormwater Treatment System:

- 54x Oceanguards within grated surface inlet pits / kerb inlet pits within the roadways and hardstand areas
- 2x gross pollutant trap (Oceansave 3300-870 and Oceansave 1500-60) to treat outflows at the downstream stormwater discharge location
- 2 x 250 kL (effective volume) rainwater tanks connected to 50% of each data centre roof for supply to all toilets and landscape areas requiring permanent irrigation (see Section 5.4.3 for further details)

The Penrith Council pollutant reduction targets are shown in Table 7 below.

Table 7: Penrith Council Pollutant Reduction Targets

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

A MUSIC model catchment plan has been prepared for the development and is shown in Figure 6 below.

Figure 6. MUSIC Model Catchment Plan

Figure 7 below shows the MUSIC model setup and results.

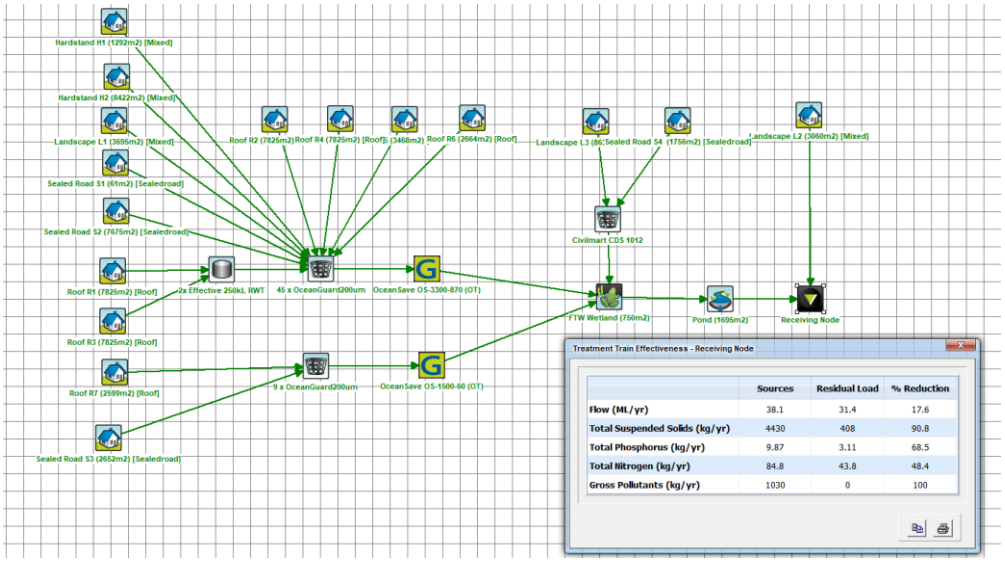

Figure 7. MUSIC Model Results

The MUSIC model has not analysed the neighbouring western lot which also drains into the constructed wetland to avoid misinterpretation of results, as the MUSIC receiving node will calculate pollutant reduction results for both sites.

The MUSIC-Link report has been attached as Appendix C to this report.

5.4.2 GPT Replacement

While no additional treatment train is required for the development, a replacement of the existing GPT provided at the subdivision stage will occur to better suit the proposed layout of the development.

It is proposed to install two Ocean Protect GPTs, specifically 1x 'OceanSave-3300-870' and 1x 'OceanSave-1500-60', at the downstream end of the internal pit and pipe network. The 'OceanSave' is a full capture, high-capacity gross pollutant trap designed to remove particles greater than 1mm, along with any nutrients attached to those particles.

The removal rates and treatment rates for the GPTs are provided in Table 8. Refer to Appendix A stormwater plans for the locality of the proposed GPT.

Table 8. OceanSave-3300-870 Performance: OceanSave-3300-870 and OceanSave 1500-60 Performance

Parameter	OceanSave-3300-870 Performance	OceanSave-1500-60 Performance
Total Suspended Solids (TSS)	92.3% Removal	93.1% Removal
Total Phosphorus (TP)	55.4% Removal	50.4% Removal
Total Nitrogen (TN)	32.6% Removal	21.0% Removal
Gross Pollutants (GP)	100% Removal	100% Removal
Treatment Flow Rate	870 L/s	60 L/s

5.4.3 Rainwater Tanks

A significant non-potable water demand will be generated by the proposed development. The demand considered for this sizing analysis consists of the following:

1. Toilet flushing.
2. Landscape irrigation of landscape zones nominated by the landscape architect which require permanent, long-term irrigation.

In addition to the above, mechanical water storage tank top-up for the data centre mechanical cooling system and hardstand washdown could also be considered for captured roof water at later stages during design development.

A high-level MUSIC model was developed to assess the reuse efficacy of potential rainwater tank sizes and roof catchment areas to determine an appropriate size of rainwater tanks. Penrith City Council MUSIC-Link was used to apply the standard rainfall and evapotranspiration data for the local area.

The non-potable demand for toilet flushing has been set as 0.1 kL/day/toilet for industrial sites (7 days a week operation). A total of 50 toilets is proposed across the development, totalling to 5 kL/day non-potable water demand.

Although the total deep soil area is 15,806.37m^2 (20.5% of site), a total of 11482 m^2 of landscaping area has been nominated by the landscape architect for long-term irrigation. The non-potable demand for the native landscaping has been set at 0.4 kL/m^2/yr, totalling to an annual demand of 4592 kL. The reuse demand was scaled with a Potential Evapotranspiration (PET-Rain) distribution to reflect the changing water demands during hotter and colder seasons.

A small portion of the deep soil area is excluded from long-term irrigation, including planting along Lenore Drive beyond the security gate and fence, planting along the eastern boundary within the flood extent of Ropes Creek, and planting along the drainage easement at the bottom of the site retaining wall. These excluded areas have limited access and maintenance, and the flood extent area is periodically inundated and long-term irrigation is unnecessary based on planting species selected.

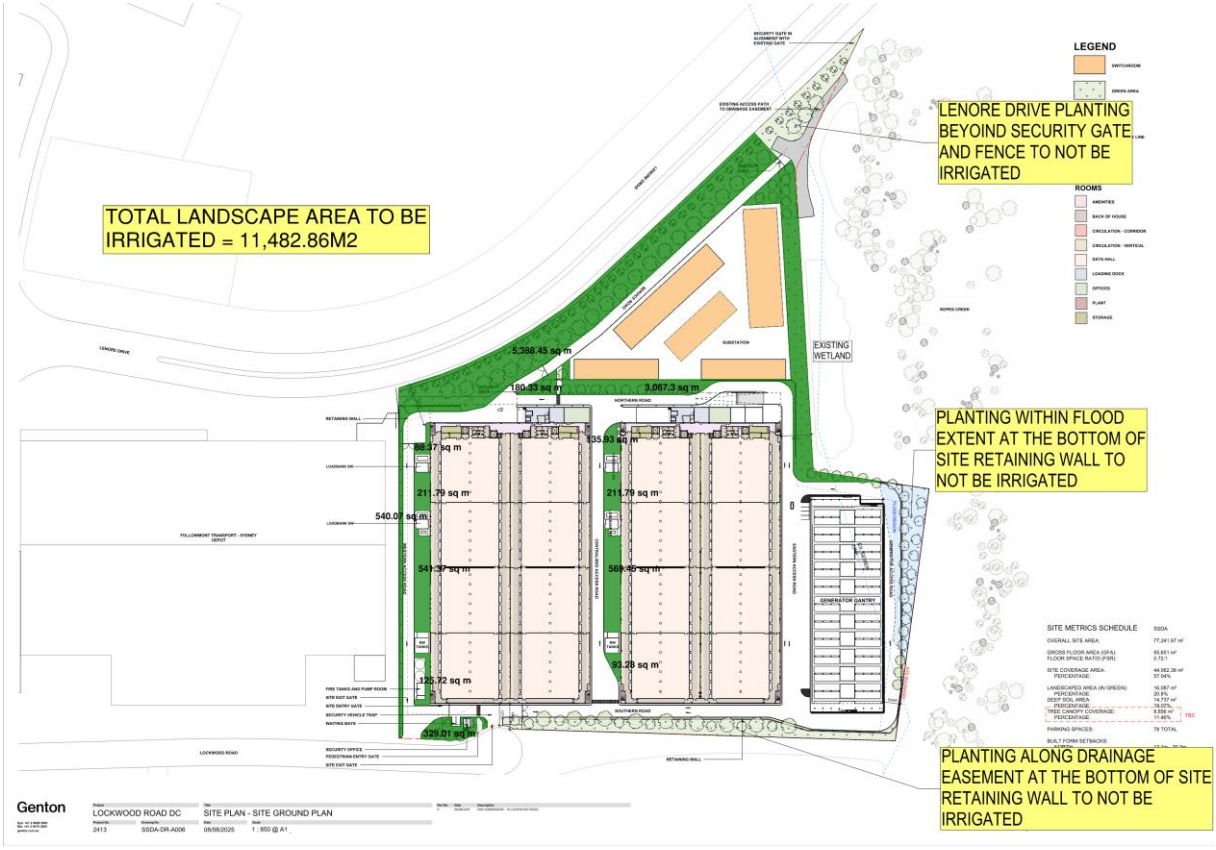

Figure 8. Landscape Plan

It was found that 2 x 250 kL rainwater tanks in conjunction with a roof catchment of 50% of each data hall met the reuse demand 72.96% of the time, in line with industry practice, due to spatial constraints.

5.5 Soil Erosion and Sedimentation Control

5.5.1 General Principles

A Soil and Water Management Plan has been prepared for the proposed development in accordance with the Landcom Managing Urban Stormwater: Soils and Construction Volume 1 (2004), and is attached in Appendix A. The following general principles of soil and water management have been applied:

- Minimise the area of soil disturbed and exposed to erosion
- Conserve topsoil for later site rehabilitation/revegetation

- Control water flows from the top of, and through the development area
- Rehabilitate disturbed lands quickly
- Maintain soil and water management measures appropriately during the construction phase

5.5.2 Sources of Pollution

Based on the proposed development activities, the following sources of pollution during construction that could lead to earthworks erosion, sediment and silt transportation and contamination of downstream stormwater systems have been considered:

- Earthworks undertaken prior to rainfall events without sufficient auxiliary measures to manage runoff
- Earthworks areas that have not been stabilised or are exposed prior to temporary or permanent ground cover
- Establishment time for rehabilitation/revegetation of exposed earthworks
- Localised groundwater dewatering activities during earthworks excavations
- Construction works to existing stormwater pipelines and overland flow paths
- Vehicle entry and exit to the construction site and associated tracking of debris out of the site
- Clearing and grubbing of vegetation/organic matter and stripping of topsoil
- Stockpiling of excavated materials or construction materials (e.g. road base, ordinary and select fill, etc)
- Re-fuelling and general maintenance of construction plant and equipment
- Storage of chemicals, fuel, and other hazardous materials
- Ineffective/incorrect installation or maintenance of soil erosion and sedimentation control measures.

5.5.3 Soil and Water Management Strategy

The following construction management methodology has been developed for the proposed data centre works:

- Establish sediment fencing to the downstream perimeter of the zone of disturbed works to protect downstream assets and properties
- Installation of stabilised construction entry and exit grids to prevent construction vehicles tracking debris into adjacent Authority roadways and stormwater systems
- Construction of “clean water” diversion drains with rock check dams to divert unpolluted water to the existing stormwater system in a controlled manner
- Construction of “dirty water” catch drains with rock check dams to divert sediment-laden and silt-laden water to proposed sedimentation basins
- Construction of appropriately sized and maintained sedimentation basins to promote settling of gross pollutants and suspended solids. Dosing and flocculation of fine suspended particulates will also be undertaken depending on tested water quality profiles within the sedimentation basin
- Protection of materials stockpiles by suitable wind protection fencing and / or temporary covering of stockpiles
- Protection of existing and recently constructed surface inlet pits with temporary sediment traps using geotextile filter fabric and sandbags

- Protection of existing and recently constructed overland flow paths with vegetated ground cover
- General expedited revegetation and stabilisation of exposed earthworks to prevent sedimentation of stormwater runoff

6 Water-Related Servicing Infrastructure

Sydney Water and relevant authorities are being notified of the site's demand requirements, based on which they will assess the feasibility of connecting to existing utility assets. If the projected load exceeds the capacity of the current infrastructure, demand will be managed through measures such as the installation of onsite storage tanks, upgrading the existing network, or establishing new connections.

6.1 Wastewater

All wastewater from the new building will be extended to the existing site sewer infrastructure via gravity. (No pumping is required).

The proposed building demand has been based on:

Table 9: Wastewater Demand

Usage	Instantaneous Peak Sewer Discharge Rate (L/s)	Peak Day Average Sewer Flows (L/s)	Peak Day Sewer Discharge Rate (L/Day)	Annual Sewer Discharge Rate (L/Year)
Domestic Water Usage	1.21	0.07	6,000	2,190,000
Industrial Water Usage	82.3	25.21	2,178,000	170,476,000
Total	83.51	25.28	2,184,000	172,666,000

Refer to Appendix ‘B’ of this report for indicative layout of site infrastructure.

6.2 Potable Water

The proposed site has frontage to a Sydney Water supply asset:

- 250 mm diameter Authority drinking water supply in Lenore Drive.

The proposed building demand has been based on water usage for office amenities/fixtures, maintenance hose taps, irrigation and fire water tank top-up:

Table 10: Potable Water Demand

Usage	Peak Daily Instantaneous Demand Flow Rate (L/s)	Average Daily Instantaneous Demand Flow Rate (L/S)	Average Day Water Usage (L/Day)	Annual Water Usage (L/Year)
Site Water Usage	3.65 [1]	1.65	2,376	867,240
Fire Water Tank Top-Up	5.1 [2]	-	-	-

Notes:

[1] We note the mechanical cooling system is designed as an air-cooled system and thus does not require potable water demand from the Sydney Water network.

[2] The fire Water tank top-up will be used in the event there is a fire, and the tanks need to be replenished within 12 -24 hours in accordance with AS 2118.6. It is highly unlikely that this demand of 5.1 L/S will be drawn from the Authority water main.

Refer to Appendix 'B' of this report for indicative layout of site infrastructure.

6.3 Fire Water Usage

The proposed site fire water usage is as per table below:

Table 11: Fire Water Demand

SYSTEM	WATER DEMAND (L/s)
Fire Sprinkler System	47.0
Fire Hydrant System	30.0
Minimum Fire Water Demand	77.0

7 Conclusion

The proposed development has been designed to meet the relevant Penrith City Council standards and DPIE SEARs requirements.

The pit and pipe stormwater system has been designed to convey the 5% AEP storm event including climate change factors. The overland flow paths during 1% AEP storm event have been designed to convey flow safely to the roadway or open space areas within the subject site.

On-site detention of stormwater is not required within the lot boundaries of the development as regional detention infrastructure was constructed at the subdivision stage for the development and neighbouring western lot.

Stormwater quality treatment has been provided in the form of a regional constructed wetland at the subdivision stage. A replacement of the existing GPT is proposed to suit the development layout and improve treatment efficiency. A MUSIC model of the existing and proposed stormwater treatment train has been created to verify that Council pollution reduction targets will be satisfied.

2 x 250 kL (effective volume) rainwater tanks are proposed to capture 50% of the runoff generated from data centre roofs to provide non-potable water for toilet flushing and landscaping irrigation.

Appendix A - Civil Engineering Plans

A0

PROPOSED DATA CENTRE SYD01
78 LOCKWOOD ROAD, ERSKINE PARK, NSW 2759
CIVIL

CIVIL DRAWING INDEX

SYD01-ACR-DR-CV-00101	PROJECT COVER SHEET AND DRAWING LIST	SYD01-ACR-DR-CV-30105	SITEWORKS AND GRADING PLAN SHEET 5
SYD01-ACR-DR-CV-00102	LEGENDS SHEET	SYD01-ACR-DR-CV-40101	PAVEMENT AND JOINTING PLAN
SYD01-ACR-DR-CV-00103	NOTES SHEET	SYD01-ACR-DR-CV-70101	RETAINING WALL CONTROL PLAN
SYD01-ACR-DR-CV-00120	EXISTING SURVEY AND SERVICES PLAN	SYD01-ACR-DR-CV-70121	RETAINING WALL ELEVATION PLAN - MC01
SYD01-ACR-DR-CV-00160	KEY PLAN	SYD01-ACR-DR-CV-70122	RETAINING WALL ELEVATION PLAN - MC02 AND MC03
SYD01-ACR-DR-CV-00161	GENERAL ARRANGEMENT PLAN	SYD01-ACR-DR-CV-70123	RETAINING WALL ELEVATION PLAN - MC04
SYD01-ACR-DR-CV-00171	SITE SECTIONS SHEET 1	SYD01-ACR-DR-CV-70124	RETAINING WALL ELEVATION PLAN - MC05
SYD01-ACR-DR-CV-00172	SITE SECTIONS SHEET 2	SYD01-ACR-DR-SW-00101	STORMWATER MANAGEMENT PLAN SHEET 1
SYD01-ACR-DR-CV-00173	SITE SECTIONS SHEET 3	SYD01-ACR-DR-SW-00102	STORMWATER MANAGEMENT PLAN SHEET 2
SYD01-ACR-DR-CV-00174	SITE SECTIONS SHEET 4	SYD01-ACR-DR-SW-00103	STORMWATER MANAGEMENT PLAN SHEET 3
SYD01-ACR-DR-CV-10101	SOIL AND WATER MANAGEMENT PLAN	SYD01-ACR-DR-SW-00104	STORMWATER MANAGEMENT PLAN SHEET 4
SYD01-ACR-DR-CV-10121	SOIL AND WATER MANAGEMENT NOTES AND DETAILS	SYD01-ACR-DR-SW-00105	STORMWATER MANAGEMENT PLAN SHEET 5
SYD01-ACR-DR-CV-20101	BULK EARTHWORKS CUT AND FILL PLAN	SYD01-ACR-DR-SW-10101	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1
SYD01-ACR-DR-CV-20121	BULK EARTHWORKS SECTIONS SHEET 1	SYD01-ACR-DR-SW-10102	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2
SYD01-ACR-DR-CV-20122	BULK EARTHWORKS SECTIONS SHEET 2	SYD01-ACR-DR-SW-10103	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 3
SYD01-ACR-DR-CV-30101	SITEWORKS AND GRADING PLAN SHEET 1	SYD01-ACR-DR-SW-20101	STORMWATER DRAINAGE CATCHMENT PLAN
SYD01-ACR-DR-CV-30102	SITEWORKS AND GRADING PLAN SHEET 2	SYD01-ACR-DR-SW-30101	STORMWATER DRAINAGE DETAILS SHEET 1
SYD01-ACR-DR-CV-30103	SITEWORKS AND GRADING PLAN SHEET 3	SYD01-ACR-DR-SW-30102	STORMWATER DRAINAGE DETAILS SHEET 2
SYD01-ACR-DR-CV-30104	SITEWORKS AND GRADING PLAN SHEET 4	SYD01-ACR-DR-SW-30201	STORMWATER DRAINAGE PIT SCHEDULE

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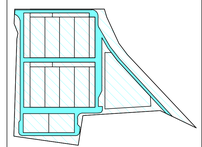
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

Civil

ACOR CONSULTANTS

Structures

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MELBOURNE, VIC, 3000
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ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

PROJECT COVER SHEET AND DRAWING LIST

Scale at A0: A0 NA

Role: CIVIL

Suitability: SCHEMATIC DESIGN

By: Author JK | Chkd: Checker JC | Appd: Approver MB

Internal Job No: NA251463 | Rev: P2

Name: SYD01-ACR-DR-CV-00101

PROPOSED SERVICES LEGEND

- STORMWATER DRAINAGE
- ELECTRICAL/COMMS PIT DRAINAGE
- ELECTRICAL EARTHING SYSTEM
- TELECOMMUNICATIONS
- WATER
- ROOFWATER DRAINAGE (RW RW RW)
- RECYCLED WATER
- SEWER
- FIRE
- ELECTRICAL
- MECHANICAL
- ELECTRICAL PIT
- COMMUNICATIONS PIT (CT)
- SEWER MANHOLE
- LIGHT POLE (LP)
- FIRE HYDRANT (FH)

EXISTING SERVICES LEGEND

- EX/W — EXISTING WATER LINE
- EX/S — EXISTING SEWER LINE
- EX/G — EXISTING GAS LINE
- EX/C — EXISTING COMMUNICATIONS LINE
- EX/E — EXISTING IN-GROUND ELECTRICAL LINE
- EX/OHE — EXISTING OVERHEAD ELECTRICAL LINE
- SIP — EXISTING SEWER INSPECTION POINT
- EXISTING SEWER VENT
- EXISTING SEWER MANHOLE
- EXISTING STORMWATER DRAINAGE PIT
- MH — EXISTING STORMWATER DRAINAGE MANHOLE
- EXISTING STORMWATER DRAINAGE HEADWALL
- EXISTING COMMUNICATIONS PIT
- ELEC — EXISTING ELECTRICAL PIT
- LP — EXISTING LIGHT POLE
- PP — EXISTING POWER POLE
- EXISTING TREE

EXISTING SERVICES NOTE:

EXISTING SERVICE ALIGNMENTS HAVE BEEN PLOTTED UTILISING INFORMATION OBTAINED FROM DETAILED SITE SURVEY BEFORE YOU DIG AUSTRALIA (BYDA) AND SERVICES SCANNING DATA WHERE INDICATED. ALL ALIGNMENTS ARE INDICATIVE ONLY FOR THE PURPOSES OF DESIGN. THE CONTRACTOR IS TO DETERMINE LOCATION AND DEPTH OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK

LEGEND - CIVIL WORKS

- SITE BOUNDARY
- EASEMENT
- 1% AEP FLOOD LEVEL BASED ON PENRITH COUNCIL FLOOD LEVEL ENQUIRY DATA
- • P55.30 — PROPOSED FINISHED SURFACE LEVEL
- • TOW55.80 — TOP OF WALL LEVEL
- • BOW55.20 — BOTTOM OF WALL LEVEL
- • EX55.90 — EXISTING FINISHED SURFACE LEVEL
- • EXTK55.00 — EXISTING TOP OF KERB LEVEL
- KO — KERB ONLY
- K&G — KERB AND GUTTER
- DD — DISH DRAIN WITH WIDTH
- FK — FLUSH KERB
- VC — VEHICULAR CROSSING
- RW1 — RETAINING WALL AND TYPE
- SURFACE DRAIN DIRECTION OF FALL
- FALL — INDICATIVE DIRECTION OF SURFACE FALL
- 55.00 — FINISHED SURFACE CONTOUR MAJOR
- 55.20 — FINISHED SURFACE CONTOUR MINOR
- KERB RAMP
- WHEEL STOP
- D-1 — STORMWATER DRAINAGE STRUCTURE AND NUMBER
- STORMWATER DRAINAGE PIPELINE AND DIRECTIONAL FLOW ARROW
- STORMWATER DRAINAGE - OVERHEAD (HIGH LEVEL
- SSD — SUBSOIL DRAINAGE LINE
- IR / HER — SUBSOIL DRAINAGE PIPELINE WITHHIGH END RISER (HER) AND INTERMEDIATE RISER (IR)
- RWT — ABOVE-GROUND RAINWATER TANK
- GPT — GROSS POLLUTANT TRAP
- STORMWATER HEADWALL
- FFL 55.90 — FINISHED FLOOR LEVEL
- BEL 55.50 — BULK EARTHWORKS LEVEL
- B1 — BOLLARD AND TYPE
- SIGN POST
- MC04 — ROAD CONTROL LINE LABEL
- MW01 — RETAINING WALL CONTROL LINE LABEL
- MK01 — KERB CONTROL LINE LABEL
- CONTROL LINE
- TRANSITION KERB HEIGHT FROM 0.15m TO 0.00m OVER 1.2m (UNO)
- TRANSITION KERB TYPE TO KERB TYPE OVER 1.0m (UNO)

PAVEMENT LEGEND

PAVEMENT TYPE P1
ASPHALT CIRCULATION ROAD PAVEMENT

DESIGN FINISHED SURFACE LEVEL

- 50mm THICKNESS (AC14 C320)
- 7mm PRIMER SEAL
- 200mm COMPACTED THICKNESS BASECOURSE (DGB20)
- 260mm COMPACTED THICKNESS SUB-BASE (DGS40)
- 300mm COMPACTED THICKNESS SUBGRADE REPLACEMENT LAYER/CAPPING LAYER (CBR 15% MINIMUM, 1.5% SWELL MAXIMUM, $5x10^{9}$ PERMEABILITY MAXIMUM
- SUBGRADE MINIMUM CBR 1.5%. RIP AND COMPACT 300mm LAYER PRIOR TO PROOF ROLL TEST

PAVEMENT TYPE P2
CONCRETE VEHICULAR CROSSING PAVEMENT
(REFER TO PENRITH CITY COUNCIL SPECIFICATIONS AND STANDARD DRAWING SD1004 FOR DETAILS)

PAVEMENT TYPE P3
CONCRETE FOOTPATH PAVEMENT

DESIGN FINISHED SURFACE LEVEL

- 125mm THICK CONCRETE BASE (f'c = 32MPa) WITH SL72 MESH CENTRAL
- 50mm COMPACTED THICKNESS SAND BLINDING
- 150mm COMPACTED THICKNESS SUBGRADE REPLACEMENT LAYER/CAPPING LAYER (CBR 15% MINIMUM, 1.5% SWELL MAXIMUM, $5x10^{9}$ PERMEABILITY MAXIMUM
- SUBGRADE MINIMUM CBR 1.5%. RIP AND COMPACT 300mm LAYER PRIOR TO PROOF ROLL TEST

PAVEMENT TYPE P4
CONCRETE CIRCULATION ROAD PAVEMENT

DESIGN FINISHED SURFACE LEVEL

- 200mm THICK CONCRETE BASE (f'c = 40MPa) WITH SL92 MESH TOP 50 COVER
- 7mm SPRAY SEAL
- 150mm LEAN MIX CONCRETE SUBBASE (f'c 7.0MPa)
- 150mm COMPACTED THICKNESS SUBGRADE REPLACEMENT LAYER/CAPPING LAYER (CBR 15% MINIMUM, 1.5% SWELL MAXIMUM, $5x10^{9}$ PERMEABILITY MAXIMUM
- SUBGRADE MINIMUM CBR 1.5%. RIP AND COMPACT 300mm LAYER PRIOR TO PROOF ROLL TEST

PAVEMENT TYPE P5
SUBSTATION ACCESS ROAD PAVEMENT

DESIGN FINISHED SURFACE LEVEL

- 220mm THICK CONCRETE BASE (f'c = 40MPa) WITH SL92 MESH TOP AND BOTTOM 50 COVER
- 7mm SPRAY SEAL
- 150mm LEAN MIX CONCRETE SUBBASE (f'c 7.0MPa)
- 150mm COMPACTED THICKNESS SUBGRADE REPLACEMENT LAYER/CAPPING LAYER (CBR 15% MINIMUM, 1.5% SWELL MAXIMUM, $5x10^{9}$ PERMEABILITY MAXIMUM
- SUBGRADE MINIMUM CBR 1.5%. RIP AND COMPACT 300mm LAYER PRIOR TO PROOF ROLL TEST

PAVEMENT TYPE P6
SUBSTATION YARD PAVEMENT

DESIGN FINISHED SURFACE LEVEL

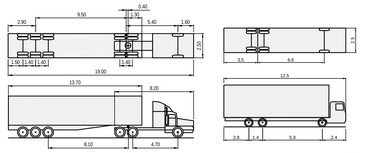
- 100mm COMPACTED THICKNESS DGB20 CRUSHED ROCK LAYER. CONSTRUCTED BY HIGH VOLTAGE SUBTATION CONTRACTOR
- 150mm COMPACTED THICKNESS CRUSHED ROCK LAYER. CONSTRUCTED BY SYD01 MAIN WORKS CONTRACTOR
- COMPACTED PROOF ROLLED SUBGRADE (BULK EARTHWORKS LEVEL)

NOTES:
1. FINAL PAVEMENT PROFILE TO BE CONFIRMED BY TRANSGRID.
2. FINAL SUBSTATION YARD TRIMMING AND GRADING OF SURFACE LEVELS IS NOT PART OF THE SYD01 SCOPE AND IS THE RESPONSIBILITY OF THE SUBSTATION DESIGNER AND/OR CONTRACTOR.

STRUCTURAL SLAB
- BUILDINGS, EQUIPMENT PLINTHS AND CRANE ZONE SLABS (REFER TO STRUCTURAL ENGINEERS DRAWINGS AND DETAILS)

VEHICLE TURNPATH LEGEND

- VEHICLE BODY SWEPT PATH ENVELOPE - FORWARD MOVEMENT WITH 0.3m VEHICLE SWEPT PATH CLEARANCE ENVELOPE
- VEHICLE BODY SWEPT PATH ENVELOPE - REVERSE MOVEMENT WITH 0.3m VEHICLE SWEPT PATH CLEARANCE ENVELOPE



	Metres
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418
Track Width	2.500m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	12.500m
Vehicle Speed	5km/hr

AV - ARTICULATED VEHICLE (AV 19.0m).

	Metres
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	12.500m
Vehicle Speed	5km/hr

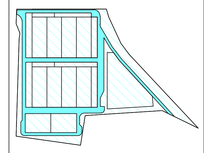
HRV - HEAVY RIGID VEHICLE (HRV 12.5m)

NTS

	Metres
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Kerb to Kerb Turning Radius	8.000m
Vehicle Speed	5km/hr

B99 PASSENGER VEHICLE

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

Civil: AC OR CONSULTANTS

Structures: RINCOVITCH — SYDNEY, Level 8/100 William St, Woolloomooloo, NSW 2011, T: (02) 9188 0506, www.rincovitch.com.au, VIC | NSW | ACT | QLD

Architect: Genton — Syd. +61 2 9698 5002, Mel. +61 3 9078 3686, genton.com.au, Copyright ⓒ

Consultant - MEP: LCI CONSULTANTS, LEVEL 17/567 EXHIBITION ST, MELBOURNE, VIC, 3000, ABN 92 124 871 975 — ARTELIA GROUP

Client: STACK INFRASTRUCTURE

Project Title: LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title: LEGENDS SHEET

Scale at A0	NA
A0	
Role	CIVIL
Suitability	SCHEMATIC DESIGN
By	Author JK
Chkd	Checker JC
Appd	Approver MB
Internal Job No	NA251463
Rev	P2
Name	SYD01-ACR-DR-CV-00102

Do not scale

8/4/2026 3:42:14 PM

GENERAL NOTES

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL AND SERVICES CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
2. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION
3. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
4. ALL DIMENSIONS ON DETAILS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL PLANS AND LEVELS ARE EXPRESSED IN METRES.
5. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURAL STABILITY OF THE WORKS AND ENSURE NO PARTS BE OVER STRESSED UNDER CONSTRUCTION ACTIVITIES.
6. WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT AUSTRALIAN STANDARDS INCLUDING ALL AMENDMENTS, AND THE LOCAL STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
7. THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM ACOR CONSULTANTS / PRINCIPAL'S REPRESENTATIVE BUT IS NOT AN AUTHORISATION FOR A VARIATION. ANY VARIATIONS INVOLVED MUST BE TAKEN UP WITH ACOR CONSULTANTS / PRINCIPAL'S REPRESENTATIVE BEFORE THE WORK COMMENCES.
8. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE ENGINEER FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
9. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR ALL ENGINEERING INSPECTIONS. ALL INSPECTIONS AND CERTIFICATIONS TO BE INCLUDED IN CONTRACTORS COST.
10. BUILDING FROM THESE DRAWINGS IS NOT TO COMMENCE UNTIL APPROVED BY THE PRINCIPAL CERTIFYING AUTHORITY.
11. THE WORD 'ENGINEER' USED IN THESE NOTES REFER TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF ACOR CONSULTANTS PTY LTD.
12. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE RELEVANT CURRENT WORKPLACE HEALTH AND SAFETY LEGISLATION.

SITEWORKS NOTES

1. ORIGIN OF LEVELS :- AUSTRALIAN HEIGHT DATUM (A.H.D.)
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE PRINCIPAL'S REPRESENTATIVE.
4. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR VIA A COMPREHENSIVE SERVICES SCAN AND POTHOLING OF CRITICAL SERVICES THAT MAY BE IMPACTED BY THE CONSTRUCTION WORKS TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE PRINCIPAL'S REPRESENTATIVE. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT OF CIVIL WORKS TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL OR AS SPECIFIED WITHIN THE RELEVANT SERVICES TRENCH DETAILS.
9. ON COMPLETION OF PIPE INSTALLATION ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
10. PROVIDE 10mm WIDE EXPANDING CORK JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS , WALLS, FOOTINGS, COLUMNS, KERBS, DISH DRAINS, GRATED DRAINS, BOLLARD FOOTINGS ETC
11. CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS.
12. ALL BATTERS TO BE GRASSED LINED WITH MINIMUM 100 TOPSOIL AND APPROVED COUCH LAID AS TURF.
13. MAKE SMOOTH TRANSITION TO EXISTING SERVICES AND MAKE GOOD.
14. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS.
15. ON COMPLETION OF WORKS ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL INCLUDING, BUT NOT LIMITED TO, KERBS, FOOTPATHS, CONCRETE AREAS, GRASS AND LANDSCAPED AREAS.

EXISTING SERVICES AND FEATURES

1. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION, REMOVAL AND DISPOSAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE PRINCIPAL'S REPRESENTATIVE.
2. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
3. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN WRITTEN APPROVAL OF THEIR PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
4. EXISTING BUILDINGS, EXTERNAL STRUCTURES, AND TREES SHOWN ON THESE DRAWINGS ARE FEATURES EXISTING PRIOR TO ANY DEMOLITION WORKS.
5. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE PRINCIPAL'S REPRESENTATIVE. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE PRINCIPAL'S REPRESENTATIVE.
6. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL OF PRINCIPAL'S REPRESENTATIVE FOR TIME OF INTERRUPTION.

ASPHALTIC CONCRETE NOTES

1. GENERAL

a. MINERAL AGGREGATES TO COMPLY WITH AUSTRALIAN STANDARDS
b. MINERAL FILLER TO COMPLY WITH AS.2357 MINERAL FILLERS OR ASPHALT.
c. BITUMEN BINDER SHALL COMPLY WITH AS 2008

2. MIX PROPORTIONS

a. JOB MIX - 14mm NOMINAL SIZE AGGREGATE. MINIMUM BITUMEN CONTENT BY MASS OF TOTAL MASS - 5.1%
b. MIX STABILITY - BETWEEN 16kN AND 36kN AS DETERMINED BY AS 2891
c. AIR VOIDS IN COMPACTED MIX - BETWEEN 4% AND 7% OF THE VOLUME OF THE MIX.
d. VOIDS FILLED IN BINDER - 65-80% OF AIR VOIDS IN THE TOTAL MINERAL AGGREGATE FILLED BY BINDER IN ACCORDANCE WITH AUSTRALIAN STANDARDS.

3. PAVEMENT PREPARATION

a. THE EXISTING SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL FOREIGN MATTER.
b. ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO GENERAL LEVEL OF PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING OF MAIN COURSE.

4. TACK COAT

a. THE WHOLE OF THE AREA TO BE SHEETED WITH PRIMER SEAL AND ASPHALTIC CONCRETE SHALL BE LIGHTLY AND EVENLY COATED WITH RAPID SETTING BITUMEN COMPLYING WITH AUSTRALIAN STANDARDS. APPLICATION RATE FOR RESIDUAL BITUMEN SHALL BE 0.15 TO 0.30 LITRES/SQUARE METRE. APPLICATION SHALL BE BY MEANS OF A MECHANICAL SPRAYER WITH SPRAY BAR.

5. SPREADING

a. ALL ASPHALTIC CONCRETE SHALL BE SPREAD WITH A SELF PROPELLED PAVING MACHINE.
b. THE ASPHALTIC CONCRETE SHALL BE LAID AT A MIX TEMPERATURE AS SHOWN BELOW;

ROAD SURFACE TEMPERATURE IN SHADE (°C)	MIX TEMPERATURES (°C)
5 - 10	NOT PERMITTED
10 - 15	150
15 - 25	145
OVER 25	140

c. ASPHALTIC CONCRETE SHALL NOT BE LAID WHEN THE ROAD SURFACE IS WET OR WHEN COLD WINDS CHILL THE MIX ADVERSELY AFFECT SPREADING AND COMPACTION.
d. THE MINIMUM COMPACTED THICKNESS IS 30mm OVER EXISTING SEALED PAVEMENTS AND 50mm OVER NEW PAVEMENTS.

6. JOINTS

a. THE NUMBER OF JOINTS BOTH LONGITUDINAL AND TRANSVERSE SHALL BE KEPT TO A MINIMUM.
b. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REMAINDER OF THE LAYER.

7. COMPACTION

a. ALL COMPACTION SHALL BE UNDERTAKEN USING SELF PROPELLED ROLLERS.
b. INITIAL ROLLING SHALL BE COMPLETE BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C
c. SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 60°C
d. MINIMUM CHARACTERISTICS VALUE OF RELATIVE COMPACTION OF A LOT WHEN TESTED IN ACCORDANCE WITH AS2150.

8. FINISHED PAVEMENT PROPERTIES

a. FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE TO SHAPE AND SHALL NOT VARY MORE THAN 10mm FROM THE SPECIFIED PLAN LEVEL AT ANY POINT AND SHALL NOT DEVIATE FROM THE BOTTOM OF A 3m STRAIGHT EDGE LAID IN ANY DIRECTION BY MORE THAN 5mm.

9. THE CONTRACTOR SHALL ENSURE ROLLING AND COMPACTION OF THE FULL WIDTH OF THE PROPOSED ASPHALTIC PAVEMENTS AND A CONSISTENT COMPACTION AND FINISH OF THE WEARING SURFACE IS ACHIEVED. SHOULD THE EDGES / SHOULDERS DISPLAY BONEY OR INCONSISTENT FINISH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECTIFYING BY MILLING AND RESHEETING THE FULL WIDTH OF THE WEARING COURSE TO THE DIRECTION AND SATISFACTION OF THE PRINCIPAL'S REPRESENTATIVE

STORMWATER NOTES

1. ALL 375 DIA. DRAINAGE PIPES AND LARGER SHALL BE CLASS "3" APPROVED SPIGOT AND SOCKET RCP PIPES WITH RUBBER RING JOINTS. (U.N.O.) ALL DOWNPIPE DRAINAGE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS. (U.N.O.)
2. SUBSTITUTION OF REINFORCED CONCRETE PIPES WITH FLEXIBLE HDPE OR PPR SHALL ONLY OCCUR UPON REVIEW AND APPROVAL BY THE ENGINEER
3. ALL PIPE JUNCTIONS UP TO AND INCLUDING 450 DIA. AND TAPERS SHALL BE VIA PURPOSE MADE FITTINGS.
4. MINIMUM GRADE TO STORMWATER LINES TO BE 1% FOR PIPELINES LESS THAN OR EQUAL TO 150mm DIAMETER AND 0.5% FOR PIPELINES GREATER THAN 150mm DIAMETER (U.N.O.)
5. CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
6. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH AND WATERTIGHT FINISH.
7. PRECAST PITS SHALL NOT BE USED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
8. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50MM CONCRETE BED (OR 75MM THICK BED OF 12MM BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75MM THICK SAND BED. IN ALL CASES BACKFILL THE TRENCH WITH SAND TO 200MM ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150MM LAYERS TO 98% STANDARD MAX. DRY DENSITY.
9. BEDDING SHALL BE (U.N.O.) TYPE HS2, IN ACCORDANCE WITH CURRENT RELEVANT AUSTRALIAN STANDARDS.
10. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
11. WHERE SUBSOIL DRAINAGE LINES PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS UNSLOTTED UPVC SEWER GRADE PIPE SHALL BE USED.
12. PROVIDE 3.0M LENGTH OF 100 DIA. SUBSOIL DRAINAGE PIPE WRAPPED IN FABRIC SOCK, AT UPSTREAM END OF EACH PIT.
13. THE CONTRACTOR SHALL SUBMIT A DETAILED CCTV INVESTIGATION OF ALL AS-INSTALLED STORMWATER PIPELINES TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PRACTICAL COMPLETION. ANY DEFECTS TO THE STORMWATER SYSTEM SHALL BE RECTIFIED AT THE CONTRACTOR'S COST

COMPACTION NOTES

1. REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY: DOUGLAS PARTNERS, REF: 207476.10.R.001.Rev0, DATED: 7TH AUGUST 2025.
2. STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL TO A DEPTH AS RECOMMENDED WITHIN THE GEOTECHNICAL INVESTIGATION AND STOCKPILE ON SITE FOR SELECTIVE RE-USE OR DISPOSE OFF-SITE AS DIRECTED BY THE SUPERINTENDENT.
3. UNCONTROLLED FILLING IS TO BE REMOVED FROM THE FOOTPRINT OF THE BUILDING AND PAVEMENT AREAS, THE STRIPPED SURFACE SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER.
4. PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF EIGHT PASSES OF A SMOOTH DRUM ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) THE FINAL PASS SHALL BE IN THE PRESENCE OF A GEOTECHNICAL ENGINEER.
5. ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
6. WASTE CLASSIFICATION OF SPOIL MATERIAL, INCLUDING PROVISION OF APPROPRIATE HAZARDOUS MATERIALS HANDLING (AS REQUIRED) IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO UNDERTAKING THE EXCAVATION WORKS.
7. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE GEOTECHNICAL ENGINEER AND SHALL COMPLY WITH THE FOLLOWING :
   a. FREE FROM ORGANIC, PERISHABLE AND CONTAMINATED MATTER
   b. MAXIMUM PARTICLE SIZE 75MM
   c. PLASTICITY INDEX BETWEEN 2% AND 15%
   d. CBR STRENGTH 5% MINIMUM
   e. HYDRAULIC CONDUCTIVITY NO GREATER THAN $5x10^{-9}$m/s
8. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200MM THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR -2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS 1289 5.3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.1.1 :

LOCATION	STANDARD DRY DENSITY
UNDER BUILDING SLABS	98%
AREAS OF SERVICE TRENCHES	98%
EXTERNAL PAVED AREAS, ROADS AND CARPARKS	98%
LANDSCAPED AREAS	90%

THE UPPER 0.5m THICKNESS FOR THE FOLLOWING AREAS MUST BE COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR -2%) AS FOLLOWS

LOCATION	STANDARD DRY DENSITY
UNDER BUILDING SLABS	100%
PAVEMENTS AND CARPARKS	100%

9. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST.
10. TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE.TESTING FREQUENCY SHALL BE IN ACCORDANCE WITH THE FREQUENCY SPECIFIED IN THE GEOTECHNICAL REPORT - FOR EARTHWORKS 1 TEST / 1000m² / LAYER OR THREE TESTS PER VISIT, WHICHEVER IS THE GREATER
11. 11. BULK EARTHWORKS CUT AND FILL OPERATIONS SHALL BE UNDERTAKEN UNDER LEVEL 1 GEOTECHNICAL SUPERVISION

CONCRETE PAVEMENT NOTES

GENERAL

1. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH AS 3600 CURRENT EDITIONS WITH AMENDMENTS, AND THE ACSE CONCRETE SPECIFICATION EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. VERIFY ALL SETTING OUT DIMENSIONS WITH THE ARCHITECT AND/OR THE SURVEYOR.
3. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.
4. IN CASE OF DOUBT - ASK.

CONCRETE

1. PLACE CONCRETE OF THE FOLLOWING CHARACTERISTIC COMPRESSIVE STRENGTH F'C AS DEFINED IN AS.3600 OR M.R. FORM 609. ADD WATER REDUCING ADMIXTURE EQUAL TO WRDA.

LOCATION	AS.3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
ALL KERB PITS ETC.	25	80	20
VEHICULAR PAVEMENTS	32	80	20

2. USE "A.C.S.E. SPECIFICATION TYPE A" CEMENT.
3. ALL CONCRETE SHALL BE SUBJECT TO PROJECT CONTROL SAMPLE AND TESTING TO AS.3600.
4. CONSOLIDATE BY VIBRATION.
5. THE TENDERERS SHALL PROVIDE A COST OPTION FOR USING CONCRETES WITH REDUCED PORTLAND CEMENT CONTENT TO 50% WHILST ACHIEVING THE PROPERTIES OF CONCRETES SPECIFIED IN THESE DOCUMENTS. THESE PROPERTIES INCLUDE SPECIFIED COMPRESSIVE AND FLEXURAL STRENGTHS AT 28-DAYS AND 90-DAYS AND SHRINKAGE LIMITS

REINFORCEMENT

1. FIX REINFORCEMENT AS SHOWN ON DRAWINGS. THE TYPE AND GRADE IS INDICATED BY A SYMBOL AS SHOWN BELOW. ON THE DRAWING N IS FOLLOWED BY A NUMERAL WHICH INDICATES THE SIZE IN MILLIMETRES. A MARK NUMERAL (IF USED) FOLLOWS THIS NUMERAL.
   N. HOT ROLLED DEFORMED BARS, GRADE 500N
   R. HOT ROLLED PLAIN BARS, GRADE 250N
   W. COLD DRAWN PLAIN ROUND WIRE, GRADE 500L
   SL. SQUARE WELDED MESH, GRADE 500L
   RL. RECTANGULAR WELDED MESH, GRADE 500L
   LTM. RECTANGULAR WELDED TRENCH MESH, GRADE 500L

CURING

1. CURING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH AS3600 AND SHALL COMMENCE WITHIN 2 HOURS OF FINISHING OPERATIONS.
2. CURING SHALL BE CONTINUAL SATURATION WITH POTABLE WATER FOR 3 DAYS FOLLOWED BY PREVENTION OF MOISTURE LOSS FOR THE NEXT 4 DAYS, USING POLYTHENE SHEETING OR WET HESSIAN PROTECTED BY WIND OR TRAFFIC AND THEN ALLOWING GRADUAL DRYING OUT.
3. CURING COMPOUNDS MAY BE USED PROVIDED THAT THEY COMPLY WITH AS3799 AND NOT AFFECT THE PROPOSED FINISH.
4. THE COMPATIBILITY OF CURING COMPOUNDS WITH THE PROPOSED FINISH AND OTHER CONCRETE ADMIXTURES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING AND APPLICATION.
5. CURING COMPOUNDS ARE APPLIED UNIFORMLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. PVA - BASED CURING COMPOUNDS ARE NOT ACCEPTABLE.
6. CURING SHALL BE UNDERTAKEN BY AN EXPERIENCED CONTRACTOR FAMILIAR WITH THE PROPOSED COMPOUNDS AND THE MANUFACTURER'S SPECIFICATIONS.
7. WHERE SHADE TEMPERATURES EXCEEDS 35°C, SPRAY THE EXPOSED SURFACE OF THE CONCRETE PAVEMENT / SLAB DURING THE PLACING OF FINISHING OPERATION WITH A FINE FILM OR APPROVED ALIPHATIC ALCOHOL. REPEAT THE SPRAY IF THE SPRAY SURFACE HAS BEEN RE-WORKED.
8. ENSURE ADEQUATE SUPPLY OF ALIPHATIC ALCOHOL ON-SITE PRIOR TO CONCRETE WORKS.

CONCRETE PAVEMENT JOINT NOTES

PJ1. CONCRETE MIX PARAMETERS ;
- MAXIMUM AGGREGATE SIZE 20mm
- FLEXURAL STRENGTH AT 28 DAYS = 4.5MPa
- MAXIMUM WATER / CEMENT RATIO = 0.55
- MAXIMUM SHRINKAGE LIMIT = 650 MICRON STRAINS (AS 1012 Pt 13)
- MINIMUM CEMENT CONTENT = 300kg/m3
- CEMENT TO BE TYPE "A" (NORMAL CEMENT) TO AS.1315
- SLUMP = 80mm

PJ2. JOINT TO BE SAWN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING. IF AN UNPLANNED CRACK OCCURS THE CONTRACTOR SHALL REPLACE WHOLE SLABS EITHER SIDE OF THE UNPLANNED CRACK, UNLESS DIRECTED OTHERWISE.

PJ3.
a. CONSTRUCT JOINTS AS DETAILED
b. CONSTRUCTION JOINTS WHERE REQUIRED BUT NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER AND CONSTRUCTED AT THE CONTRACTORS EXPENSE.
c. ALL LONGITUDINAL CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED.
d. BOND BREAKER TO BE TWO (2) UNIFORM COATS OF BITUMEN EMULSION ALL OVER THE EXPOSED SURFACE AND ON END.

PJ4. DOWELS AND TIE BARS TO MEET STRENGTH REQUIREMENTS OF STRUCTURAL GRADE STEEL IN ACCORDANCE AS. 1302. DOWELS AND TIE BARS SHALL BE ;-
- STRAIGHT
- TO LENGTH SPECIFIED
- CLEAN AND FREE FROM MILL SCALE, RUST AND OIL.
- SAWN TO LENGTH NOT CROPPED.

PJ5. DIMENSIONS OF SEALANT RESERVOIR DEPENDANT ON THE SEALANT TYPE ADOPTED. ENGINEERS APPROVAL TO BE OBTAINED FOR SEALANT AND RESERVOIR DIMENSIONS AND DETAIL PROPOSED BY THE CONTRACTOR. REFER DETAIL "B" FOR TYPICAL ARRANGEMENT AND SEALANT.

PJ6. PRIOR TO THE PLACEMENT OF CONCRETE IN THE ADJACENT SLAB, SELF EXPANDING CORK FILLER SHALL BE ADHERED TO THE ALREADY CAST AND CLEANED CONCRETE FACE USING AN APPROVED WATERPROOF ADHESIVE. ADHESIVE SHALL BE LIBERALLY APPLIED TO THE FULL FACE OF THE CONCRETE SLAB TO BE COVERED BY THE FILLER, AND ON THE FULL FACE OF THE FILLER TO BE ADHERED.

PJ7. REFER TO COMPACTION NOTES FOR PREPARATION OF SUB-BASE AND SUB-GRADE.

PJ8. ALL WORK TO BE BROOM FINISH.

VEHICULAR PAVEMENT JOINTING

1. ALL VEHICULAR PAVEMENT TO BE JOINTED AS SHOWN ON DRAWINGS.

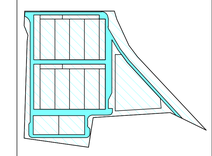
PEDESTRIAN FOOTPATH JOINTING

1. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND/OR ADJACENT PAVEMENT JOINTS.
2. ALL RAMPED CROSSINGS SHALL BE DOWELED INTO ADJOINING PATH PAVEMENT

CONCRETE KERB NOTES

1. CONCRETE STRENGTH SHALL BE 25MPa UNLESS OTHERWISE SPECIFIED.
2. REFER TO AS 1379 SPECIFICATION AN SUPPLY OF CONCRETE.
3. REFER TO AS 2879 CONCRETE KERBS AND CHANNELS.
4. CONTROL JOINT SPACING SHALL BE 3m MAXIMUM.
5. ISOLATION JOINT S SHALL BE LOCATED WHERE KERB ABUTS A DRAINAGE PIT INLET OR OTHER STRUCTURAL ELEMENT.
6. EXPANSION JOIN SPACING SHALL BE 15m MAXIMUM.

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
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Erskine Park NSW 2759

Drawing Title
NOTES SHEET

Scale at A0 NA
A0
Role CIVIL
Suitability SCHEMATIC DESIGN
By Author JK Chkd Checker JC Appd Approver MB
Internal Job No NA251463
Rev P2
Name SYD01-ACR-DR-CV-00103

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Do not scale

A0

EXISTING SYDNEY WATER SEWER MANHOLE

EXISTING DN225 PP SYDNEY WATER SEWER MAIN

EXISTING SURVEY BENCHMARK

3.0m WIDE INTERALOTMENT DRAINAGE EASEMENT

9.0m WIDE INTERALOTMENT ELECTRICAL EASEMENT

3.00m

9.00m

EXISTING CONCRETE HARDSTAND FOR VEHICLE ACCESS TO CONSTRUCTED WETLAND AND SUBJECT SITE

EXISTING DRIVEWAY CROSSING AND GATE TO LENORE DRIVE

EXISTING DRAINAGE EASEMENT

EXISTING CONSTRUCTED WETLAND/ON-SITE DETENTION BASIN

EXISTING DN225 PP CONCRETE ENCASED SYDNEY WATER SEWER MAIN

EXISTING SYDNEY WATER SEWER MANHOLE

EXISTING SYDNEY WATER SEWER VENT SHAFT

EXISTING DN525 GRP SYDNEY WATER SEWER MAIN ENCASED IN 616 (OD) JACKING PIPE

EXISTING TOP OF EMBANKMENT

EXISTING BOTTOM OF EMBANKMENT

1% AEP MAINSTREAM FLOOD LEVEL RL51.60m AHD (REF:

EXISTING SYDNEY WATER SEWER HARDSTAND

EXISTING SYDNEY WATER SEWER MANHOLE

EXISTING SOIL EROSION AND SOURING ALONG TOP OF EMBANKMENT TO CONSTRUCTED WETLAND. TO BE RECTIFIED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION RECOMMENDATIONS

EXISTING DN525 GRP SYDNEY WATER SEWER MAIN

EXISTING GROSS POLLUTANT TRAP TREATING FLOWS FROM INTERALOTMENT DRAINAGE EASEMENT

SCALE 1:500 @ A0

0 5 10 20 30 40 50 metres

Do not scale

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Keyplan

Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

NORTH

Civil

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ABN: 92 124 927 975

ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

EXISTING SURVEY AND SERVICES PLAN

Scale at A0: A0 1:500

Role: CIVIL

Suitability: SCHEMATIC DESIGN

By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No: NA251463

Rev: P1

Name: SYD01-ACR-DR-CV-00120

A0

SHEET 1

SHEET 2

SHEET 3

SHEET 4

SHEET 5

LOCKWOOD ROAD

LENORE DRIVE

LENORE DRIVE

SYD01 BUILDING CD
FFL 55.90

SYD01 BUILDING AB
FFL 55.20

GENERATOR
GANTRY
NOM. SSL 53.55

ELECTRICAL
SUBSTATION
(NOT PART OF
SCOPE)

SCALE 1:500 @ A0

0 5 10 20 30 40 50 metres

Do not scale

8/04/2026 3:42:14 PM

Keyplan

Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

NORTH

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ABN 92 124 419 975

ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

KEY PLAN

Scale at A0	1:500
Role	CIVIL
Suitability	SCHEMATIC DESIGN

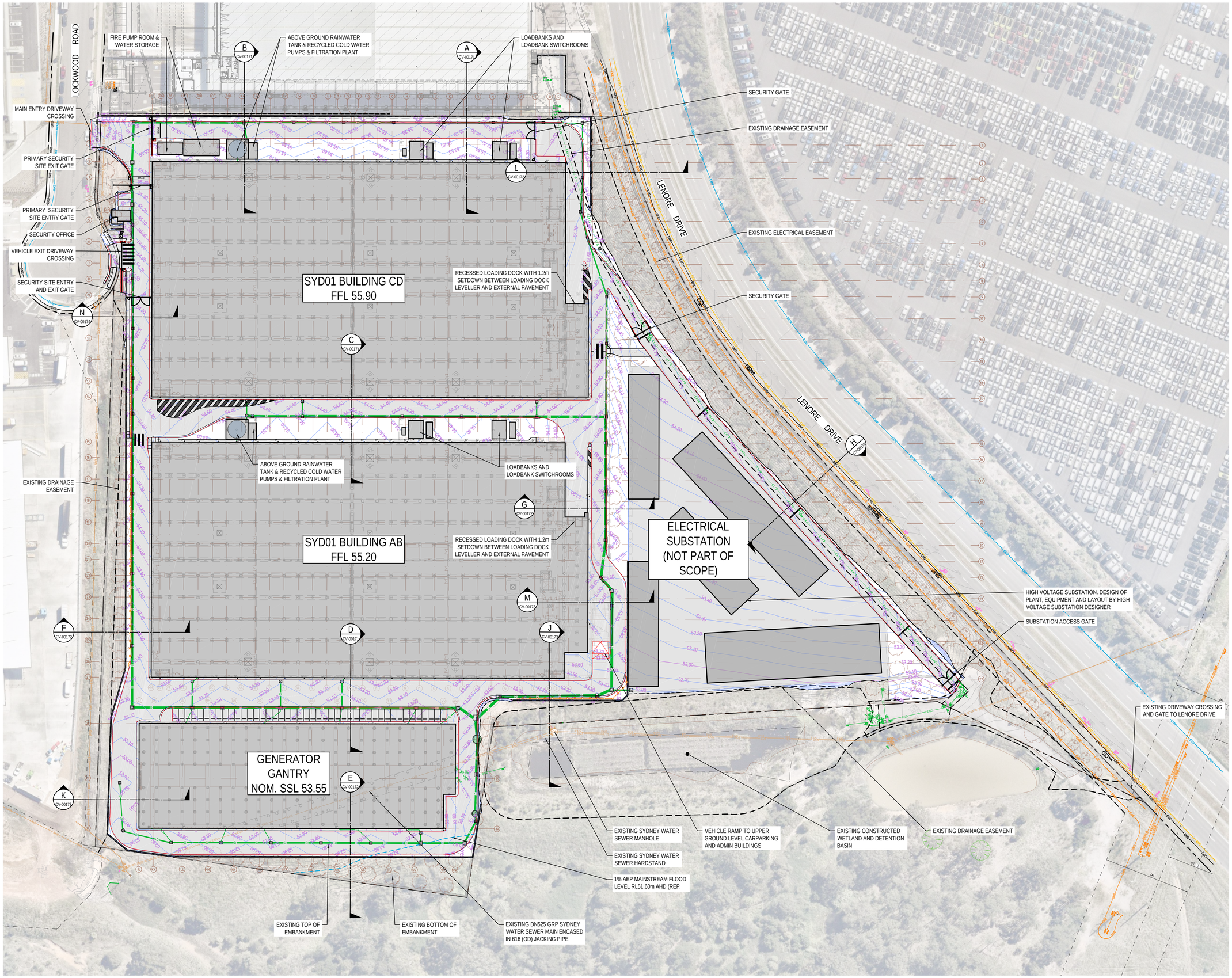
By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No	Rev
NA251463	P1

Name

SYD01-ACR-DR-CV-00160

A0



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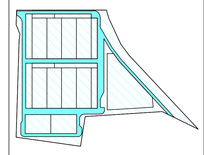
8/4/2026 3:42:14 PM

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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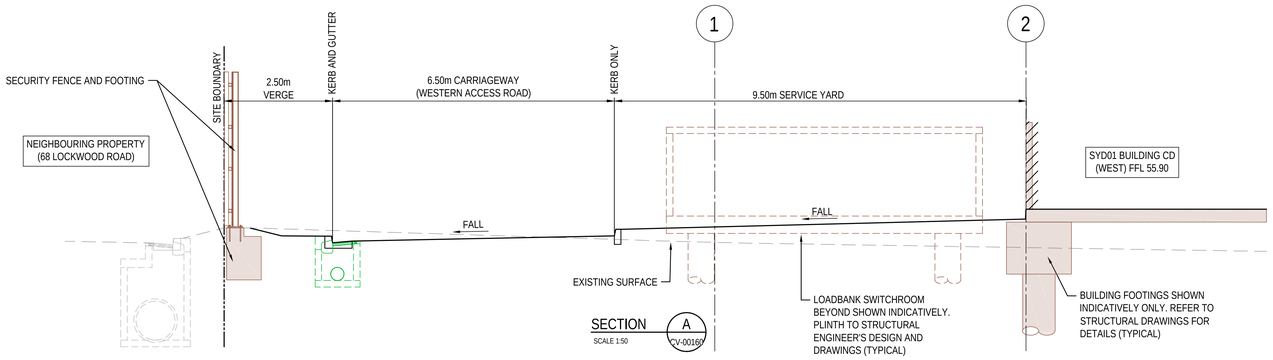
Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
GENERAL ARRANGEMENT PLAN

Scale at A0: 1:500
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author RP | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P1
Name: SYD01-ACR-DR-CV-00161



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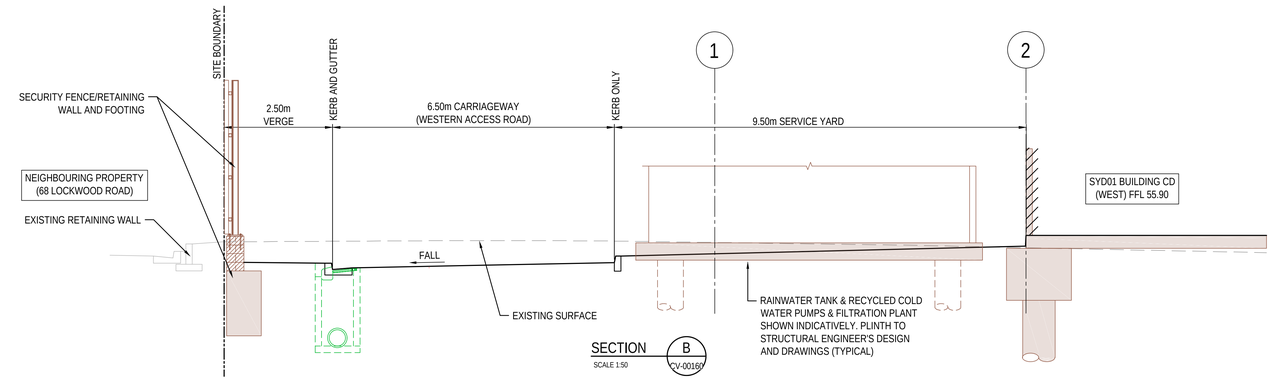

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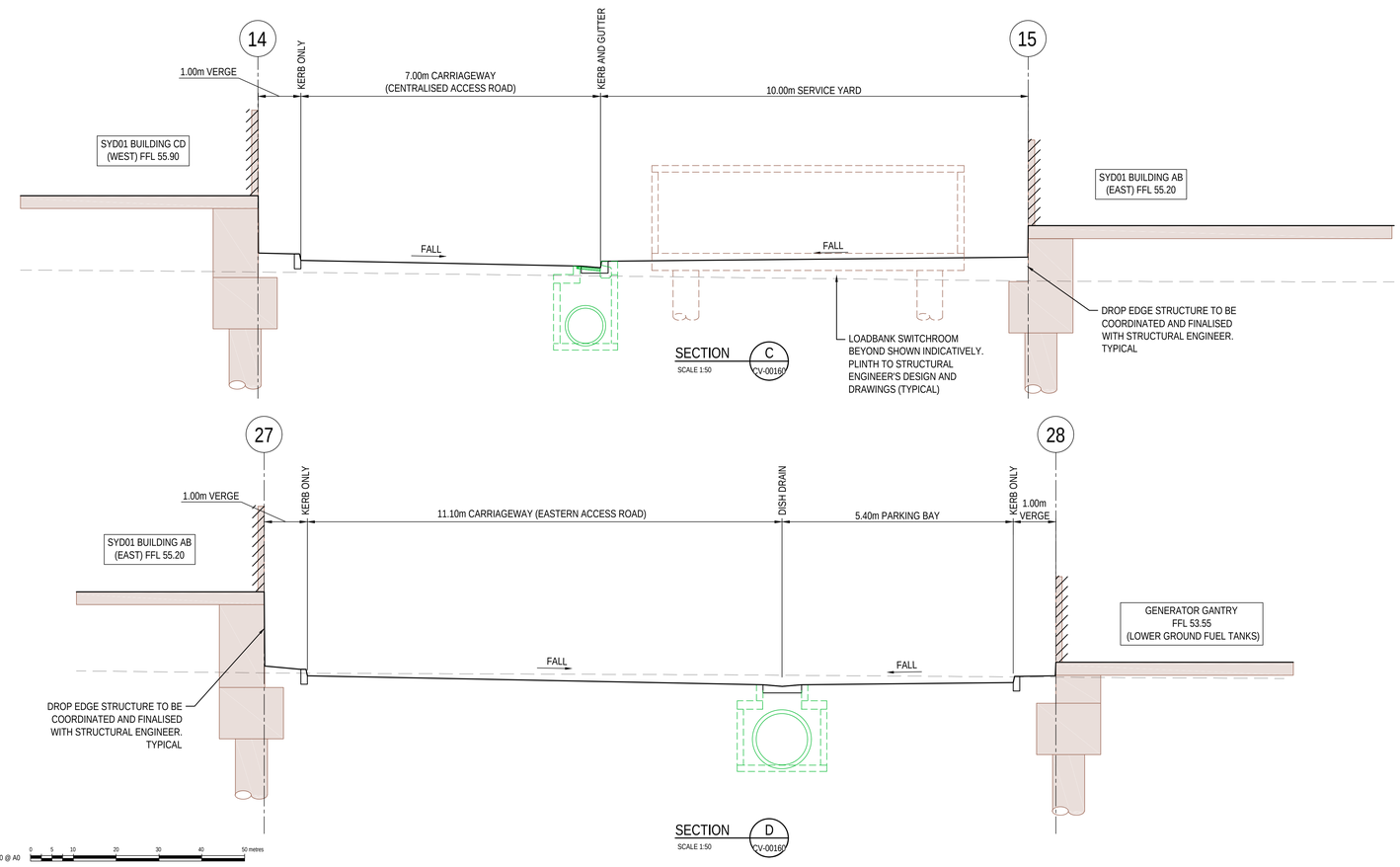

SECTION C
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CV-00160

SECTION D
SCALE 1:50
CV-00160

SCALE 1:500 @ A0 0 5 10 20 30 40 50 metres

Do not scale

A0 A B C D E F G H I J K L M N O P Q R S T U

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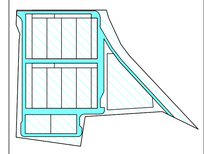
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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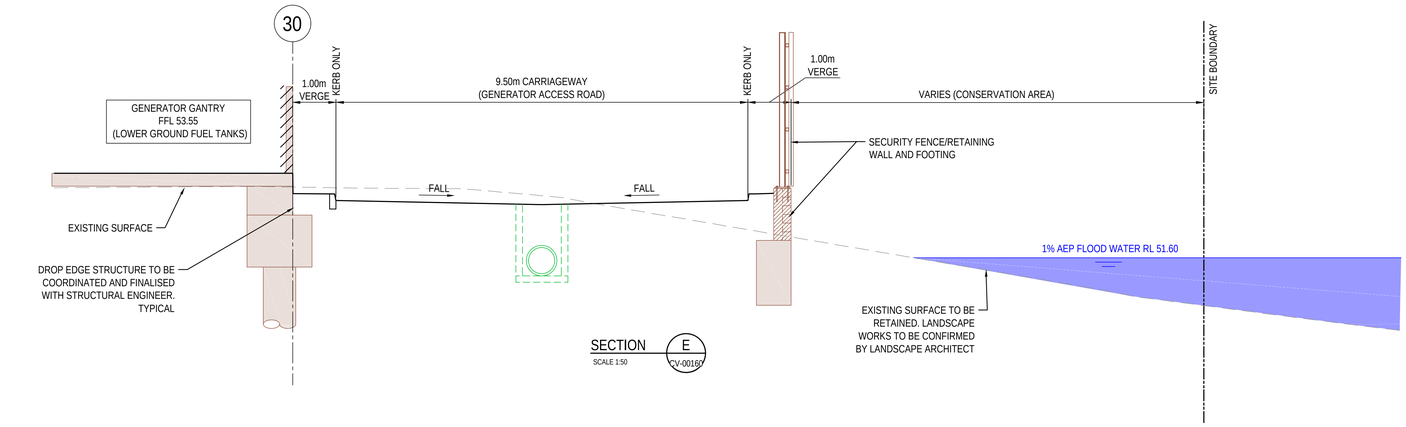
ABN 70 721 977 973
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITE SECTIONS
SHEET 1

Scale at A0: A0 1:50
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-CV-00171



SECTION E (CV-00160)
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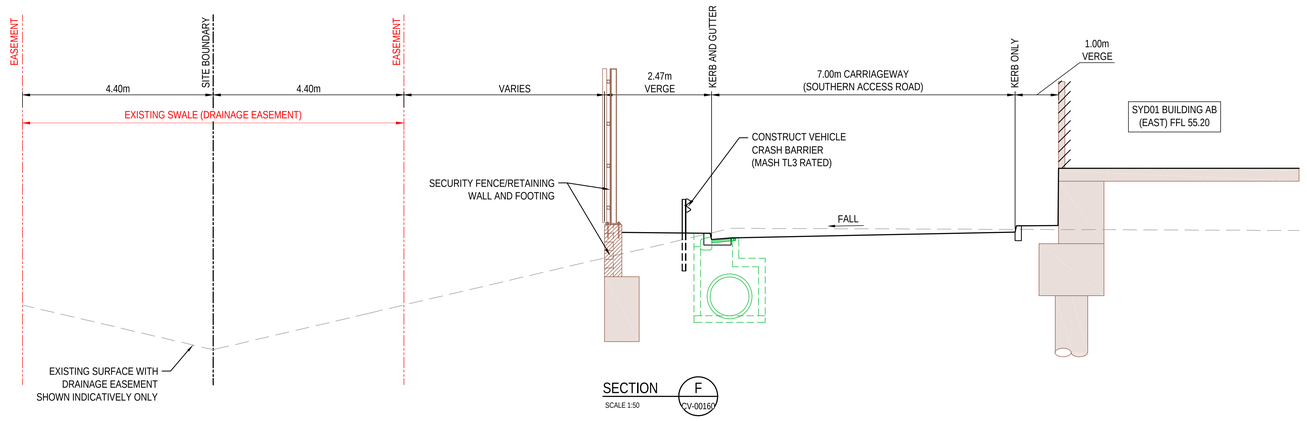

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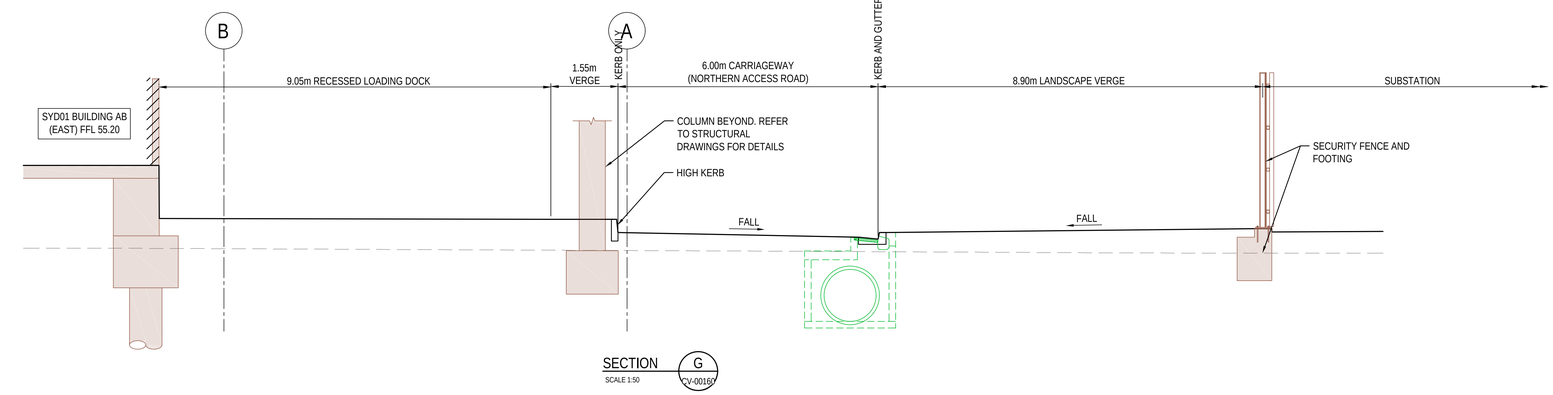

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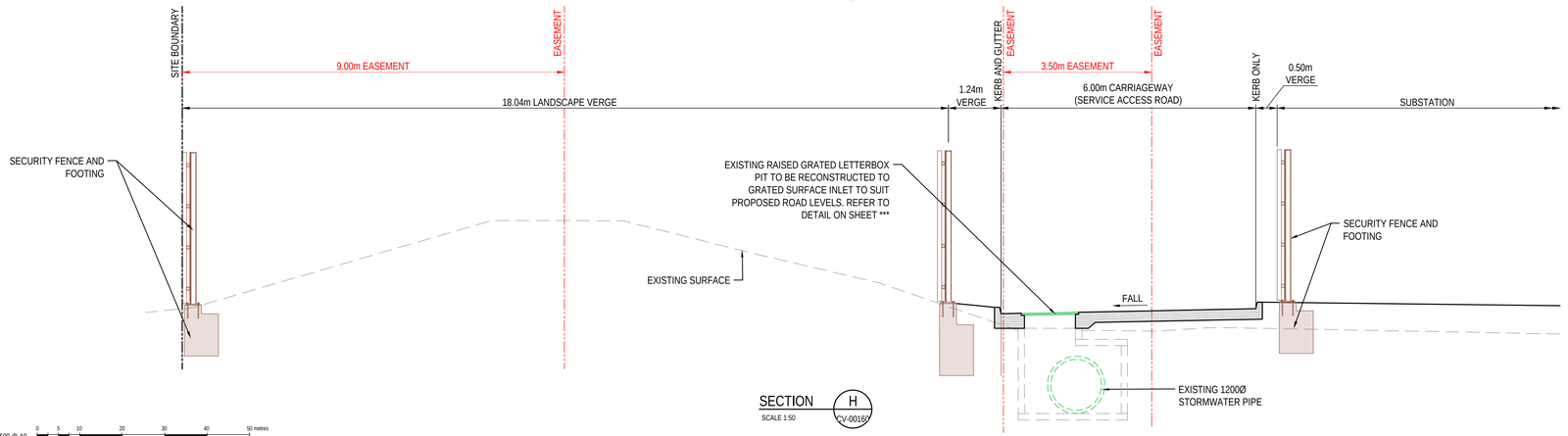
SCALE 1:50



SECTION H (CV-00160)
SCALE 1:50

SCALE 1:500 @ A0
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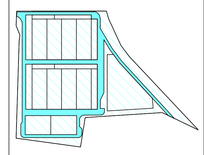
Do not scale

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITE SECTIONS
SHEET 2

Scale at A0: A0 1:50
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-00172

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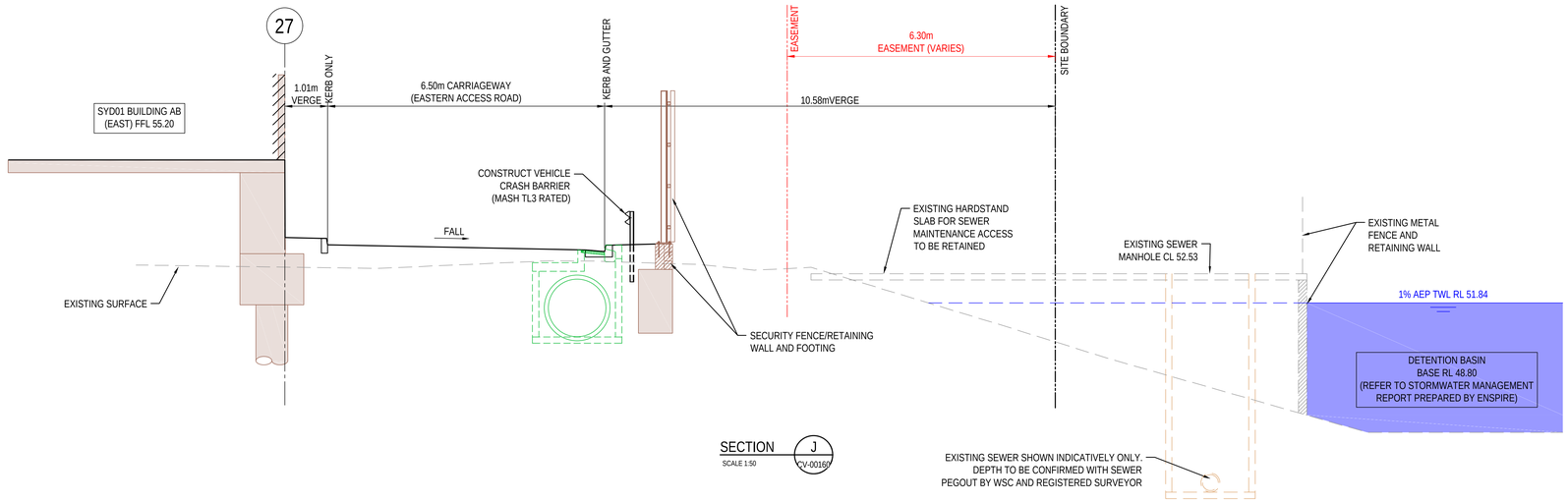

SECTION J
SCALE 1:50
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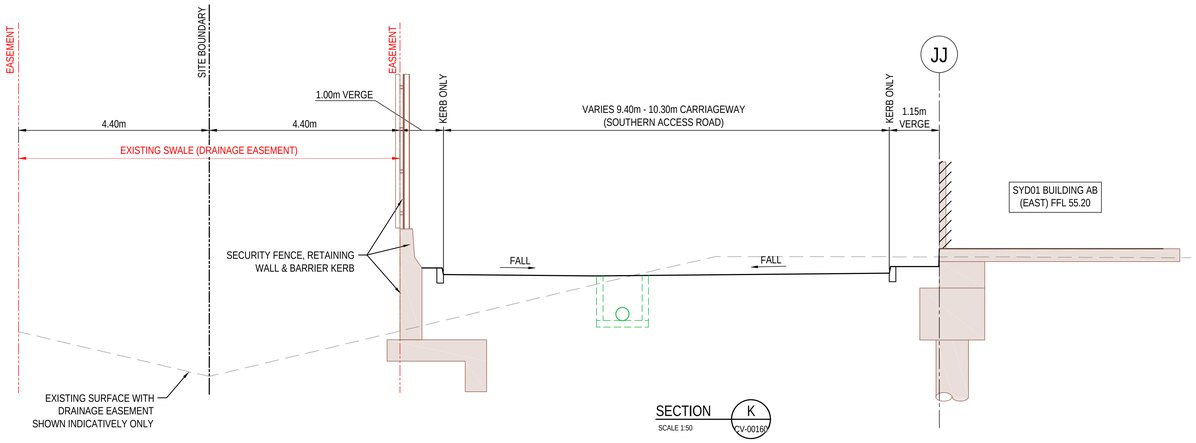

SECTION K
SCALE 1:50
CV-00161

SCALE 1:500 @ A0
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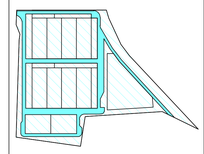
Do not scale

8/4/2025 3:42:14 PM

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ABN: 92 124 927 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

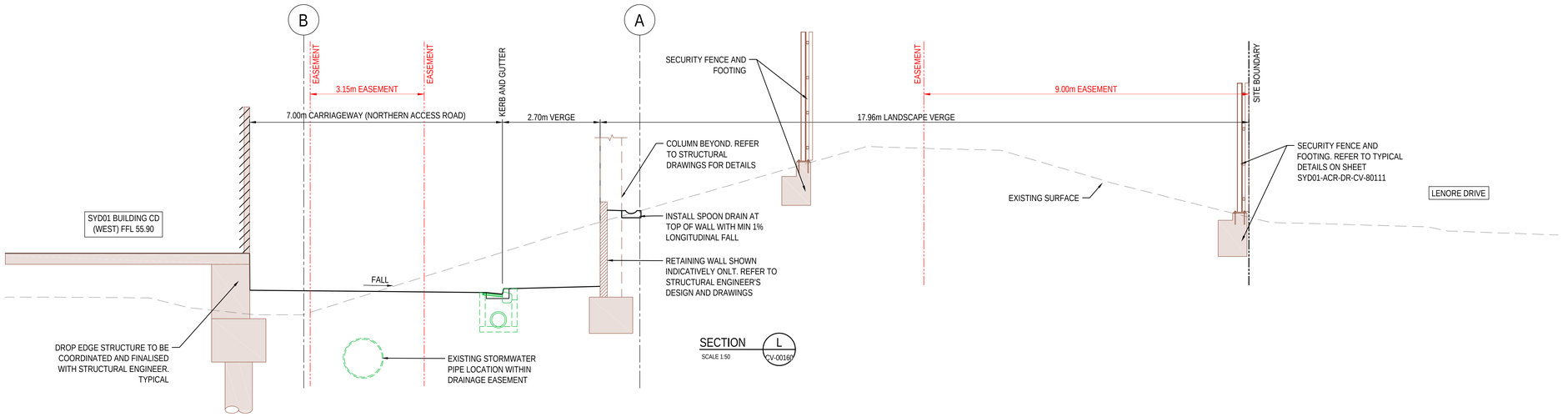
Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITE SECTIONS
SHEET 3

Scale at A0
A0 1:50
Role
CIVIL
Suitability
SCHEMATIC DESIGN

By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No
NA251463
Rev
P2
Name
SYD01-ACR-DR-CV-00173



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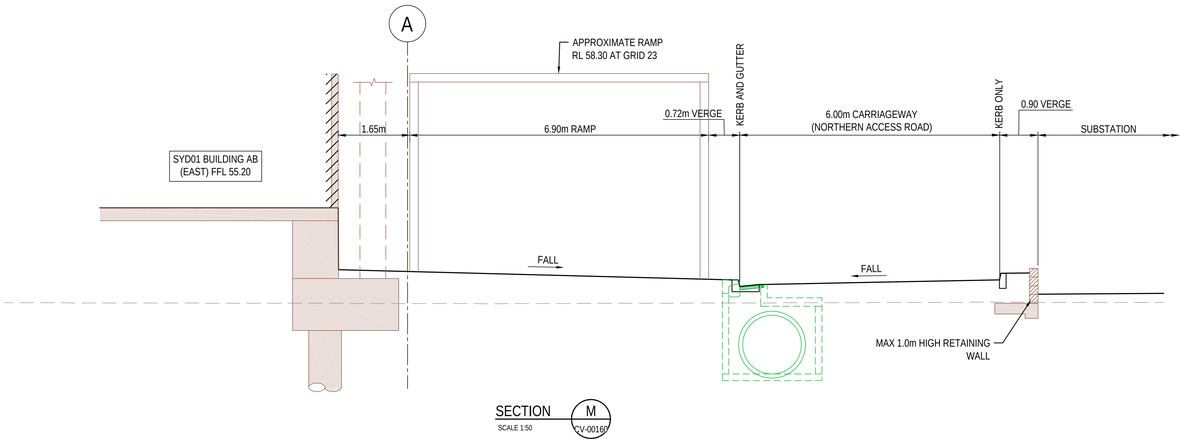
CV-00160



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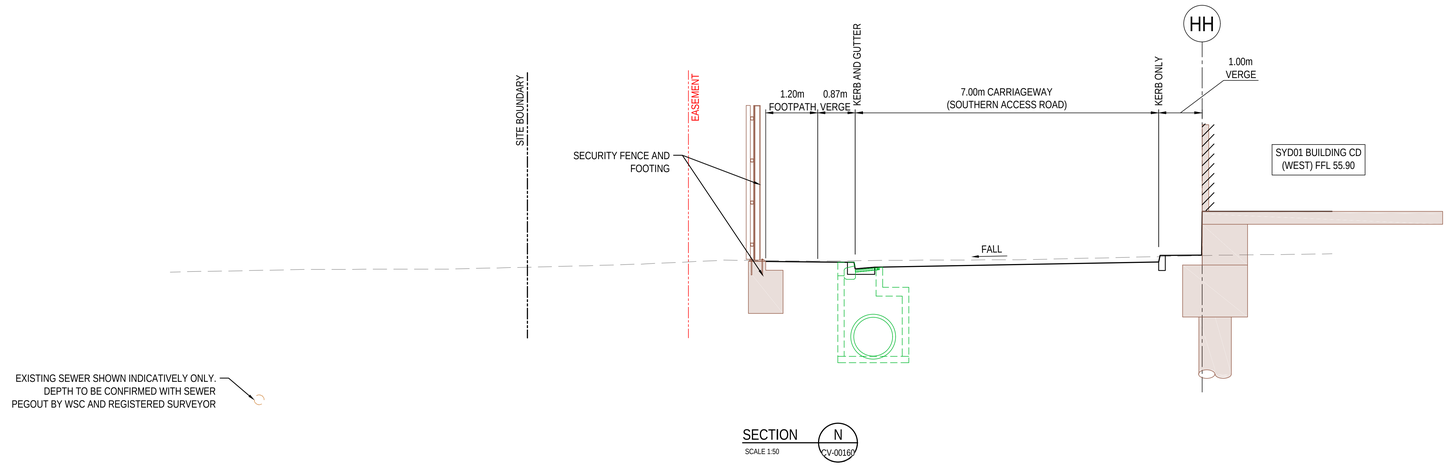
SCALE 1:50
CV-00161



SECTION N
SCALE 1:50
CV-00162

SCALE 1:500 @ A0
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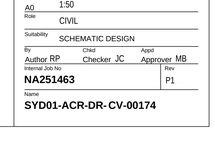
Do not scale

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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ABN 92 124 927 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITE SECTIONS
SHEET 4

Scale at A0
A0 1:50
Role
CIVIL
Suitability
SCHEMATIC DESIGN
By Author RP
Chkd Checker JC
Appd Approver MB
Internal Job No
NA251463
Rev
P1
Name
SYD01-ACR-DR-CV-00174

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A0

INDICATIVE LOCATION OF TEMPORARY STABILISED CONSTRUCTION EXIT TO REMAIN UNTIL AFTER COMPLETION OF WORKS. CONTRACTOR TO DETERMINE EXACT LOCATION ON SITE. REFER TO DETAIL ON DRAWING C03-0201

CONSTRUCT TEMPORARY SEDIMENT CONTROL FENCE TO REMAIN UNTIL AFTER COMPLETION OF WORKS. TYPICAL. REFER TO DETAIL ON DRAWING C03-0201

CONSTRUCT TEMPORARY CUT-OFF DRAIN DIRECTED TO TEMPORARY SEDIMENT BASIN. CUT-OFF DRAIN TO REMAIN UNTIL AREAS ARE SEALED. TYPICAL. REFER TO DETAIL ON DRAWING C03-0201

CONSTRUCT TEMPORARY ROCK CHECK DAMS WITHIN TEMPORARY CUT-OFF DRAIN AT MAXIMUM 30m SPACINGS. TYPICAL. REFER TO DETAIL ON DRAWING C03-0201

EXISTING ELECTRICAL EASEMENT

WRAP ALL EXISTING GRATES AND PIT OPENINGS IN BIDIIM A14 OR APPROVED GEOTEXTILE FABRIC TO REMAIN UNTIL AFTER COMPLETION OF WORKS. TYPICAL. REFER TO DETAIL ON DRAWING C03-0201

TEMPORARY SEDIMENT BASIN WITH CHEMICAL DOSING FACILITY TO FLOCCULATE SUSPENDED SOLIDS TO SATISFY AUTHORITY WATER QUALITY CRITERIA.
BASIN BASE SURFACE AREA = 750m²
BASIN SURFACE AREA INCLUDING BATTERS = 1300m²
BASIN DEPTH (TO SPILLWAY INVERT) = 1.50m
BASIN VOLUME = 1700m³

10m LENGTH SPILLWAY SET DOWN 0.3m BELOW TOP OF BASIN

INDICATIVE LOCATION OF TEMPORARY STOCKPILE AREA TO REMAIN UNTIL AFTER COMPLETION OF WORKS. EXACT SIZE AND LOCATION TO BE DETERMINED ON SITE BY THE CONTRACTOR. REFER TO DETAIL ON DRAWING C03-0201

TEMPORARY SEDIMENT BASIN CALCULATION:

SOIL TYPE D
VOLUME OF SETTLING ZONE (VSZ)
= 10 x Cv x A x R
= 10 x 0.5 x 7.7 x 28.8
= 1108.8m²
VOLUME OF SEDIMENT STORAGE ZONE (VSSZ)
= VSZ x 0.5
= 1108.8 x 0.5
= 554.4m²
VOLUME OF SEDIMENT BASIN (VSB)
= VSZ + VSSZ
= 1108.8 + 554.4
= 1663.2m²
V PROVIDED = 1700m³

SCALE 1:500 @ A0
0 5 10 20 30 40 50 metres

Do not scale

8/04/2025 3:42:14 PM

Keyplan

Rev	Date	Description

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ABN: 92 124 927 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SOIL AND WATER MANAGEMENT PLAN

Scale at A0: A0 1:500
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: #N/A
Name: SYD01-ACR-DR-CV-10101

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
2. CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES OF "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION", DEPT OF HOUSING, 2004 (BLUE BOOK).
3. ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.

LAND DISTURBANCE INSTRUCTIONS

1. DISTURBANCE TO BE NO FURTHER THAN 5 (PREFERABLY 2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON APPROVED PLANS. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
2. ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METRES THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
3. ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
4. WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE:
   a. INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
   b. CONSTRUCT THE STABILISED SITE ACCESS.
   c. CONSTRUCT DIVERSION DRAINS AS REQUIRED.
   d. INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
   e. INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS.
   f. CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
   g. UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
   h. GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
   i. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
5. ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING. 6. ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

EROSION AND SEDIMENT CONTROL NOTES Cont.

SITE INSPECTION AND MAINTENANCE INSTRUCTIONS

1. THE SITE PRINCIPAL'S REPRESENTATIVE WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
   a. ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS.
   b. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
   c. REMOVE TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURE HAS BEEN EXCEEDED.
   d. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
   e. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT.
   f. MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
2. THE PRINCIPAL'S REPRESENTATIVE WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
   a. THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
   b. THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
   c. THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE.
   d. THE NEED FOR DUST PREVENTION STRATEGIES.
   e. ANY REMEDIAL WORKS TO BE UNDERTAKEN. THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

SEDIMENT CONTROL INSTRUCTIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE PRINCIPAL'S REPRESENTATIVE TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
3. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CAN NOT OCCUR.
4. STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METRES OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
5. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
6. TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
7. ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

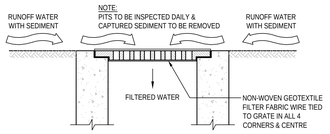
EROSION AND SEDIMENT CONTROL NOTES Cont.

SOIL EROSION CONTROL INSTRUCTIONS

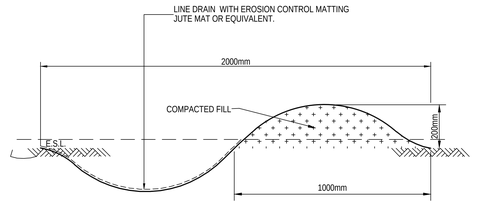
1. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
   a. 2(H):1(V) WHERE SLOPE LENGTH LESS THAN 12 METRES
   b. 2.5(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 METRES.
   c. 3(H):1(V) WHERE SLOPE LENGTH BETWEEN 16 AND 20 METRES.
   d. 4(H):1(V) WHERE SLOPE LENGTH GREATER THAN 20 METRES.
2. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
3. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUNDCOVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER -SOILS AND CONSTRUCTION", DEPT OF HOUSING 2004 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
4. STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.1 (60% GROUND-COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
5. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
6. FOR AREAS OF SHEET FLOW USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20 KG/HA AND OATS 20 KG/HA.
7. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND-COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
8. RE-VEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTANT ANNUAL COVER CROPS SHOULD BE USED.

WASTE CONTROL INSTRUCTIONS

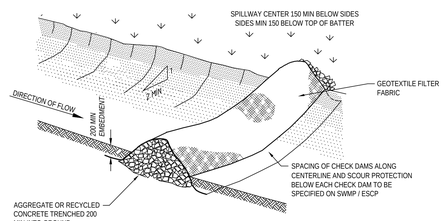
1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE PRINCIPAL'S REPRESENTATIVE.
2. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
3. ALL SITE STAFF AND SUB-CONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
4. ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
5. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.



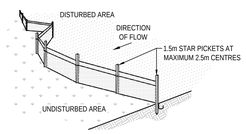
INLET TRAP
N.T.S.
NOTE
TO BE USED IN PAVED AREAS WHERE TRAFFIC ACCESS IS REQUIRED

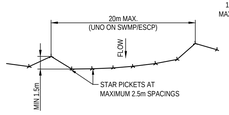


CUT-OFF DRAIN - 2.0m WIDE
N.T.S.

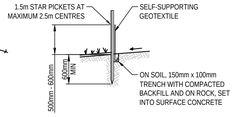


CHECK DAM - ROCK





PLAN

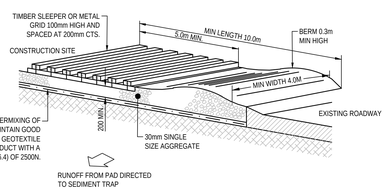


SECTION DETAIL

CONSTRUCTION NOTES
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
2. DRIVE 1.5m LONG STAR PICKETS INTO GROUND, 2.5 METRES APART (MAX). ENSURE STAR PICKETS ARE FITTED WITH SAFETY CAPS.
3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.

SEDIMENT CONTROL FENCE
N.T.S.

NOTE
ENSURE THAT ALL UTILITY ASSETS ARE MAINTAINED AND PROTECTED AT ALL TIMES IN THE VICINITY OF THE TEMPORARY CONSTRUCTION EXIT

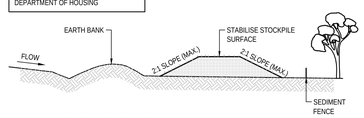


CONSTRUCTION NOTES
1. STRIP TOPSOIL AND LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
4. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING 30mm SINGLE SIZE AGGREGATE.
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP WHERE THE SEDIMENT IS COLLECTED AND REMOVED.

MAINTENANCE NOTES
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT OFF THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED OFF THE CONSTRUCTION SITE MUST BE REMOVED IMMEDIATELY.

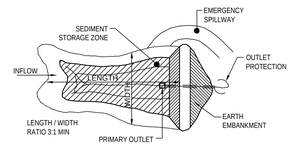
TEMPORARY STABILISED CONSTRUCTION EXIT
N.T.S.

SOURCE:
MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION. THIRD EDITION, AUGUST 1998 PRODUCED BY THE DEPARTMENT OF HOUSING

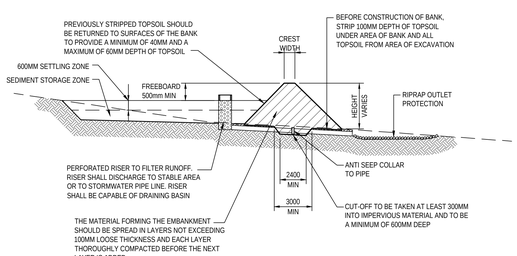


CONSTRUCTION NOTES
1. LOCATE STOCKPILE AT LEAST 5 METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
3. WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METERS IN HEIGHT.
4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
5. CONSTRUCT EARTH BANK (STANDARD DRAWING 5-2) ON THE UPSLOPE SIDE TO DIVERT RUN OFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-7) 1 TO 2 METRES DOWNSLOPE OF STOCKPILE.

STOCKPILES
N.T.S.

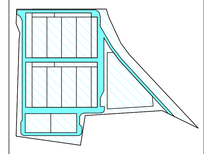


SEDIMENT BASIN (TYPICAL) PLAN
NTS



SEDIMENT BASIN (TYPICAL) CROSS SECTION
NTS

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	06.03.26	RE-ISSUE FOR SSDA

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Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SOIL AND WATER MANAGEMENT NOTES AND DETAILS

Scale at A0: AS SHOWN
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-10121

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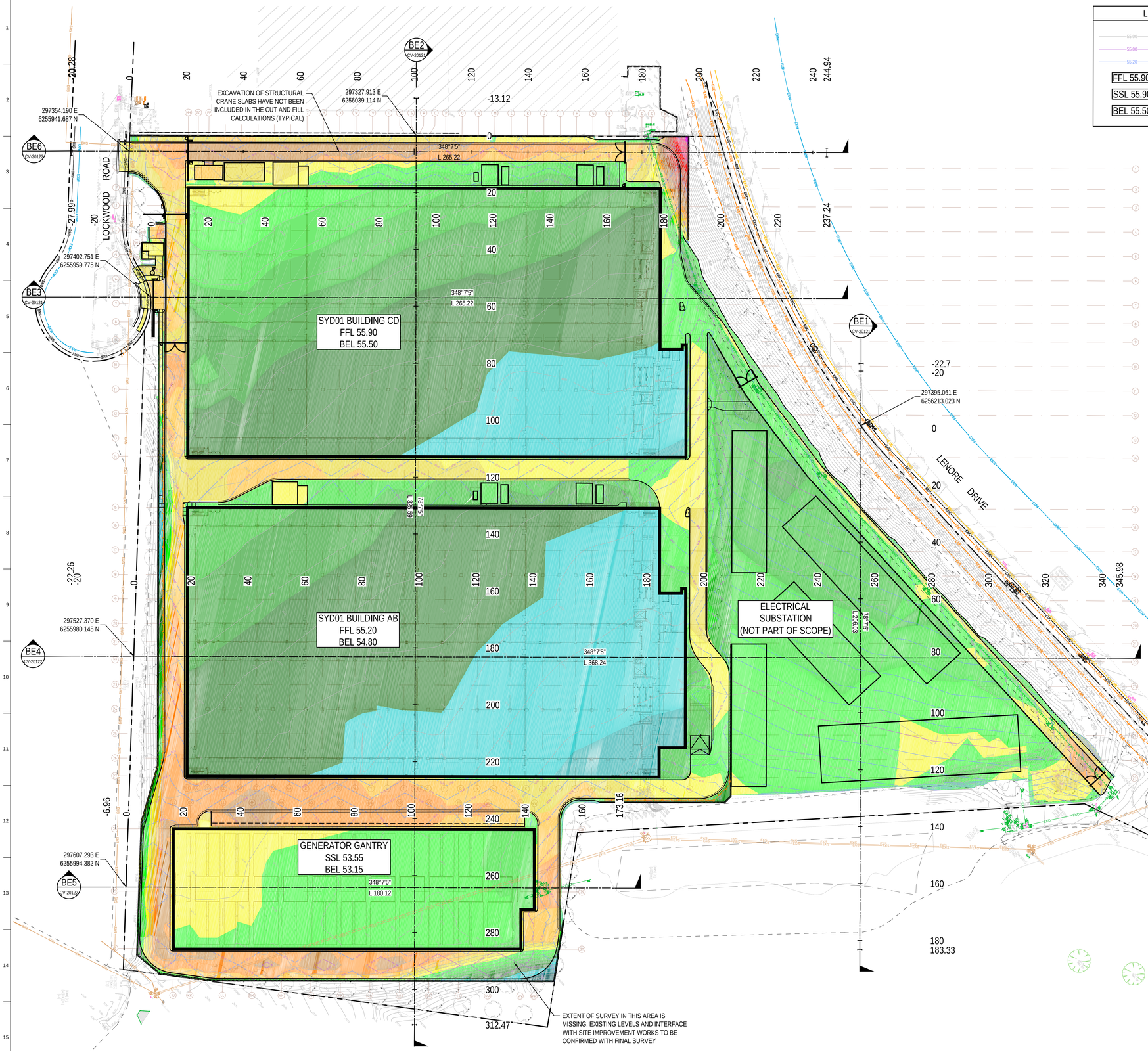


LEGEND - CIVIL WORKS

- 55.00 — EXISTING SURFACE CONTOURS
- 55.00 — BULK EARTHWORKS CONTOUR MAJOR
- 55.20 — BULK EARTHWORKS CONTOUR MINOR
- FFL 55.90 — FINISHED FLOOR LEVEL
- SSL 55.90 — STRUCTURAL SLAB LEVEL
- BEL 55.50 — BULK EARTHWORKS LEVEL

LEGEND

CUT		FILL	
-8 to -6.5 m		0.00 to 0.25 m	
-6.5 to -5 m		0.25 to 0.5 m	
-5.00 to -4.00 m		0.50 to 0.75 m	
-4.00 to -3.00 m		0.75 to 1.00 m	
-3.00 to -2.50 m		1.00 to 1.50 m	
-2.50 to -2.00 m		1.50 to 2.00 m	
-2.00 to -1.50 m		2.00 to 2.50 m	
-1.50 to -1.00 m		2.50 to 3.00 m	
-1.00 to -0.75 m		3.00 to 4.00 m	
-0.75 to -0.50 m		4.00 to 5.00 m	
-0.50 to -0.25 m		5.00 to 6.5 m	
-0.25 to 0.00 m		6.5 to 8 m	

NOTE: ALL EARTHWORKS QUANTITIES ARE THEORETICAL AND INDICATIVE ONLY, BASED UPON BANKED VOLUMES WITH NO ALLOWANCE FOR BULKING FACTORS. CONTRACTOR TO MAKE THEIR OWN ASSESSMENT OF EARTHWORKS QUANTITIES

SURFACE STRIPPING CUT QUANTITIES

TOTAL STRIPPED SURFACE VOLUME (NOMINAL 150mm DEPTH)	10,040m³

CUT / FILL QUANTITIES

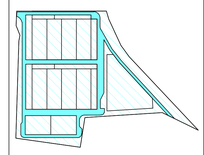
TOTAL CUT (FROM STRIPPED SURFACE TO BULK EARTHWORKS LEVEL)	-7,590m³
TOTAL FILL (FROM BULK EARTHWORKS LEVEL TO STRIPPED SURFACE)	46,050m³
TOTAL BALANCE	38,460m³

NOTES:

1. A NOMINAL 150mm DEPTH ALLOWANCE FOR STRIP TOPSOIL THROUGHOUT THE SITE HAS BEEN INCLUDED IN THE STRIPPED TOPSOIL CALCULATIONS.
2. BOXING OUT ALLOWANCE FOR THE FOLLOWING CIVIL PAVEMENTS HAVE BEEN INCLUDED IN THE CUT AND FILL CALCULATIONS:
   - ASPHALT CIRCULATION ROAD PAVEMENTS (TYPE 1) = 810mm
   - CONCRETE VEHICULAR CROSSINGS (TYPE 2) = 255mm
   - CONCRETE FOOTPATH PAVEMENTS (TYPE 3) = 325mm
   - CONCRETE CIRCULATION ROAD PAVEMENTS (TYPE 4) = 500mm
   - CONCRETE SUBSTATION ROAD PAVEMENTS (TYPE 5) = 520mm
   - LANDSCAPING TURF = NOM. 100mm (ASSUMED)

   BOXING OUT ALLOWANCE FOR THE FOLLOWING STRUCTURAL SLABS HAVE BEEN INCLUDED IN THE CUT AND FILL CALCULATIONS (REFER TO STRUCTURAL DRAWINGS FOR DETAILS:
   - SYD01 BUILDINGS = NOM. 400mm
   - GENERATOR GANTRY = NOM. 400mm
   - SECURITY OFFICE = NOM. 400mm
   - FIRE PUMP ROOM = NOM. 400mm
   - EXTERNAL PLINTHS (RWT, PLANT & LOAD BANKS) = NOM. 400mm
3. DETAILED BULKING AND CUT/FILL QUANTITIES FOR INGROUND TANKS, LIFT PITS, FOOTINGS, TRENCHING, LANDSCAPE PLANTING PROFILES AND THE LIKE HAS NOT BEEN INCLUDED IN THE CUT AND FILL ASSESSMENT.
4. ALL TOPSOIL AND SITE-WON EXCAVATED MATERIALS SHALL BE STOCKPILED ON DEVELOPMENT SITE WHERE PRACTICAL AND UTILISED EFFECTIVELY TO ENCOURAGE APPROPRIATE REVEGETATION. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. EXCESS MATERIALS TO BE DISPOSED OFF-SITE TO BE CONFIRMED BY GENERAL CONTRACTOR DURING CONSTRUCTION.
5. EARTHWORKS CUT AND FILL VOLUMES WITHIN SUBSTATION AREAS INCLUDES A NOMINAL 250mm BOXING OUT DEPTH PENDING CONFIRMATION BY SUBSTATION DESIGNER.
6. CONTRACTOR TO CONFIRM EXACT LOCATION AND DEPTH OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORKS.
7. FINAL SUBSTATION YARD PAVEMENT LAYERS AND GRADING IS TO BE CONFIRMED WITH SCOPE DELINEATION BETWEEN THE SYD01 MAIN WORKS CONTRACTOR AND THE HIGH VOLTAGE SUBSTATION CONTRACTOR.
8. THE CONTRACTOR SHALL ALLOW FOR EXCAVATION OF ALL ERODED SOIL, VOIDS AND UNSTABLE GROUND ALONG THE TOP OF EMBANKMENT OF THE CONSTRUCTED WETLAND IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION RECOMMENDATIONS. BACKFILL WITH COMPACTED ENGINEERED FILL OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

NORTH

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ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
BULK EARTHWORKS CUT AND FILL PLAN

Scale at A0: A0 1:500
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-CV-20101

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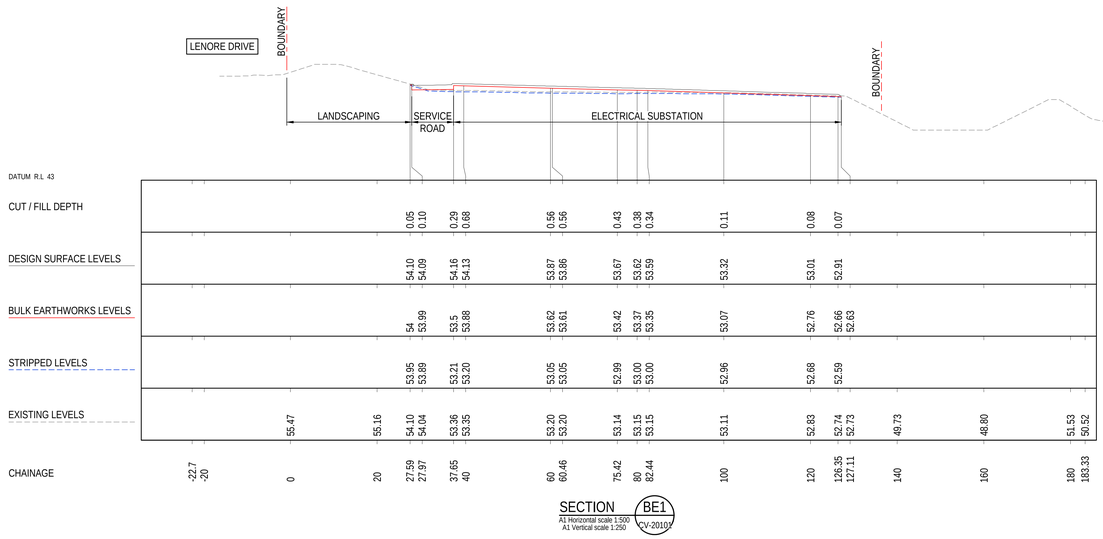

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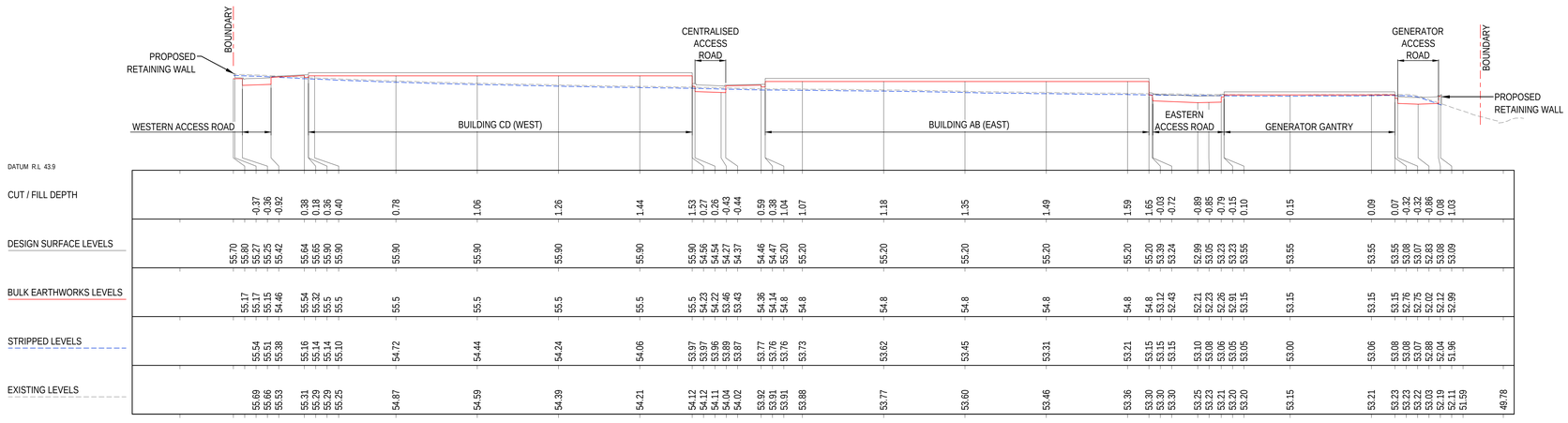

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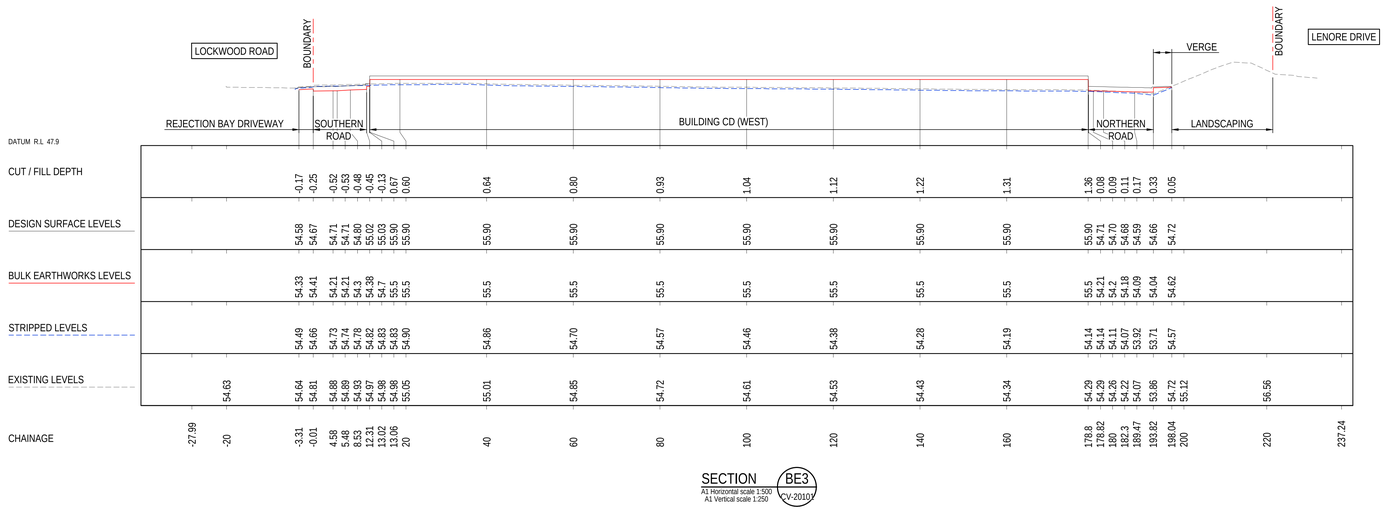

SECTION BE3 (CV-20103)
A1 Horizontal scale 1:500
A1 Vertical scale 1:250

SCALE 1:250 @ A0 — 0 2.5 5 10 15 20 25 metres
SCALE 1:500 @ A0 — 0 5 10 20 30 40 50 metres

Do not scale

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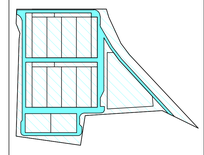
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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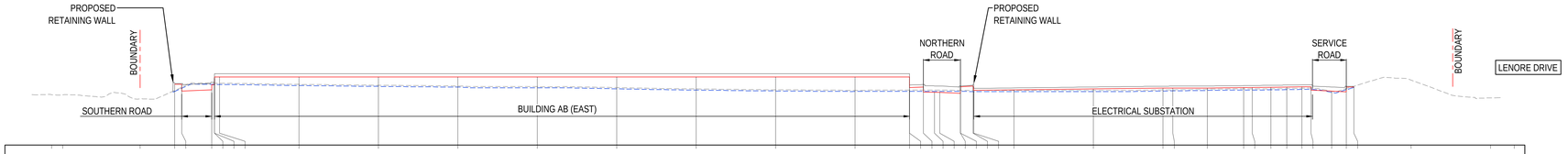
ABN: 92 124 401 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
BULK EARTHWORKS SECTIONS
SHEET 1

Scale at A0: A0 — AS SHOWN
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK — Chkd: Checker JC — Appd: Approver MB
Internal Job No: NA251463 — Rev: P2
Name: SYD01-ACR-DR- CV-20121


PROPOSED
RETAINING WALL
BOUNDARY
SOUTHERN ROAD
BUILDING AB (EAST)
NORTHERN
ROAD
PROPOSED
RETAINING WALL
SERVICE
ROAD
BOUNDARY
LENORE DRIVE
ELECTRICAL SUBSTATION

DATUM R.L 46.2

| | | |

A0

LOCKWOOD ROAD

CONSTRUCT VEHICLE CROSSING TO PENRITH COUNCIL INDUSTRIAL/ COMMERCIAL DRAWING SD1004

EXISTING SEWER MANHOLE SURFACE LEVEL (RL55.81) TO BE RETAINED. CONTRACTOR TO REPLACE MANHOLE LID WITH NEW CLASS 'D' SYDNEY WATER APPROVED LID IF DAMAGED

INTERCOM AND CARD READER ARRANGEMENT AND DETAILS TO ARCHITECT'S DRAWINGS

CUTOUT IN KERBS TO ALLOW GATE TO OPEN AT ROAD LEVEL. CONTRACTOR TO SUBMIT SHOP DRAWING OF GATE DETAILS INCLUDING FINAL KERB CUTOUT AND PAVEMENT ARRANGEMENT FOR ENGINEER'S APPROVAL.

SECURITY OFFICE FFL 55.40

RAMP 1:20 AT 2.40m

MAIN ENTRY PEDESTRIAN ACCESS

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

PROPOSED VEHICLE CROSSING TO PENRITH CITY COUNCIL INDUSTRIAL/ COMMERCIAL DRAWING SD1004

DEMOLISH EXISTING DRIVEWAY LAYBACK AND RECONSTRUCT CONCRETE FOOTPATH AND KERB AND GUTTER IN ACCORDANCE WITH PENRITH CITY COUNCIL STANDARD DRAWINGS SD1001 & SD1003/1

CUTOUT IN KERBS FOR SLIDING GATE BACKSPAN. CONTRACTOR TO SUBMIT SHOP DRAWING OF GATE DETAILS INCLUDING FINAL KERB CUTOUT AND PAVEMENT ARRANGEMENT FOR ENGINEER'S APPROVAL

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

CUTOUT IN KERBS FOR SLIDING GATE BACKSPAN. CONTRACTOR TO SUBMIT SHOP DRAWING OF GATE DETAILS INCLUDING FINAL KERB CUTOUT AND PAVEMENT ARRANGEMENT FOR ENGINEER'S APPROVAL.

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

FIRE PUMP ROOM FSL 55.55

FIRE TANK PLINTH SSL 55.85

RWT TANK PLINTH SSL 55.85

MAX 0.2m HIGH HOB TO STRUCTURAL ENGINEER'S DETAIL

RECYCLED COLD WATER PUMPS & FILTRATION PLANT PLINTH SSL 55.85

CONTRACTOR TO ENSURE NO LOCAL PONDING BEHIND PLINTHS BY GRADING AT MINIMUM 1% ALONG THE PLINTH INTERFACE (TYPICAL)

PROPOSED VERGE LANDSCAPING TO LANDSCAPE ARCHITECT'S DETAILS. TYPICAL

DOOR ACCESS POSITION AND STAIRS TO BE COORDINATED WITH EXTERNAL PAVING LEVELS

LOADBANK PLINTH SSL 55.70

LOADBANK SWITCHROOM FSL 55.80

LOADBANK SWITCHROOM FSL 55.70

LOADBANK PLINTH SSL 55.70

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

SYD01 BUILDING CD
FFL 55.90

ADJOINS SYD01-ACR-DR-CV-30102

ADJOINS SYD01-ACR-DR-CV-30103

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ABN: 92 124 419 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITEWORKS AND GRADING PLAN
SHEET 1

Scale at A0: A0 1:200
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-CV-30101

8/4/2026 3:42:14 PM

A0

PROPOSED PERIMETER FENCE TO MATCH EXISTING BOUNDARY LEVELS ALONG EASEMENT WIDTH. FENCE FOOTINGS TO BE LOCATED OUTSIDE OF EASEMENT

EXISTING EASEMENT TO DRAIN WATER WITH EXISTING PIT AND PIPE NETWORK TO BE PROTECTED AND RETAINED. ALL BUILDING FOOTINGS AND STRUCTURES TO BE LOCATED OUTSIDE OF EASEMENT LINE

PILE RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS

EXISTING UNDERGROUND CABLE EASEMENT TO BE PROTECTED AND RETAINED

CONSTRUCT BOLLARDS AROUND STRUCTURAL COLUMN

RECESSED LOADING DOCK SET DOWN 1.2m BELOW FINISHED FLOOR LEVEL

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

ADJOINS SYD01-ACR-DR-CV-30101

ADJOINS SYD01-ACR-DR-CV-30104

LENIORE DRIVE

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

8/04/2026 3:42:14 PM

Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITEWORKS AND GRADING PLAN
SHEET 2

Scale at A0: A0 1:200
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-30102

A0

ADJOINS SYD01-ACR-DR-CV-30101

CONSTRUCT RETAINING WALL ALONG EXISTING EMBANKMENT FOR NEW CIRCULATION ROAD. CONTRACTOR TO OVER EXCAVATE UNTIL STIFF CLAYS ARE FOUND TO GEOTECHNICAL ENGINEER'S REQUIREMENTS. CONTRACTOR TO UNDERTAKE ALL TEMPORARY DE-WATERING WORKS TO ENABLE CONSTRUCTION OF RETAINING WALL. TYPICAL

TRANSITION FROM KERB ONLY TO FLUSH KERB OVER 1.52m TO CONSTRUCT IN-LINE KERB RAMP TO AS1428.1 DETAILS

CONSTRUCT VEHICLE CRASH BARRIER (MASH TL3 RATED) BETWEEN BACK OF KERB AND FOOTPATH. TYPICAL

EXISTING BATTER AND DRAINAGE CHANNEL BELOW BOTTOM OF PROPOSED RETAINING WALL TO BE PROTECTED AND RETAINED. TYPICAL

EXISTING EASEMENT TO DRAIN WATER TO BE RETAINED

TRANSITION FROM KERB ONLY TO FLUSH KERB OVER 1.52m TO CONSTRUCT IN-LINE KERB RAMP TO AS1428.1 DETAILS

CONTRACTOR TO ENSURE NO LOCAL PONDING BEHIND PLINTHS BY GRADING AT MINIMUM 1% ALONG THE PLINTH INTERFACE (TYPICAL)

RECYCLED COLD WATER PUMPS & FILTRATION PLANT PLINTH SSL 54.60

DOOR ACCESS POSITION AND STAIRS TO BE COORDINATED WITH EXTERNAL PAVING LEVELS

RWT TANK PLINTH SSL 54.60

LOADBANK PLINTH SSL 54.50

LOADBANK SWITCHROOM FSL 54.60

LOADBANK PLINTH SSL 54.60

LOADBANK SWITCHROOM FSL 54.50

LOADBANK PLINTH SSL 54.40

SYD01 BUILDING AB
FFL 55.20

ADJOINS SYD01-ACR-DR-CV-30104

ADJOINS SYD01-ACR-DR-CV-30105

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

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Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ABN 70 721 977 975

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITEWORKS AND GRADING PLAN
SHEET 3

Scale at A0: A0 1:200
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-30103

A0

ADJOINS SYD01-ACR-DR-CV-30102

ADJOINS SYD01-ACR-DR-CV-30103

ADJOINS SYD01-ACR-DR-CV-30105

LENORE DRIVE

UPPER GROUND FLOOR LEVEL SHOWN DASHED

TRANSITION HIGH KERB TO FLUSH KERB

CONSTRUCT VARIABLE HEIGHT KERB (MAX 0.4m)

1.2m RECESSED LOADING DOCK

CONSTRUCT VARIABLE HEIGHT KERB (MAX 0.4m)

TRANSITION KERB TO HIGH KERB

AREA UNDER UPPER GROUND FLOOR LEVEL TO HAVE MINIMUM 1% GRADE AWAY FROM BUILDING TO ROADWAY. TYPICAL

CONSTRUCT VEHICLE CRASH BARRIER (MASH TL3 RATED) BETWEEN BACK OF KERB AND FOOTPATH. TYPICAL

ELECTRICAL SUBSTATION (NOT PART OF SCOPE)

TOP OF KERB TO MATCH INTO EXISTING EMBANKMENT LEVELS. TYPICAL

PROPOSED SUBSTATION ACCESS ROAD AND SWING GATE TO CONNECT TO EXISTING CONSTRUCTED WETLAND MAINTENANCE ROAD

EXISTING SYDNEY WATER SEWER MANHOLE AND RETAINING WALL TO BE PROTECTED AND RETAINED

CONSTRUCT RETAINING WALL FOR NEW CIRCULATION ROAD. CONTRACTOR TO OVER EXCAVATE UNTIL STIFF CLAYS ARE FOUND TO GEOTECHNICAL ENGINEER'S REQUIREMENTS. CONTRACTOR TO UNDERTAKE ALL TEMPORARY DE-WATERING WORKS TO ENABLE CONSTRUCTION OF RETAINING WALL. TYPICAL

SUSPENDED DRIVEWAY RAMP TO UPPER GROUND FLOOR CARPARKING TO ARCHITECT'S DETAILS

SUBSTATION YARD DESIGN BY ASP LEVEL 3 DESIGNER

LOCALLY RE-GRADE BASIN EMBANKMENT FROM SUBSTATION FENCE LINE TO MAXIMUM 1V:4H SLOPE. STABILISED WITH JUTE MATING AND REINSTATE VEGETATION

SUBSTATION YARD TO TIE INTO EXISTING BATTER LEVELS. TYPICAL

RE-GRADE EXISTING LANDSCAPE AREA. MATCH EXISTING LEVELS ALONG TOP OF WETLAND AND EDGE OF MAINTENANCE ROAD PAVEMENT

ROAD CROSSFALL AT GATE TO TRANSITION TO 0%. ENSURE 1% MINIMUM LONGITUDINAL FALL IS MAINTAINED IN PAVEMENT

EXISTING HARDSTAND PAVEMENT TO BE RETAINED

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

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Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITEWORKS AND GRADING PLAN
SHEET 4

Scale at A0: A0 1:200
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-30104

A0

EXISTING EASEMENT TO DRAIN WATER TO BE RETAINED

CONSTRUCT VEHICLE CRASH BARRIER (MASH TL3 RATED) BETWEEN BACK OF KERB AND FOOTPATH. TYPICAL

CONSTRUCT RETAINING WALL WITH INTEGRAL VEHICLE CRASH BARRIER ALONG EXISTING EMBANKMENT FOR NEW CIRCULATION ROAD. CONTRACTOR TO OVER EXCAVATE UNTIL STIFF CLAYS ARE FOUND TO GEOTECHNICAL ENGINEER'S REQUIREMENTS. CONTRACTOR TO UNDERTAKE ALL TEMPORARY DE-WATERING WORKS TO ENABLE CONSTRUCTION OF RETAINING WALL. TYPICAL

ENSURE MINIMUM 1% LONGITUDINAL GRADE IS MAINTAINED ALONG KERB AND GUTTER INVERT

BOTTOM OF RETAINING WALL TO MATCH INTO EXISTING BATTER LEVELS. RETAINING WALL STRUCTURE TO BE LOCATED OUTSIDE OF EASEMENT LINE

EXISTING DN225 SYDNEY WATER SEWER MAIN. RETAINING WALL FOOTING TO BE FOUNDED BELOW SEWER ZONE OF INFLUENCE

TRANSITION RETAINING WALL WITH INTEGRAL VEHICLE CRASH BARRIER TO RETAINING WALL WITH TOP OF WALL NOMINAL 200mm ABOVE DESIGN SURFACE OVER 6.80m

RETAINING WALL CONSTRUCTED ALONG BOUNDARY WITH PERIMETER FENCE FIXED TO WALL. RETAINING WALL AND FENCE FOOTINGS TO BRIDGE OVER SYDNEY WATER SEWER EXCLUSION/ZONE OF INFLUENCE TO FUTURE DETAIL

RETAINING WALL WITH INTEGRAL VEHICLE CRASH BARRIER. CONTRACTOR TO OVER EXCAVATE UNTIL STIFF CLAYS ARE FOUND TO GEOTECHNICAL ENGINEER'S REQUIREMENTS. CONTRACTOR TO UNDERTAKE ALL TEMPORARY DE-WATERING WORKS TO ENABLE CONSTRUCTION OF RETAINING WALL. TYPICAL

EXISTING DN525 GRP SYDNEY WATER SEWER MAIN ENCASED IN 616 (OD) JACKING PIPE TO BE PROTECTED AND RETAINED

TRANSITION RETAINING WALL TO VEGETATED BATTER WITH MAX. 1V:4H SLOPE

RETAINING WALL STRUCTURE TO BE LOCATED FULLY WITHIN PROPERTY BOUNDARY

ADJOINS SYD01-ACR-DR-CV-30103

ADJOINS SYD01-ACR-DR-CV-30104

GENERATOR GANTRY NOM. SSL 53.55

SCALE 1:200 @ A0 (0, 2, 4, 8, 12, 16, 20 metres)

Do not scale

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Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
SITEWORKS AND GRADING PLAN
SHEET 5

Scale at A0: A0 1:200
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-CV-30105

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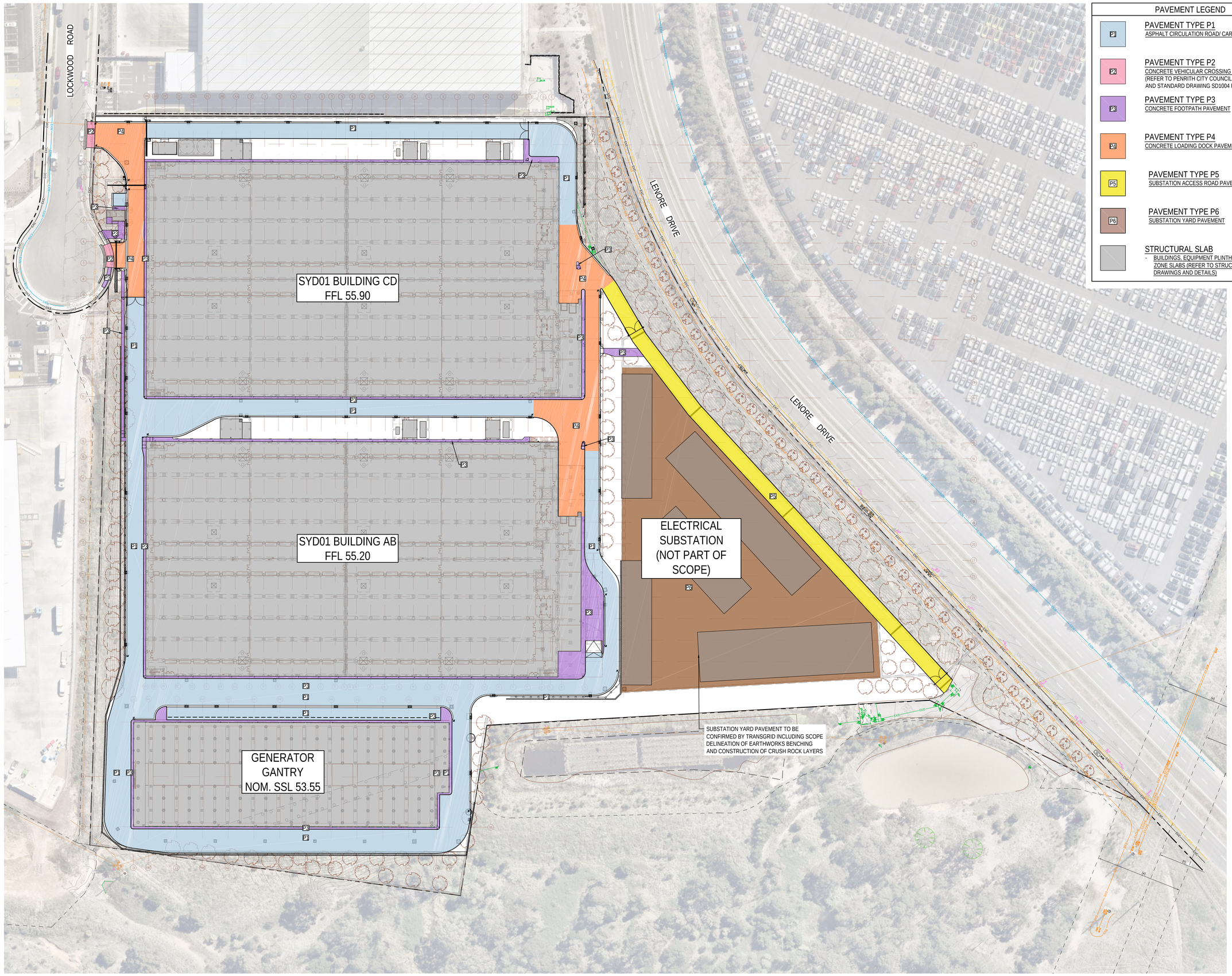


PAVEMENT LEGEND

PAVEMENT TYPE P1
ASPHALT CIRCULATION ROAD/ CARPARK PAVEMENT

PAVEMENT TYPE P2
CONCRETE VEHICULAR CROSSING PAVEMENT
(REFER TO PENRITH CITY COUNCIL SPECIFICATIONS AND STANDARD DRAWING SD1004 FOR DETAILS)

PAVEMENT TYPE P3
CONCRETE FOOTPATH PAVEMENT

PAVEMENT TYPE P4
CONCRETE LOADING DOCK PAVEMENT

PAVEMENT TYPE P5
SUBSTATION ACCESS ROAD PAVEMENT

PAVEMENT TYPE P6
SUBSTATION YARD PAVEMENT

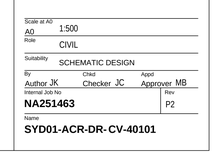
STRUCTURAL SLAB
- BUILDINGS, EQUIPMENT PLINTHS AND CRANE ZONE SLABS (REFER TO STRUCTURAL ENGINEERS DRAWINGS AND DETAILS)

SCALE 1:500 @ A0

0 5 10 20 30 40 50 metres

Do not scale

Keyplan



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Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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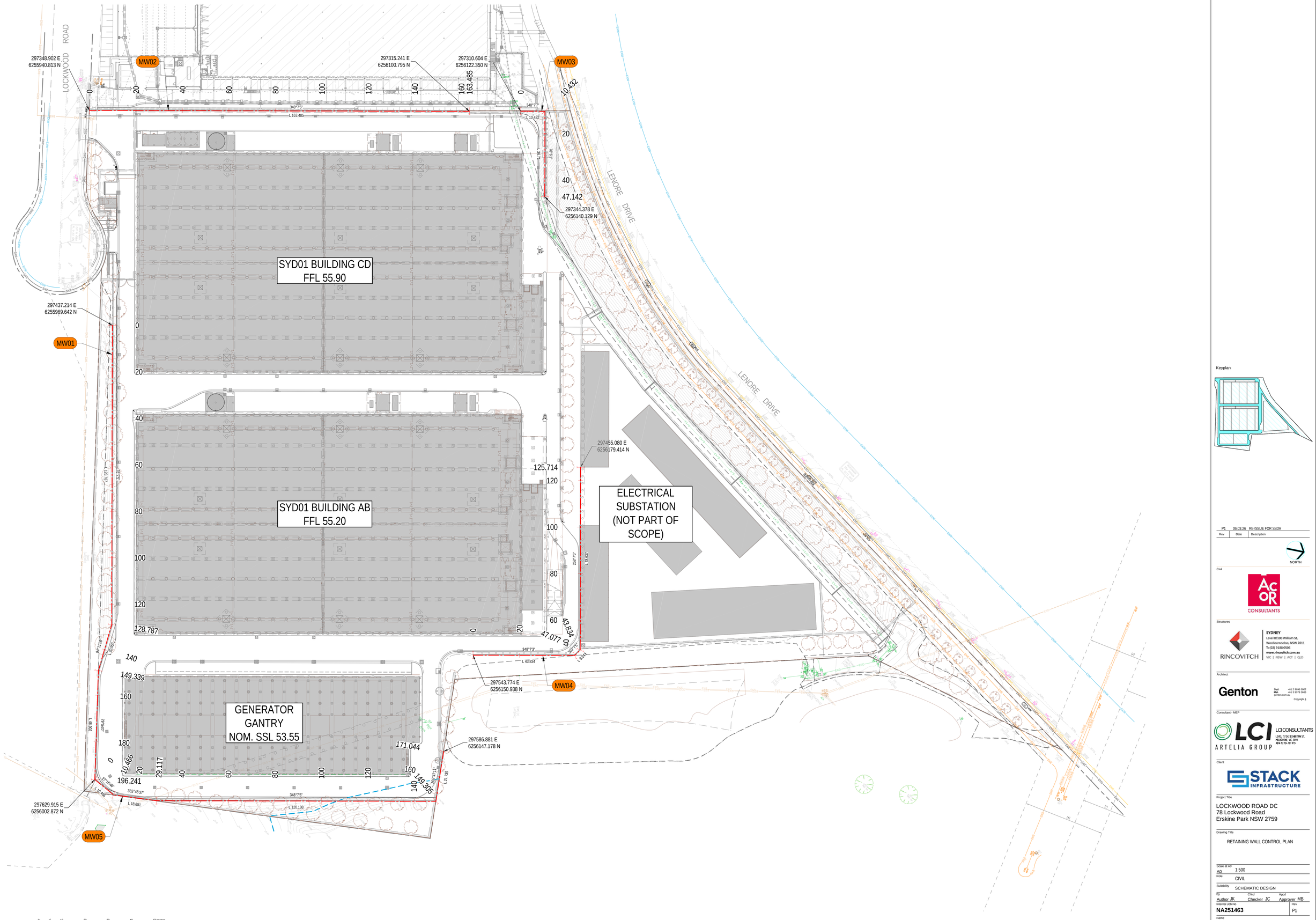
Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
PAVEMENT AND JOINTING PLAN

Scale at A0: A0 1:500
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-CV-40101

A0



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Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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ABN 92 124 407 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
RETAINING WALL CONTROL PLAN

Scale at A0: A0 1:500
Role: CIVIL
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P1
Name: SYD01-ACR-DR-CV-70101

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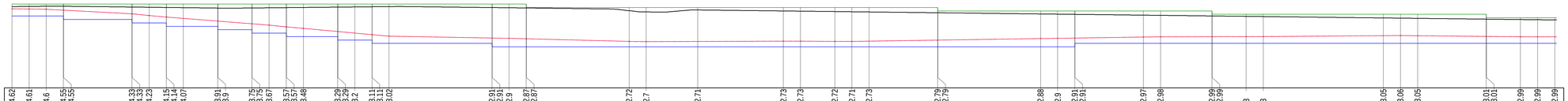

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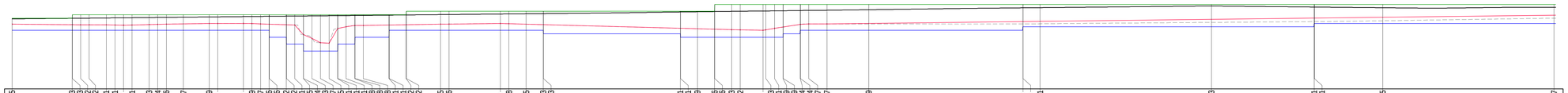

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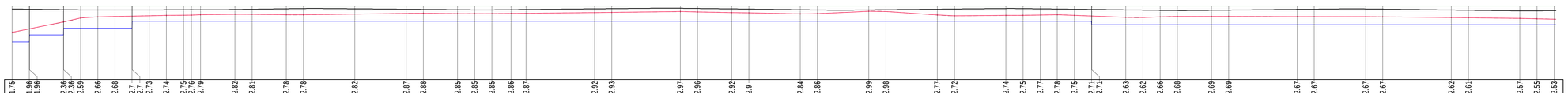

| | | |

LOCKWOOD ROAD

250kL EFFECTIVE CAPACITY (275kL TOTAL CAPACITY) ABOVE GROUND RAINWATER TANK CONNECTED TO ALL BUILDING TOILETS AND LANDSCAPE IRRIGATION SYSTEM

HYD 01-1

RWT 1

CONCRETE ENCASE STORMWATER PIPE UNDER SECURITY GATE FOOTING. TYPICAL

DOWNPIPE DROPPERS FROM ROOF DRAINAGE PIPELINES FIXED TO BUILDING FACADE TO DISCHARGE INTO TOP OF RAINWATER TANK

CONSTRUCT 900x900 STORMWATER INLET PIT FOR RAINWATER TANK OVERFLOW CONNECTION

EAVES GUTTER WITH SIPHONIC DOWNPIPES AS SHOWN. CONNECT DOWNPIPES ALONG WESTERN HALF OF ROOF TO RAINWATER TANK

Ø100mm uPVC DOWNPIPE AT MIN 1% GRADE TO CONNECT TO STORMWATER PIT

ROOF DIRECTION OF FALL

ROOF CREST

SYD01 BUILDING CD
FFL 55.90

ADJOINS SYD01-ACR-DR-SW-00102

ADJOINS SYD01-ACR-DR-SW-00103

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

NOTES:

1. THE CONTRACTOR MUST ACCURATELY POTHOLE THE EXISTING STORMWATER EASEMENT TOP OF PIPE LEVELS FOR ALL NEW STORMWATER CROSSINGS AND OTHER SERVICES CROSSINGS PRIOR TO CONSTRUCTION OF ANY OF THE UPSTREAM OR DOWNSTREAM STORMWATER SYSTEM AND OTHER SERVICES CROSSINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ASSUMED EASEMENT PIPELINE LEVELS AND THE POTHOLED LEVELS DETERMINED BY THE CONTRACTOR, THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR ADVICE PRIOR TO ANY WORK BEING UNDERTAKEN.
2. CIVIL STORMWATER DRAINAGE PLANS TO BE READ IN CONJUNCTION WITH HYDRAULIC ENGINEERING DRAWINGS.
3. FOR ROOF DRAINAGE DETAILS, REFER TO HYDRAULIC ENGINEERING DRAWINGS.
4. FOR LANDSCAPE SUBSOIL DRAINAGE, REFER TO LANDSCAPE DRAWINGS. LANDSCAPE SUBSOIL TO CONNECT TO NEARBY DOWNSTREAM DRAINAGE PIT.
5. CONSTRUCT SUBSOIL DRAINAGE BEHIND RETAINING WALLS AND KERBS. CONNECT SUBSOIL DRAINAGE TO NEARBY DOWNSTREAM DRAINAGE PIT.

Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ARTELIA GROUP

Client
STACK INFRASTRUCTURE

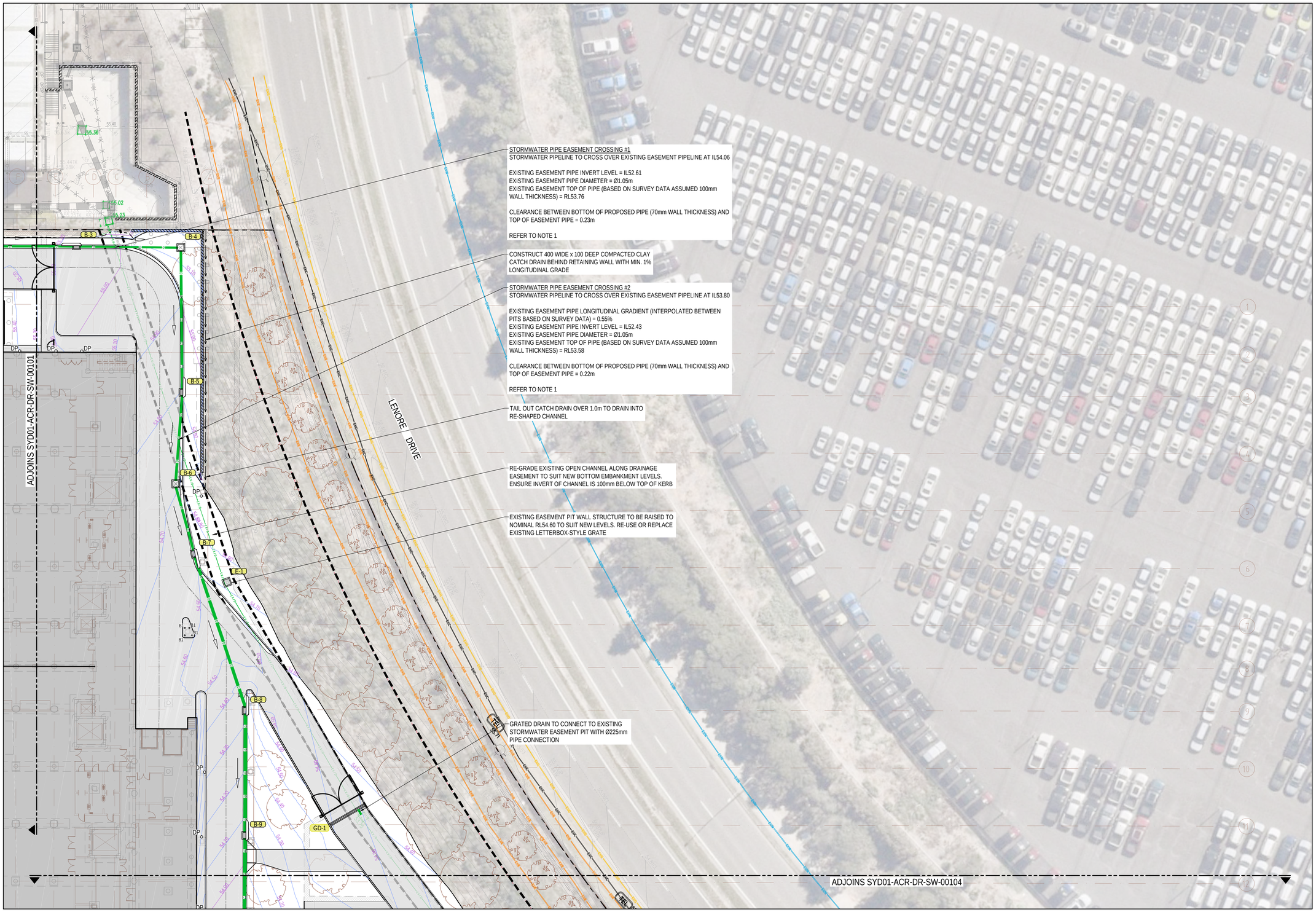
Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER MANAGEMENT PLAN
SHEET 1

Scale at A0: A0 1:200
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR-SW-00101

8/04/2026 3:42:14 PM

A0



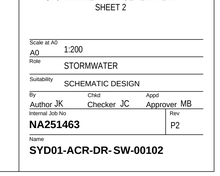
SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

NOTES:

1. THE CONTRACTOR MUST ACCURATELY POTHOLE THE EXISTING STORMWATER EASEMENT TOP OF PIPE LEVELS FOR ALL NEW STORMWATER CROSSINGS AND OTHER SERVICES CROSSINGS PRIOR TO CONSTRUCTION OF ANY OF THE UPSTREAM OR DOWNSTREAM STORMWATER SYSTEM AND OTHER SERVICES CROSSINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ASSUMED EASEMENT PIPELINE LEVELS AND THE POTHOLED LEVELS DETERMINED BY THE CONTRACTOR, THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR ADVICE PRIOR TO ANY WORK BEING UNDERTAKEN.
2. CIVIL STORMWATER DRAINAGE PLANS TO BE READ IN CONJUNCTION WITH HYDRAULIC ENGINEERING DRAWINGS.
3. FOR ROOF DRAINAGE DETAILS, REFER TO HYDRAULIC ENGINEERING DRAWINGS.
4. FOR LANDSCAPE SUBSOIL DRAINAGE, REFER TO LANDSCAPE DRAWINGS. LANDSCAPE SUBSOIL TO CONNECT TO NEARBY DOWNSTREAM DRAINAGE PIT.
5. CONSTRUCT SUBSOIL DRAINAGE BEHIND RETAINING WALLS AND KERBS. CONNECT SUBSOIL DRAINAGE TO NEARBY DOWNSTREAM DRAINAGE PIT.

Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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MELBOURNE, VIC, 3000
ABN 92 124 977 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER MANAGEMENT PLAN
SHEET 2

Scale at A0: A0 1:200
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-SW-00102

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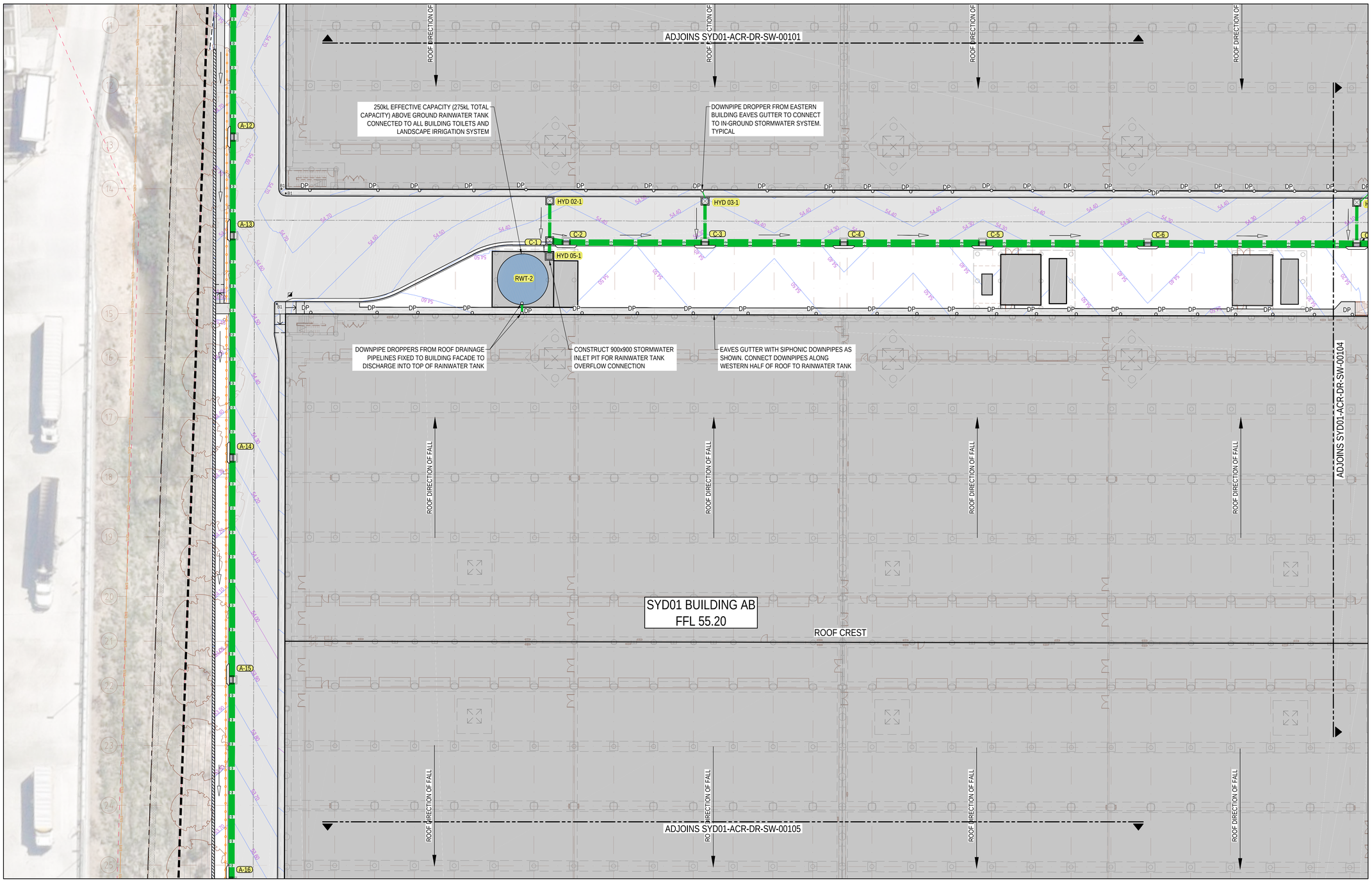

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

NOTES:

1. THE CONTRACTOR MUST ACCURATELY POTHOLE THE EXISTING STORMWATER EASEMENT TOP OF PIPE LEVELS FOR ALL NEW STORMWATER CROSSINGS AND OTHER SERVICES CROSSINGS PRIOR TO CONSTRUCTION OF ANY OF THE UPSTREAM OR DOWNSTREAM STORMWATER SYSTEM AND OTHER SERVICES CROSSINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ASSUMED EASEMENT PIPELINE LEVELS AND THE POTHOLED LEVELS DETERMINED BY THE CONTRACTOR, THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR ADVICE PRIOR TO ANY WORK BEING UNDERTAKEN.
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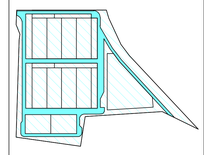
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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MELBOURNE, VIC, 3000
ABN 70 721 977 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER MANAGEMENT PLAN
SHEET 3

Scale at A0: A0 1:200
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463 | Rev: P2
Name: SYD01-ACR-DR- SW-00103

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ADJOINS SYD01-ACR-DR-SW-00102

ADJOINS SYD01-ACR-DR-SW-00103

ADJOINS SYD01-ACR-DR-SW-00105

LENORE DRIVE

ELECTRICAL SUBSTATION
(NOT PART OF SCOPE)

EXISTING EASEMENT STORMWATER PITS WITH LETTERBOX TYPE GRATES TO BE CONVERTED TO SURFACE INLET PITS WITH CLASS 'D' GALVANISED MILD STEEL GRATES. ROAD CROSSFALL TO GRADE TOWARDS PITS. TYPICAL

CONNECT GRATED DRAIN INTO EXISTING PIT WITH Ø225mm PIPE AT MIN. 1% GRADE

Ø675 RCP '4' STUB CONNECTION FOR SUBSTATION STORMWATER SYSTEM

HIGH VOLTAGE SUBSTATION. DESIGN OF STORMWATER DRAINAGE AND OIL CONTAINMENT SYSTEM BY HIGH VOLTAGE SUBSTATION DESIGNER

EXISTING CONSTRUCTED WETLAND WITH EXISTING GROSS POLLUTANT TRAP EXTENDED DETENTION STORAGE CONSTRUCTED AS PART OF LAND SUBDIVISION WORKS (PREVIOUS DEVELOPMENT APPROVAL)
MAX. PERMANENT WATER LEVEL = 50.70
1% AEP TWL (EDD) = 51.94

HYD 04-1

GD-2 GD-3 GD-4 GD-5

C-7 C-8 C-9 C-10 C-11 C-12 C-13 C-14 C-15 C-16

Z-1

AN PROTECT
-870 GROSS
OP

SCALE 1:200 @ A0

0 2 4 8 12 16 20 metres

Do not scale

NOTES:

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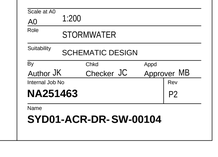
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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ABN 92 721 977 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER MANAGEMENT PLAN
SHEET 4

Scale at A0: A0 1:200
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-SW-00104

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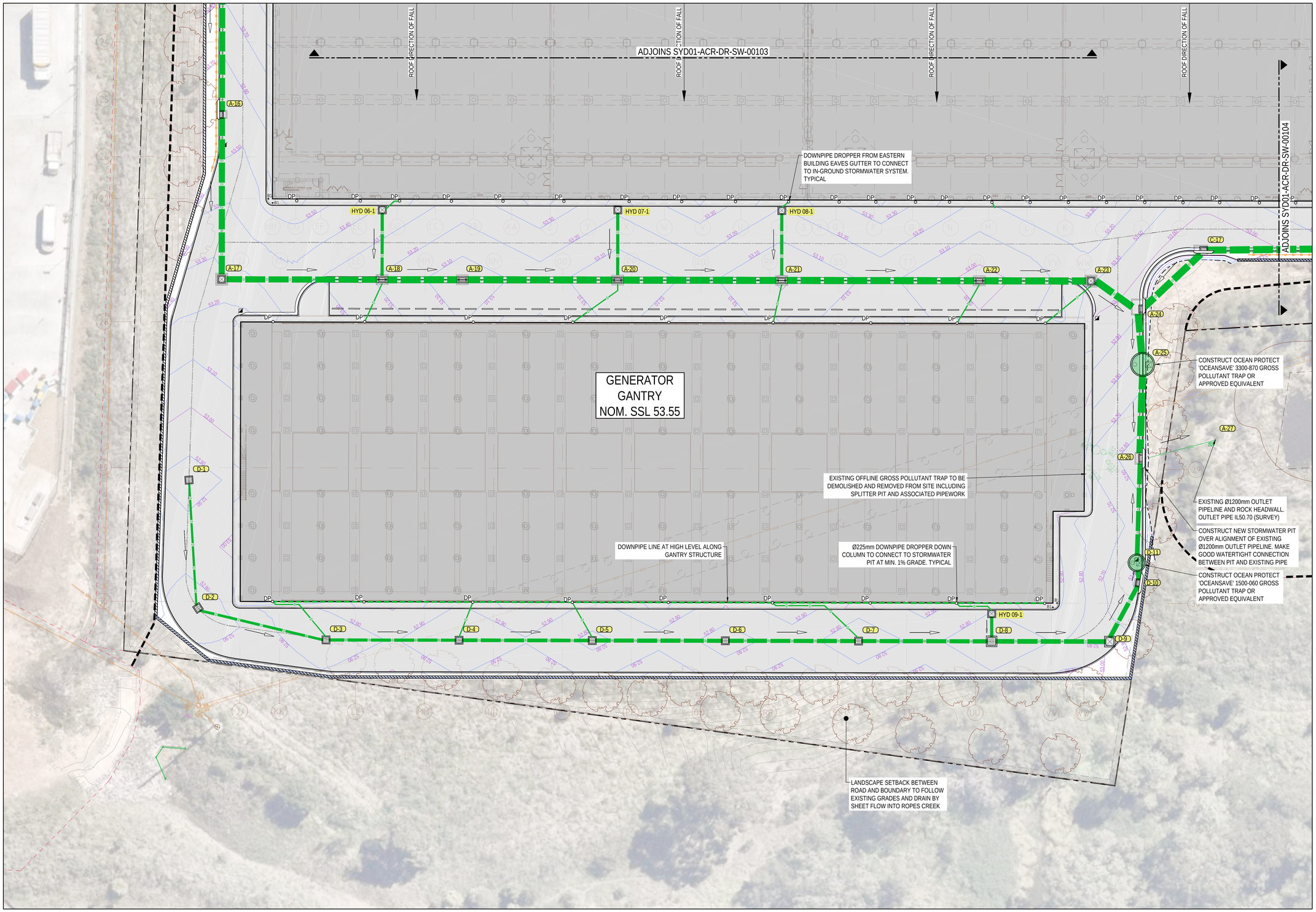

SCALE 1:200 @ A0 0 2 4 8 12 16 20 metres

Do not scale

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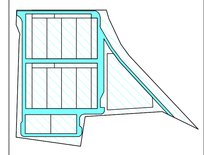
Keyplan



Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

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LEVEL 11/52 EXHIBITION ST,
MELBOURNE, VIC, 3000
ABN 76 121 977 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER MANAGEMENT PLAN
SHEET 5

Scale at A0: A0 1:200
Role: STORMWATER
Suitability: SCHEMATIC DESIGN

By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No: NA251463
Rev: P2

Name: SYD01-ACR-DR-SW-00105

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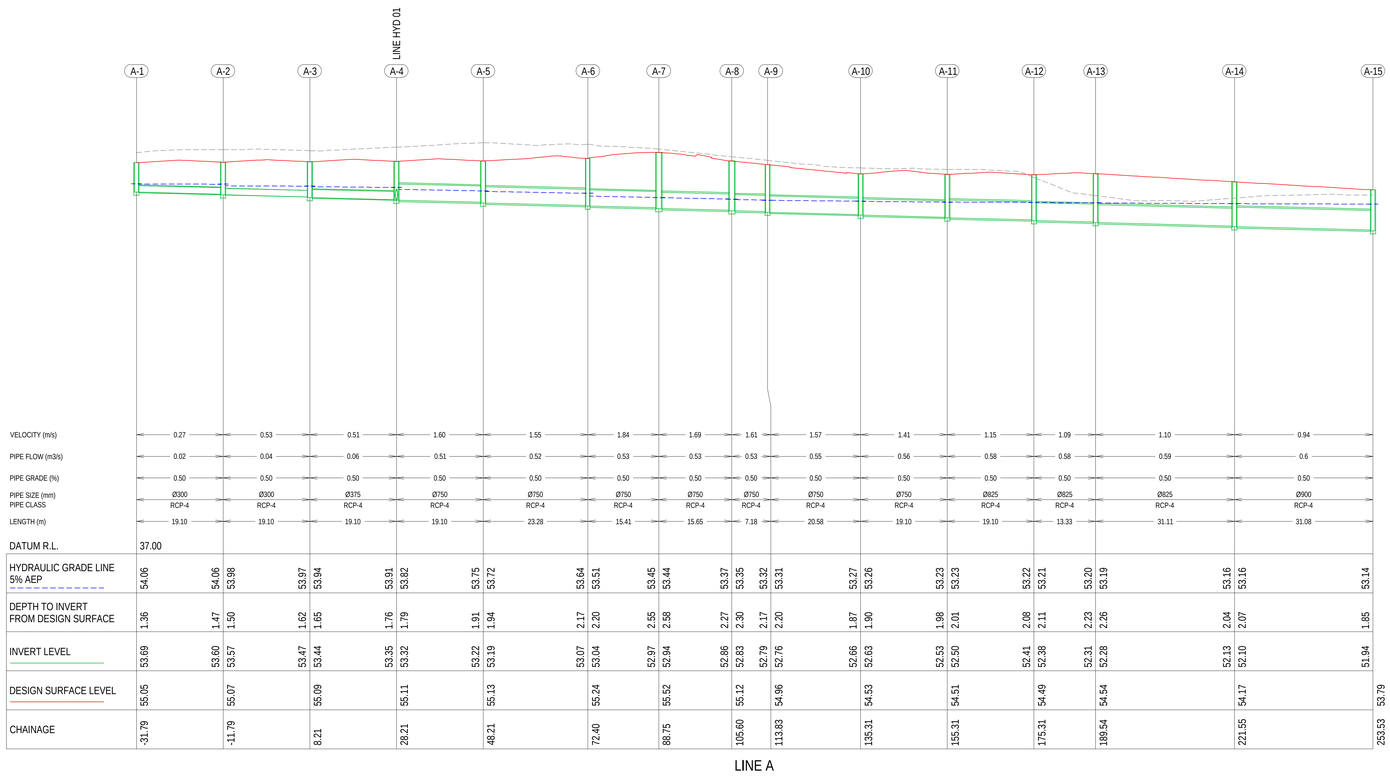
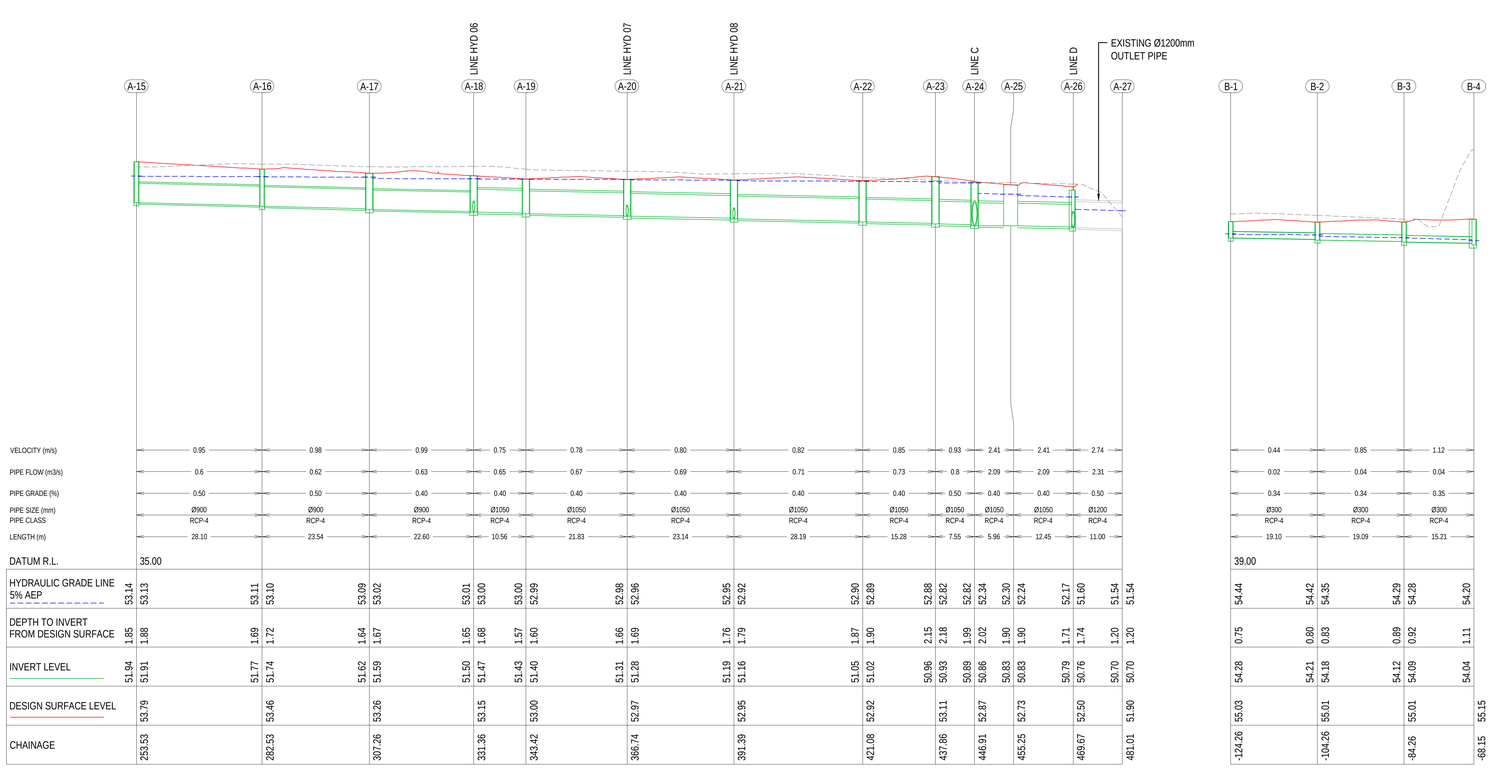


LINE A

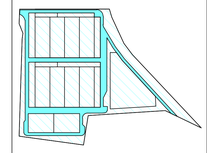


LINE A LINE B

SCALE 1:500 @ A0 0 5 10 20 30 40 50 metres

Do not scale

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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MELBOURNE, VIC, 3000
ABN 72 121 97 973

ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

STORMWATER DRAINAGE
LONGITUDINAL SECTIONS SHEET 1

Scale at A0: AS SHOWN
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: P1
Name: SYD01-ACR-DR-SW-10101

8/04/2026 3:42:14 PM

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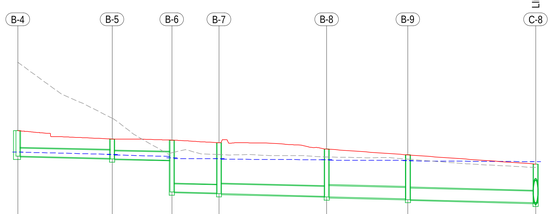
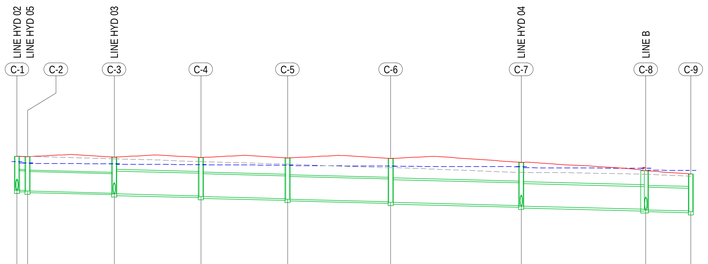


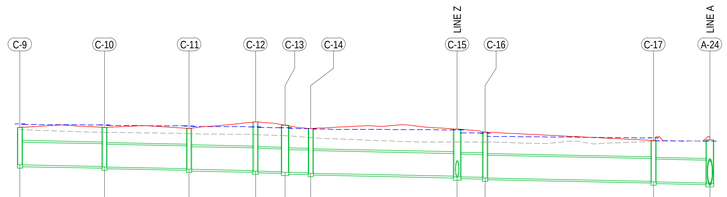
VELOCITY (m/s)		0.79		1.14	0.54	0.61		0.52		0.69				
PIPE FLOW (m3/s)		0.04		0.06	0.06	0.1		0.11		0.15				
PIPE GRADE (%)		0.45		0.45	0.50	0.50		0.50		0.50				
PIPE SIZE (mm)		Ø375		Ø375	Ø375	Ø450		Ø525		Ø525				
PIPE CLASS		RCP-4		RCP-4	RCP-4	RCP-4		RCP-4		RCP-4				
LENGTH (m)		20.85		12.88	9.96	23.94		17.84		28.57				
DATUM R.L.	38.00													
HYDRAULIC GRADE LINE 5% AEP	54.20	54.15		54.05	54.02	53.95	53.86	53.85	53.83	53.80	53.78	53.77	53.75	53.72	53.63
DEPTH TO INVERT FROM DESIGN SURFACE	1.11	1.18		0.89	0.92	0.93	2.39	2.32	2.35	2.18	2.21	2.03	2.06	1.78	1.81
INVERT LEVEL	54.04	53.96		53.87	53.84	53.78	52.32	52.27	52.24	52.12	52.09	52.00	51.97	51.83	51.80
DESIGN SURFACE LEVEL	55.15			54.76		54.71		54.59		54.30		54.03		53.60	
CHAINAGE	-68.15			-46.40		-32.62		-21.75		3.09		21.83		51.30	

LINE B



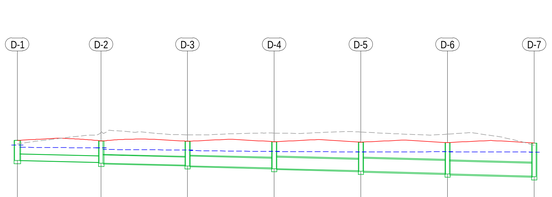
VELOCITY (m/s)		0.87	0.93	0.90	0.90	0.90	0.88	0.99	1.14					
PIPE FLOW (m3/s)		0.55	0.59	0.78	0.78	0.78	0.76	0.85	0.99					
PIPE GRADE (%)		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50					
PIPE SIZE (mm)		Ø900	Ø900	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050					
PIPE CLASS		RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4					
LENGTH (m)		1.53	19.10	19.10	19.10	22.89	29.22	27.94	9.48					
DATUM R.L.	36.00													
HYDRAULIC GRADE LINE 5% AEP	53.96	53.96	53.94	53.92	53.90	53.89	53.88	53.86	53.84	53.82	53.81	53.79	53.74	53.72	53.63	52.62
DEPTH TO INVERT FROM DESIGN SURFACE	1.57	1.56	1.59	1.67	1.70	1.77	1.80	1.88	1.91	2.00	2.03	1.99	2.02	1.78	1.81	1.71
INVERT LEVEL	52.70	52.69	52.66	52.57	52.54	52.44	52.41	52.32	52.29	52.17	52.14	51.99	51.96	51.83	51.80	51.75
DESIGN SURFACE LEVEL	54.27		54.25		54.23		54.21		54.19		54.17		53.99		53.60	53.45
CHAINAGE	0.00		2.43		22.43		42.43		62.43		86.22		116.34		145.07	155.45

LINE C



VELOCITY (m/s)		1.08	1.01	1.03	1.04	1.04	1.07	1.42	1.43	1.53				
PIPE FLOW (m3/s)		0.94	0.87	0.89	0.9	0.91	0.93	1.23	1.24	1.32				
PIPE GRADE (%)		0.35	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40				
PIPE SIZE (mm)		Ø1050	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050	Ø1050				
PIPE CLASS		RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4				
LENGTH (m)		18.60	18.64	14.43	5.61	4.74	32.57	5.25	37.93	11.84				
DATUM R.L.	35.00													
HYDRAULIC GRADE LINE 5% AEP	53.62	53.59	53.57	53.54	53.52	53.50	53.48	53.45	53.44	53.41	53.40	53.37	53.34	53.20	53.19	53.04	52.97	52.84	52.82	52.34
DEPTH TO INVERT FROM DESIGN SURFACE	1.71	1.74	1.80	1.83	1.86	1.89	2.24	2.27	2.14	2.17	2.04	2.07	2.17	2.20	2.09	2.12	1.89	1.92	1.99	2.02
INVERT LEVEL	51.75	51.72	51.65	51.62	51.55	51.52	51.46	51.43	51.41	51.38	51.36	51.33	51.20	51.17	51.15	51.12	50.97	50.94	50.89	50.86
DESIGN SURFACE LEVEL	53.45		53.45		53.40		53.70		53.55		53.40		53.37		53.24		52.86		52.87	
CHAINAGE	156.45		174.95		194.49		209.82		216.63		222.57		256.34		262.79		301.62		314.67	

LINE C



VELOCITY (m/s)		0.33	0.49	0.43	0.37	0.34	0.38
PIPE FLOW (m3/s)		0.02	0.06	0.07	0.08	0.1	0.11
PIPE GRADE (%)		0.50	0.50	0.50	0.50	0.50	0.50
PIPE SIZE (mm)		Ø300	Ø375	Ø450	Ø525	Ø600	Ø600
PIPE CLASS		RCP-4	RCP-4	RCP-4	RCP-4	RCP-4	RCP-4
LENGTH (m)		18.29	19.04	19.10	19.10	19.10	19.10
DATUM R.L.	35.00						
HYDRAULIC GRADE LINE 5% AEP	52.53	52.51	52.43	52.41	52.38	52.34	52.33	52.32	52.33	52.32	52.31
DEPTH TO INVERT FROM DESIGN SURFACE	0.93	1.00	1.03	1.11	1.14	1.21	1.24	1.31	1.34	1.42	1.45	1.53
INVERT LEVEL	51.92	51.83	51.80	51.71	51.68	51.58	51.55	51.46	51.43	51.33	51.30	51.21
DESIGN SURFACE LEVEL	52.85		52.83		52.81		52.79		52.77		52.75		52.73
CHAINAGE	0.00		19.34		39.28		59.28		79.28		99.28		119.28

LINE D

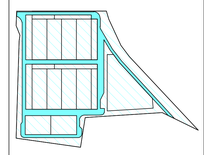
SCALE 1:500 @ A0

0 5 10 20 30 40 50 metres

Do not scale

8/04/2025 3:42:14 PM

Keyplan



Rev.	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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MELBOURNE, VIC, 3000
ABN: 92 124 427 975

ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

STORMWATER DRAINAGE
LONGITUDINAL SECTIONS SHEET 2

Scale at A0: AS SHOWN

Role: STORMWATER

Suitability: SCHEMATIC DESIGN

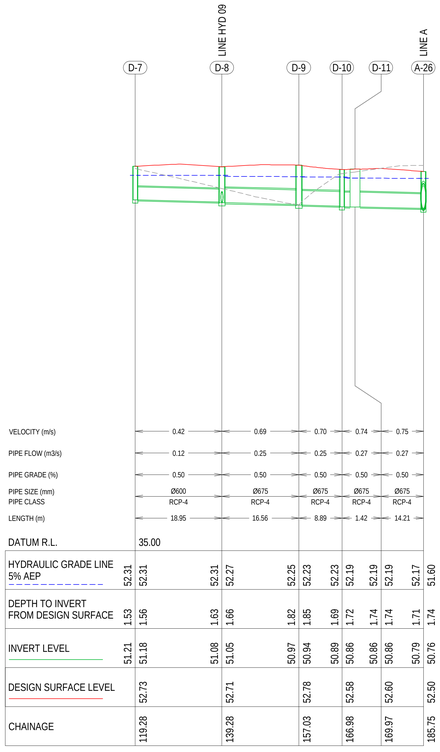
By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No: NA251463

Rev: P1

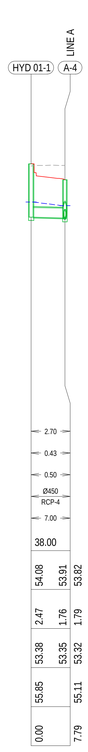
Name: SYD01-ACR-DR- SW-10102

A0



LINE D

LINE E



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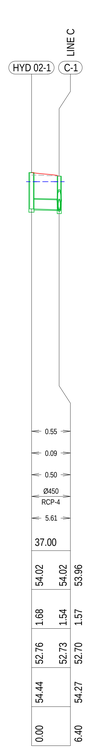

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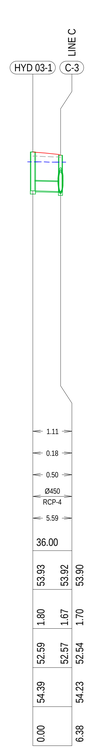

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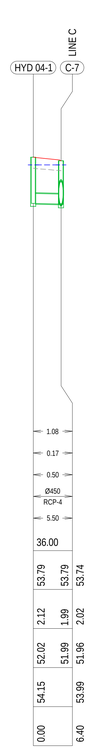

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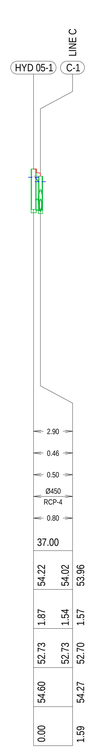
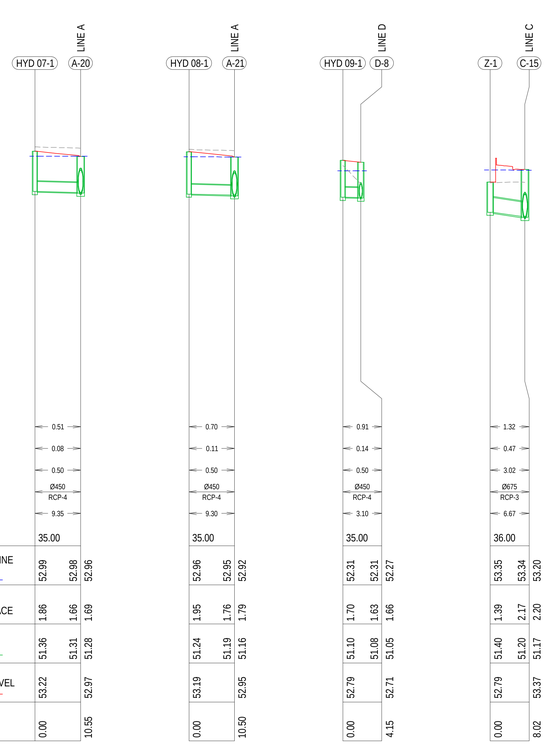


LINE HYD 05

LINE HYD 06



LINE HYD 07

LINE HYD 08

LINE HYD 09

LINE Z

SCALE 1:500 @ A0

0 5 10 20 30 40 50 metres

Do not scale

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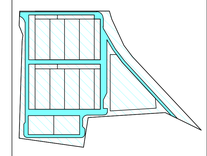
Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

Civil

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ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

STORMWATER DRAINAGE
LONGITUDINAL SECTIONS SHEET 3

Scale at A0: A0 AS SHOWN

Role: STORMWATER

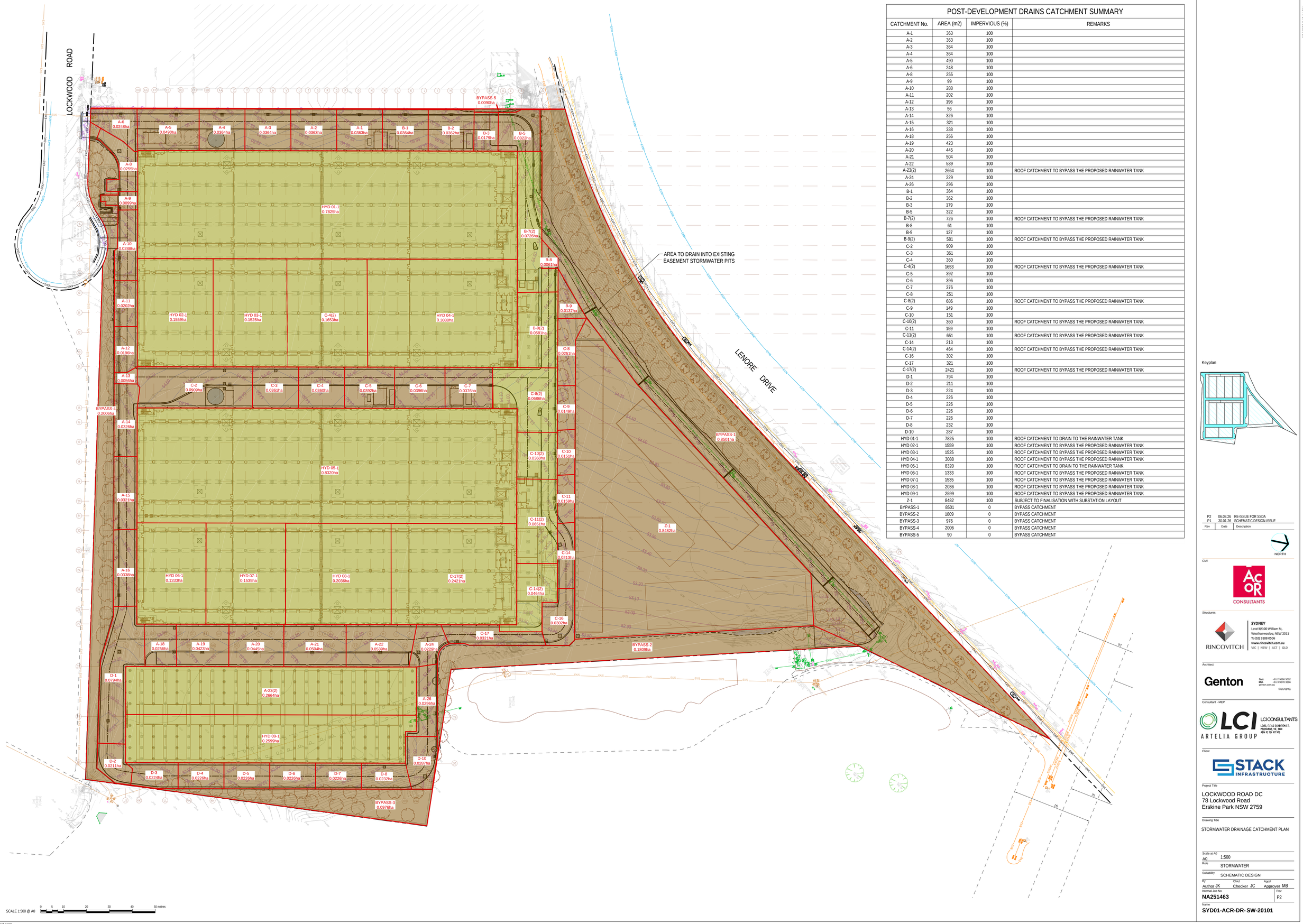
Suitability: SCHEMATIC DESIGN

By	Chkd	Appd
Author JK	Checker JC	Approver MB

Internal Job No: NA251463

Rev: P1

Name: SYD01-ACR-DR- SW-10103



POST-DEVELOPMENT DRAINS CATCHMENT SUMMARY

CATCHMENT No.	AREA (m2)	IMPERVIOUS (%)	REMARKS
A-1	363	100	
A-2	363	100	
A-3	364	100	
A-4	364	100	
A-5	490	100	
A-6	248	100	
A-8	255	100	
A-9	99	100	
A-10	288	100	
A-11	202	100	
A-12	196	100	
A-13	56	100	
A-14	326	100	
A-15	321	100	
A-16	338	100	
A-18	256	100	
A-19	423	100	
A-20	445	100	
A-21	504	100	
A-22	539	100	
A-23(2)	2664	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
A-24	229	100	
A-26	296	100	
B-1	364	100	
B-2	362	100	
B-3	179	100	
B-5	322	100	
B-7(2)	726	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
B-8	61	100	
B-9	137	100	
B-9(2)	581	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-2	909	100	
C-3	361	100	
C-4	360	100	
C-4(2)	1653	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-5	392	100	
C-6	396	100	
C-7	376	100	
C-8	251	100	
C-8(2)	686	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-9	149	100	
C-10	151	100	
C-10(2)	360	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-11	159	100	
C-11(2)	651	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-14	213	100	
C-14(2)	464	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
C-16	302	100	
C-17	321	100	
C-17(2)	2421	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
D-1	794	100	
D-2	211	100	
D-3	224	100	
D-4	226	100	
D-5	226	100	
D-6	226	100	
D-7	226	100	
D-8	232	100	
D-10	287	100	
HYD 01-1	7825	100	ROOF CATCHMENT TO DRAIN TO THE RAINWATER TANK
HYD 02-1	1559	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 03-1	1525	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 04-1	3088	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 05-1	8320	100	ROOF CATCHMENT TO DRAIN TO THE RAINWATER TANK
HYD 06-1	1333	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 07-1	1535	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 08-1	2036	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
HYD 09-1	2599	100	ROOF CATCHMENT TO BYPASS THE PROPOSED RAINWATER TANK
Z-1	8482	100	SUBJECT TO FINALISATION WITH SUBSTATION LAYOUT
BYPASS-1	8501	0	BYPASS CATCHMENT
BYPASS-2	1809	0	BYPASS CATCHMENT
BYPASS-3	976	0	BYPASS CATCHMENT
BYPASS-4	2006	0	BYPASS CATCHMENT
BYPASS-5	90	0	BYPASS CATCHMENT

Keyplan

Rev	Date	Description
P2	06.03.26	RE-ISSUE FOR SSDA
P1	30.01.26	SCHEMATIC DESIGN ISSUE

NORTH

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MELBOURNE, VIC, 3000
ABN: 92 124 927 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER DRAINAGE CATCHMENT PLAN

Scale at A0: A0 1:500
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author JK Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: P2
Name: SYD01-ACR-DR-SW-20101

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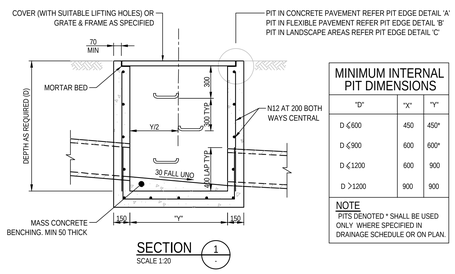
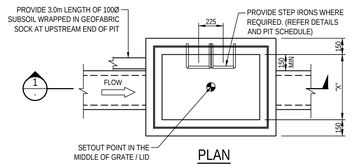


MINIMUM INTERNAL PIT DIMENSIONS		
"D"	"X"	"Y"
D ⩽600	450	450*
D ⩽900	600	600*
D ⩽1200	600	900
D >1200	900	900

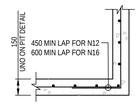
NOTE
PITS DENOTED * SHALL BE USED ONLY WHERE SPECIFIED IN DRAINAGE SCHEDULE OR ON PLAN.

SECTION 1 / SCALE 1:20

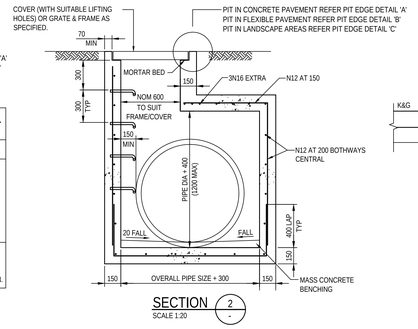


PLAN

SURFACE INLET/JUNCTION PIT TYPE "A"
SCALE 1:20



TYPICAL PIT CORNER DETAIL
SCALE 1:20



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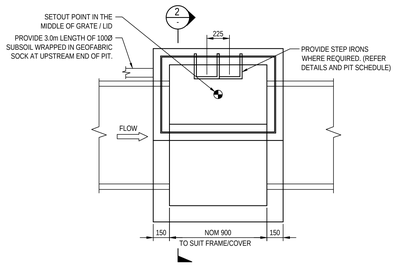
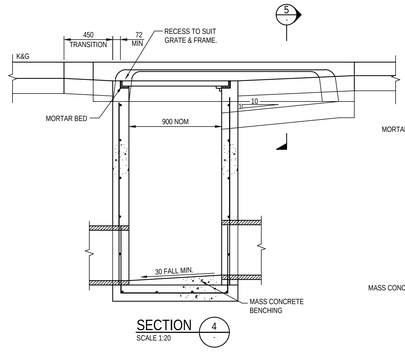


PLAN

SURFACE INLET/JUNCTION PIT PIT TYPE "B"
SCALE 1:20



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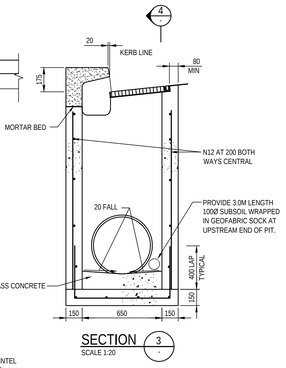

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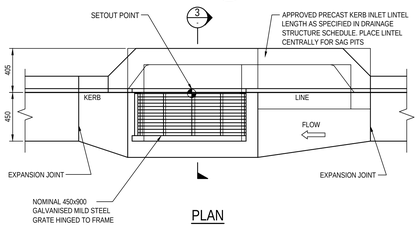
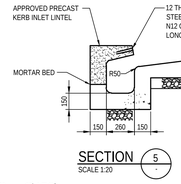
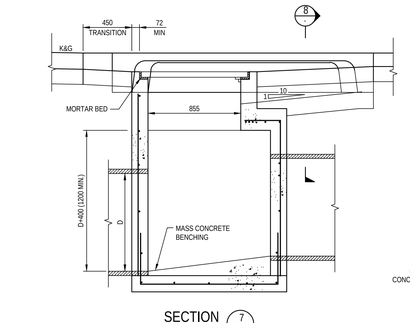


PLAN



SECTION 5 / SCALE 1:20

KERB INLET PIT TYPE "C" (FOR PIPES <=Ø450)
SCALE 1:20



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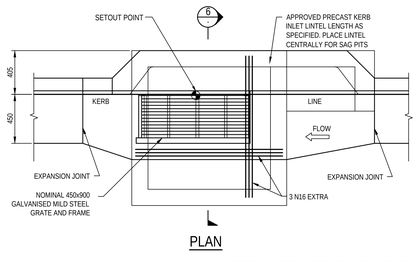
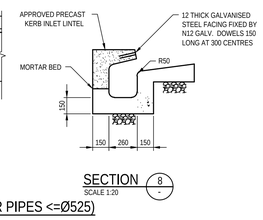
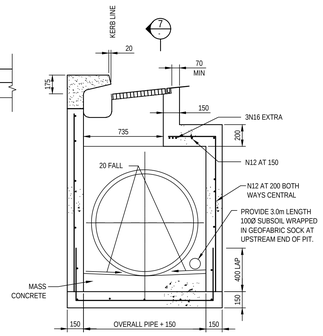


PLAN



SECTION 8 / SCALE 1:20

KERB INLET PIT TYPE "D" (FOR PIPES <=Ø525)
SCALE 1:20



SECTION 6 / SCALE 1:20

SECTION 9 / SCALE 1:20

PIT EDGE DETAIL "A"
SCALE 1:10

PIT EDGE DETAIL "B"
SCALE 1:10

PIT EDGE DETAIL "C"
SCALE 1:10

HIGH END RISER
SCALE 1:10

INTERMEDIATE RISER
SCALE 1:10

Span <= 1.5m	Wall Dimensions (mm)				
Depth 'h'	Base thickness "d"	Wall thickness "w"	Vertical reinf.	Hor.reinf.	Base Reinf. BW
up to 2m	150.0	150.0	N12@200	N12@200	N12@200
up to 4m	200.0	175.0	N12@200	N12@200	N12@200
up to 6m	200.0	200.0	N12@200	N12@200	N12@200
up to 8m	230.0	230.0	N16@200	N16@200	N16@200
Span 1.5 to 2.5m	Wall Dimensions (mm)				
Depth 'h'	Base thickness "d"	Wall thickness "w"	Vertical reinf.	Hor.reinf.	Base Reinf. BW
up to 2m	150.0	200.0	N12@200	N12@200	N12@200
up to 4m	200.0	200.0	N16@200	N16@200	N16@200
up to 6m	230.0	230.0	N16@200	N16@200	N16@200
up to 8m	250.0	250.0	N16@200	N16@200	N16@200

PIT DIMENSION TABLE
NOTE: FOR PIT DIMENSIONS AND REINFORCEMENT REFER TABLE ABOVE

DISH DRAIN PIT TYPE 'E'
SCALE 1:20

GRATED DRAIN (GD1)
SCALE 1:10

HEAVY DUTY GRATED DRAIN (GD2)
SCALE 1:10

TYPICAL CONCRETE ENCASEMENT OF PIPE/SERVICE
SCALE 1:10

PLAN

ELEVATION

PLAN

SIDE ELEVATION

FRONT ELEVATION

STEP IRON PLACEMENT
SCALE NTS

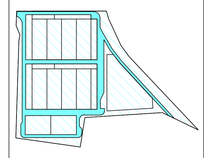
STEP IRON DETAIL
SCALE NTS

TYPICAL STORMWATER PIPE TRENCH SUPPORT - TYPE HS2
NTS

SECTION PB1 / NTS

TYPICAL PIT BENCHING DETAIL
NTS
NOTE: BENCHING CONCRETE CLASS D

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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HELENSVALE, VIC, 3000
ABN 76 121 977 973
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER DRAINAGE DETAILS SHEET 1

Scale at A0: AS SHOWN
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author RP | Chkd: Checker JC | Appd: Approver MB
Internal Job No: NA251463
Rev: P1
Name: SYD01-ACR-DR-SW-30101

Do not scale

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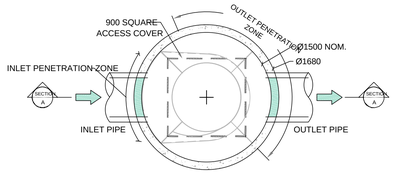
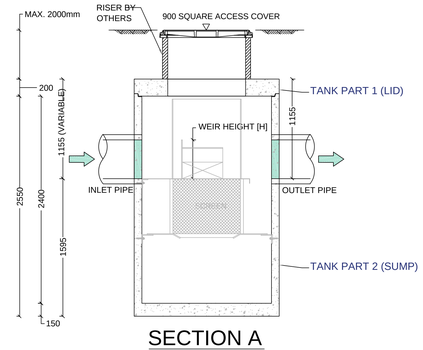
NOT FOR CONSTRUCTION



PLAN LAYOUT



SECTION A

AS1428.1/D2.2/1.6/1.2/3

OCEANSAVE DESIGN PARAMETERS

- IF INSTALLED ONLINE, THE INLET PIPE FLOW RATE MUST BE LESS THAN THE SPECIFIED UNIT. S LISTED PEAK HYDRAULIC FLOW RATE / AN UPSTREAM BYPASS OR DIVERSION PIT IS REQUIRED WHERE THE INLET PIPE FLOW RATE EXCEEDS THIS VALUE.
- OCEAN PROTECT DOES NOT PROVIDE 'K' VALUES FOR HEAD LOSS CALCULATIONS. HYDRAULIC HEAD LOSS IS SPECIFIED IN THE TABLE BELOW. PLEASE CONTACT OCEAN PROTECT FOR GENERAL DESIGN AND CONFIGURATION ADVICE AND ASSISTANCE.

MAX. COMPONENT WEIGHT (kg) (each module)	3800
TANK LID WEIGHT (kg)	700

NOTE: TANK SUPPLIED IN MULTIPLE PARTS TO BE JOINED ON SITE

	OS 060	OS 105	OS 200	OS 250	OS 360	OS 450	OS 580	OS 870
TREATABLE FLOW RATE (L/s)	60	105	200	250	360	450	580	870
PEAK HYDRAULIC FLOW RATE (L/s)	580	900	1200	1200	1200	1900	1900	1900
HYDRAULIC HEAD LOSS (mm)	282	220	283	356	476	308	401	575
TYPICAL WEIR HEIGHT [H] (mm)	450	450	600	700	900	750	900	1200
MIN RECOMMENDED PIPE SIZE (mm)	Ø300	Ø450	Ø600	Ø600	Ø750	Ø900	Ø900	Ø900
MAX NOMINAL PIPE SIZE (mm)	Ø750	Ø750	Ø900	Ø900	Ø900	Ø1050	Ø1050	Ø1050

GENERAL NOTES/ STRUCTURAL DESIGN CRITERIA

1. OCEANSAVE WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
2. PRECAST STRUCTURE SUPPLIED WITH PENETRATIONS TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
3. PRECAST STRUCTURE SHALL MEET W80 WHEEL LOAD RATING ASSUMING A MAXIMUM EARTH COVER OF 2.0m AND A GROUND WATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION. PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
4. PRECAST STRUCTURE SHALL BE PLACED ON A STABLE GROUND WITH A MINIMUM SOIL BEARING CAPACITY OF 125kPa UNDER NORMAL SERVICE CONDITION.
5. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO THE OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
6. SITE-SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED UPON PLACEMENT OF ORDER.
7. DRAWING NOT TO SCALE.

INSTALLATION NOTES

1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY CERTIFYING ENGINEER.
2. CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE PRECAST STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).
3. CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.
4. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT INTERNAL COMPONENTS DURING INSTALLATION.

OCEAN PROTECT
OCEANSAVE 1500-060
SPECIFICATION DRAWING

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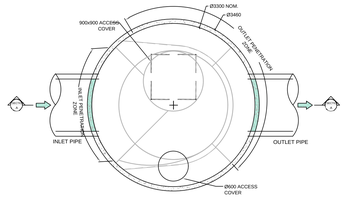
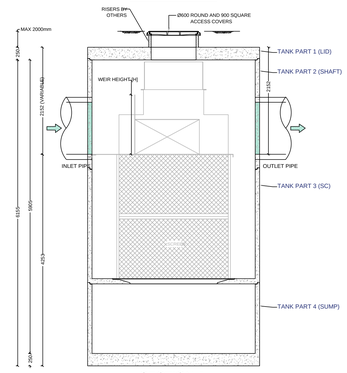
NOT FOR CONSTRUCTION



PLAN LAYOUT



SECTION A

AS 1428.1/D2.2/ 2/1.6/1.2/3

OCEANSAVE DESIGN PARAMETERS

- IF INSTALLED ONLINE, THE INLET PIPE FLOW RATE MUST BE LESS THAN THE SPECIFIED UNIT. S LISTED PEAK HYDRAULIC FLOW RATE / AN UPSTREAM BYPASS OR DIVERSION PIT IS REQUIRED WHERE THE INLET PIPE FLOW RATE EXCEEDS THIS VALUE.
- OCEAN PROTECT DOES NOT PROVIDE 'K' VALUES FOR HEAD LOSS CALCULATIONS. HYDRAULIC HEAD LOSS IS SPECIFIED IN THE TABLE BELOW. PLEASE CONTACT OCEAN PROTECT FOR GENERAL DESIGN AND CONFIGURATION ADVICE AND ASSISTANCE.

MAX. COMPONENT WEIGHT (kg) (each module)	13000
TANK LID WEIGHT (kg)	5100

NOTE: TANK SUPPLIED IN MULTIPLE PARTS TO BE JOINED ON SITE

	OS 060	OS 105	OS 200	OS 250	OS 360	OS 450	OS 580	OS 870
TREATABLE FLOW RATE (L/s)	60	105	200	250	360	450	580	870
PEAK HYDRAULIC FLOW RATE (L/s)	580	900	1200	1200	1200	1900	1900	1900
HYDRAULIC HEAD LOSS (mm)	282	220	283	356	476	308	401	575
TYPICAL WEIR HEIGHT [H] (mm)	450	450	600	700	900	750	900	1200
MIN RECOMMENDED PIPE SIZE (mm)	Ø300	Ø450	Ø600	Ø600	Ø750	Ø900	Ø900	Ø900
MAX NOMINAL PIPE SIZE (mm)	Ø750	Ø750	Ø900	Ø900	Ø900	Ø1050	Ø1050	Ø1050

GENERAL NOTES/ STRUCTURAL DESIGN CRITERIA

1. OCEANSAVE WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
2. PRECAST STRUCTURE SUPPLIED WITH PENETRATIONS TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
3. PRECAST STRUCTURE SHALL MEET W80 WHEEL LOAD RATING ASSUMING A MAXIMUM EARTH COVER OF 2.0m AND A GROUND WATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION. PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
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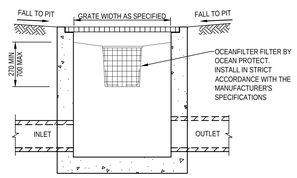
3. CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.
4. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT INTERNAL COMPONENTS DURING INSTALLATION.

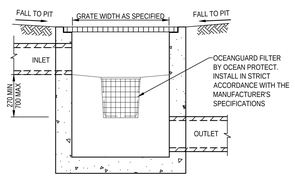
OCEAN PROTECT
OCEANSAVE 3300-870
SPECIFICATION DRAWING

PHONE: 1300 354 722 www.oceanprotect.com.au



TYPICAL OCEANGUARD ARRANGEMENT DETAIL - SURFACE INLET TREATMENT

NOT TO SCALE
NOTE:
REFER TO MANUFACTURER'S DRAWINGS FOR OCEANGUARD FILTER ARRANGEMENT AND COMPONENTS DETAILS



TYPICAL OCEANGUARD ARRANGEMENT DETAIL - DOWNPIPE CONNECTION / DROP PIT

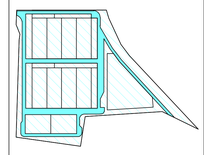
NOT TO SCALE
NOTE:
REFER TO MANUFACTURER'S DRAWINGS FOR OCEANGUARD FILTER ARRANGEMENT AND COMPONENTS DETAILS

SCALE 1:500 @ A0 0 5 10 20 30 40 50 metres

Do not scale

8/4/2025 3:42:14 PM

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

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AC OR CONSULTANTS

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Consultant - MEP
LCI CONSULTANTS
LEVEL 15/put EXHIBITION ST.
MELBOURNE, VIC, 3000
ABN 70 721 977 975
ARTELIA GROUP

Client
STACK INFRASTRUCTURE

Project Title
LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title
STORMWATER DRAINAGE DETAILS
SHEET 2

Scale at A0: A0 AS SHOWN
Role: STORMWATER
Suitability: SCHEMATIC DESIGN
By: Author RP Chkd: Checker JC Appd: Approver MB
Internal Job No: NA251463
Rev: P1
Name: SYD01-ACR-DR-SW-30102

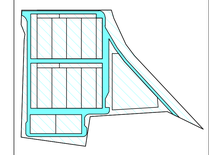
PIT SCHEDULE

PIT No.	STRUCTURE	TYPE	COVER	CLASS	EASTING	NORTHING	INTERNAL WIDTH (mm)	INTERNAL LENGTH (mm)	SETOUT RL	DEPTH (m)	STEP IRON (Y/N)	HEELSAFE (Y/N)	OCEANGUARD (Y/N)	REMARKS
A-1	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297326.82	6256055.97	650	900	55.05	1.36	Y	Y	Y	INSTALL OCEANGUARD PIT BASKET. TOTAL NUMBER OF PIT BASKET IS 54.
A-2	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297330.94	6256036.40	650	900	55.07	1.50	Y	Y	Y	
A-3	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297335.06	6256016.83	650	900	55.09	1.65	Y	Y	Y	
A-4	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297339.18	6255997.26	1200	900	55.11	1.79	Y	Y	Y	
A-5	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297343.29	6255977.69	1200	900	55.13	1.94	Y	Y	Y	
A-6	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297348.27	6255954.02	1200	900	55.24	2.20	Y	Y	Y	
A-7	JUNCTION PIT 1200 x 1200	JUNCTION PIT 1200 x 1200 (TYPE A)	1200 x 1200 CONCRETE INFILL LID	D	297364.39	6255956.81	1200	1200	55.52	2.58	Y	Y	N	
A-8	SURFACE INLET PIT 1200 x 1200	SURFACE INLET PIT 1200 x 1200 (TYPE A)	1200 x 1200 GALVANISED STEEL GRATE HINGED TO FRAME	D	297380.87	6255960.31	1200	1200	55.12	2.30	Y	Y	Y	
A-9	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297388.93	6255962.00	1200	900	54.96	2.20	Y	Y	Y	
A-10	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297409.94	6255966.43	1200	900	54.53	1.90	Y	Y	Y	
A-11	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297429.51	6255970.54	1200	900	54.51	2.01	Y	Y	Y	
A-12	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297449.08	6255974.66	1200	900	54.49	2.11	Y	Y	Y	
A-13	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297463.01	6255977.59	1200	900	54.54	2.26	Y	Y	Y	
A-14	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297494.33	6255984.18	1200	900	54.17	2.07	Y	Y	Y	
A-15	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297525.63	6255990.77	1200	900	53.79	1.88	Y	Y	Y	
A-16	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297554.01	6255996.74	1200	900	53.46	1.72	Y	Y	Y	
A-17	Junction Pit 1200 x 1200	JUNCTION PIT 1200 x 1200 (TYPE A)	1200 x 1200 CONCRETE INFILL LID	D	297578.13	6256002.20	1200	1200	53.26	1.67	Y	Y	N	
A-18	V GRATE PIT 1500 x 1500	DISH DRAIN PIT 1500 x 1500 (TYPE E)	600 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297573.19	6256025.79	1500	1500	53.15	1.68	Y	Y	Y	
A-19	V GRATE PIT 1500 x 1500	DISH DRAIN PIT 1500 x 1500 (TYPE E)	600 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297570.69	6256037.58	1500	1500	53.00	1.60	Y	Y	Y	
A-20	V GRATE PIT 1500 x 1500	DISH DRAIN PIT 1500 x 1500 (TYPE E)	600 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297565.89	6256060.41	1500	1500	52.97	1.69	Y	Y	Y	
A-21	V GRATE PIT 1500 x 1500	DISH DRAIN PIT 1500 x 1500 (TYPE E)	600 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297560.81	6256084.52	1500	1500	52.95	1.79	Y	Y	Y	
A-22	V GRATE PIT 1500 x 1500	DISH DRAIN PIT 1500 x 1500 (TYPE E)	600 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297554.70	6256113.58	1500	1500	52.92	1.90	Y	Y	Y	
A-23	JUNCTION PIT 1500 x 1500	JUNCTION PIT 1500 x 1500 (TYPE A)	1500 x 1500 CONCRETE INFILL LID	D	297551.24	6256130.00	1500	1500	53.11	2.18	Y	Y	N	
A-24	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297553.75	6256138.47	1500	1500	52.87	2.02	Y	Y	Y	
A-25	GPT CS-3300-380	-	-	-	297561.91	6256140.19	-	-	52.73	-	-	-	-	OCEANSAVE CS-3300-380 GPT
A-26	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297575.68	6256143.09	1500	1500	52.50	1.74	Y	Y	Y	
A-27	CONN	-	-	-	-	-	-	-	-	-	-	-	-	COUNCIL EXISTING OUTLET
B-1	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297322.70	6256075.55	650	900	55.03	0.75	N	Y	Y	
B-2	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297318.59	6256095.12	650	900	55.01	0.83	N	Y	Y	
B-3	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297314.47	6256114.68	650	900	55.01	0.92	Y	Y	Y	
B-4	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	C	297311.49	6256130.07	900	900	55.15	1.18	Y	N	N	
B-5	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297332.69	6256134.90	650	900	54.76	0.92	Y	Y	Y	
B-6	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297346.35	6256136.70	900	900	54.71	2.39	Y	Y	N	
B-7	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE C)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297356.01	6256141.70	650	900	54.59	2.35	Y	Y	Y	
B-8	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297377.48	6256154.14	1200	900	54.30	2.21	Y	Y	Y	
B-9	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297395.82	6256157.99	1200	900	54.03	2.06	Y	Y	Y	
C-1	JUNCTION PIT 1200 x 1200	JUNCTION PIT 1200 x 1200 (TYPE A)	1200 x 1200 GALVANISED STEEL GRATE HINGED TO FRAME	D	297454.76	6256022.85	1200	1200	54.27	1.57	Y	Y	N	
C-2	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297454.26	6256025.22	1200	900	54.25	1.59	Y	Y	Y	
C-3	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297450.14	6256044.80	1500	900	54.23	1.70	Y	Y	Y	
C-4	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297446.02	6256064.37	1500	900	54.21	1.80	Y	Y	Y	
C-5	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297441.91	6256083.94	1500	900	54.19	1.91	Y	Y	Y	
C-6	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297437.01	6256107.22	1500	900	54.17	2.03	Y	Y	Y	
C-7	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297430.81	6256136.69	1200	900	53.99	2.02	Y	Y	Y	
C-8	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297424.66	6256164.06	1500	1500	53.60	1.81	Y	Y	Y	
C-9	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297434.82	6256166.20	1500	900	53.45	1.74	Y	Y	Y	
C-10	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297453.90	6256170.22	1500	900	53.45	1.83	Y	Y	Y	
C-11	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297473.02	6256174.24	1500	900	53.40	1.89	Y	Y	Y	
C-12	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297488.19	6256175.10	1500	900	53.70	2.27	Y	Y	Y	
C-13	JUNCTION PIT 1500 x 1500	JUNCTION PIT 1500 x 1500 (TYPE A)	1500 x 1500 CONCRETE INFILL LID	D	297492.59	6256180.24	1500	1500	53.55	2.17	Y	Y	N	
C-14	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297498.35	6256181.47	1500	900	53.40	2.07	Y	Y	Y	
C-15	JUNCTION PIT 1500 x 1500	JUNCTION PIT 1500 x 1500 (TYPE A)	1500 x 1500 CONCRETE INFILL LID	D	297531.37	6256188.55	1500	1500	53.37	2.20	Y	Y	N	
C-16	KIPG - 2.4m	KERB INLET PIT - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL	D	297535.27	6256183.60	1500	900	53.24	2.12	Y	Y	Y	
C-17	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297543.27	6256145.60	1500	900	52.86	1.92	Y	Y	Y	
D-1	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297608.65	6256003.67	900	900	52.85	0.93	Y	Y	Y	
D-2	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297627.18	6256008.99	900	900	52.83	1.03	Y	Y	Y	
D-3	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297627.87	6256028.79	900	900	52.81	1.14	Y	Y	Y	
D-4	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297623.76	6256048.36	900	900	52.79	1.24	Y	Y	Y	
D-5	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297619.64	6256067.93	900	900	52.77	1.34	Y	Y	Y	
D-6	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297615.52	6256087.50	900	900	52.75	1.45	Y	Y	Y	
D-7	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297611.40	6256107.08	900	900	52.73	1.56	Y	Y	Y	
D-8	SURFACE INLET PIT 1200 x 1200	SURFACE INLET PIT 1200 x 1200 (TYPE A)	1200 x 1200 GALVANISED STEEL GRATE HINGED TO FRAME	D	297607.29	6256126.65	1200	1200	52.71	1.66	Y	Y	Y	
D-9	JUNCTION PIT 1200 x 1200	JUNCTION PIT 1200 x 1200 (TYPE A)	1200 x 1200 CONCRETE INFILL LID	D	297603.63	6256144.02	1200	1200	52.78	1.85	Y	Y	N	
D-10	KIPG - SAG - 2.4m	KERB INLET PIT - SAG - 2.4m (TYPE D)	450 x 900 GALVANISED STEEL GRATE HINGED TO FRAME WITH 2.4m LINTEL SAG	D	297594.12	6256146.58	1200	900	52.58	1.72	Y	Y	Y	
E-1	RAISED STEEL GRATE 900 x900	RAISED STEEL GRATE 900 x900 (TYPE D)	900 x 900 RAISED GALVANISED STEEL GRATE HINGED TO FRAME	C	297359.22	6256147.30	-	-	54.60	-	-	-	-	REFER TO DRAWING
D-11	GPT CS-1500-60	-	-	-	297591.18	6256146.07	-	-	52.60	-	-	-	-	OCEANSAVE CS-1500-60 GPT
HYD 01-1	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297346.44	6256000.04	900	900	55.85	2.47	Y	Y	Y	
HYD 02-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297448.48	6256021.58	900	900	54.44	1.68	Y	Y	N	
HYD 03-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297443.90	6256043.48	900	900	54.39	1.80	Y	Y	N	
HYD 04-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297424.54	6256135.38	900	900	54.15	2.12	Y	Y	N	
HYD 05-1	SURFACE INLET PIT 900 x 900	SURFACE INLET PIT 900 x 900 (TYPE A)	900 x 900 GALVANISED STEEL GRATE HINGED TO FRAME	D	297456.31	6256023.18	900	900	54.60	1.87	Y	Y	Y	
HYD 06-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297562.92	6256023.62	900	900	53.39	1.84	Y	Y	N	
HYD 07-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297555.56	6256058.24	900	900	53.22	1.86	Y	Y	N	
HYD 08-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297550.54	6256082.36	900	900	53.19	1.95	Y	Y	N	
HYD 09-1	JUNCTION PIT 900 x 900	JUNCTION PIT 900 x 900 (TYPE A)	900 x 900 SOLID LID	D	297603.23	6256125.79	900	900	52.79	1.70	Y	Y	N	
Z-1	JUNCTION PIT 1200 x 1200	JUNCTION PIT 1200 x 1200 (TYPE A)	1200 x 1200 CONCRETE INFILL LID	D	297529.80	6256196.42	1200	1200	52.79	1.39	Y	Y	N	

GRATED TRENCH DRAIN SCHEDULE

GTD NAME	TYPE	CLASS	TYPE	LENGTH (m)	HEELSAFE	COMMENTS
GD-1	ACODRAIN POWERDRAIN S200K	D	GD2	6.00	N	
GD-2	ACODRAIN POWERDRAIN S200K	D	GD3	6.00	N	
GD-3	ACODRAIN POWERDRAIN S200K	D	GD4	6.00	N	
GD-4	ACODRAIN POWERDRAIN S200K	D	GD5	6.00	N	
GD-5	ACODRAIN POWERDRAIN S200K	D	GD6	6.00	N	

Keyplan



Rev	Date	Description
P1	06.03.26	RE-ISSUE FOR SSDA

Civil

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Consultant - MEP

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ABN 92 124 927 975

ARTELIA GROUP

Client

STACK INFRASTRUCTURE

Project Title

LOCKWOOD ROAD DC
78 Lockwood Road
Erskine Park NSW 2759

Drawing Title

STORMWATER DRAINAGE PIT SCHEDULE

Scale at A0: AS SHOWN

Role: STORMWATER

Suitability: SCHEMATIC DESIGN

By	Chkd	Appd
Author RP	Checker JC	Approver MB

Internal Job No: NA251463

Rev: P1

Name: SYD01-ACR-DR-SW-30201

Do not scale

8/04/2026 3:42:14 PM

Appendix B - Authority Dial Before You Dig Plans

B.1 Penrith City Council

PENRITH CITY COUNCIL

Sequence No: 247439652
Job No: 38053610
Location: 78 Lockwood Road, Erskine Park, NSW 2759

DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step.

Legend

- Stormwater Pit
- Stormwater Line
- Easement
- Groundwater Monitoring Well (PSM)
- Groundwater Monitoring Well (JB&G)

N

Scale: 1:3518
Expires: 12 Dec 2024

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Penrith City Council nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information.

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The information presented may be subject to change and Penrith City Council is not responsible for providing updates to the user of this information.

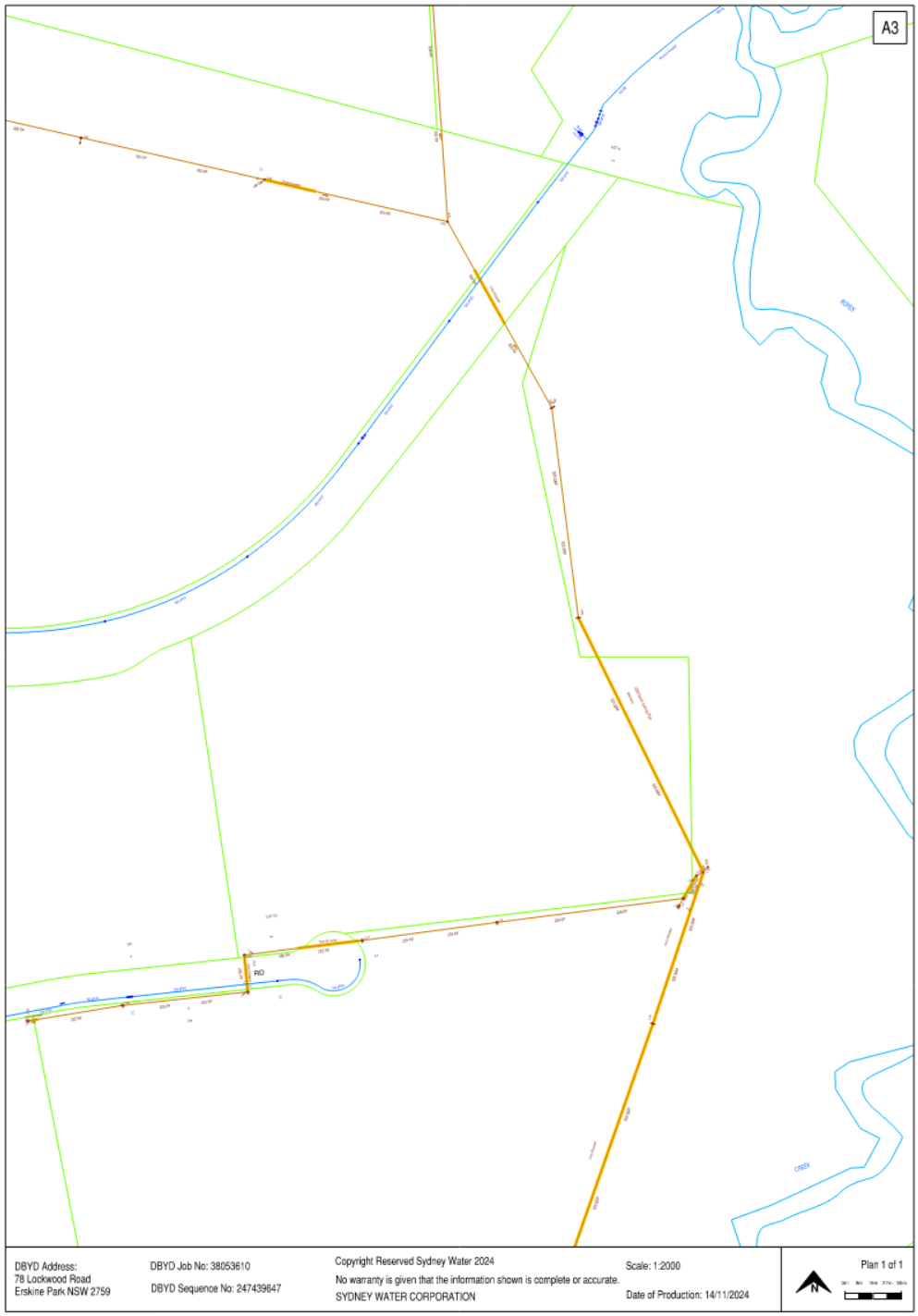
Th user acknowledges that the information is neither accurate nor complete. The information was collected from a wide variety of sources that were not subject to verification. Prior to undertaking any excavation in the area or commitment of significant resources on the project the location of Council's underground assets must be positively identified.

Use of such information is subject to and constitutes acceptance of these terms.

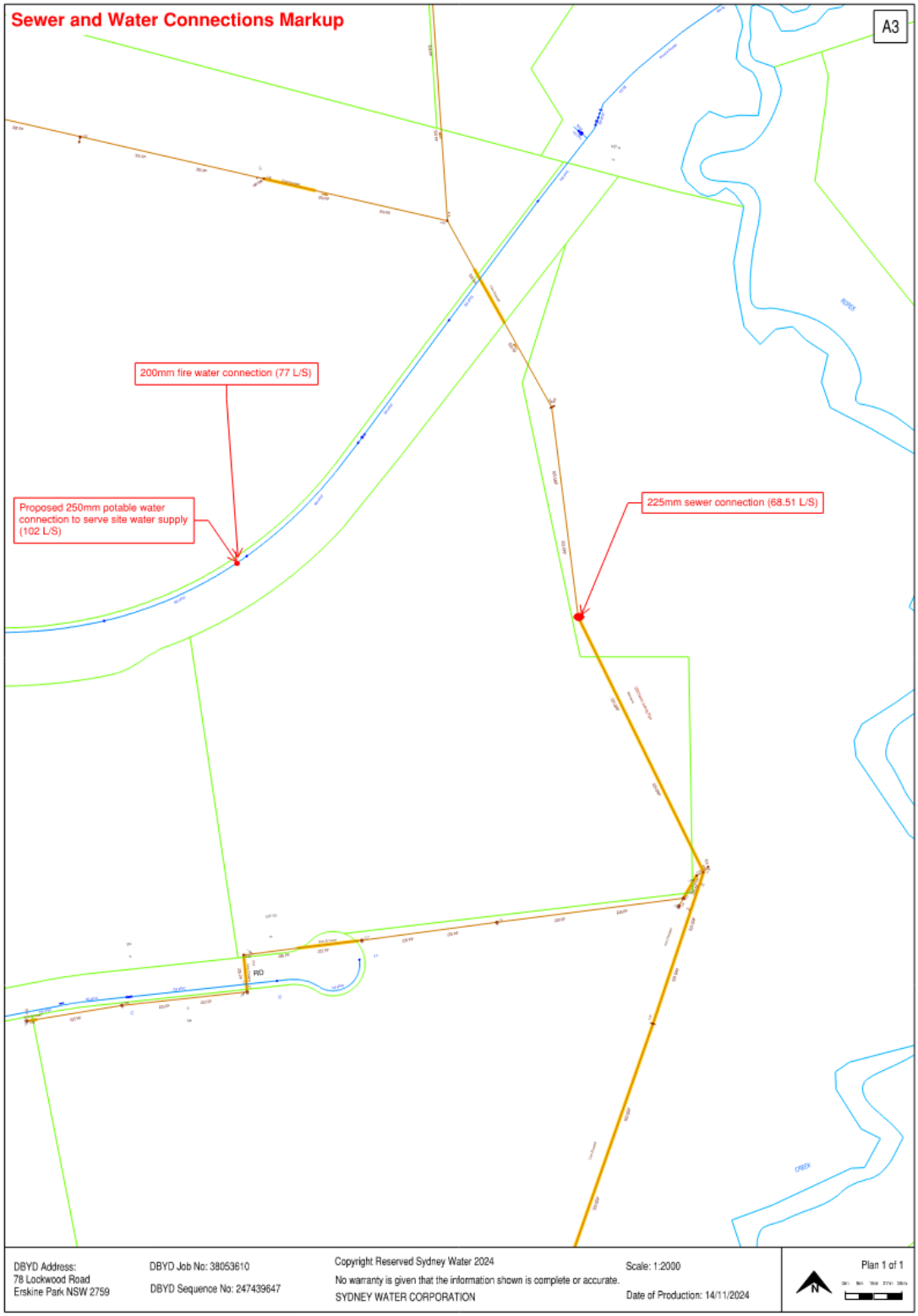
Plans generated 14 Nov 2024 by Pelicancorp TicketAccess Software | www.pelicancorp.com

[AU] Penrith CC (NSW) - Response Plan.docx (03 Jun 2022)

B.2 Sydney Water



B.3 Proposed Sewage and Water Connection



Appendix C - MUSIC-Link Report

PENRITH CITY COUNCIL

music@link

MUSIC-*link* Report

Project Details		Company Details	
Project:	78 Lockwood Rd Data Centre	**Company:**	Acor Consultants
Report Export Date:	10/03/2026	**Contact:**	Matthew Buttarelli
Catchment Name:	NA251463_78 Lockwood Rd MUSIC_02_260306	**Address:**	55 Market St, Sydney
Catchment Area:	7.726ha	**Phone:**	0415484127
Impervious Area*:	80.09%	**Email:**	m.buttarelli@acor.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:	6.35		
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	17.6%	Wetland Node	1	Urban Source Node	16
TSS	90.7%	Rain Water Tank Node	1		
TP	68.7%	Pond Node	1		
TN	48.3%	GPT Node	3		
GP	100%	Generic Node	2		

Comments

Notional Detention Time based on conservative as constructed details of wetland.

Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
GPT	45 x OceanGuard200um	Hi-flow bypass rate (cum/sec)	None	99	0.9
GPT	9 x OceanGuard200um	Hi-flow bypass rate (cum/sec)	None	99	0.18
GPT	Civilmart CDS 1012	Hi-flow bypass rate (cum/sec)	None	99	0.14
Pond	Pond (1695m2)	% Reuse Demand Met	None	None	0
Receiving	Receiving Node	% Load Reduction	None	None	17.6
Receiving	Receiving Node	GP % Load Reduction	90	None	100
Receiving	Receiving Node	TN % Load Reduction	45	None	48.3
Receiving	Receiving Node	TP % Load Reduction	60	None	68.7
Receiving	Receiving Node	TSS % Load Reduction	85	None	90.7
Urban	Hardstand H1 (1292m2)	Area Impervious (ha)	None	None	0.129
Urban	Hardstand H1 (1292m2)	Area Pervious (ha)	None	None	0
Urban	Hardstand H1 (1292m2)	Total Area (ha)	None	None	0.129
Urban	Hardstand H2 (8422m2)	Area Impervious (ha)	None	None	0.842
Urban	Hardstand H2 (8422m2)	Area Pervious (ha)	None	None	0
Urban	Hardstand H2 (8422m2)	Total Area (ha)	None	None	0.842
Urban	Landscape L1 (3695m2)	Area Impervious (ha)	None	None	0
Urban	Landscape L1 (3695m2)	Area Pervious (ha)	None	None	0.369
Urban	Landscape L1 (3695m2)	Total Area (ha)	None	None	0.369
Urban	Landscape L2 (3060m2)	Area Impervious (ha)	None	None	0
Urban	Landscape L2 (3060m2)	Area Pervious (ha)	None	None	0.306
Urban	Landscape L2 (3060m2)	Total Area (ha)	None	None	0.306
Urban	Landscape L3 (8632m2)	Area Impervious (ha)	None	None	0
Urban	Landscape L3 (8632m2)	Area Pervious (ha)	None	None	0.863
Urban	Landscape L3 (8632m2)	Total Area (ha)	None	None	0.863
Urban	Roof R1 (7825m2)	Area Impervious (ha)	None	None	0.782
Urban	Roof R1 (7825m2)	Area Pervious (ha)	None	None	0
Urban	Roof R1 (7825m2)	Total Area (ha)	None	None	0.782
Urban	Roof R2 (7825m2)	Area Impervious (ha)	None	None	0.782
Urban	Roof R2 (7825m2)	Area Pervious (ha)	None	None	0
Urban	Roof R2 (7825m2)	Total Area (ha)	None	None	0.782
Urban	Roof R3 (7825m2)	Area Impervious (ha)	None	None	0.782
Urban	Roof R3 (7825m2)	Area Pervious (ha)	None	None	0
Urban	Roof R3 (7825m2)	Total Area (ha)	None	None	0.782
Urban	Roof R4 (7825m2)	Area Impervious (ha)	None	None	0.782
Urban	Roof R4 (7825m2)	Area Pervious (ha)	None	None	0
Urban	Roof R4 (7825m2)	Total Area (ha)	None	None	0.782
Urban	Roof R5 (3468m2)	Area Impervious (ha)	None	None	0.347
Urban	Roof R5 (3468m2)	Area Pervious (ha)	None	None	0
Urban	Roof R5 (3468m2)	Total Area (ha)	None	None	0.347
Urban	Roof R6 (2664m2)	Area Impervious (ha)	None	None	0.267

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	Roof R6 (2664m2)	Area Pervious (ha)	None	None	0
Urban	Roof R6 (2664m2)	Total Area (ha)	None	None	0.267
Urban	Roof R7 (2599m2)	Area Impervious (ha)	None	None	0.26
Urban	Roof R7 (2599m2)	Area Pervious (ha)	None	None	0
Urban	Roof R7 (2599m2)	Total Area (ha)	None	None	0.26
Urban	Sealed Road S1 (61m2)	Area Impervious (ha)	None	None	0.006
Urban	Sealed Road S1 (61m2)	Area Pervious (ha)	None	None	0
Urban	Sealed Road S1 (61m2)	Total Area (ha)	None	None	0.006
Urban	Sealed Road S2 (7675m2)	Area Impervious (ha)	None	None	0.768
Urban	Sealed Road S2 (7675m2)	Area Pervious (ha)	None	None	0
Urban	Sealed Road S2 (7675m2)	Total Area (ha)	None	None	0.768
Urban	Sealed Road S3 (2652m2)	Area Impervious (ha)	None	None	0.265
Urban	Sealed Road S3 (2652m2)	Area Pervious (ha)	None	None	0
Urban	Sealed Road S3 (2652m2)	Total Area (ha)	None	None	0.265
Urban	Sealed Road S4 (1756m2)	Area Impervious (ha)	None	None	0.176
Urban	Sealed Road S4 (1756m2)	Area Pervious (ha)	None	None	0
Urban	Sealed Road S4 (1756m2)	Total Area (ha)	None	None	0.176

Only certain parameters are reported when they pass validation

Failing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Rain	2x Effective 250kL RWT	% Reuse Demand Met	80	None	72.9577
Wetland	FTW Wetland (750m2)	Hi-flow bypass rate (cum/sec)	None	99	100
Wetland	FTW Wetland (750m2)	Notional Detention Time (hrs)	48	72	0.0781

Only certain parameters are reported when they pass validation

Appendix D - Penrith City Council Checklist for Stormwater Concept Plans (SCP)

7. APPENDICES

APPENDIX A

CHECKLIST FOR STORMWATER CONCEPT PLAN (SCP)

Survey Information	Yes	No	NA
1. Site boundaries	☒	☐	☐
2. North point	☒	☐	☐
3. Services within the public footway	☒	☐	☐
4. Site features, including tree, structures, depressions	☒	☐	☐
5. Contours at 0.1m for flat sites ranging to 0.5m for steep sites and extending 10m into adjoining properties	☒	☐	☐
6. Top of kerb levels	☒	☐	☐
7. Boundary levels	☒	☐	☐
8. Benchmarks	☒	☐	☐
9. Levels to AHD where site is affected by overland flow, flooding or where works on Council's drainage network are required	☒	☐	☐
General	**Yes**	**No**	**NA**
1. Plans to scale of 1:100 or 1:200	☒	☐	☐
2. Designer's name, qualifications, contact details provided	☒	☐	☐
3. Design report, including details of any variations provided	☒	☐	☐
4. Plan number and date of issue shown	☒	☐	☐
5. Consistency between stormwater, architectural and landscape plans	☒	☐	☐
6. 1% AEP overland flow extents shown	☒	☐	☐
7. Development layout, building envelope and proposed driveway locations shown	☒	☐	☐
8. Drainage calculations to support the proposed design submitted	☒	☐	☐
9. Proposed finished floor, garage and ground surface levels shown	☒	☐	☐

10. Compliance with freeboard requirements	☒	☐	☐	
11. Location and level of proposed retaining walls indicated	☒	☐	☐	
12. Appropriate tail water selected	☒	☐	☐	
13. No adverse impact on other properties or the stormwater network	☒	☐	☐	
14. Mainstream flood / local overland flow flood report (if any)	☒	☐	☐	
Drainage Layout	**Yes**	**No**	**NA**	
1. Pipe size, grade and invert level indicated	☒	☐	☐	
2. Pit location, size, invert level and surface level indicated	☒	☐	☐	
3. Proposed connection point to Council's stormwater system	☐	☒	☐	CONNECTION TO REGIONAL BASIN AND DISCHARGE TO ROPES CREEK
OSD	**Yes**	**No**	**NA**	
1. A catchment plan showing areas draining to the OSD system.	☒	☐	☐	
2. Location and size of OSD system and WSUD measures shown	☒	☐	☐	
3. Location and level of OSD discharge points shown	☐	☐	☒	EXISTING REGIONAL DETENTION BASIN APPROVED AS PART OF PREVIOUS SUBDIVISION DEVELOPMENT APPROVAL (DA19/0818)
4. Compliance with detention volume required	☒	☐	☐	
5. Compliance with less than 15% of site area bypassing OSD system	☒	☐	☐	
6. Compliance with the Permissible Site Discharge (PSD) requirements	☒	☐	☐	
7. Compliance with OSD storage depths	☒	☐	☐	
8. Overland flows clear from the OSD system	☒	☐	☐	
9. OSD storage located within common areas, clear of private courtyards and accessible from the street	☒	☐	☐	
10. Overflow weir provided and shown	☐	☐	☒	
11. Details of discharge control pit shown	☐	☐	☒	
12. Orifice details and calculations shown	☐	☐	☒	
13. Typical sections of OSD storage, including basin invert level, centreline level of outlet orifice, top water level, finished surface levels provided	☐	☐	☒	
14. Provision of design certification of the OSD system in accordance with this policy	☐	☐	☒	

Others	Yes	No	NA
1. Location of Council's drainage easements, private inter-allotment easements shown (if any)	☒	☐	☐
2. Location and details of basement pump-out system provided (if any)	☐	☐	☒
3. Location and details of overland flow path shown (if any)	☒	☐	☐

Designer Name: **Matthew Buttarelli**
Designer Contact Details: **mbuttarelli@acor.com.au, 0415 484 127**
Designer Qualifications: **B. Eng (Civil & Environmental), MIEAust**