COSTIN ROE CONSULTING

CIVIL ENGINEERING REPORT INCORPORATING WATER CYCLE MANAGEMENT STRATEGY

SSD-120888992

OAKDALE EAST INDUSTRIAL ESTATE
PROJECT SILVERBACK
LOTS 2A, 2B & 2C & RESIDUAL INFRASTRUCTURE WORKS

Prepared for:

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EXECUTIVE SUMMARY

Goodman Property Services (Aust) Pty Ltd (the Applicant) are seeking to develop the balance of the Oakdale East Industrial Estate, located at 2-10 Old Wallgrove Road, in Horsley Park, NSW. The Applicant proposes to finalise the estate infrastructure approved under State Significant Development Application (SSDA) 37486043, and to construct two new state-of-the-art warehouse facilities with associated offices, truck circulation pavements & car parking.

The Proposal is considered State Significant Development (SSD) and accordingly, an Environmental Impact Statement (EIS) has been prepared to support the SSD Application for the Proposal. This Water and Hydrology Assessment has been prepared by Costin Roe Consulting to support the preparation of the EIS and assess the Proposal's impact on the surrounding environment in relation to soils and water including stormwater and stormwater management for both construction and operational phases of the development.

Proposal overview

The proposed development is for construction, fit-out and operation of 2 new warehouse buildings and associated internal site infrastructure works to accommodate the proposed building layouts. The proposed development works are summarised as follows, and split over three separate drawing packages:

Internal Estate Infrastructure – Refer CRC Drawing Package SSDA1000

- Bulk Earthworks to Precinct 2 (formally Precinct 2, 4 & 5), incl Approx. 550,000m³ fill importation required as either VENM, ENM or Resource Recovery Order under S 286A of the PoEO Act 1997
- Export any unsuitable material (i.e Topsoil)
- Retaining Walls (including importation of Engineered backfill)
- Stormwater drainage, including Stormwater Basin D (including fit-out) and Construction of Stage 1 stormwater discharge line through Building 2B to Basin C
- Stage 1 road and servicing amendments to reflect revised Precinct 2, 4 & 5 building layout
- Expansion and on-going management of DA 347.1/2021 Containment Cell

Warehouse 2A – Refer CRC Drawing Package SSDA2000

- Construction, fit-out (warehouse racking and office fit-out) and operation of a 17,893 sqm warehouse with ancillary office. Proposed ridge height of 14.6m (excluding rooftop plant and solar). Includes hard stand, dock offices, loading bays, landscaping, electric vehicle charging, solar panels and signage.

Warehouses 2B & Lot 2C – Refer CRC Drawing Package SSDA3000

- Construction, fit-out (office and warehouse) and operation of approximately 142,157 sqm of warehouse and office GLA across two levels spanning a proposed ridge height of 25.0m (excluding rooftop plant, roof access stairs and solar). Building 2B will include hardstand, heavy rigid parking, guardhouses, dock offices, loading bays, landscaping, electric vehicle charging, solar panels, weighbridges, fleet workshop, refuelling bay, truck wash and signage.

Purpose of this assessment

This Water and Hydrology Impact Assessment has been prepared to address the following Secretary's Environmental Assessment Requirements (SEARs):

- Item Number 12: Ground and Water Conditions – As shown on **Table 1.1, Item 12**
- Item Number 13: Stormwater and Wastewater – As shown on **Table 1.1, Item 13**
- Item Number 14: Flood Risk– As shown on **Table 1.1, Item 14**

Construction impacts

During the construction phase, a Sediment and Erosion Control Plan will be in place to ensure the downstream drainage system and receiving waters are protected from sediment laden runoff.

Operational impacts

During the operational phase of the development, the proposed stormwater quality treatment system incorporating the use of a treatment train of gross pollutant traps (GPT's) and bio-retention filtration is proposed to mitigate any increase in stormwater pollutant load generated by the development. The water quality management strategy approved as part of the OEE SSDA Submission is able to accommodate the proposed Project Silverback without modification. Best management practices have been applied to the development to ensure that the quality of stormwater runoff is not detrimental to the receiving environment.

Conclusion

The hydrological assessment of the local site drainage confirms that recommended water quality and quantity measures will ensure that no adverse impacts result on receiving waterways as a result of the development.

The detail contained in this report provides sufficient information to show the consent authority that legal points of discharge and a suitable stormwater management strategy is available for the development and the requirements associated with the strategy. It is recommended the management strategies in this report be approved and incorporated into the future detailed design.

1 INTRODUCTION

1.1 Introduction

This Civil Engineering Report Incorporating Water Cycle Management Strategy has been prepared by Costin Roe Consulting to address the following Development Applications:

- **Concept Plan Amendments (Mod 6):** Amendments to State Significant Development Application 37486043 (as modified) in accordance with Section 4.24 of the *Environmental Planning & Assessment Act 1979*
- **Detailed Application (Proposed Works)**: State Significant Development Application (SSDA) No. 120888992 based on Industry-Specific Secretary's Environmental Assessment Requirements (SEARs) dated 8 May 2026.

The proposed development is being undertaken by Goodman Property Services (Aust) Pty Ltd (Applicant) on behalf of BGMG 14 Pty Ltd (ACN 661 888 884) as trustee of BGMG 1 Oakdale East Trust No.2 (Owner). The development is located within Lot 109 in DP 1293112, formally referred to as 2-10 Old Wallgrove Road, Horsley Park (the Site).

This WCMS comprises several key areas of stormwater and water management which are provided below. These key areas have been established with the aim to reduce impacts from the development on the surrounding environment and neighbouring properties. The water cycle management strategy identifies the management measures required to meet the targets set. The key water cycle management areas assessed in this report are:

- Storm Water Quantity;
- Storm Water Quality;
- Water Supply and Reuse;
- Flooding; and
- Erosion and Sediment Control

This engineering analysis is based on development for industrial warehouse and logistic facilities consistent with industrial estates in the surrounding areas and indicative Masterplan provided by Goodman.

A request for Planning Secretary's Environmental Assessment Requirements (SEAR's) to the DPHI has been made by the applicant. Reference to **Appendix F** should be made for SSD-120888992 SEAR's dated 8 May 2026 and to **Section 1.4** of this report for specific responses to civil engineering and water management related items included in the SEAR's.

1.2 Planning context

The below further outlines the respective works the Development Applications seek approval for.

Concept Plan Amendments | State Significant Development Application SSD - 37486043 (Mod 6)

As part of the proposed works under SSD No. 120888992, the following amendments are proposed to the Concept approval and Stage 1 Infrastructure works approved under SSDA 37486043:

- Amendment to approved Masterplan and Subdivision plan to accommodate revised Precinct 2-5 layout which will consolidate Precincts 2, 4 and 5, resulting in a total of three (3) precincts. (Precinct 1, 2 & 3).
- Amendment of Stage 2 infrastructure scope to accommodate revised and consolidated Precinct 2-5 layout
- Amendment of Development Controls, including those prescribed under Condition A9 & A10 of the consent, specifically:
    - Building Height
    - Maximum GLA
- Increase maximum permissible vehicle from a 30 m super B-double to a 36.5m B-triple (Condition D14)

This application, inclusive of the amendments to the Concept approval under SSD 37486043, seeks to facilitate the development of Building 2A, 2B & Lot 2C and associated Internal infrastructure changes.

Detailed Application | State Significant Development Application SSD-120888992

The SSDA seeks approval for the construction, fit-out , operation and use of 2 warehouse buildings and associated internal site infrastructure works to accommodate the proposed building layouts. Specifically, this includes:

- **Warehouses and Distribution Building – Building 2A**
    - 24/7 warehouse and distribution use.
    - Construction, operation, fit-out (warehouse racking and office fit-out) and use of approximately 18,110 sqm warehouse with ancillary office GLA. Proposed ridge height of 14.6m (excluding rooftop plant and solar).
    - Includes hard stand, dock offices, loading bays, landscaping, electric vehicle charging, solar panels and signage.
- **Warehouses and Distribution Building – Building 2B & Lot 2C**
    - 24/7 warehouse and distribution use for an automated mail and parcel processing and sorting facility.
    - Construction, operation, fit-out (office and warehouse) and use of approximately 142,157 sqm of warehouse and office GLA across two levels spanning a proposed ridge height of 25.0m (excluding rooftop plant, roof access stairs and solar).
        - Warehouse fit-out includes automation and sortation equipment along with associated mezzanine structures.
    - Building 2B will include hardstand, heavy rigid parking, guardhouses, dock offices, loading bays, landscaping, electric vehicle charging, goods collection lockers, solar panels six lithium-ion battery energy storage systems (BESS) external to the main

warehouse building and fleet workshop, weighbridges, fleet workshop, dock temperature control with external units, emergency generators, refuelling bay, truck wash and signage.

- Dangerous goods (DGs) are proposed to be stored at the site, which are below the threshold quantities under Chapter 3 of the *State Environmental Planning Policy (Resilience and Hazard) 2021*
- Ground Improvements to Warehouse 2B building footprint (i.e. pilling), including a 200mm thick layer of Cement Treated Fine Crushed Rock (CTFCR) placed under the entire warehouse footprint.

Internal Estate Infrastructure

- Bulk Earthworks to Precinct 2 (formally Precinct 2, 4 & 5)
  - Approximately 550,000m^3 fill importation required as either virgin excavated natural material (VENM), excavated natural material (ENM) or Resource Recovery Order under Section 286A of the *Protection of the Environment Operations Act 1997* (PoEO Act 1997) Importation proposed to be 24 hours, 7 days a week during the Fill Importation program
  - Export any unsuitable material (i.e Topsoil and Clay)
- Retaining Walls (including importation of Engineered backfill)
- Stormwater Basin D (including fit-out)
- Construction and associated Easement to Drain of Stage 1 stormwater discharge line through Building 2B to Basin C
- Stage 1 road and servicing amendments to reflect revised Precinct 2, 4 & 5 building layout
- Noise barriers
- Lead-in services including additional 11kv feeder via the extension of HV feeders from existing Endeavour Energy switching stations within Roberts Road and Capicure Drive

- **Other**
  - Expansion and on-going management of DA 347.1/2021 Containment Cell
  - Subdivision of Precinct 2, 4 & 5 to suit revised precinct plan and ultimate lot layout

Related Applications/Activities

Fairfield City Council Development Application DA 347.1/2021 (as modified) – Rehabilitation Works

A Fairfield City Council Development Application DA 347.1/2021 (as modified) has previously been approved over the site facilitating Bulk Earthworks and Rehabilitation (including an initial Containment Cell) Works at the Site to provide relative levels suitable for future industrial development.
These levels are:

- Precinct 2 (western portion): BE 77.5
- Precinct 2 (eastern portion): BE 71.5
- Precinct 3: BE 77.0
- Precinct 4: BE 70.0

Proposed SSD-120888992 assumes these levels and works in respect of assessment of environmental impacts previously assessed in accordance with Clause 4.63 (a) *Environmental Planning & Assessment Act 1979.* Further re-assessment is therefore not required.
DA 347.1/2021 assessed the Environmental Impacts associated with the required rehabilitation to achieve the above Bulk Earthworks levels.
Notwithstanding, DA 347.1/2021 (as modified) is currently unable to be fulfilled as the consent approves a shortfall of:

- Fill importation required to achieve the above FCC approved rehab levels
- Contamination cell size required to fulfill rehabilitation obligations under the Fairfield City Council consent and associated Rehabilitation Action Plan.

SSD-120888992 assess and seeks approval to address these shortfalls as part of the Environmental Impact Assessment.

1.3 Consultation

Consideration to the requirements of various stakeholders has been made in relation to the development. The following consultation has been made during the assessment period.

- SLR consulting has conducted a community
- Stakeholder consultation has been conducted by Keylan as part of the planning documentation.

1.4 SEAR's responses

This report supports the EIS for the proposal and to address the NSW Department of Planning and Environment SEARS letter dated 8 May 2026, reference SSD-120888992.

We note the below "key issues and documentation" assessments are based on the department's SEAR's by DPHI and following key areas in the document:

- *Item 12. Ground and Water Conditions,*
- *Item 13. Stormwater and Wastewater*

Further reference to the EIS prepared by Keylan should be made for confirmation of how the SEAR's have been addressed for non-civil engineering related items.

Table 1.1 provides a summary of the SEARs Requirements for the Project Silverback which relates to water and hydrology, and where these have been addressed in this report.

Further reference to the EIS should be made for confirmation of how the SEAR's have been addressed for non-civil engineering related items.

1.4.1 SEAR's response items

Table 1.1 - SEARs Warehouse and Distribution Centres Key Areas

SEAR's Key Item No. & Description	Issue & Assessment Requirements	How It Is Addressed	Location Within This Report
12. Ground and Water Conditions	Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site, including soil erosion, salinity and acid sulfate soils.	We note the OEE estate is currently partly developed, and undergoing significant infrastructure construction works. Completed work in the precinct includes the construction of four warehouse & distribution facilities, roads & drainage infrastructure & retaining walls. Active construction activities on the site include bulk earthworks filling through the existing quarry, temporary stormwater management via a temporary OSD basin & retaining wall construction. The site is noted to be located within an established industrial precinct. We note that a second Strahler order stream, Reddy Creek, is located along the eastern boundary of the development. The proposed works involve importation of fill and the continuation of the approved bulk earthworks to facilitate the proposed distribution facilities, construction of trunk stormwater drainage,	Refer to **Section 3** and geotechnical assessments by **Douglas Partners** for confirmation of soil resources and potential impacts.

		construction of two distribution facilities and associated Geotechnical investigations also confirm there will be minimal impact to existing soil resources and soils, which have already been assessed as acceptable as part of previous development application approvals.	
	Provide a Surface and Groundwater Impact Assessment that assesses potential impacts on: • surface water resources (quality and quantity) including related infrastructure, hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses. • groundwater resources in accordance with the *Groundwater Guidelines*.	The site comprises an active construction site to facilitate an industrial estate. The reconfiguration of the development layout over the subject land will not result in unacceptable impacts to any resources noting similar water quantity discharge and improved stormwater quality. An assessment including surface water runoff, water quality and water quantity has been completed. The key stormwater objectives, based on relevant water sensitive urban design criteria, have been set out in **Section 4.1** and **Section 6.1** of the report. Discharge from the site is noted to be made to Reddy Creek via Basins C & D, consistent with existing development approvals over the site. **Section 6** provides demonstration of the key criteria being met. Configuration of the	Refer to **Section 4, 5 & 6** for assessment of water resources, hydrology (including quality and quantity), watercourses and riparian lands during operation.

		proposed measures are shown on the Civil Design Drawings included in **Appendix A**. Refer to **Section 8** for soil and water management measures during construction, drawings in **Appendix A** for associated erosion and sediment control drawings, and **Appendix C** for a Draft Soil and Water Management Plan. The above noted report sections and drawings show proposed measures, based on the Landcom document *Managing Urban Stormwater – Soils & Construction Volume 1 ('Blue Book')(Landcom, 2004)*, are proposed during the construction of the development. Measures proposed will limit potential for offsite impact associated with water runoff and soils during construction. Consideration to management of salinity and acid sulphate has been made based on the recommendations of the geotechnical investigations and noted Landcom document. A second Strahler order stream, Reddy Creek, is located along the eastern boundary of the development.	
13. Stormwater and Wastewater	Provide an Integrated Water Management Plan	An assessment including surface water runoff, water quality and water quantity has been completed. The key	Refer to **Section 4, 5 & 6** for assessment of water

	for the development that: • is prepared in consultation with the local council and any other relevant drainage or water authority. • details the proposed drainage design for the site including any on-site detention facilities, water quality management measures and the nominated discharge points, on-site sewage management, and measures to treat, reuse or dispose of water. • demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse impacts on any downstream properties.	stormwater objectives, based on relevant water sensitive urban design criteria, have been set out in **Section 4.1** and **Section 6.1** of the report. The site comprises the site preparation works for an industrial facility with most of the existing site surface being impervious. The redevelopment of the land will not result in unacceptable impacts to any resources noting similar water quantity discharge and improved stormwater quality. Discharge from the site is noted to be made to Reddy Creek via Basins C & D, consistent with existing development approvals over the site.	resources, hydrology (including quality and quantity), watercourses and riparian lands during operation.

	Where 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 works that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority	Refer **Section 4** and drawings in **Appendix A** for detailed assessment of the existing and post development conditions pertaining to the existing site discharge points. It is noted that the site is proposed to discharge to Reddy Creek via Basins C & D. A hydraulic has been completed to demonstrate that the proposed stormwater management system complies with the relevant policies.	Refer to **Section 4** and **Appendix A**
14. Flood Risk	Identify the flood planning level as set out in the relevant council LEP or SEPP and identify any: • Flood risks on site having regard to adopted flood studies • The potential effects of climate change, and • Any relevant provisions of the NSW Flood Risk Management Manual	A Flood Impact & Risk Assessment (FIRA) was undertaken by Colliers to evaluate the flood impact and risk management considerations associated with the proposed development. The FIRA identifies any flood risks on site, provides a climate change assessment and addresses any relevant provisions of the NSW Flood Risk Management Manual.	Refer to **Section 3.5** of the **Flood Impact & Risk Assessment prepared by Colliers (Ref-26-0230-SSDA-A)**

	Where the development is occurring on flood prone land a flood impact and risk assessment (FIRA) must be prepared having regard to the Flood Impact and Risk Assessment Guideline - LU01 (FIRA guide). When determining the scope and category of the FIRA the requirements outlined in the FIRA guide must be considered	The Flood Impact & Risk assessment proposed by Colliers identifies that the proposed development is not occurring on flood prone land	Refer to **Section 3.1** of the **Flood Impact & Risk Assessment prepared by Colliers (Ref-26-0230-SSDA-A)**
	Detail any flood risk management measures that are to be incorporated as part of the development having regard to relevant guidelines (including any design solutions, flood modification measures, property modification measures, operational procedures or Flood Emergency Response Plan).	The Flood Impact & Risk assessment proposed by Colliers identifies the flood risk management measures that are to be incorporated as a part of the development	Refer to **Section 3.5** of the **Flood Impact & Risk Assessment prepared by Colliers (Ref-26-0230-SSDA-A)**

2 DEVELOPMENT SITE

2.1 Location

The proposed development is located in the suburb of Horsley Park, at 2-10 Old Wallgrove Road on Lot 109 of Deposited Plan 1293112 as shown in **Figure 2.1.**

The site is bounded on the west by the completed Oakdale East Estate (OEE), the Warragamba Pipeline Corridor to the north, Reddy Creek to the east and Burley Road to the south. The land comprises a total area of approximately 52.29ha, with a proposed development area of 30.5Ha.

Figure 2.1 - Locality Plan

2.2 Existing site, development history & approvals

The site is located within the Fairfield City Council LGA and is the easternmost lot of the Oakdale East Industrial Estate (OEE). The OEE is an 88Ha industrially zoned subdivision with several active warehouse & distribution facilities. It is located approximately 2.5km west of the M7 motorway. The site has an extensive development history and was formally a quarry with associated brick manufacturing processes.

The OEE Estate has undergone extensive development work, with six existing warehouse & distribution facilities operating in the western half of the estate. Vehicular access around the estate is via Keystone Drive and Latitude Road, which are located directly west of the Project Silverback lot as shown above.

Significant historical earthworks have occurred over the OEE estate. This application (DA 347.1/2021) has previously been approved over the site facilitating Bulk Earthworks and Rehabilitation (including an initial Containment Cell) works at the Site to provide relative levels suitable for future industrial development.

For the purposes of this development the commencement level for the assumed Earthworks is based on the following levels from DA 347.1/2021 and SSD 37486043:

- Precinct 2 (western portion): BE 77.5
- Precinct 2 (eastern portion): BE 71.5
- Precinct 3: BE 77.0
- Precinct 4: BE 70.0

The assessment commencement point captures the Environmental Impacts assessed in accordance with Clause 4.63 (a) Environmental Planning & Assessment Act 1979. Notwithstanding the above, we note that DA 347.1/2021 approved a shortfall in importation of 550,000m3 required to remediate to the above levels.

The Project Silverback Site is currently approved to three different pad levels as shown in the approved General Arrangement Plan by AT&L (refer **Figure 2.2**Error! Reference source not found. below). Precinct 2 is approved with a split-pad arrangement, with pad levels of RL77.50 and RL71.50. Precinct 4 is approved to RL70.00. Precinct 5 does not have an approved pad level.

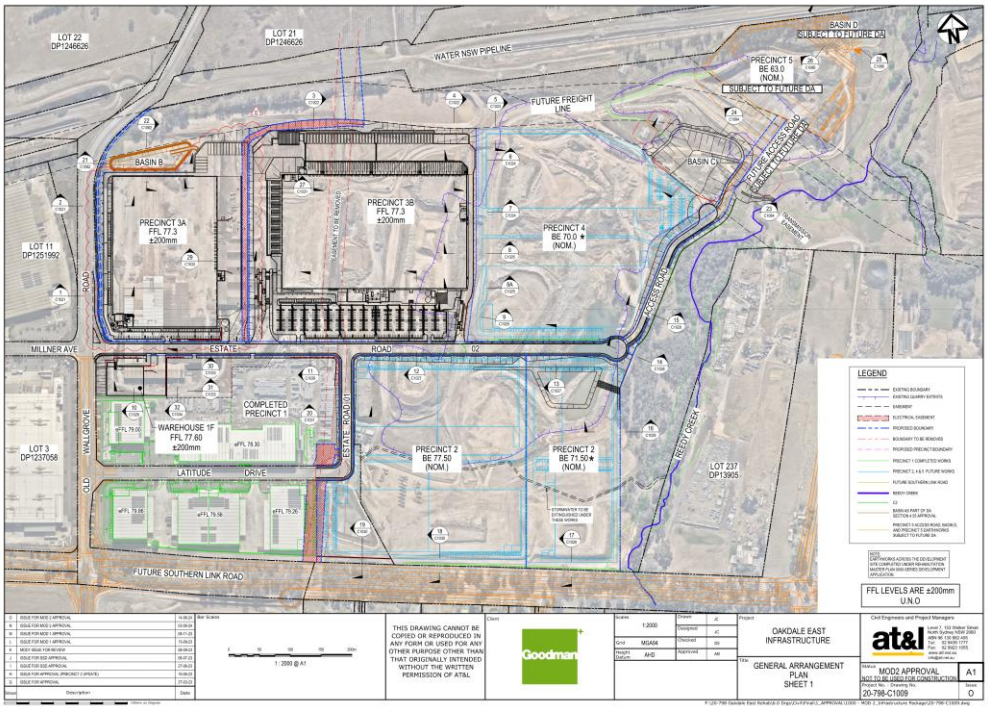

Figure 2.2 - General Arrangement Plan – AT&L

2.3 Proposed development

The proposed development is for construction, fit-out and operation of 2 new warehouse buildings and associated internal site infrastructure works to accommodate the proposed building layouts. The proposed development works are summarised as follows, and split over three separate drawing packages:

Internal Estate Infrastructure – Refer CRC Drawing Package SSDA1000

- Bulk Earthworks to Precinct 2 (formally Precinct 2, 4 & 5)
- Approx. 550,000m3 fill importation required as either VENM, ENM or Resource Recovery Order under S 286A of the PoEO Act 1997
- Importation proposed to be 24 hours, 7 days a week during the Fill Importation program
- Export any unsuitable material (i.e. Topsoil)
- Retaining Walls (including importation of Engineered backfill)
- Stormwater Basin D (including fit-out)
- Construction of Stage 1 stormwater discharge line through Building 2B to Basin C
- Stage 1 road and servicing amendments to reflect revised Precinct 2, 4 & 5 building layout
- Omission of Keystone Road extension and conversion of existing temporary Cul-De-Sac to a permanent Cul-De-Sac.
- Expansion and on-going management of DA 347.1/2021 Containment Cell
- Subdivision of Precinct 2, 4 & 5 to suit revised precinct plan and ultimate lot layout

Warehouse 2A – Refer CRC Drawing Package SSDA2000

- 24/7 warehouse and distribution use
- Construction, fit-out (warehouse racking and office fit-out) and operation of a 17,893 sqm warehouse with ancillary office. Proposed ridge height of 14.6m (excluding rooftop plant and solar). Includes hard stand, dock offices, loading bays, landscaping, electric vehicle charging, solar panels and signage.

Warehouses 2B & Lot 2C – Refer CRC Drawing Package SSDA3000

- 24/7 warehouse and distribution use for parcel processing.
- Construction, fit-out (office and warehouse) and operation of approximately 142,157 sqm of warehouse and office GLA across two levels spanning a proposed ridge height of 25.0m (excluding rooftop plant, roof access stairs and solar). Building 2B will include hardstand, heavy rigid parking, guardhouses, dock offices, loading bays, landscaping, electric vehicle charging, solar panels, weighbridges, fleet workshop, refuelling bay, truck wash and signage.
- Ground Improvements to Warehouse 2B building footprint (i.e. Pilling)

The Development Layout is shown in **Figure 2.3**. Infrastructure works required above DA347.1/2021 and SSD 37486043 will include bulk earthworks, provision of services, road & intersection modifications, stormwater management for the estate and for the upstream ~20Ha catchment.

Proposed SSD-120888992 assumes the levels noted in **Section 2.2** above and works with respect to assessment of environmental impacts previously assessed and approved. As such, further re-assessment is therefore not required. DA 347.1/2021 assessed the Environmental Impacts associated with the required rehabilitation to achieve the above Bulk Earthworks levels.

Notwithstanding, DA 347.1/2021 (as modified) currently approves a shortfall with respect to the following items:

- Fill importation required to achieve the above FCC approved rehab levels
- A 40,000m3 contamination cell size required to fulfill rehabilitation obligations under the Fairfield City Council consent and associated Rehabilitation Action Plan.

This SSD-120888992 assess and seeks approval to address these shortfalls as part of the Environmental Impact Assessment.

Several access points to the proposed lots will be made off Latitude Road and Keystone Drive.

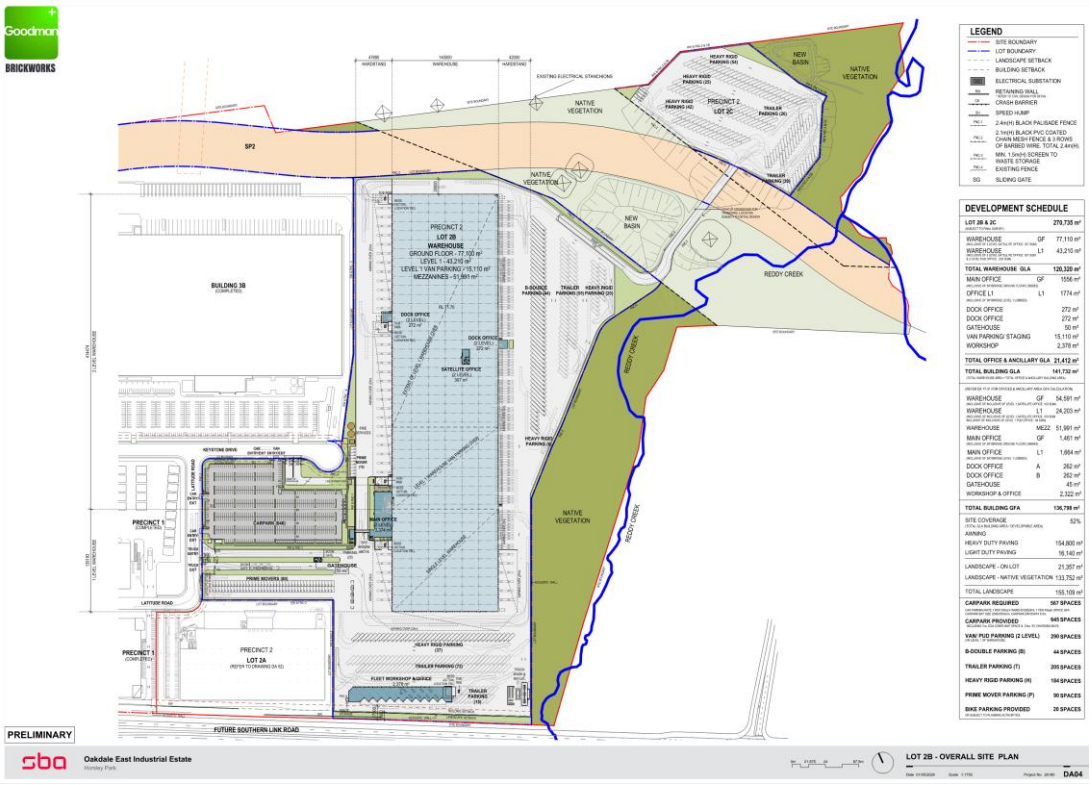

Figure 2.3 - Development Layout (Source: SBA Architects)

Figure 2.4 below shows the comparison of the approved site masterplan layout and the proposed amended masterplan layout, provided by SBA Architects. Previously approved infrastructure is shown on the plan in red.

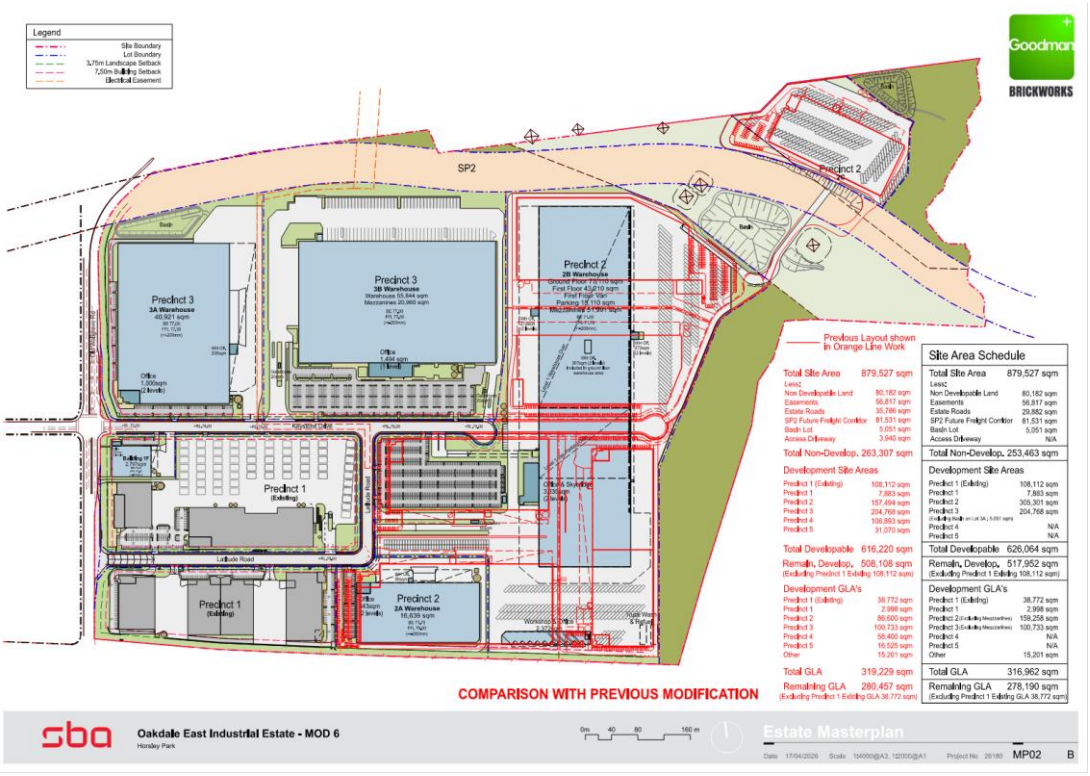

Figure 2.4 - Comparison of Approved & Proposed Site Works

As shown, the changes to the approved infrastructure under SSD 37486043 & DA 347.1/2021 predominantly include:

- Removal of spine road between Precinct 2 & Precinct 4
- Amendment to stormwater reticulation
- Reduction of Precinct 2 upper levels to suit the proposed Project Silverback footprint

3 SOILS, GEOLOGY, AND EARTHWORKS

3.1 Soil and geological conditions

Assessments relating to soil have been undertaken by Douglas Partners & JBS&G. The following reports have informed the assessment of soil & geological conditions:

Geotechnical Report: *Report on Geotechnical Assessment ref 86545.14.R.401.Rev0*

Interim Geotechnical Design Guideance Report ref: 86545.14.R.109.Rev0 (1)t

Earthworks Specification: *ref: 86545.13.R.008.Rev4*

Preliminary Site Investigation: *Preliminary Site Investigation ref: 60530/144338 (Rev A)*

As referenced in the investigation by Douglas Partners, reference to the 1:100 000 Geological Series Penrith Geological Survey of NSW Sheet 9030 (DMR 1991) indicates that the site is present within the following natural geological and soil landscapes:

- Geology:
    - Bringelly Shale (Wianamatta Group) – comprising shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.
    - South Creek (Alluvial) – comprising, structures plastic clays or loams, red and yellow podzolic soils mostly found with small areas of structured grey clays, leached clays and yellow solodic soils.
- Landscape: the natural soil profile in the western portion of the site comprises the residual Blacktown landscape, whilst the natural soil profile in the eastern portion comprises the alluvial South Creek landscape:
    - The Blacktown landscape gently undulating rises on Wianamatta shales, broad rounded crests and ridges with gently inclined slopes. Local relief to 30 m, slopes usually >5%.
- Soils: Consistent with the Landscape, the site is characterised by soils of two groups:
    - 'Blacktown Residual' – shallow to moderately deep (>100 cm) hard setting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines; and the
    - 'South Creek Alluvial' – often very deep layered sediments over bedrock or relict soils, where pedogenesis has occurred structured plastic clays or structured loams are present in and immediately and adjacent to drainage lines, red and yellow podzolic soils are most common terraces with small areas of structured grey clays, leached clays and yellow solodic soils.

3.2 Bulk earthworks

Extensive historical Bulk earthworks have been performed throughout the OEE development. Consistent with the current Rehabilitation DA & subsequent Modifications, bulk earthworks and perimeter retaining walls have been constructed to facilitate the future development of the lots as industrial warehouse distribution use. The works have been approved by both DPHI, FCC and have been completed by Goodman.

The earthworks being undertaken shall provide large flat building pads, facilitate site access & to drain the site stormwater via gravity and to fill previous brick pits and other quarry works associated with Brickworks activities on the land.

A Fairfield City Council Development Application DA 347.1/2021 (as modified) has previously been approved over the site facilitating Bulk Earthworks and Rehabilitation (including an initial Containment Cell). Works at the Site to provide relative levels suitable for future industrial development. This submission intends to modify the approved bulk earthworks levels as shown in **Table 3.1** below, and quantum of fill importation as per **Table 3.2**.

Table 3.1 - Earthwork Level Changes

Precinct	Approved BEL (+-200mm)	Revised BEL (+-200mm)
Precinct 2 (West)	77.50	No Change (Lot 2A Only)
Precinct 2 (East)	71.50	Varies btw RL70.50-RL75.00
Precinct 4	70.00	RL70.20

As noted in **Section 2.3** above, DA 347.1/2021 (as modified) is currently unable to be fulfilled as the consent approves a shortfall of:

- Fill importation required to achieve the above FCC approved rehab levels
- Contamination cell size required to fulfill rehabilitation obligations under the Fairfield City Council consent and associated Rehabilitation Action Plan.

It is estimated that the current balance of fill, available under the existing consent will result in precint 4 being delivered to approximately RL66.0m AHD (around 4m below the approved bulk level) and the approved levels being delivered across Precinct 2 (which is considered as the rehabilitation surface level).

An earthworks design and volume estimate assessment has been undertaken for the site to fill the levels from the rehabilitaiton surface levels to the proposed bulk earthworks levels as shown on drawings **SSDA1300 & SSDA1950**.

Drawing **SSDA1300 & SSDA 1310** shows the proposed bulk earthwork levels for the site and compares them to the approved levels. It is noted that the proposed levels shown on the drawings are subject to a variance of +/-200mm to account for variations in geotechnical conditions and final detail design considerations.

Drawing **SSDA1950** quantifies and shows a cut to fill of the additional import required to achieve the bulk earthwork levels as specified in **Table 3.3** below in excess of the currently approved fill importation (rehabilitation surface level).

The import of fill required under this proposal, in order to fill the site from rehabilitation levels to proposed bulk earthworks levels has been quantified in **Table 3.3**. These show that the fill import volume required is 550,000m³. We note that this constitutes a reduction of fill import from that of the previously approved SSD-37486043 Mod 2 of approximatley 185,050m³ less.

Our calculations account for a 30% compaction factor between in-situ stockpiles volumes to compacted engineered fill volumes.

A base layer of cement treated fine crushed rock (CTFCR) will be placed to form a base course for the building floor. As denoted on drawing **CO9447.74-SSDA1320**, the layer is nominally 200mm thick with cement ratio of 3-5% weight per volume. The final material specification, thickness and extent will be finalised in the detailed structural design phase of the building works.

Controlled modulus columns (ground improvement piles) shall be provided at critical transition zones between deep and shallow fill to mitigate creep and differential settlement. The location and extent of ground improvement works shall be finalised in the detailed design phase of the building works. The ground improvement works will consist of the installation of controlled modulus columns (cmc's) of diameters between 280-350mm on an approximate 3m x 3m grid.

The earthworks volume estimates are as follows in **Table 3.2 and Table 3.3:**

Table 3.2 - Earthwork Comparison Estimates – Earthworks volumes are a comparison of the approved BEL Levels to Proposed BEL Levels. (SSDA1300 & SSDA1310)

Item	Lower Bound (-15%)	Apparent Volume (m³)	Upper Bound (+15%)
Cut	-475,252	-559,120	-642,988
Fill	+345,007	+405,890	+466,774
CTFCR (Not included in cut/fill)	(+13,600)	(+16,000)	(+18,400)
Detailed Excavation	-44,434	-52,275	-60,116
ACM Capping Layer	+6,035	+7,100	+8,165
AIM Capping Layer	+39,498	+44,115	+50,732
Diff. (reduction of overall import required)	-31,147	-154,290	-177,434

Table 3.3 - Shortfall Earthworks Estimates – Shortfall Earthworks Plan is a comparison of the proposed BEL levels to the Rehabilitation Surface Levels (SSDA1950)

Item	Lower Bound (-15%)	Apparent Volume (m^3)	Upper Bound (+15%)
Cut	-433,075	-509,500	-585,925
Fill	+603,364	+709,840	+816,316
CTFCR required (Not included in cut/fill)	(+13,600)	(+16,000)	(+18,400)
Detailed Excavation	-44,434	-52,275	-60,116
ACM Capping Layer	+6,035	+7,100	+8,165
AIM Capping Layer	+39,498	+44,115	+50,732
Rehabilitation Surface Volume Additions			
Total Stockpile Volume (Not included in cut/fill)	(+663,000)	(+780,000)	(+897,000)
Stockpile Volume 30% Compaction Factor. (to be added to fill required)	+198,900	+234,000	+269,100
Diff. (import required)	+368,288	+433,280	+498,272
Diff. (Import Required w/ Bulking Factor)	+467,500	+550,000	+632,500

3.3 Retaining walls

The civil engineering objective is to minimise retaining walls within the constraints of the masterplan layout, allowable grading to suit industrial development and batters in landscaped areas where possible. It is noted that retaining walls are already approved for construction under DA 347.1/2021 and SSD 37486043.

Retaining walls will be required along the eastern and southern boundaries, as well as between development lots. Walls already approved, but not yet constructed, are proposed to be modified as part of this SSDA submission to suit the proposed development layout. Additionally, existing retaining walls delivered under the current

development approvals will require modifications to suit the proposed development configuration. Finally, new retaining walls are also proposed as part of this submission.

Location and indicative heights of retaining walls are shown on drawing **CO9447.74-SSD1600 and SSDA1631–SSDA1634.** Plans show where existing & approved infrastructure is proposed to be modified to suit the development.

3.4 Embankment stability

To assist in maintaining embankment stability permanent batters in clay will be no steeper than 3 horizontal to 1 vertical while temporary batters will be no steeper than 2 horizontal to 1 vertical. Steeper batters in shale can be considered subject to geotechnical advice.

Permanent batters will also be adequately vegetated or turfed which will assist in maintaining embankment stability.

Stability of batters and reinstatement of vegetation shall be in accordance with the submitted drawings and the Soil and Water Management Plan in **Appendix C** of this report.

3.5 Supervision of earthworks

All geotechnical testing and inspections performed during the filling operations will be undertaken to Level 1 geotechnical control, in accordance with AS3798-2007.

3.6 Groundwater

Groundwater discussions have been made by JBS&G. As noted by JBS&G:

> *The nearest registered bores were located approximately 700 m north of the site and were reportedto be used for monitoring purposes – the reported geology at the well location comprised shallow fill(0.15 m) underlain by dry silty clay to a depth of 2.9 m below ground surface (bgs). The silty clay wasin turn underlain by dry shale to a depth of 18 m bgs from which the materials were reported to bewet from 9.50-13.50 m bgs.*
>
> *Based on available information and observations made during groundwater investigation works across the adjacent Plant 3 Factory, site groundwater is anticipated to exist within a confined system in shale bedrock, albeit in one heavily modified by the completion of quarrying activities within the site and quarry void to the west. A review of the previous topography (as detailed in the survey plans in Appendix I) identifies that localised groundwater is likely to generally flow to the north-east towards Reedy Creek (to the east and south of the site). The freshwater body of Reedy Creek flows in a north to north-easterly direction, meeting Eastern Creek approximately 4.1 km to the north-east of the site.*
>
> *Review of regional conditions indicates that regionally the site is situated between the Eastern Creek and Ropes Creek systems, which both ultimately discharge into the Hawkesbury River a significant distance from the site. Whilst it is likely that groundwater movement would occur to the east, given the proximity of the Reedy Creek system and tertiary alluvial formation, there is the*

possibility that overall regional groundwater movement in the west of the site may occur towards Ropes Creek approximately 1.5 km to the west of the site.

Furthermore, the DP earthworks specification notes:

Excavation work for quarrying on the site has resulted in deep excavations to well below the in-situ rock surface. Excavations extend to RL36 resulting in cuts of up to 25 m depth. At all times during the quarrying period (some 7-8 years) the quarry has remained a dry site, with all water experienced in the quarry being direct rainfall and runoff from surrounding catchment areas. Excavations and reinstatement of the quarry is not experiencing any adverse effects of subsurface groundwater seepage. Accordingly, the quarry reinstatement and subsequent development application works can be considered as not interfering with or be influenced by the local groundwater regime, which lies many metres below the influence of the proposed development.

Ultiamtely, the earthworks proposed as part of this SSDA submission sit within the scope approved DA 347.1/2021 and SSD 3486043 levels. Interference with groundwater is therefore not expected to exceed what has previously been assessed.

Surface water management, including conveyance of surface runoff, management of water quantity (through on-site detention) and water quantity (through on-site and estate wide management systems using WSUD principles and best practice pollution reduction objectives) has been proposed in the design.

3.7 Acid sulphate soils and salinity

An assessment of the potential for acid sulphate soils has been requested as part of the SEAR's requirements.

Review of accessible data using the SEED tool, hosted by NSW OEH (201810) indicates the area occupied by the site has not been required to be assessed for the presence of ASS based on the outcomes of a preliminary evaluation. Such sites are by default characterised as "no known occurrence", being defined as areas where land management activities are not likely to be affected by ASS materials.

Review of the geographical and topographical location of the assessment area, there is no appreciable risk of ASS occurrence in natural soils and/or rock at the site. On this basis, there is no further requirement for consideration of ASS conditions and/or management of such during potential future ground disturbance activities.

4 WATER CYCLE MANAGEMENT STRATEGY & DRAINAGE METHODOLOGY

4.1 Key areas and objectives

Water Cycle Management (WCM) is a holistic approach that addresses competing demands placed on a region's water resources, whilst optimising the social and economic benefits of development in addition to enhancing and protecting the environmental values of receiving waters.

Developing a WCMS at the SSD stage of the land development process provides guidance on urban water management issues to be addressed for the estate and development as a whole. This assists urban rezoning and estate infrastructure planning for the industrial development proposed on the land.

This WCMS has been prepared to inform DPHI that the development is able to provide and integrate WCM measures into the stormwater management strategy for the estate and for future development sites in the estate. It presents guiding principles for WCM across the precinct which includes establishing water management targets and identifying management measures required for future building developments to meet these targets.

WCM measures have been included in the WCMS and engineering design, which are set out in this report and the associated drawings. The key WCM elements and targets which have been adopted in the design, in accordance with the Fairfield City Council DCP and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan) are included in **Table 4.1.**

Table 4.1 - WCM Targets

Element	Target	Reference
Water Quantity	Maintaining or improving the volume of stormwater flows to estate infrastructure from development lots. Maximum permissible site discharge (PSD) of 78l/sec/ha for the 5, 15, 30, 60, 180, 360 and 540-minute duration storms for the 5- and 100-year ARIs for the developed site OR Site storage requirements (SSR) of 409m3 per Ha of developed site using the simplified method.	*Fairfield City Council (FCC) Stormwater Management Policy – September 2017 & OEE DCP*
Water Quality	Load-based pollution reduction targets based on an untreated urbanised catchment for whole of Estate: Gross Pollutants 90% Total Suspended Solids 80% Total Phosphorus 55% Total Nitrogen 40% Total Hydrocarbons 90%	*Fairfield City Council (FCC) Stormwater Management Policy – September 2017 & OEE DCP*

Flooding	Buildings and road set 500mm above 1% AEP. No affectation to upstream downstream or adjoining properties as a result of development	NSW Floodplain Development Manual.
Water Supply	Reduce water consumption in non-residential properties by 40% consistent with the BASIX Scheme	FCC Stormwater Policy 2017
Erosion and Sediment Control	Appropriate erosion and sedimentation control measures must be described in the environmental assessment for all stages of construction to mitigate potential impacts to downstream areas.	Landcom Blue Book Fairfield City Council DPIE

A summary of the how each of the WCM objectives will be achieved are described below. Reference to the relevant sections of the report should be made for further and technical details relating to the WCM measures:

- Stormwater Quantity Management (Refer **Section 6)**

  The intent of this criterion is to reduce the impact of urban development on existing drainage system by limiting post-development discharge within the receiving waters to the pre-development peak, and to ensure no affectation of upstream, downstream or adjacent properties.

  Attenuation of stormwater runoff from the development is proposed to be managed via two end-of-line on-site detention basins. Lots 2A and 2B drain to Basin C (as Approved under SSD-3748604-Mod 2), whilst Lot 2C drains to Basin D, the design of which forms part of this approval submission. The OSD Basins are provided at the downstream end of each subcatchment prior to discharge into the legal point of discharge. For both Basin C & D, this is into Reddy Creek to the east of the estate.

  Refer to **Section 6** of the document for detailed sizing of detention systems.

- Stormwater Quality Management (Refer **Section 7**)

  There is a need to target pollutants that are present in stormwater runoff to minimise the adverse impact these pollutants could have on downstream receiving waters.

  The required pollutant reductions are included in **Table 4.1** of this document and MUSIC modelling has been completed to confirm compliance with the Fairfield City Council reduction objectives for the estate.

  A series of Stormwater quality improvement devises (SQID's) have been incorporated in the design of the estate. For Lots 2A and 2B, the infrastructure as-approved will be utilised for water quality management. For lot 2C, the water quality management strategy will include the following measures:

  - Primary treatment of the on-lot developments will be made via Ocean Protect OceanSave gross pollutant traps (GPT's). GPT's will be located upstream of the on-site detention Basin.

- Tertiary treatment of the on-lot developments and road infrastructure will be made via estate basins, containing Bio-retention areas. Treatment will be provided within these stormwater management basins for tertiary treatment of the estate. Refer to drawings CO9447.74-SSDA1420 and SSDA1430.
- The chain of estate ponds located at the downstream end of the respective catchments will also store water for irrigation/reuse throughout the precinct.

Reference to **Section 7** of this document should be made for detailed Stormwater Quality modelling and measures.

- Flood Management (refer **Appendix E**)

  The proposed development considered flooding and large rainfall events in relation to runoff from upstream properties primarily though Reddy Creek which is located along the eastern boundary of the proposed development.

  It is noted that the proposed development is clear of the Reddy Creek Floodplain however, forms part of a contributing catchment of Reddy Creek.

  The following measures have been incorporated in the design:

  - All buildings are sited 500mm above the 1% AEP design flood level of Cosgrove's Creek.
  - Requirements of NSW Floodplain Management Manual have been met regarding works in and around flooding areas;
  - Stormwater detention measures have been included to manage pre and post development runoff as discussed above; and
  - Overland flow paths to manage runoff in large storm events have been made including achieving at least 500mm freeboard to building levels from the flow paths.

  Pre and post development modelling has been completed by Colliers to confirm that appropriate flood risks have been identified and managed. Refer to Colliers FIRA Report ref: 26-0230, Dated: 25/05/2026

- Water Demand Reduction/ Rainwater Reuse

  Rainwater reuse measures will be provided in the end-of-line basins as part of the estate development consistent with the Sydney Water Draft Regional Scheme. Rainwater reuse will be required to reduce demand on non-potable uses by at least 40%. The reduction in demand will target non-potable uses such as toilet flushing and irrigation. Refer **Section 7.6.**

- Stormwater Management During Construction (refer **Section 8**)

  A construction stormwater management plan and associated erosion and sediment control measures is proposed based on ICEA White Book, *Landcom Blue Book* and WSA DCP requirements. The management measures take a staged approach from initial site establishment, construction stages and the period between the completion of the estate infrastructure works and development of individual lots. Measures include implementation of Sediment Basins to ensure the construction phase water quality targets can be achieved.

4.2 Existing drainage infrastructure

The OEE estate has been approved for a full "book-end" development, including the construction of road drainage, lot connection stubs, estate basins and outlets for the full "book-end" development of the estate.

The existing stormwater drainage system for the OEE Precinct, designed by AT&L, comprises a minor and major system to safely and efficiently convey collected stormwater run-off from the development. Lots 2A and 2B form part of the broader **Basin C** catchment, which has a total area of 50.63Ha, whilst Lot 2C forms the entirety of the **Basin D** catchment, which has a total area of 3.21Ha.

Figure 4.1 below shows the approved catchment breakdown for Basins C & D, which the proposed Project Silverback development is situated within.

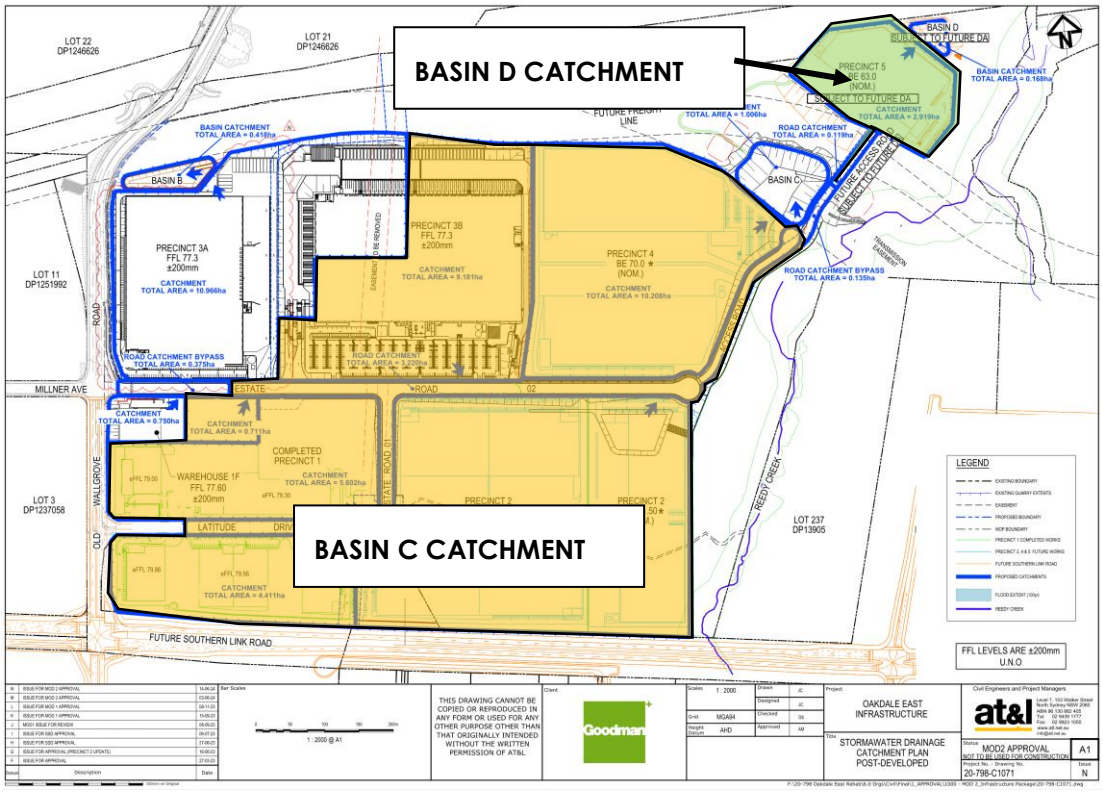

Figure 4.1 - Approved Development Catchment Plan

As per **Section 5.5** of *AT&L's Civil & Stormwater Report* (*ref: 20-798*), the minor system of a piped drainage system has been designed to accommodate the 5% AEP or 1 in 20-year ARI storm event (Q20). The major system has been designed to cater for storms up to and including the 1% AEP or 1 in 100-year ARI storm event (Q100).

The major system employs the use of defined overland flow paths to safely convey excess run-off from the site to the estate discharge points.

At the time of writing this report, a large proportion of the Basin C catchment had been constructed. The constructed portion of the catchment included three warehouse lots, Latitude Drive and Keystone Road and associated drainage infrastructure. Refer to **Figure 2.3** for approximate extent of completed works. The

completed infrastructure works also included a Temporary OSD Basin located within Precinct 2 (approved under the temporary stormwater management strategy per SSD 37486043 Condition D58), and a temporary discharge to Reddy Creek. No infrastructure works have been constructed within the Basin D catchment.

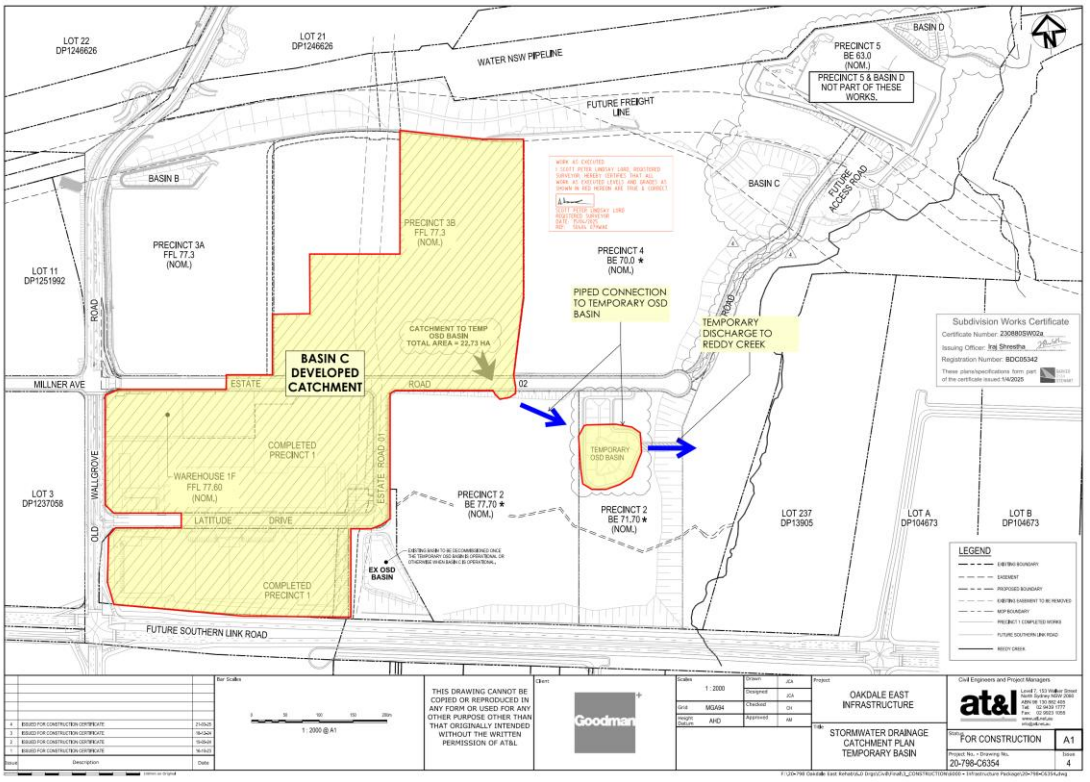

Figure 4.2 - Existing Drainage Infrastructure – WAEx by Scott Lord

Note that as part of the handover of the finished Precinct 2A & 2B pad, it is proposed to relocate the temporary OSD basin, into Basin C in ultimate form. Basin C will function as an operational OSD & Water Quality Basin to attenuate the existing developed catchment.

The balance of the catchment will be managed through a series of erosion & sediment controls, including sediment basins. The sediment basins will be amended from time to time to suit the progression of construction works on site, in consultation with a CPESC but initially installed as per drawing **SSDA1200.**

4.3 Modifications to approved drainage infrastructure

In order to facilitate the proposed Project Silverback development, the Trunk Drainage system is proposed to be diverted around the proposed building. The approved trunk drainage is noted to drain through the extension of Keystone Drive.

As shown in **Figure 4.2**, the trunk drainage which services the 22.7Ha upstream catchment is proposed to be relocated around the northern side of the proposed Project Silverback building. The trunk drainage shall be placed within an easement in accordance with the requirements of Fairfield City Council. The realigned pipe shall be designed to convey the 1% AEP Storm, with a nominal allowance for

blockage, and shall also provision for lot connections as part of the Project Silverback Development. The existing cul-de-sac shall also be modified to provision for capture of major flows within Keystone Drive.

Refer to drawings **CO9447.74-SSDA-1400-1406 & SSDA-1800** for details.

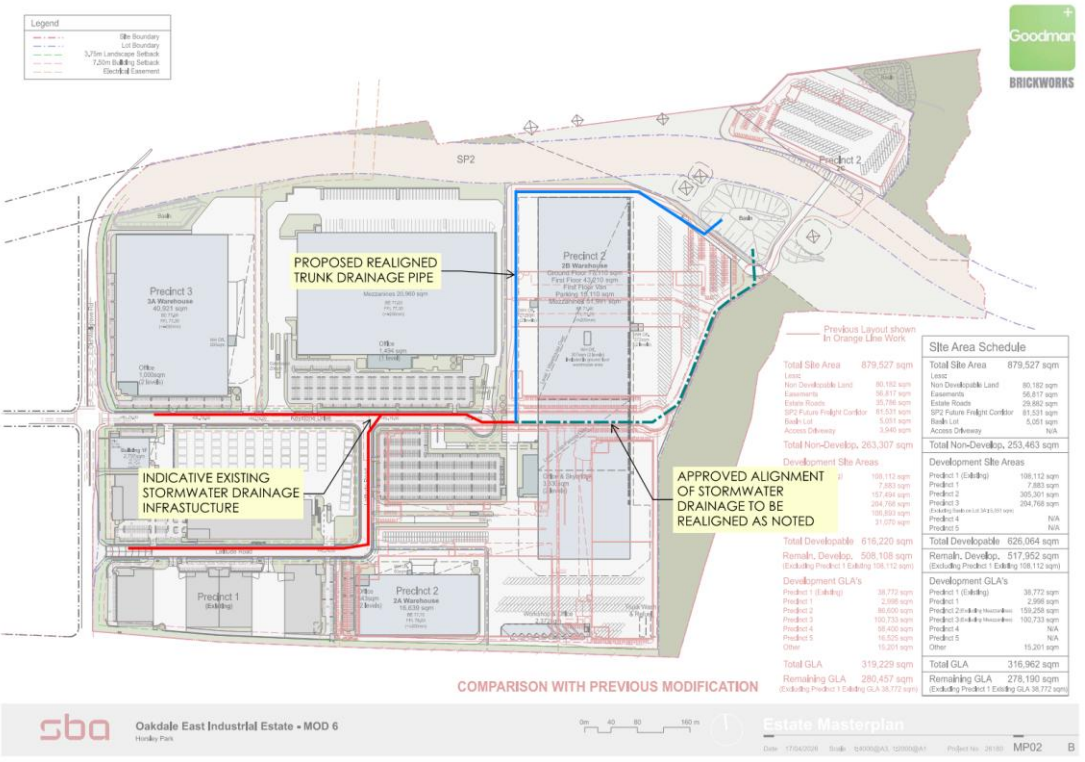

Figure 4.3 - Comparison of Approved & Proposed Trunk Drainage

4.4 Proposed drainage system

As per general engineering practice and the guidelines of FCC, the proposed stormwater drainage system for the estate development will comprise a minor and major system to safely and efficiently convey collected stormwater run-off from the development to the legal point of discharge.

The minor system is to consist of a piped drainage system which has been designed to accommodate the 1 in 20-year ARI storm event (Q20). This results in the piped system being able to convey all stormwater runoff up to and including the Q20 event. The major system will be designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100). The major system will employ the use of defined overland flow paths, such as roads and open channels, to safely convey excess run-off from the site. Trunk Drainage pipes shall be designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100).

The trunk stormwater pipe through Precinct 2 & Precinct 4 will have a positive covenant and easement in Council favour to discharge water. The size of the easement shall be commensurate to the size of the pipes installed in accordance with FCC's Engineering Guidelines.

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, the standards of FCC and accepted engineering practice. Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage. Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication "Australian Rainfall and Runoff" (2019 Edition), Volumes 1 and 2 (AR&R).

Water management measures as set out in **Table 4.1** are to be adopted to address water quality, quantity and re-use requirements are to be considered in the design to ensure that any increase in the detrimental effects of pollution are mitigated, Water Quantity Objectives are met and that the demand on potable water resources is reduced.

The legal point of discharge is a point specified by Council where stormwater from a property can be discharged. The legal point of discharge for this site is Reddy Creek, following attenuation and treatment in Basins C & D.

The drainage system proposed can be described as follows:

- Road drainage system designed to the 5% AEP (1 in 20yr ARI);
- Trunk Drainage (easements) system designed to the 1% AEP (1 in 100yr ARI)
- Stub connections for all development lots connecting to road drainage designed to the 5% AEP (1 in 20yr ARI).
- Lots & roads are to be treated by end of line combined Bio-Retention & OSD Basins. OSDs are designed to attenuate runoff from the site to pre-development flowrates in accordance with the FCC DCP.

4.5 Hydrologic modelling and analysis

4.5.1 General design principles

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, Fairfield City Council and accepted engineering practice.

Runoff from buildings will generally be designed in accordance with *AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage*.

Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication "Australian Rainfall and Runoff" (2019 Edition), Volumes 1 and 2 (AR&R).

Storm events for the 2 to 100 Year ARI events have been assessed.

4.5.2 Minor/ major system design

The piped stormwater drainage (minor) system has been designed to accommodate the 20-year ARI storm event (Q20). Overland flow paths (major) which will convey all stormwater runoff up to and including the Q100 event have also been provided which will limit major property damage and any risk to the public in the event of a piped system failure.

4.5.3 Rainfall data

Rainfall intensity Frequency Duration (IFD) data used as a basis for DRAINS modelling for the 2 to 100 Year ARI events, was taken from The Bureau of Meteorology Online IFD Tool.

4.5.4 Runoff models

In accordance with the recommendations and standards of Fairfield City Council, the calculation of the runoff from storms of the design ARI has been calculated with the catchment modelling software DRAINS and the ILSAX runoff model, for internal drainage only. Refer **Appendix E** for discussion pertaining to overland flow runoff models which have utilised RAFTS modelling due to the larger catchments.

Detailed hydraulic assessment of the internal drainage system will be calculated at detail/ construction certificate stage.

The design parameters for the DRAINS model are to be based on the recommendations as defined by council and parameters for the area and are as follows:

Table 4.2 - DRAINS Parameters

Model	Model for Design and analysis run	Rational method	
	ILSAX	ARR2019	
	Soil Type-Normal	3.0	
	Paved (Impervious) Area Depression Storage	1	mm
	Supplementary Area Depression Storage	1	mm
	Grassed (Pervious) Area Depression Storage	5	mm
AMC	Antecedent Moisture Condition (ARI=1-5 years)	2.5	
AMC	Antecedent Moisture Condition (ARI=10-20 years)	3.0	
AMC	Antecedent Moisture Condition (ARI=50-100 years)	3.5	
	Sag Pit Blocking Factor (Minor Systems)	0	
	On Grade Pit Blocking Factor (Minor Systems)	0	
	Sag Pit Blocking Factor (Major Systems)	0.5	
	On Grade Pit Blocking Factor (Major Systems)	0.2	

4.6 Hydraulics

4.6.1 General requirements

Hydraulic calculations will be carried out utilising DRAINS modelling software during the detail design stage to ensure that all surface and subsurface drainage systems perform to or exceed the required standard.

4.6.2 Freeboard

The calculated water surface level in open junctions of the piped stormwater system will not exceed a freeboard level of 150mm below the finished ground/ grate level, for the peak runoff from the Minor System runoff.

The calculated water surface for the peak runoff from the Major System runoff will not exceed a freeboard level of 300mm below the finished floor level of the building/ development pads.

4.6.3 Public safety

For all areas subject to pedestrian traffic, the product (dV) of the depth of flow d (in metres) and the velocity of flow V (in metres per second) will be limited to 0.4, for all storms up to the 100-year ARI.

For other areas, the dV product will be limited to 0.6 for stability of vehicular traffic (whether parked or in motion) for all storms up to the 100-year ARI.

4.6.4 Inlet pit spacing

The spacing of inlets throughout the site will be such that the depth of flow, for the Major System design storm runoff, will not exceed the top of the kerb (150mm above gutter invert).

4.6.5 Overland flow (development lots)

Dedicated flow paths have been designed to convey all storms up to and including the100-year ARI. These flow paths will convey stormwater from the site to the detention systems prior to discharge.

4.6.6 Site discharge

Site discharge is proposed at the eastern boundary of the site, following treatment and attenuation from Basins C & D. The discharge point will convey flows and discharge from the proposed treatment and detention basins which captures & treats runoff from the proposed development. The drainage outlets described here are consistent with those previously approved under SSD-37486043.

The stormwater outlets will consist of a reinforced concrete pipe and 'natural' energy dissipater. The outlet is to be aligned with the creek or overland flow path to remove the potential for bank scour and shall include rip rap energy dissipaters constructed in accordance with the Outlet Structures Guidelines as published by the Department of Water & Energy and The Blue Book. This is shown figuratively below in **Figure 5.2** below.

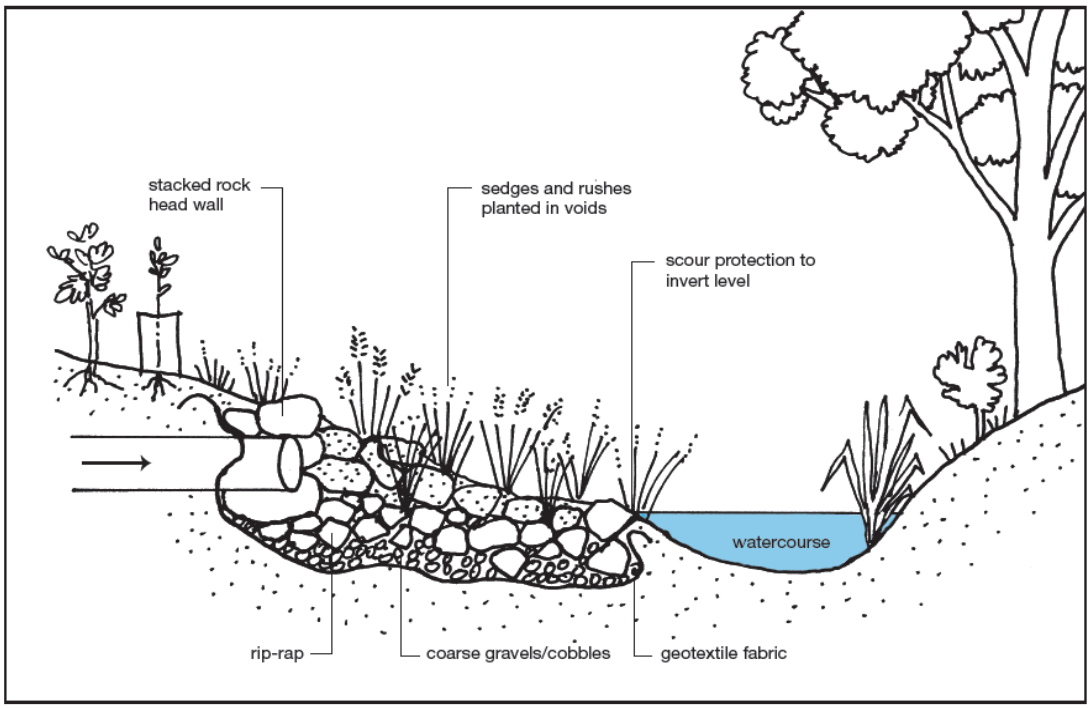

Figure 4.4 - Outlet Structure Components

Reference to drawings **CO9447.74-SSDA1400-SSDA1406** shows the proposed discharge points.

4.7 External catchment and flooding

4.7.1 Flooding introduction

A detailed Flood Impact and Risk Assessment with associated flood modelling has been completed for the development by Colliers. Reference to the Colliers Flood plans should be made for detailed information and outputs. We provide a summary of the outcomes of the Colliers assessments in the following sections of the report.

We also confirm that the civil engineering design has been completed in conjunction, and co-ordinated with, with the flood management solution modelled and reported on by Colliers.

The site is located approximately 2.8km south-west of Eastern Creek, which is a tributary of South Creek and ultimately Hawkesbury River.

The site, as noted above, forms part of a larger industrial subdivision that has existing formal inground drainage systems, with the majority of stormwater being piped into the proposed OSD basins located upstream of Reddy Creek.

4.7.2 Existing overland flow and flood behaviour

The site is located adjacent to Reddy Creek, which is a major tributary of Eastern Creek, located approximately 2.8km to the northeast of the property. Reddy Creek flows in a northerly direction from the southeast corner of the site, to the northeast

corner. There is a confluence point of Reddy Creek and a small tributary located in the northeast corner of the site, just prior to the Warragamba Pipeline.

Colliers' flood assessment indicates that the 1% AEP flood level varies between RL64.80 in the south-east corner, to RL 58.8 just prior to the Warragamba Pipeilne. Refer to **Figure 4.5** below for excerpt of Colliers Pre-Development 1% AEP results. This plan is based on the current OEE Approval under SSD-37486043.

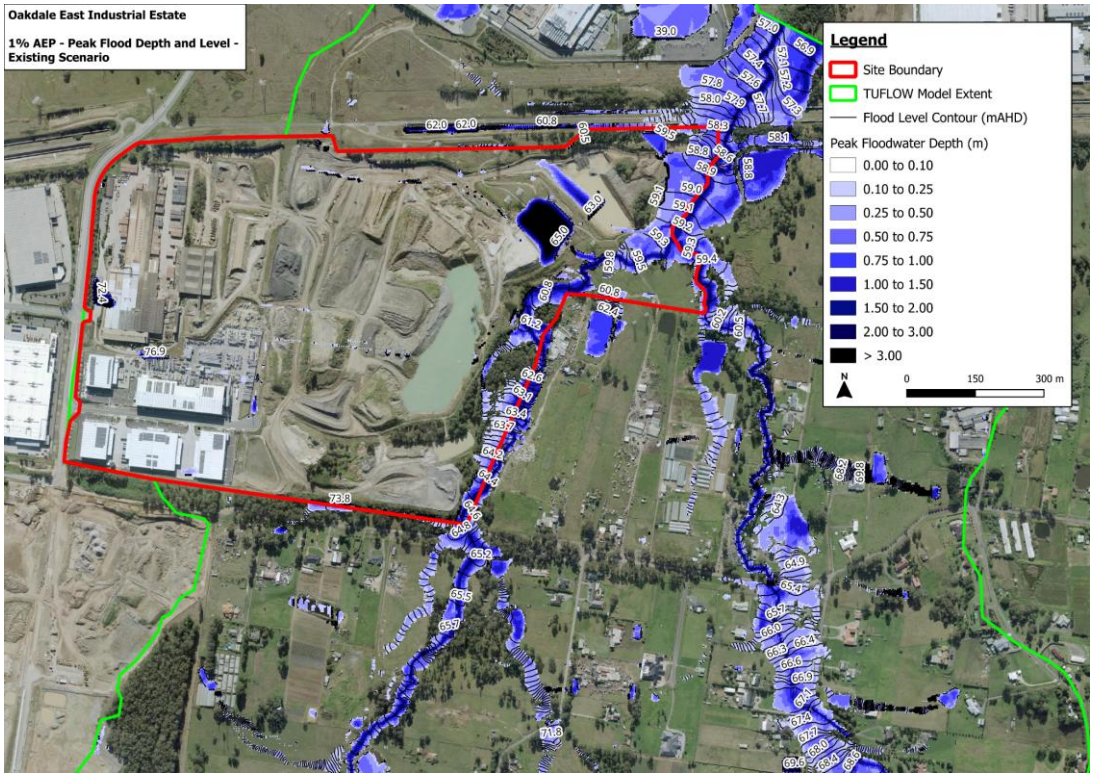

Figure 4.5 - Pre-Development 1% AEP Flood Levels (Colliers)

With reference to **Figure 4.5** the Project Silverback site is largely free from mainstream flooding from Reddy Creek in the 1% AEP Flood event, with only local flooding occurring in the Approved Basin C footprint.

4.7.3 Post-development overland flow and flood behaviour

Additional modelling has been conducted by flood consultants, Colliers, to determine the effect of the proposed development on the existing flood behaviour. The Colliers post-development outcomes for the 1% AEP flood are included in **Figure 4.6, Figure 4.7 & Figure 4.8**

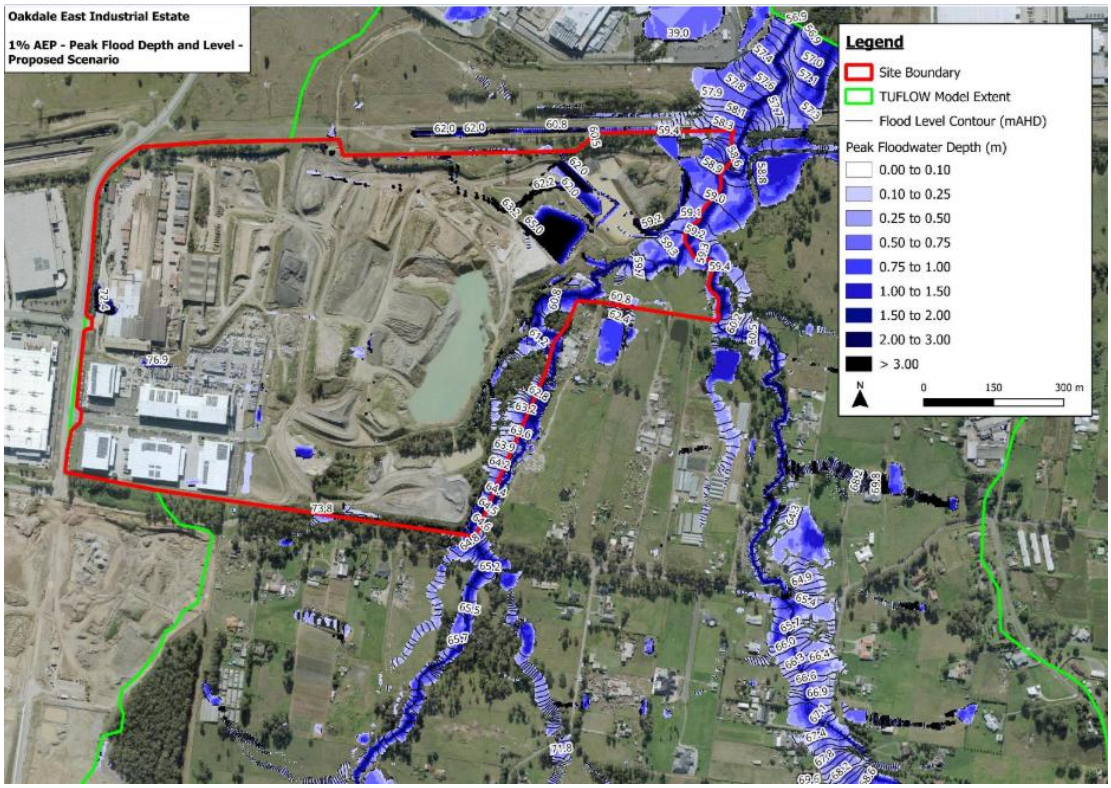

Figure 4.6 - Post-Development 1% AEP Flood Levels & Depths (Colliers)

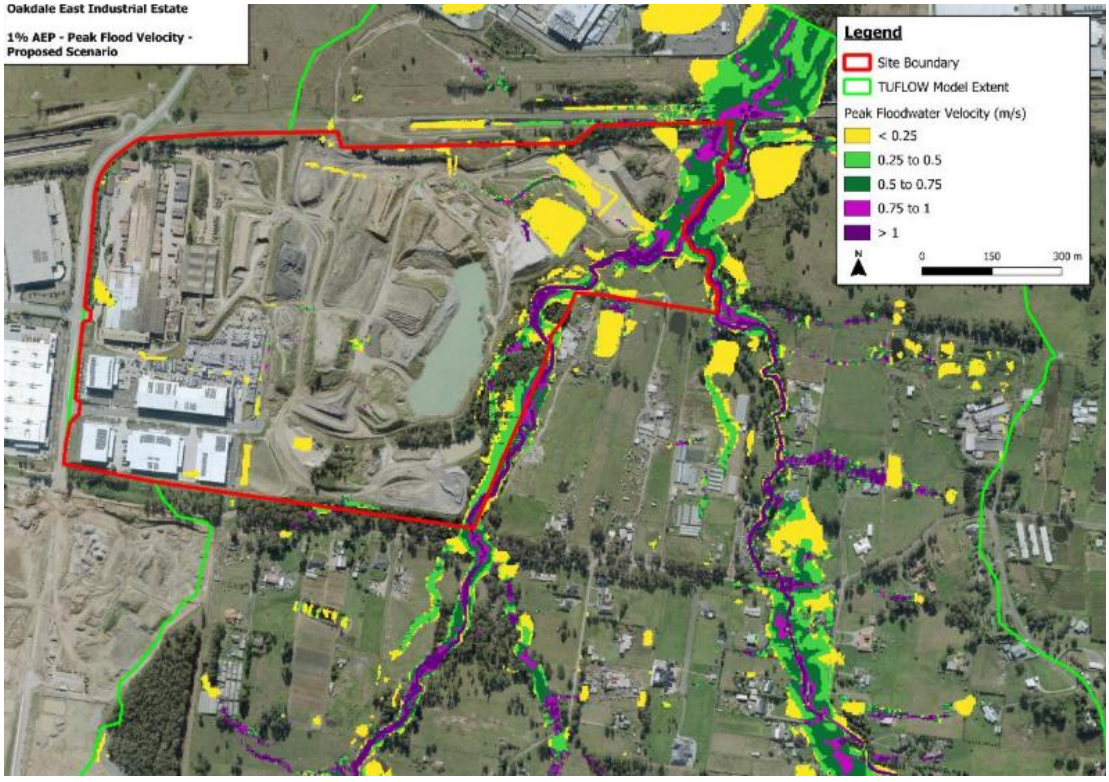

Figure 4.7 - Post-Development 1% AEP Flood Velocity (Colliers)

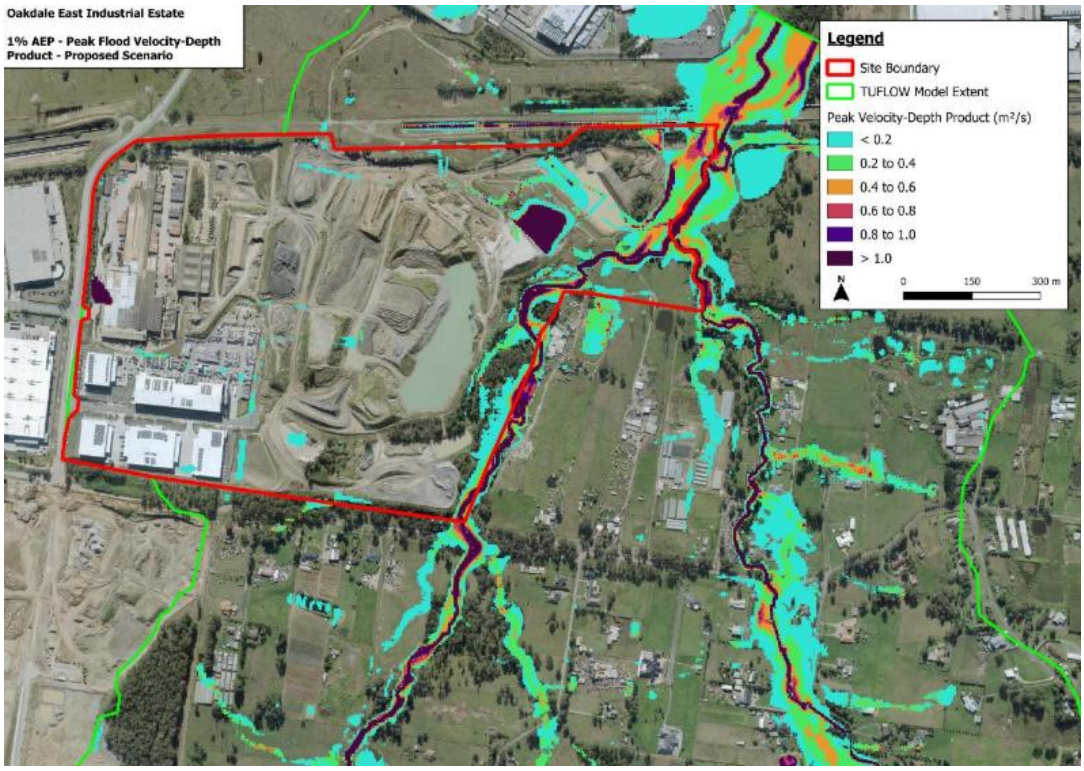

Figure 4.8 – Post-Development 1% AEP Flood Velocity-Depth(Colliers)

A comparison of the pre and post-development 1% AEP flood levels is shown below:

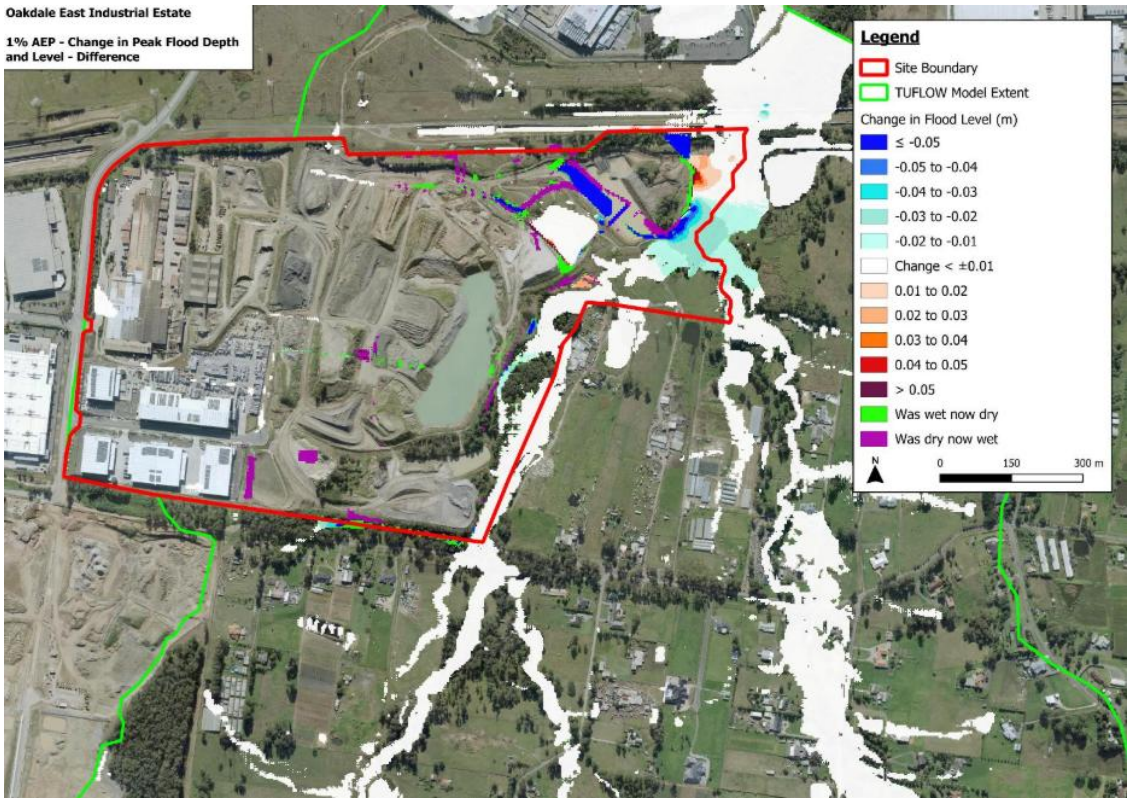

Figure 4.9 –1% AEP Flood Level Afflux (Colliers)

4.7.4 Confirmation of floodplain management requirements & development strategy

Council's DCP provides relevant policy requirements relating to development in and around identified flood affected development sites.

The intent of the document is to ensure that new developments do not experience undue flood risk and that existing development is not adversely flood affected through increased damage or hazard as a result of new development.

The flood planning level (FPL) for business/ industrial to be at or above the 1% AEP (1 in 100-year ARI) flood level plus 0.5m freeboard. The FPL for the building is noted to be RL 65.30m. The highest flood level shown in **Figure 4.6** is approximately 5.0m below the proposed building FFL at the southeastern corner of the site.

We note the proposed building level is RL 70.50m AHD which is compliant with the Council FPL requirements.

The PMF or extreme event provides an upper limit of flooding and associated consequences for the problem being investigated. It is used for emergency response planning purposes to address the safety of people. The site is affected by the PMF event however modelling by Colliers shows that all buildings are free from and that all internal roads are trafficable flooding in the PMF event.

Overall flood risk for the development and from the development is considered low to negligible. The FFL of the warehouse is proposed to be constructed well above the flood planning level. Additionally, stormwater management solutions have been implemented to provide adequate refuge for land users during an extreme flood event. Therefore, the development meets current council flood policy.

4.7.5 Flood assessment conclusion

A review of the modelling and reporting by Colliers has been made to confirm and summarise the flood behaviour in relation to the proposal. The review shows the site is not affected by overland flow during the 1% AEP Flood Event from Reddy Creek.

The proposed building FFL is set above the flood planning level specified by Fairfield City Council, and safe refuge is available on the site for users during an extreme flood event.

Based on the assessment and management strategy proposed, the development meets current council flood policy and shows acceptable impacts in relation to flooding and flood safety.

For further detail and demonstration of acceptable flood outcomes, please refer to the separate modelling & reporting by Colliers.

5 WATER QUANTITY MANAGEMENT

5.1 Water quantity management objectives

The Fairfield City Council DCP requires management of peak storm flows.

Peak storm flow management, also known as "On-site Detention (OSD)", is required to ensure the cumulative effect of development does not have a detrimental effect on the existing stormwater infrastructure and watercourses located within the precinct downstream from the particular site.

As per the FCC guidelines the following OSD requirements apply:

- Maximum permissible site discharge (PSD) of 78l/sec/ha for the 5, 15, 30, 60, 180, 360 and 540-minute duration storms for the 5- and 100-year ARIs for the developed site

  OR

- Site storage requirements (SSR) of 4.09m3 per 100m2 of developed site using the simplified method.

It is noted that Basin C has been approved SSDA-3748604 Mod 2. This submission aims to verify that the approved basin configuration performs consistently with the approval and does not require modification or change to suit the proposed development layout. No changes to the approved or additional stormwater quantity management measures are necessary for development lots within the OEE Precinct and as such none are proposed or required for the Project Silverback buildings.

Basin D has not been approved previously on this estate. This report will confirm the design storage and discharge requirements for Basin D as consistent with the requirements of FCC.

5.2 Peak flow management

5.2.1 Methodology

A hydrological analysis was undertaken to estimate the impact of the development of the site on peak flows at the downstream extent of the site. Modelling of stormwater runoff quantity was considered for the pre-existing case and for the operational phase of the development.

DRAINS modelling, using the ILSAX runoff model, has been used to assess the site detention discharge and storage relationship.

In order to assess the existing and operational phase peak discharges from the development site, a DRAINS hydrological model was used to estimate peak flows from catchments on the site for various storm durations for 1EY to 1% AEP events.

5.2.2 Basin site storage requirements

Table 5.1 shows the required SSR Rates for Basins C & D in accordance with the requirements of Fairfield City Council. The developed flows presented are a combined total of attenuated flows from on-lot on-site detention (OSD) systems and un-attenuated flows from road and OSD bypass catchments.

Table 5.1 – Basin C & D Permissible Site Discharge & Site Storage

Basin C (50.631 Ha)		Basin D (3.302Ha)	
Min SSR (409m³/Ha)	Basin Volume Provided (m³)	Min SSR (409m³/Ha)	Basin Volume Provided (m³)
20,708	25,000	1,260	1,419

5.2.3 Proposed water quantity management

As previously discussed, detention storage on the development site is required to reduce local outflows. The proposed site layout allows for provision of a combined OSD/Stormwater Quality basin provided at the end of line for catchments C & D. The ultimate discharge locations will be provided at 2 open tail-outs into Reddy Creek.

The on-lot on site detention tanks provide offset water detention storage for the estate catchments that bypass the OSD tanks. Refer to **Table 5.2 & Table 5.3** for pre & post development peak flowrates at the site discharge points downstream of estate basins. A catchment plan showing areas to bypass OSD storage is shown on drawing **Co9447.74-SSDA1410.**

Table 5.2 – Basin C – Comparison of Approved & Proposed Discharge Rates

Storm Duration	Allowable PSD (78l/sec/Ha)	Mod 2 Approval (by AT&L)		This Submission	
		5 Year ARI Flow (L/s)	100 Year ARI Flow (L/s)	5 Year ARI Flow (L/s)	100 Year ARI Flow (L/s)
5 min	3,949	2,344	2,786	675	2,796
15 min		2,816	3,158	2,854	3,482
30 min		3,031	3,630	3,060	3,599
60 min		3,193	3,860	3,114	3,669
180 min		3,116	3,855	2,828	3,662
360 min		3,000	3,759	2,847	3,532
540 min		2,878	3,620	2,609	3,424

Table 5.3 – Basin D PSD & Post Developed Catchment Flows

Storm Duration	Allowable PSD (78l/sec/Ha)	This Submission	
		5 Year ARI Flow (L/s)	100 Year ARI Flow(L/s)
5 min	264.74	161	190
15 min		192	229
30 min		200	243
60 min		198	262
180 min		168	234
360 min		162	222
540 min		148	209

The post development (with on-lot site attenuation) flows are lower than the pre-developed flows. The required detention storage for the development site is discussed in the following section. Furthermore, Basin C is shown to exhibit discharge rates consistent with the existing Mod 2 Approval, therefore no changes are required to the approved basin configuration, hence the requirements of the Fairfield.

6 STORMWATER QUALITY, REUSE, AND MAINTENANCE

6.1 Stormwater quality

There is a need to provide design which incorporates the principles of Water Sensitive Urban Design (WSUD) and to target pollutants that are present in the stormwater to minimise the adverse impact these pollutants could have on receiving waters and to also meet the requirements specified by FCC.

The requirements for stormwater quality to be performed on a catchment wide basis. The reduction objectives noted in **Section 4.1** and **Table 4.1** of this report are presented in terms of annual percentage pollutant reductions on a developed catchment based on the controls included in the *FCC DCP 2017,* and the existing development approvals that exist over the site.

Assessment of compliance of the water quality objectives has been made using MUSIC as set out in the following sub-sections of the report.

6.2 Proposed stormwater treatment system

Developed impervious areas including roof, hardstand, car parking, roads and other extensive impervious areas are required to be treated by the Stormwater Treatment Measures (STM's). The STM's shall be sized according to the whole catchment area of the development. The STM's for the development shall be based on a treatment train approach to ensure that all the objectives above are met.

Components of the treatment train for the development are consistent with the Sydney Water DRAFT Regional Scheme Plan, and are described as follows:

- Primary treatment to development lots and proposed roads are via end-of-line vortech type GPT units (Rocla CDS, OceanSave or similar approved). Pre-treatment of the stormwater will assist in mitigating the potential for early onset sedimentation of the bio-retention systems;
- Tertiary treatment to the catchment will be provided by end of line stormwater treatment basins, containing bio-retention area, to treat warehouse and road catchments.

6.3 Stormwater quality modelling

The MUSIC model was chosen to model water quality. By simulating the performance of stormwater management systems, MUSIC can be used to predict if the proposed systems and changes to land use are appropriate for their catchments and capable of meeting specified water quality objectives (CRC 2002). The water quality constituents modelled in MUSIC, of relevance to this report, include Total Suspended Solids (TSS), Total Phosphorus (TP) and Total Nitrogen (TN).

The pollutant retention criteria set out in the Fairfield Council DCP and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan) nominated in **Section 4.1** of this report were used as a basis for assessing the effectiveness of the selected treatment trains.

The parameters used in the MUSIC model are presented in **Appendix B**.

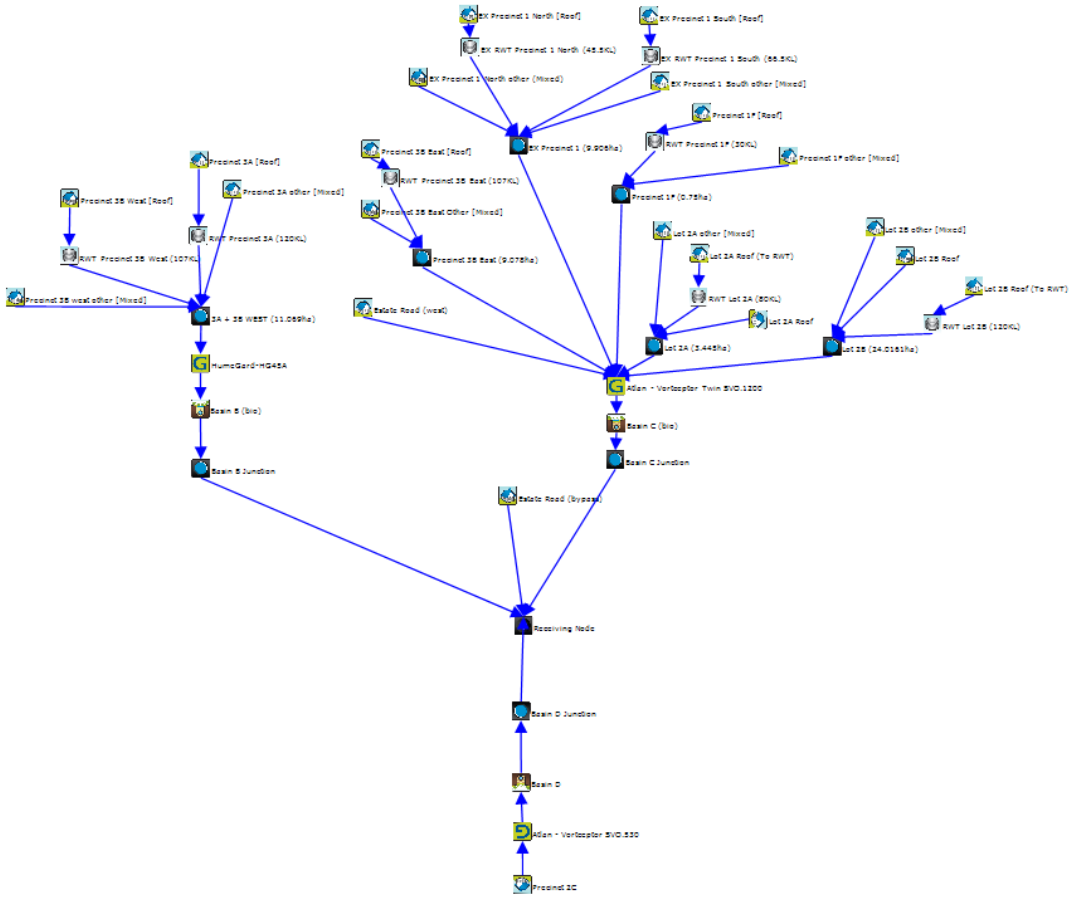

Figure 6.1

Figure 6.1 above shows the MUSIC model layout.

Table 6.1 shows the results of the MUSIC analysis and compares to the treatment targets described the Fairfield DCP.

Table 6.1 – MUSIC model Results

	Total Source Load (kg/yr)	Total Residual Load (kg/yr)	Reduction Achieved (%)	Target Reduction (%)
Total Suspended Solids (kg/yr)	63,570	8970	85.89	85.00
Total Phosphorus (kg/yr)	115.8	39.18	66.17%	55.00
Total Nitrogen (kg/yr)	961	428.4	55.42%	40.00
Gross Pollutants (kg/yr)	11590	33.84	99.71%	90.00

The MUSIC modelling has shown that the proposed treatment train of STM will provide stormwater treatment which will meet the treatment reduction targets described in the DCP. As such, the water quality system and modelling results are shown to be compliant with the Fairfield DCP.

Given the expected low source loadings of hydrocarbons and oil/grease and removal efficiencies of the treatment devices we consider that the requirements of the Oakdale East DCP have been met. Further discussion on hydrocarbons can be found in **Appendix B.**

6.4 Stormwater harvesting

Stormwater harvesting refers to the collection of stormwaters from the developments internal stormwater drainage system for re-use in non-potable applications. Stormwater from the stormwater drainage system can be classified as either rainwater, where the flow is from roof areas only, or stormwater where the flow is from all areas of the development.

Rainwater harvesting is proposed for this development, and rainwater tank sizing will be designed during detail design stage by the hydraulic consultant via a water balance assessment. Rainwater tanks are to be sized with reference to the NSW Department of Environment and Conservation document *Managing Urban Stormwater: Harvesting and Reuse*, using a simple water balance analysis to balance the supply and demand, based on the base water demands and the requirements of Council.

The water balance assessment will be based on local rainfall data and specific utilisation rates for the facility for re-use of non-potable applications. The expected reuse applications include internal uses such as toilet flushing, and external applications including irrigation. The aim is to reduce the water demand for the development by 40% as required in FCC Stormwater Policy 2017.

In general terms the rainwater harvesting system will be comprised the following elements:

- In-line tank for the collection and storage of rainwater.
- Overflow to the in-ground stormwater drainage system sized to cater for the catchment being drained to the tank. This will operate at times when the rainwater storage tank is full so that rainwater can pass through the tank and continue to be discharged via gravity into the stormwater drainage system.
- Rainwater from the storage tank will be pumped for distribution throughout the development in a dedicated non-potable water reticulation system to toilets and external irrigation areas, and any other uses as defined in the Construction Certificate stage of the design.
- Mains top up to Sydney Water system for prolonged periods of dry weather.
- First flush diverter and filters to ensure adequate quality of reuse water.
- Tank material will be steel or polymer and appropriately located to minimise visual impact.

The rainwater tanks for Lot 2A & 2B have been sized using the following parameters:

Lot 2A:

- Annual Reuse Rate: 1,678m² (total irrigated area) x 0.4 kL/year: 671.2kL/year (PET-rain)
- Daily Reuse Rate: 17 x 0.1kL/day: 1.7 kL/day (uniform

Through the water balance analysis (refer **Figure 6.1**) a minimum rainwater tank volume of 40kL is required for Lot 2A.

	Flow %	TSS %	TP %	TN %	GP %
% Reuse Demand Met	56.686	N/A	N/A	N/A	N/A
% Load Reduction	19.949	22.728	20.61	20.296	100

Figure 6.1 - Lot 2A rainwater reuse demand

Lot 2B:

- Annual Reuse Rate: 14,290m² (total irrigated area) x 0.4 kL/year: 5716kL/year (PET-rain)
- Daily Reuse Rate: 67 toilets x 0.1kL/day: 6.7 kL/day (Uniform)

Through the water balance analysis (refer **Figure 6.2**) a minimum rainwater tank volume of 220kL is required for Lot 2B.

	Flow %	TSS %	TP %	TN %	GP %
% Reuse Demand Met	42.33	N/A	N/A	N/A	N/A
% Load Reduction	39.18	40.533	39.643	39.237	100

Figure 6.2 - Lot 2B rainwater reuse demand

6.5 Maintenance and monitoring

It is important that each component of the stormwater system and water quality treatment train is properly operated and maintained. In order to achieve the design treatment objectives, an indicative maintenance schedule has been prepared and included as **Appendix D** to assist in the effective operation and maintenance of the various water quality components.

Inspection frequency may vary depending on site specific attributes and rainfall patterns in the area. In addition to the below nominated frequency it is recommended that inspections are made following large storm events.

It is reiterated that the landowner will retain ownership and management of all estate basins.

7 CONSTRUCTION SOIL AND WATER MANAGEMENT

7.1 Soil and water management general

Without any mitigation measures and during typical construction activities, site runoff would be expected to convey a significant sediment load. An *Erosion and Sediment Control Plan* (ESCP), or equivalent, would be implemented for the construction of the Proposal. The ESCPs would be developed in accordance with the principles and requirements of *Managing Urban Stormwater – Soils & Construction Volume 1 ('Blue Book', Landcom, 2004)*.

In accordance with the principles included in the Blue Book, several controls have been incorporated into a preliminary ESCP (refer to accompanying Drawings in **Appendix A**). The ESCP considers initial site establishment, requirements during construction of the development, and completion of development works.

Section 1 provides a summary of the construction works for the Proposal. While all construction activities have the potential to impact on water quality, the key activities are:

- Demolition and removal of existing buildings and retaining existing concrete slabs where possible.
- Erosion and sediment control installation.
- Grading of existing earthworks to suit building layout, drainage layout and pavements.
- Stormwater and drainage works.
- Service installation works.
- Building construction works.

The sections below outline the proposed controls for management of erosion and sedimentation during construction of the Proposal. The approach is noted to consider initial site establishment, construction of the development and the completion of the development, as included in the ESCP drawings **Appendix A**.

The ESCP drawings included in **Appendix A** have been prepared to provide minimum requirements for the effective implementation of the soil and water management during construction. It is further noted that adjustments to the ESCP may be required during the construction phase. Any adjustments to the ESCP shall provide an equivalent performance for soil and water management in accordance with the Blue Book requirements. Such adjustments may include location of the sediment basins, geometry of the basins, location of silt fencing, construction entry and stockpiles.

The above flexibility ensures that erosion and sediment controls remain practical, effective and responsive, while avoiding the need for frequent formal amendments for minor or performance-equivalent changes.

7.2 Typical management measures

Sediment basins

A sediment basin has been sized for this development based on the 5-day 85th percentile rainfall and located to ensure sediment concentrations in site runoff are within acceptable limits. Preliminary basin sizes have been calculated in accordance with the Blue Book and are based on "Type D" soils.

Sediment fences

Sediment fences are located around the perimeter of the site to ensure no untreated runoff leaves the site. They have also been located around the existing drainage channels to minimise sediment migration into waterways and sediment basins.

Stabilised site access

For the proposal, stabilised site access is proposed at one location at the entry to the works area. This will limit the risk of sediment being transported onto surrounding properties and roads.

7.3 Other management measures

Other management measures that will be employed are expected to include:

- Minimising the extent of disturbed areas across the site at any one time.
- Progressive stabilisation of disturbed areas or previously completed earthworks to suit the proposal once trimming works are complete.
- Regular monitoring and implementation of remedial works to maintain the efficiency of all controls.

It is noted that the controls included in the preliminary ESCP are expected to be reviewed and updated as the design, staging and construction methodology is further developed for the Proposal.

8 UTLITIES AND SERVICING

8.1 Utility services

Lead-in utility services required to service Precincts 2 & 4 of Project Silverback have been installed as part of the estate-wide infrastructure works approved under SSD-37486043 (as modified), and lie within the existing estate road infrastructure. Utility services required to service Precinct 5 will be installed as part of the Project Silverback works. These services include:

- Potable Water
- Recycled Water
- Sewer/Wastewater
- Electrical and street lighting
- Telecommunications (NBN)

Details of the lead-in infrastructure works that will service the Project Silverback are presented in AT&L's MOD3 Civil Infrastructure Report (Ref: *REP005-03-20-798* Dated October 2024). Detailed service connections to existing infrastructure will be detailed as part of the Project Silverback detailed design by others.

8.2 Sydney water section 73

Water services infrastructure (including potable water, recycled water and sewer) approved under SSD-37486043 (as modified) should be considered sufficient to enable Sydney Water to issue a Section 73 compliance certificate. A Section 73 certificate will need to be obtained for Precinct 2, 4 & 5 prior to occupation of the warehouses. The Secion 73 application should be made by a suitably qualified person.

8.3 Transgrid assets

Per Condition C19 of the SSD-37486043 SSDA approval, the Applicant must advise Transgrid of any amendment or modified encroachment into the HV transmission easement located to the north of the property. Additional infrastructure, including a modified Precinct 5 Access driveway and new contaminated soil containment cells, are proposed to be installed under these lines.

9 CONCLUSION

This Civil Engineering Report has been prepared to accompany an SSDA to the NSW DPHI for the development of a 30.5 Ha land parcel located within the eastern portion of the Oakdale East Estate in Horsley Park.

An overview of FCC and DCP requirements for stormwater management and access has been provided to assist in the SSDA submission. Specific mention has been made to on-site detention and water quality requirements as required as part of the Water Cycle Management Plan for the development lot.

A strategy for the management of stormwater for the site has been provided based on the management measures to be provided as on-lot measures. This option is in the form of a series of combined detention and water quality tanks located at site discharge locations.

The water cycle management strategy has been prepared to ensure compliance with local Council requirements for drainage, water quantity management (on-site detention), water quality management (water sensitive urban design) and to mitigate adverse downstream impacts.

We recommend the strategies included in this report are adopted and integrated into the proposed development.

10 REFERENCES

- NSW Government (2023). Floodplain Risk Management Manual.
- Managing Urban Stormwater: Harvesting and Reuse – 2006 (NSW DEC);
- Managing Urban Stormwater: Source Control – 1998 (NSW EPA);
- Managing Urban Stormwater: Treatment Techniques – 1997 (NSW EPA);
- Landcom (2004). Managing Urban Stormwater – Soils and Construction – 4th Edition.
- Fairfield City Council – DCP 2017 ; and
- Water Sensitive Urban Design – "Technical Guidelines for Western Sydney" by URS Australia Pty Ltd, May 2004

11 APPENDICES

COSTIN ROE CONSULTING

APPENDIX A
COSTIN ROE CONSULTING DRAWINGS

OAKDALE EAST INDUSTRIAL ESTATE - INFRASTRUCTURE

LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

ESTATE CIVIL ENGINEERING WORKS PACKAGE

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING LIST

DRAWING NO.	DRAWING TITLE
C09447.74-SSDA1000	DRAWING LIST & LOCALITY PLAN - INFRASTRUCTURE
C09447.74-SSDA1001	GENERAL NOTES
C09447.74-SSDA1200	EROSION & SEDIMENT CONTROL PLAN
C09447.74-SSDA1251	EROSION & SEDIMENT CONTROL DETAILS
C09447.74-SSDA1281	TEMPORARY OSD BASIN DECOMMISSIONING PLAN - SHEET 1
C09447.74-SSDA1282	TEMPORARY OSD BASIN DECOMMISSIONING PLAN - SHEET 2
C09447.74-SSDA1283	TEMPORARY OSD BASIN DECOMMISSIONING PLAN - SHEET 3
C09447.74-SSDA1300	BULK EARTHWORKS KEY PLAN
C09447.74-SSDA1301	BULK EARTHWORKS PLAN - SHEET 1
C09447.74-SSDA1302	BULK EARTHWORKS PLAN - SHEET 2
C09447.74-SSDA1303	BULK EARTHWORKS PLAN - SHEET 3
C09447.74-SSDA1304	BULK EARTHWORKS PLAN - SHEET 4
C09447.74-SSDA1310	CUT/FILL PLAN
C09447.74-SSDA1320	GROUND IMPROVEMENT PLAN
C09447.74-SSDA1351	BULK EARTHWORKS SECTION - SHEET 1
C09447.74-SSDA1352	BULK EARTHWORKS SECTION - SHEET 2
C09447.74-SSDA1353	BULK EARTHWORKS SECTION - SHEET 3
C09447.74-SSDA1400	STORMWATER DRAINAGE PLAN
C09447.74-SSDA1401	STORMWATER DRAINAGE PLAN - SHEET 1
C09447.74-SSDA1402	STORMWATER DRAINAGE PLAN - SHEET 2
C09447.74-SSDA1403	STORMWATER DRAINAGE PLAN - SHEET 3
C09447.74-SSDA1404	STORMWATER DRAINAGE PLAN - SHEET 4
C09447.74-SSDA1405	STORMWATER DRAINAGE PLAN - SHEET 5
C09447.74-SSDA1406	STORMWATER DRAINAGE PLAN - SHEET 6
C09447.74-SSDA1410	STORMWATER QUANTITY CATCHMENT PLAN
C09447.74-SSDA1420	STORMWATER BIORETENTION/DETENTION BASIN C
C09447.74-SSDA1430	STORMWATER BIORETENTION/DETENTION BASIN D
C09447.74-SSDA1451	STORMWATER DRAINAGE DETAILS - SHEET 1
C09447.74-SSDA1452	STORMWATER DRAINAGE DETAILS - SHEET 2
C09447.74-SSDA1453	STORMWATER DRAINAGE DETAILS - SHEET 3
C09447.74-SSDA1454	STORMWATER DRAINAGE DETAILS - SHEET 4
C09447.74-SSDA1471	STORMWATER DRAINAGE LONGSECTIONS - SHEET 1
C09447.74-SSDA1600	RETAINING WALL SETOUT PLAN
C09447.74-SSDA1631	RETAINING WALL ELEVATIONS - SHEET 1
C09447.74-SSDA1632	RETAINING WALL ELEVATIONS - SHEET 2
C09447.74-SSDA1633	RETAINING WALL ELEVATIONS - SHEET 3
C09447.74-SSDA1634	RETAINING WALL ELEVATIONS - SHEET 4
C09447.74-SSDA1651	RETAINING WALL DETAILS

DRAWING LIST

C09447.74-SSDA1700	TYPICAL SECTIONS KEY PLAN
C09447.74-SSDA1711	TYPICAL SECTIONS - SHEET 1
C09447.74-SSDA1712	TYPICAL SECTIONS - SHEET 2
C09447.74-SSDA1713	TYPICAL SECTIONS - SHEET 3
C09447.74-SSDA1714	TYPICAL SECTIONS - SHEET 4
C09447.74-SSDA1715	TYPICAL SECTIONS - SHEET 5
C09447.74-SSDA1716	TYPICAL SECTIONS - SHEET 6
C09447.74-SSDA1717	TYPICAL SECTIONS - SHEET 7
C09447.74-SSDA1800	CUL DE SAC MODIFICATION PLAN
C09447.74-SSDA1900	CONTAINMENT CELL PLAN
C09447.74-SSDA1901	CONTAINMENT CELL SECTIONS
C09447.74-SSDA1950	BULK EARTHWORKS & CUT/FILL SHORTFALL PLAN

LOCALITY PLAN
N.TS

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	E
ISSUED FOR INFORMATION	26.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS	DATE	ISSUE

ARCHITECT
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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1000

CONSULT AUSTRALIA

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CRC COSTIN ROE CONSULTING | CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
DRAWING LIST & LOCALITY PLAN
INFRASTRUCTURE WORKS

DRAWING No C09447.74-SSDA1000

ISSUE F

GENERAL NOTES:

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE.
   ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
   ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT.
   REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
5. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
6. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

ROADWORKS NOTES:

1. ALL ROADWORKS TO BE COMPLETED TO FAIRFIELD CITY COUNCIL SPECIFICATIONS AND MODEL DRAWINGS CURRENT AT TIME OF CONSTRUCTION BY AN ACCREDITED CONTRACTOR.
2. FINAL ROADWORK LAYOUT SUBJECT TO COUNCIL APPROVAL.
3. CONTRACTOR TO RESOLVE ALL EXISTING & NEW SERVICE RELOCATION PRIOR TO COMMENCEMENT OF WORKS IN ACCORDANCE WITH THE RELEVANT GOVERNING BODIES SPECIFICATIONS & CONSULTANTS DOCUMENTATION.
4. ALL LINEMARKING TO CONFORM TO R.M.S QA SPECIFICATIONS R145. REFER TO THIS DOCUMENT FOR LINE TYPES, DIMENSIONS & MARKER SPACING.
5. ALL TRANSVERSE LINEMARKING, PAVEMENT ARROWS AND CHEVRONS TO BE MARKED USING THERMOPLASTIC.
6. REMOVE ALL EXISTING LINEMARKING BY GRIT BLASTING TO R.M.S. REQUIRMENTS TO ALLOW FOR MARKING OF NEW INTERSECTION LAYOUTS.
7. ALL AREAS BETWEEN THE NEW KERB AND PROPERTY BOUNDARY TO BE TOPSOILED (100mm MIN.) AND TURFED.

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT OAKDALE EAST ESTATE PRECINCTS 2-5 PROJECT 86545.13 PROVIDED BY DOUGLAS PARTNERS DATED 22/10/24.
2. EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY PROVIDED BY FREEBURN SURVEYING DATED 25/03/2026 & THE CONSOLIDATED SUPERTIN PROVIDED BY AT&L.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED. TOPSOIL BLENDING IS NOT ACCEPTABLE. ANY BLENDING PROPOSAL IS TO BE REFERRED TO THE ENGINEER.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION. WHERE EXPOSED ROCK (WEATHERED SHALE OR SANDSTONE) IS ENCOUNTERED AT CUT SUBGRADE LEVEL, THE EARTHWORKS CONTRACTOR IS TO ALLOW TO RIP THE SURFACE TO A NOMINAL 0.3-0.4m DEPTH AND RECOMPACT (PER THE ENGINEERING SPEC) AS REQUIRED.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
10. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
15. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

EXISTING SERVICES NOTES:

1. DURING THE EXECUTION OF WORKS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT SERVICE AUTHORITY, AT NO COST TO THE PRINCIPAL.
2. WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING SERVICE, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF ITS REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.
3. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA. THE ACCURACY IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK. ALL CLEARANCES AND APPROVALS SHALL ALSO BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL NEW AND EXHUMED SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS WITHIN THE SITE SHALL BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO. SUBJECT TO PRIOR APPROVAL FROM RELEVANT AUTHORITY.
5. ON COMPLETION OF SERVICES INSTALLATION. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.
6. CARE TO BE TAKEN WHEN EXCAVATING NEAR UTILITY SERVICES. NO MECHANICAL EXCAVATION TO BE UNDERTAKEN OVER SERVICES. LIAISE WITH RELEVANT AUTHORITY.
7. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.
8. THE CONTRACTOR IS TO MAINTAIN EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE ROADS AT ALL TIMES. MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.
9. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAM FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
10. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
11. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO THE ADJACENT RESIDENCES. CONTRACTOR TO GAIN APPROVAL OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
12. THE CONTRACTOR SHALL UNDERTAKE A DIAL BEFORE YOU DIG (DBYD 1100) SERVICES SEARCH BEFORE THE COMMENCEMENT OF ANY WORKS.

DUST CONTROL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE DUST CONTROL MEASURES ARE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN.
2. THE APPLICATION OF LIQUID BASED DUST SUPPRESSION MEASURES MUST BE SUCH THAT SEDIMENT LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD. (EG USING HAY BALES)
3. DUST GENERATION ASSOCIATED WITH WIND EROSION TO BE CONTROLLED USING WATER TRUCKS, DUST SUPPRESSING FOG, MIST GENERATORS, SEALANT PLACED OVER THE SOIL, SURFACE ROUGHENING OR RE-VEGETATION.
4. THE FOLLOWING ACTIVITIES SHALL BE ADOPTED, IF NECESSARY, TO MANAGE DUST CONTROL ON SITE:
   - LIMITING THE AREA OF SOIL DISTURBANCE AT ANY GIVEN TIME
   - REPLACING TOPSOIL AFTER COMPLETION OF EARTHWORKS.
   - PROGRAMMING WORK TO MINIMISE THE LIFE OF STOCKPILES.
   - TEMPORARILY STABILISING LONG-TERM STOCKPILES.
   - GRAVELLING UNSEALED ACCESS AND HAUL ROADS.
   - MINIMISING TRAFFIC MOVEMENT ON EXPOSED SURFACES.
   - LIMITING VEHICULAR TRAFFIC TO 15km/h.
   - RETAINING EXISTING VEGETATION AS WIND BREAKS.
5. OIL, LANDFILL GAS CONDENSATE OR ANY CONTAMINATED LEACHATE OR STORMWATER IS NOT TO BE USED FOR DUST SUPPRESSION.

RETAINING WALL NOTES:

1. ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
2. MINIMUM BEARING CAPACITY OF FOUNDATION TO BE AS FOLLOWS :
   a. H MAX. 2.0m = 100 kPa
   b. H MAX. 3.5m = 150 kPa
   c. H MAX. 5.0m = 200 kPa
3. BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
4. WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
5. MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN :
   a. LIVE LOAD = 20 kPa
   b. DEAD LOAD = 5 kPa
   c. CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
6. MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm MINIMUM UNLESS NOTED OTHERWISE.
7. DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
8. TIED WALLS ARE TO BE TEMPORARILY PROPPED AT TOP UNTIL SUCH TIME THE TOP OF WALL IS TIED TO THE SLAB AND 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
9. CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
10. ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
11. WALL ELEVATIONS ALLOW FOR NOMINAL EMBEDMENT DEPTHS. WHERE DESIGN AND CONSTRUCT (D+C) WALL SYSTEMS ARE PROPOSED IT IS THE CONTACTORS RESPONSIBILITY TO ALLOW FOR THE FINAL EMBEDMENT DEPTHS AS PER THE D+C DESIGN. ALLOWANCE FOR OVERALL WALL AREAS TO CONSIDER THE FINAL EMBEDMENT DEPTH.
12. WALL ELEVATIONS AND AREAS ARE BASED ON THE VERTICAL PLAN AREA. CONTRACTOR TO ALLOW ADDITIONAL SURFACE AREA WHERE WALLS ARE NOT VERTICAL OR HAVE BACKSLOPES.

REINFORCED EARTH RETAINING WALL NOTES:

1. ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
2. MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
3. MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS :
   a. H MAX. 2.0m = 100 kPa
   b. H MAX. 3.5m = 150 kPa
   c. H MAX. 5.0m = 200 kPa
   BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
4. WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
5. MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
   a. LIVE LOAD = 20 kPa
   b. DEAD LOAD = 5 kPa
   c. CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
6. THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm.
8. DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
9. SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. THE SELECT BACKFILL MATERIAL IS TO HAVE THE FOLLOWING PARAMETERS:
   a. MINIMUM INTERNAL FRICTION, Ø = 34°
   b. EFFECTIVE COHESION, C'= 0 kPa
   c. UNIT WEIGHT = 21 kN/m^3
   d. PH BETWEEN 4 AND 9.
10. SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300mm (LOOSE). COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3798.
11. PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300mm WIDE 12-20mm AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100mm MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30m MAX. SPACING.
12. THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
13. CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500kG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
14. ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
15. TOP OF WALL HEIGHTS ARE NOTED TO ALIGN WITH FINISHED PAVEMENT HEIGHTS. THE CONTRACTOR AND THEIR DESIGN AND CONSTRUCT WALLING CONTRACTORS ARE TO ENSURE THAT ALL WALL STRAPS ARE INSTALLED BELOW THE DESIGN EARTHWORKS SUBGRADE. CONTRACTOR TO ALLOW FOR WALL STRAPS TO BE GRADED AWAY FROM THE FACE OF THE WALL OR OTHERWISE INSTALLED TO SUIT EARTHWORKS DESIGN LEVELS AND GRADES.
16. DIFFERENTIAL SETTLEMENT NOTE:
    FUTURE BUILDING AND SERVICE DESIGNERS TO CONSIDER DIFFERENTIAL SETTLEMENT OF REINFORCED EARTH WALL BLOCK AND GENERAL FILL AREAS. PARTICULAR ATTENTION TO BE DRAWN TO HEAVILY LOADED AREAS, OR DIFFERING LOADED AREAS (INCLUDING SPRINKLER TANK AND TRUCK PAVEMENT AREAS) AND WHERE SIGNIFICANT CHANGES IN OVERALL WALL HEIGHT OR FILL AMOUNTS ARE EXPERIENCED. IT IS THE RESPONSIBILITY OF THE FUTURE DESIGNERS TO ENSURE APPROPRIATE DESIGN CONSIDERATION TO DIFFERENTIAL SETTLEMENT ARE MADE DEPENDING ON THE DESIGN ELEMENT AND INTERACTION WITH RETAINED ELEMENTS AND GENERAL FILL MATERIAL.

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	B
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	A

AMENDMENTS	DATE	ISSUE

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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1001

CONSULT AUSTRALIA

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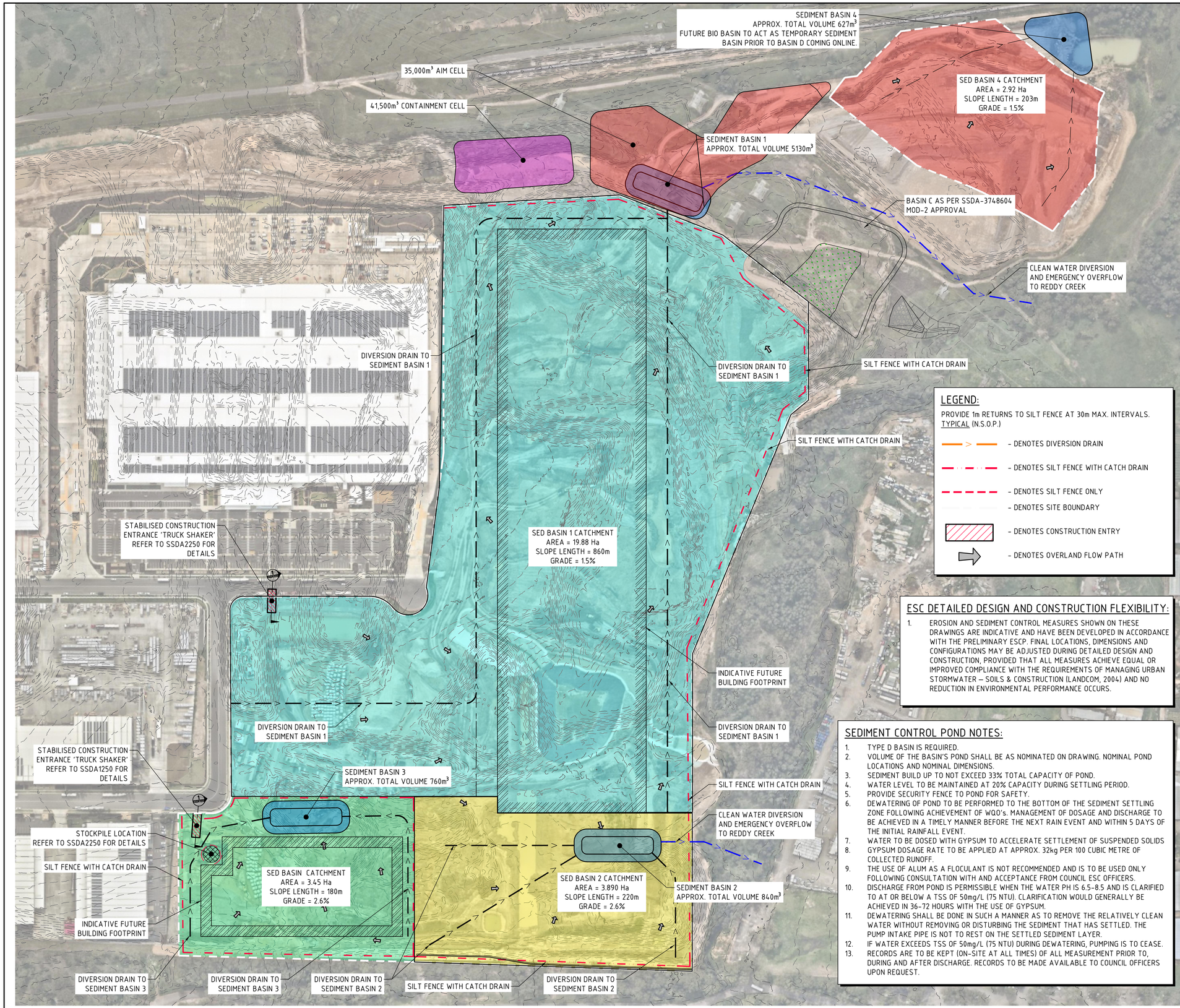
DRAWING TITLE
GENERAL NOTES

DRAWING No C09447.74-SSDA1001 ISSUE B



LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES SITE BOUNDARY
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.
18. ESC PLANS ARE SUBJECT TO CHANGE SHOULD CPESC SIGNOFF BE RECEIVED

SEDIMENTATION BASIN NOTES:

1. REFER TO SEDIMENT & EROSION CONTROL NOTES.
2. FOR SEDIMENT AND EROSION CONTROL DETAILS, REFER TO THE LANDCOM 'BLUE BOOK' AND EXTRACTS ON DRAWING SSDA1250.
3. SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED ON 5-DAY RAINFALL DEPTHS AT 85th PERCENTILE INTENSITY (32.2mm) IN THE LIVERPOOL CATCHMENT AREA.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
3. REFER TO DRAWING SSDA1250 FOR SEDIMENTATION BASIN CALCULATIONS

ESC DETAILED DESIGN AND CONSTRUCTION FLEXIBILITY:

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE INDICATIVE AND HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE PRELIMINARY ESCP. FINAL LOCATIONS, DIMENSIONS AND CONFIGURATIONS MAY BE ADJUSTED DURING DETAILED DESIGN AND CONSTRUCTION, PROVIDED THAT ALL MEASURES ACHIEVE EQUAL OR IMPROVED COMPLIANCE WITH THE REQUIREMENTS OF MANAGING URBAN STORMWATER – SOILS & CONSTRUCTION (LANDCOM, 2004) AND NO REDUCTION IN ENVIRONMENTAL PERFORMANCE OCCURS.

SEDIMENT CONTROL POND NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASIN'S POND SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF POND.
4. WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY DURING SETTLING PERIOD.
5. PROVIDE SECURITY FENCE TO POND FOR SAFETY.
6. DEWATERING OF POND TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED IN A TIMELY MANNER BEFORE THE NEXT RAIN EVENT AND WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
7. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS
8. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
9. THE USE OF ALUM AS A FLOCULANT IS NOT RECOMMENDED AND IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
10. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L (75 NTU). CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM.
11. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE RELATIVELY CLEAN WATER WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
12. IF WATER EXCEEDS TSS OF 50mg/L (75 NTU) DURING DEWATERING, PUMPING IS TO CEASE.
13. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.

SEDIMENT CONTROL BASIN NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASINS SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF BASIN.
4. DEWATERING OF BASIN TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
5. FOLLOWING DEWATERING PER NOTE 4, WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY AFTER A FOUR DAY SETTLING PERIOD FOLLOWING A STORM EVENT.
6. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS AS REQUIRED.
7. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
8. THE USE OF ALUM (OR ANY OTHER ALTERNATIVE) AS A FLOCCULANT IS NOT RECOMMENDED. ALUM OR ANY OTHER FLOCCULANT IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
9. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L. CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM. CORRELATION TESTS MUST BE UNDERTAKEN ON SITE TO ENSURE THIS IS ACHIEVED.
10. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE CLEAN WATER (BEING WATER WITHIN THE ADOPTED CRITERIA) WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
11. IF WATER EXCEEDS TSS OF 50mg/L DURING DEWATERING, PUMPING IS TO CEASE. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.
12. PROVIDE SECURITY FENCE TO BASIN FOR SAFETY.

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	G
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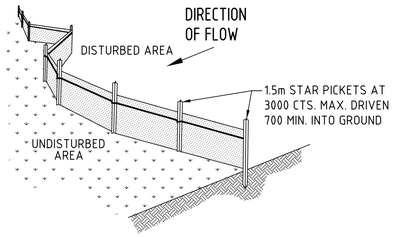
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1200

DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN

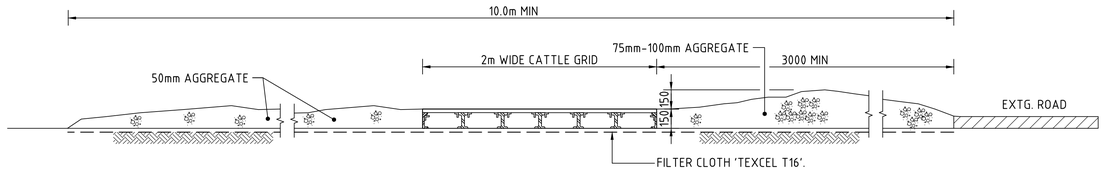
DRAWING No C09447.74-SSDA1200 ISSUE G



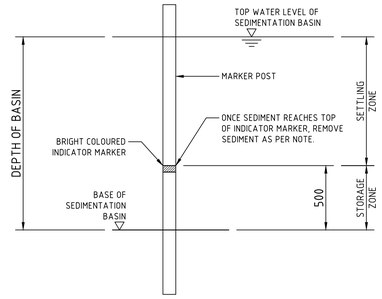
TYPICAL SILT FENCE DETAIL

N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL

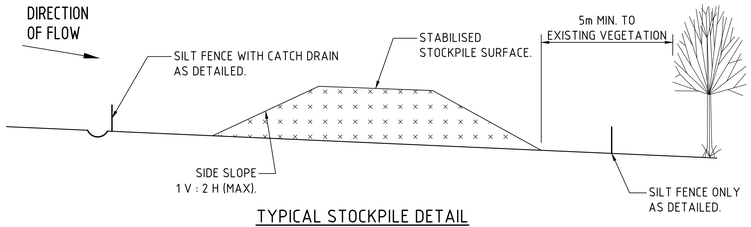


SECTION 1:20 1 - : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



SEDIMENT STORAGE MARKER

SCALE 1:20

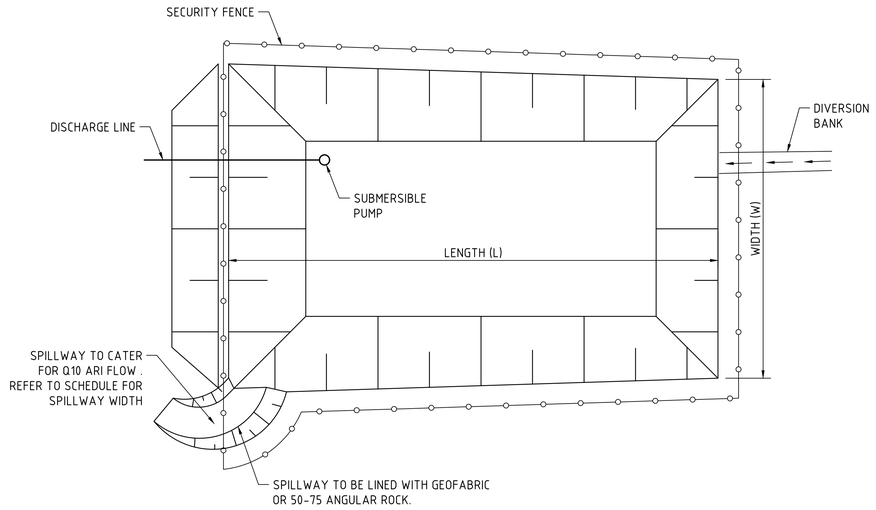


TYPICAL STOCKPILE DETAIL

N.T.S

STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



TYPICAL SEDIMENT CONTROL POND PLAN

SCALE 1:250

SPILLWAY DETAIL & SCHEDULE					
CATCHMENT (Ha)	FLOW (m^3/s)	WIDTH (mm)	FLOW DEPTH (mm)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (mm)
0.20	0.14	1000	200	-	600
0.5	0.2	2000	200	-	600
1	0.3	2000	200	-	700
2	0.6	4000	200	-	700
5	1.4	5000	300	200	800
10	2.8	8000	350	200	850
20	5.5	14000	400	250	900
40	11.0	20000	500	250	1000

RUSLE CALCULATION BASIN 1:

TOTAL CATCHMENT AREA = 23.73ha
DISTURBED CATCHMENT AREA = 23.73 ha

A = R x K x LS x P x C

1. 2-yr, 6-hr ARI (S) = 8.31;
2. RAINFALL EROSIVITY FACTOR (R)
   R = 164.74(1.1177)^S $S^{0.6444}$ = 1630;
3. SOIL ERODIBILITY FACTOR (K) = 0.03;
4. LENGTH/GRADIENT FACTOR (LS) = 1.22;
5. EROSION CONTROL PRACTICE FACTOR (P) = 1.3;
6. COVER FACTOR (C) = 1.0

SOIL LOSS (A) = 60m^3/ha/yr
= 2.53m^3/yr

PER BLUE BOOK GUIDELINES SECTION 6.3.2.d, FOR SITES WITH AVERAGE ANNUAL SOIL LOSS (A) < 150m^3/yr, A SEDIMENT RETENTION BASIN MAY BE CONSIDERED UNNECESSARY.

RUSLE CALCULATION BASIN 2:

TOTAL CATCHMENT AREA = 14.31 ha
DISTURBED CATCHMENT AREA = 14.31 ha

A = R x K x LS x P x C

1. 2-yr, 6-hr ARI (S) = 8.31;
2. RAINFALL EROSIVITY FACTOR (R)
   R = 164.74(1.1177)^S $S^{0.6444}$ = 1630;
3. SOIL ERODIBILITY FACTOR (K) = 0.03;
4. LENGTH/GRADIENT FACTOR (LS) = 0.99;
5. EROSION CONTROL PRACTICE FACTOR (P) = 1.3;
6. COVER FACTOR (C) = 1.0

SOIL LOSS (A) = 4.9m^3/ha/yr
= 3.42m^3/yr

PER BLUE BOOK GUIDELINES SECTION 6.3.2.d, FOR SITES WITH AVERAGE ANNUAL SOIL LOSS (A) < 150m^3/yr, A SEDIMENT RETENTION BASIN MAY BE CONSIDERED UNNECESSARY.

RUSLE CALCULATION BASIN 3:

TOTAL CATCHMENT AREA = 3.45ha
DISTURBED CATCHMENT AREA = 3.45 ha

A = R x K x LS x P x C

1. 2-yr, 6-hr ARI (S) = 8.31;
2. RAINFALL EROSIVITY FACTOR (R)
   R = 164.74(1.1177)^S $S^{0.6444}$ = 1630;
3. SOIL ERODIBILITY FACTOR (K) = 0.03;
4. LENGTH/GRADIENT FACTOR (LS) = 0.79;
5. EROSION CONTROL PRACTICE FACTOR (P) = 1.3;
6. COVER FACTOR (C) = 1.0

SOIL LOSS (A) = 39m^3/ha/yr
= 11.30m^3/yr

PER BLUE BOOK GUIDELINES SECTION 6.3.2.d, FOR SITES WITH AVERAGE ANNUAL SOIL LOSS (A) < 150m^3/yr, A SEDIMENT RETENTION BASIN MAY BE CONSIDERED UNNECESSARY.

RUSLE CALCULATION BASIN 4:

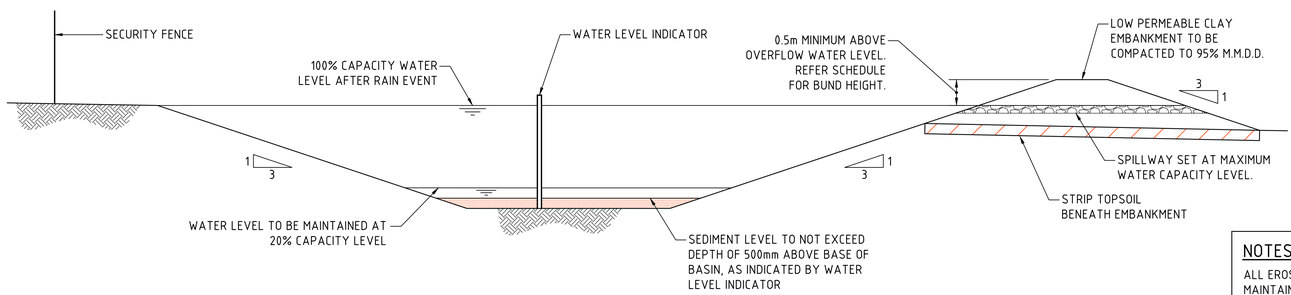
TOTAL CATCHMENT AREA = 2.92ha
DISTURBED CATCHMENT AREA = 2.92 ha

A = R x K x LS x P x C

1. 2-yr, 6-hr ARI (S) = 8.31;
2. RAINFALL EROSIVITY FACTOR (R)
   R = 164.74(1.1177)^S $S^{0.6444}$ = 1630;
3. SOIL ERODIBILITY FACTOR (K) = 0.03;
4. LENGTH/GRADIENT FACTOR (LS) = 1.22;
5. EROSION CONTROL PRACTICE FACTOR (P) = 1.3;
6. COVER FACTOR (C) = 1.0

SOIL LOSS (A) = 20m^3/ha/yr
= 6.85m^3/yr

PER BLUE BOOK GUIDELINES SECTION 6.3.2.d, FOR SITES WITH AVERAGE ANNUAL SOIL LOSS (A) < 150m^3/yr, A SEDIMENT RETENTION BASIN MAY BE CONSIDERED UNNECESSARY.



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50

NOTES:

ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEPT DAILY.

1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINISIMATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS DATE ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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DRAWING TITLE
EROSION AND SEDIMENT CONTROL DETAILS

DRAWING No C09447.74-SSDA1250 ISSUE D

SCALE 1:500 AT B1 SIZE SHEET

TEMPORARY OSD BASIN DECOMISSIONING PLAN - STAGE 1

SCALE 1:1500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS | DATE | ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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DRAWING TITLE
TEMPROARY OSD BASIN DECOMISSIONING PLAN - STAGE 1

DRAWING No C09447.74-SSDA1281 ISSUE C

SEDIMENT BASIN 1 TO BE CONSTRUCTED AS PER SSDA1200

CLEAN WATER DIVERSION AND OVERFLOW TO REDDY CREEK

PRECINCT 5 TO REMAIN UNDEVELOPED

BASIN C TO BE DELIVERED AS APPROVED UNDER SSDA 37486043. REFER AT&L DRAWING 20-798-C1083

EXISTING REINFORCED EARTH RETAINING WALL TO REMAIN

STORMWATER DRAINAGE BASIN C TO BE CONNECTED TO ESTATE STORMWATER DRAINAGE. REFER SSDA1400 FOR DETAILS.

COMPLETED PRECINCT 3 AMAZON DEVELOPMENT

PRECINCT 4 TO REMAIN UNDEVELOPED

OUTLET TO BE CONSTRUCTED AS PER SSDA1454

SEDIMENT FENCE TO BE CONSTRUCTED AS PER SSDA1200 (TYP.)

EXISTING ESTATE STORMWATER INFRASTRUCTURE IN ROAD TO REMAIN

EXISTING TEMPORARY STORMWATER LINE DISCHARGING TO TEMPORARY BASIN TO REMAIN ACTIVE IN STAGE 2

APPROVED TEMPORARY OSD AND SEDIMENT BASIN TO REMAIN ACTIVE UNTIL EROSION AND SEDIMENT CONTROLS AS PER SSDA1200 AND BASIN C DELIVERED.

TEMPORARILY DIRECT RUNOFF TO APPROVED TEMPORARY OSD BASIN DURING STAGE 2

SEDIMENT BASIN 3 TO BE CONSTRUCTED AS PER SSDA1200

STUB LINE TO BE PROVIDED TO LOT 2A AS PER SSDA1400

PRECINCT 2 TO REMAIN UNDEVELOPED

SEDIMENT BASIN 2 TO BE CONSTRUCTED AS PER SSDA1200

CLEAN WATER DIVERSION AND OVERFLOW TO REDDY CREEK

CATCH DRAINS TO BE CONSTRUCTED AS PER SSDA1200 (TYP.)

ESC DETAILED DESIGN AND CONSTRUCTION FLEXIBILITY:

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE INDICATIVE AND HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE PRELIMINARY ESCP. FINAL LOCATIONS, DIMENSIONS AND CONFIGURATIONS MAY BE ADJUSTED DURING DETAILED DESIGN AND CONSTRUCTION, PROVIDED THAT ALL MEASURES ACHIEVE EQUAL OR IMPROVED COMPLIANCE WITH THE REQUIREMENTS OF MANAGING URBAN STORMWATER – SOILS & CONSTRUCTION (LANDCOM, 2004) AND NO REDUCTION IN ENVIRONMENTAL PERFORMANCE OCCURS.

LEGEND:

- DENOTES SITE BOUNDARY
- SWP - DENOTES PROPOSED TRUNK DRAINAGE
- DENOTES TEMPORARY BASIN DRAINAGE CONNECTION
- DENOTES EXISTING ESTATE DRAINAGE TO REMAIN
- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

TEMPORARY OSD BASIN DECOMISSIONING PLAN - STAGE 3

SCALE 1:1500

FOR DEVELOPMENT APPLICATION

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DRAWING TITLE
TEMPROARY OSD BASIN DECOMISSIONING PLAN - STAGE 2

DRAWING No C09447.74-SSDA1282

ISSUE F

TEMPORARY OSD DECOMMISSIONING NOTES:

1. REMOVE ALL SILT, ORGANIC AND WATER LOGGED MATERIAL FROM BASE OF POND (NOM. DEPTH 0.5-1.0m) AND DISPOSE OF IN ACCORDANCE WITH THE ACCEPTABLE PRACTICE.
2. EXPOSE NATURAL SITE SOILS AND COMPACT SUBGRADE IN ACCORDANCE WITH THE SITE PREPARATION NOTES (REFER DRG. DA10) REMOVING ANY SOFT ZONES AS REQ'D.
3. PLACE AND COMPACT FILL AS PER SITE PREPARATION NOTES ON DRAWING C1001.
4. INFORMATION PROVIDED ON THIS DRAWING SHALL BE USED TO GUIDE THE DEVELOPMENT OF THE COSNTRUCTION ENVIRONMENTAL MANAGEMENT PLAN THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION.

ESC DETAILED DESIGN AND CONSTRUCTION FLEXIBILITY:

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE INDICATIVE AND HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE PRELIMINARY ESCP. FINAL LOCATIONS, DIMENSIONS AND CONFIGURATIONS MAY BE ADJUSTED DURING DETAILED DESIGN AND CONSTRUCTION, PROVIDED THAT ALL MEASURES ACHIEVE EQUAL OR IMPROVED COMPLIANCE WITH THE REQUIREMENTS OF MANAGING URBAN STORMWATER – SOILS & CONSTRUCTION (LANDCOM, 2004) AND NO REDUCTION IN ENVIRONMENTAL PERFORMANCE OCCURS.

SEDIMENT BASIN 1 TO BE CONSTRUCTED AS PER SSDA1200

CLEAN WATER DIVERSION AND OVERFLOW TO REDDY CREEK

PRECINCT 5 TO REMAIN UNDEVELOPED

BASIN C CONSTRUCTED AND OPERATIONAL AS APPROVED UNDER SSDA 37486043. REFER AT&L DRAWING 20-798-C1083

EXISTING REINFORCED EARTH RETAINING WALL TO REMAIN

CLEAN WATER RUNOFF FROM DEVELOPED CATCHMENTS TO BE CONVEYED TO BASIN C

OUTLET TO REDDY CREEK CONSTRCUTED AND OPERATIONAL

COMPLETED PRECINCT 3 AMAZON DEVELOPMENT

STAGE 1 EARTHWORKS TO COMMENCE ON PRECINCT 4. REFER SSDA1301

STORMWATER DRAINAGE TO BASIN C TO BE CONNECTED TO THE ESTATE STORMWATER DRAINAGE TO COLLECT RUNOFF FROM DEVELOPED CATCHMENTS. REFER SSDA1400 FOR DETAILS

SEDIMENT FENCE TO BE CONSTRUCTED AS PER SSDA1200 (TYP.)

EXISTING ESTATE STORMWATER INFRASTRUCTURE IN ROAD TO REMAIN

EXISTING TEMPORARY SWALE TO BE DECOMMISSIONED AND BACKFILLED

DRAINAGE CONNECTION TO TEMPORARY OSD TO BE CONCRETE FILLED AND EASEMENT ABANDONED UPON COMPLETION OF BASIN C AND CONNECTION OF INFRASTRUCTURE DRAINAGE TO ESTATE STORMWATER DRAINAGE

TEMPORARY OSD BASIN TO BE DECOMMISSIONED AND FILLED AS PER STAGE 1 EARTHWORKS. REFER SSDA1301

SEDIMENT BASIN 3 TO BE CONSTRUCTED AS PER SSDA1200

STAGE 1 EARTHWORKS TO COMMENCE ON PRECINCT 2. REFER SSDA1301

SEDIMENT BASIN 2 TO BE CONSTRUCTED AS PER SSDA1200

CLEAN WATER DIVERSION AND OVERFLOW TO REDDY CREEK

CATCH DRAINS TO BE CONSTRUCTED AS PER SSDA1200 (TYP.)

LEGEND:

- DENOTES SITE BOUNDARY
- SWD - DENOTES PROPOSED TRUNK DRAINAGE
- DENOTES TEMPORARY DRAINAGE TO BE REMOVED
- DENOTES EXISTING ESTATE DRAINAGE TO REMAIN
- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY

TEMPORARY OSD BASIN DECOMISSIONING PLAN - STAGE 3
SCALE 1:1500

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.06.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.26	E
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.26	D
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ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS	DATE	ISSUE

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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1283

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
TEMPROARY OSD BASIN DECOMISSIONING PLAN - STAGE 3

DRAWING No C09447.74-SSDA1283
ISSUE F

SSDA1304

SSDA1303

SSDA1302

SSDA1301

INDICATIVE LOCATION OF 35,000m³ AIM CELL

INDICATIVE LOCATION OF 41,500m³ CONTAINMENT CELL

HATCHED AREA DENOTES AREA WITH EXISTING STRUCTURE/INFRASTRUCTURE

BUILDING 3B (COMPLETED)

WAREHOUSE
GROUND FLOOR - 42,062 m²
LEVEL 1 - 43,188 m²
LEVEL 1 VAN PARKING - 15,098 m²
MEZZANINES - 50,792 m²

DOCK OFFICE A (2 LEVEL) 272 m²

DOCK OFFICE (2 LEVEL) 272 m²

SATELLITE OFFICE (2 LEVEL) 307 m²

PROPOSED PAD RL 70.10 +-200mm

PROPOSED PAD RL 77.60 +-200mm

PRECINCT 1 (COMPLETED)

CARPARK (64)

HEAVY RIGID PARKING (24)

TRAILER PARKING (17)

FLEET WORKSHOP/OFFICE 1,173 m²

EXISTING ELECTRICAL STANCHIONS

HEAVY RIGID PARKING (28)

TRAILER PARKING (39)

C2 ZONE

REDDY CREEK

NATIVE VEGETATION

SITE BOUNDARY

FUTURE SOUTHERN LINK ROAD

BULK EARTHWORKS PLAN
SCALE 1:1500

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT OAKDALE EAST ESTATE - PRECINCTS 2 TO 5 PROJECT 86545.13 PROVIDED BY DOUGLAS PARTNERS DATED 22/10/2024.
2. EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY FREEBURN SURVEYING DATED 25/03/2026 & THE CONSOLIDATED SUPERTIN PROVIDED BY AT&L.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED. TOPSOIL BLENDING IS NOT ACCEPTABLE. ANY BLENDING PROPOSAL IS TO BE REFERRED TO THE ENGINEER.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION. WHERE EXPOSED ROCK (WEATHERED SHALE OR SANDSTONE) IS ENCOUNTERED AT CUT SUBGRADE LEVEL, THE EARTHWORKS CONTRACTOR IS TO ALLOW TO RIP THE SURFACE TO A NOMINAL 0.3-0.4m DEPTH AND RECOMPACT (PER THE ENGINEERING SPEC) AS REQUIRED.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
10. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
15. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

EARTHWORKS COMPARISON ESTIMATE

EARTHWORKS VOLUMES SHOWN ARE A COMPARISON OF THE APPROVED BEL LEVELS TO PROPOSED BEL LEVELS.

SITE AREA	= 34.850 Ha
CUT	= -559,120m³
FILL	= +405,890m³
ALLOWANCES	
DETAILED EXCAVATION (1,500m³/ha)	= -52,275m³
ACM CAPPING LAYER	= +7,100m³
AIM CAPPING LAYER	= +44,115m³
CTFCR TO BE IMPORTED (NOT INCLUDED IN CUT/FILL)	= +16,000m³
DIFFERENCE	= -154,290m³ (i.e. REDUCTION OF OVERALL IMPORT)

NOTE:
VOLUMES BASED ON 0mm SITE STRIP OVER THE NOMINATED AREA.

EARTHWORKS VOLUMES ARE APPROXIMATE ONLY. THE COMPARISON OF APPROVED VERSUS PROPOSED VOLUMES SHOWS A REDUCTION OF FILL IMPORT OF APPROX. 155,000m³ FROM THE CURRENT SSDA APPROVED VOLUMES.

NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS, THE REMOVAL OF UNCONTROLLED OR CONTAMINATED MATERIAL OR ANY OTHER UNSPECIFIED EXCAVATION RELATED TO CONSTRUCTION ACTIVITIES. DETAILED EXCAVATION ALLOWANCE IS APPROXIMATE ONLY AND ACCOUNTS FOR STORMWATER/SERVICES TRENCHING AND FOUNDATIONS. THE DETAILED EXCAVATION VOLUMES ARE TO BE CONFIRMED BY THE CONTRACTOR. REFER ANY CONCERNS TO ENGINEER.

SHORTFALL EARTHWORK ESTIMATES

SHORTFALL EARTHWORKS PLAN IS A COMPARISON OF THE PROPOSED BEL LEVELS TO THE REHABILITATION SURFACE LEVEL. THE RESULTS OF THIS ASSESSMENT QUANTIFY THE VOLUME OF FILL REQUIRED FOR IMPORTATION.

SITE AREA	= 34.850 Ha
CUT	= -509,500m³
FILL	= +709,840m³
ALLOWANCES	
DETAILED EXCAVATION (1,500m³/ha)	= -52,275m³
ACM CAPPING LAYER	= +7,100m³
AIM CAPPING LAYER	= +44,115m³
CTFCR TO BE IMPORTED (NOT INCLUDED IN CUT/FILL)	= +16,000m³
REHABILITATION SURFACE VOLUME ADDITIONS	
TOTAL STOCKPILE VOLUME (NOT INCLUDED IN CUT/FILL)	= 780,000m³
STOCKPILE 30% BULKING FACTOR (30% BULKING FACTOR TO BE ADDED TO FILL REQUIRED)	= +234,000m³
DIFFERENCE	= +433,280m³ (i.e. FILL TO BE IMPORTED)

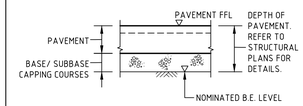
NOTE:
VOLUMES BASED ON 0mm SITE STRIP OVER THE NOMINATED AREA. EARTHWORKS VOLUMES ARE APPROXIMATE ONLY.
NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS, THE REMOVAL OF UNCONTROLLED OR CONTAMINATED MATERIAL OR ANY OTHER UNSPECIFIED EXCAVATION RELATED TO CONSTRUCTION ACTIVITIES. DETAILED EXCAVATION ALLOWANCE IS APPROXIMATE ONLY AND ACCOUNTS FOR STORMWATER/SERVICES TRENCHING AND FOUNDATIONS. THE DETAILED EXCAVATION VOLUMES ARE TO BE CONFIRMED BY THE CONTRACTOR. REFER ANY CONCERNS TO ENGINEER.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- 50.00 - EXISTING CONTOUR (1.00m INTERVAL)
- 70.00 - B.E.L. CONTOUR (MAJOR 1.0m)
- 70.25 - B.E.L. CONTOUR (MINOR 0.25m)
- +50.00 - B.E.L. SPOT LEVEL
- EXTENT OF STOCKPILE TO BE CUT



NOMINATED B.E.L. DETAIL
NTS

ALLOWANCES FOR STRUCTURE

	DEPTH OF PAVEMENT	DEPTH OF CTFCR
PRECINCT 2A		
HARDSTAND	300mm	N/A
WAREHOUSE	300mm	N/A
PRECINCT 2B		
HARDSTAND	300mm	N/A
WAREHOUSE	300mm	200mm
PRECINCT 5		
HARDSTAND	300mm	N/A

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	E
ISSUED FOR INFORMATION	26.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	H
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.26	G

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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

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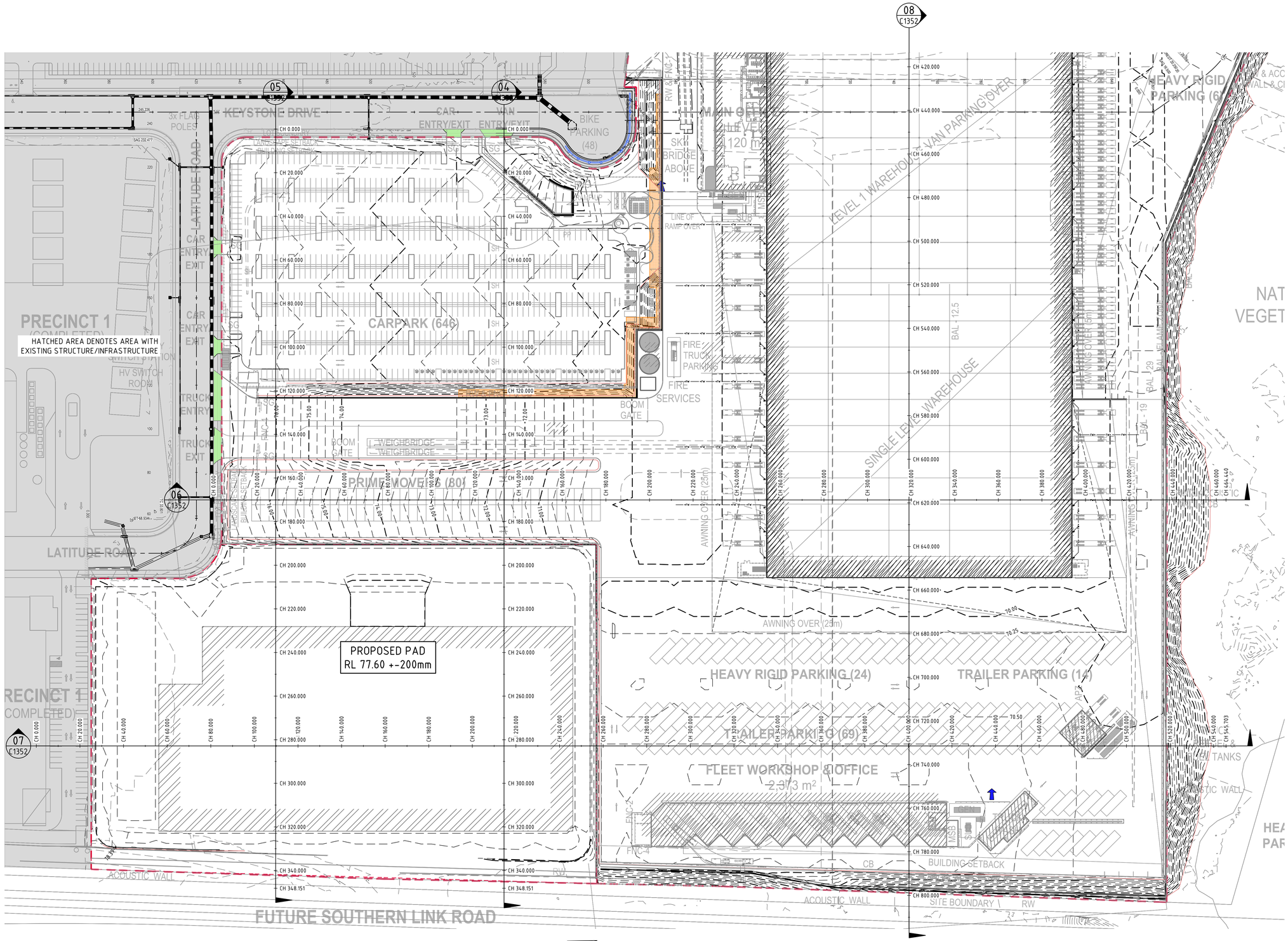
CIVIL & STRUCTURAL ENGINEERS

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1300

DRAWING TITLE
BULK EARTHWORKS KEY PLAN

DRAWING No C09447.74-SSDA1300

ISSUE H

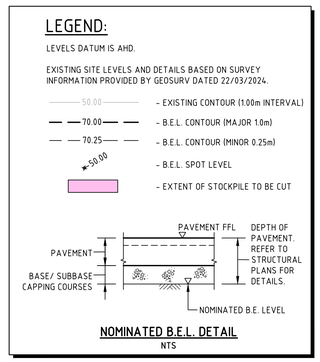


LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- 50.00 – EXISTING CONTOUR (1.00m INTERVAL)
- 70.00 – B.E.L. CONTOUR (MAJOR 1.0m)
- 70.25 – B.E.L. CONTOUR (MINOR 0.25m)
- 50.00 – B.E.L. SPOT LEVEL
- EXTENT OF STOCKPILE TO BE CUT



NOMINATED B.E.L. DETAIL
NTS

BULK EARTHWORKS PLAN - SHEET 1
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1:750 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	B
ISSUED FOR INFORMATION	08.05.26	A

AMENDMENTS	DATE	ISSUE

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PROJECT
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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1301

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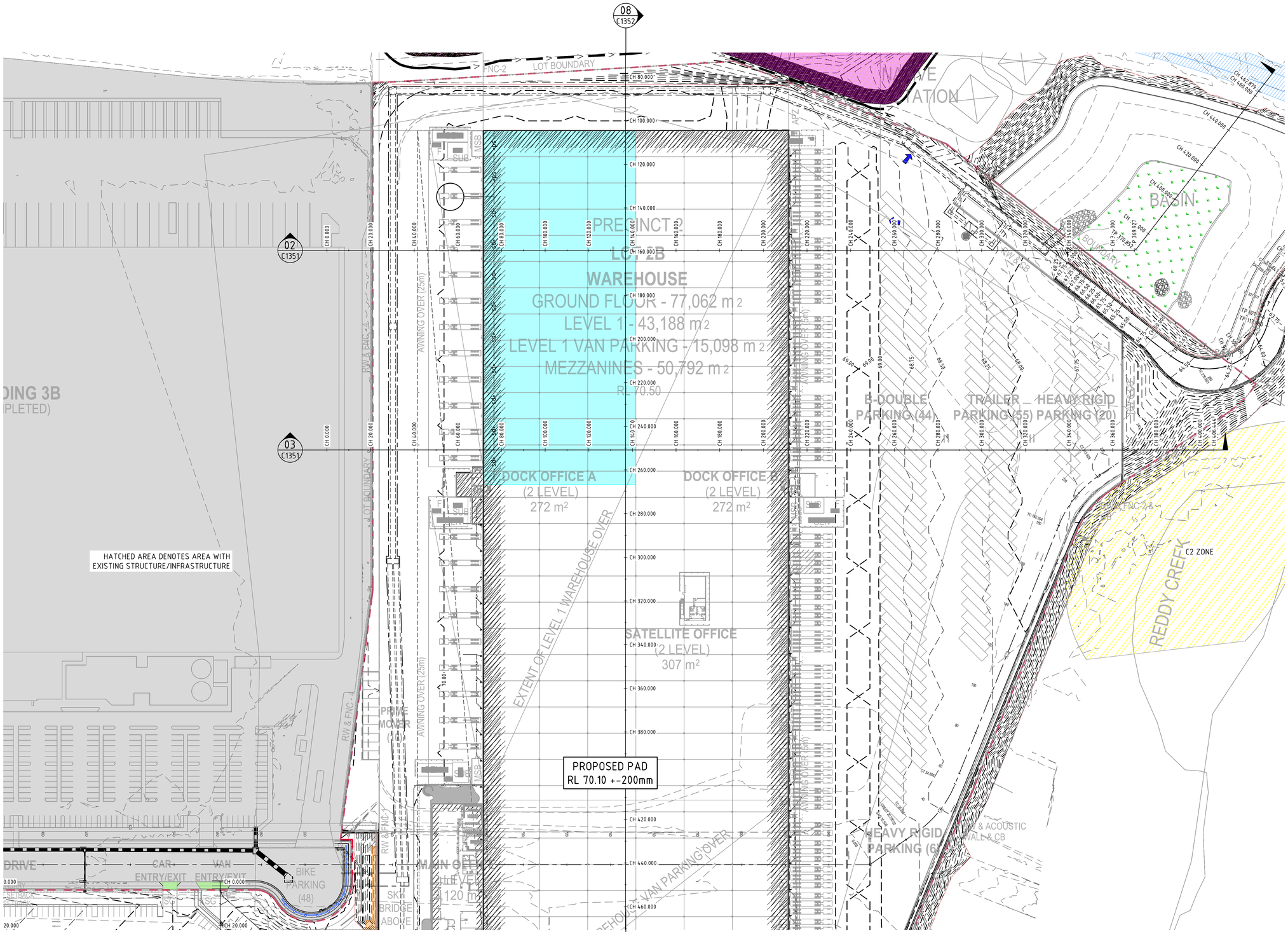
DRAWING TITLE
BULK EARTHWORKS PLAN - SHEET 1

DRAWING No C09447.74-SSDA1301 ISSUE F

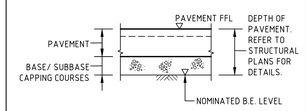


LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- 50.00 — EXISTING CONTOUR (1.00m INTERVAL)
- 70.00 — B.E.L. CONTOUR (MAJOR 1.0m)
- 70.25 — B.E.L. CONTOUR (MINOR 0.25m)
- +50.00 — B.E.L. SPOT LEVEL
- EXTENT OF STOCKPILE TO BE CUT



NOMINATED B.E.L. DETAIL
NTS

BULK EARTHWORKS PLAN - SHEET 2
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1:750 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
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ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.2026	E
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.2026	D
ISSUED FOR INFORMATION	26.05.2026	C
ISSUED FOR INFORMATION	22.05.2026	B
ISSUED FOR INFORMATION	08.05.2026	A

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	G

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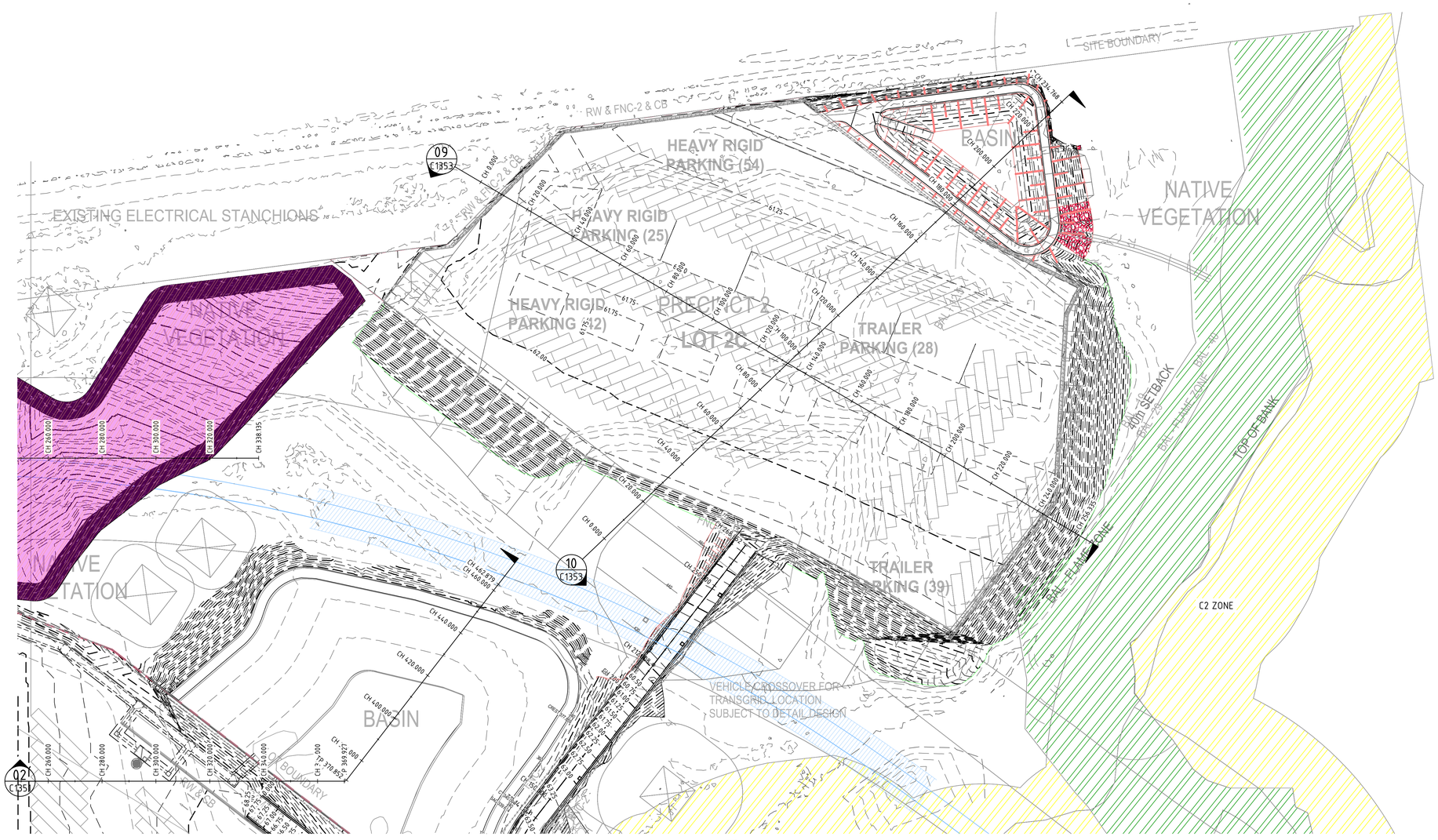
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1302

DRAWING TITLE
BULK EARTHWORKS PLAN - SHEET 2

DRAWING No C09447.74-SSDA1302
ISSUE G


SITE BOUNDARY
RW & FNC-2 & CB
HEAVY RIGID PARKING (54)
HEAVY RIGID PARKING (25)
HEAVY RIGID PARKING (12)
PRECINCT 2 LOT 20
TRAILER PARKING (28)
TRAILER PARKING (39)
BASIN
NATIVE VEGETATION
EXISTING ELECTRICAL STANCHIONS
40m SETBACK
BAL-FLAME ZONE
BAL-40
BAL-29
TOP OF BANK
C2 ZONE
VEHICLE CROSSOVER FOR TRANSGRID LOCATION SUBJECT TO DETAIL DESIGN
09 C1353
10 C1353
02 C1351
CH 0.000
CH 20.000
CH 40.000
CH 60.000
CH 80.000
CH 100.000
CH 120.000
CH 140.000
CH 160.000
CH 180.000
CH 200.000
CH 220.000
CH 233.768
CH 240.000
CH 260.000
CH 280.000
CH 300.000
CH 320.000
CH 338.135
CH 360.000
CH 380.000
CH 400.000
CH 420.000
CH 440.000
CH 462.879
CH 480.000
CH 369.927
CH 370.892
6125
6175
6225
6250
6275
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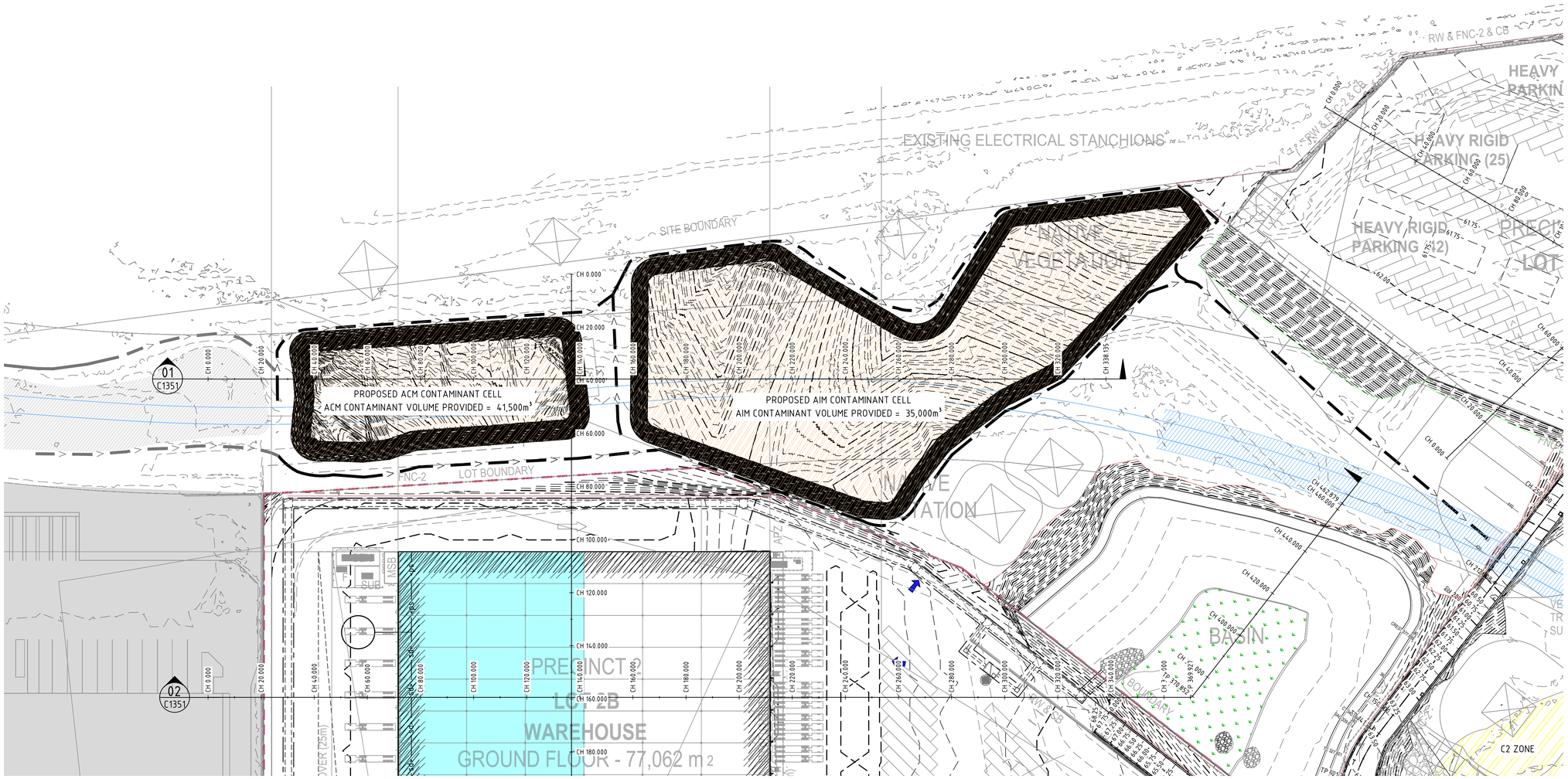
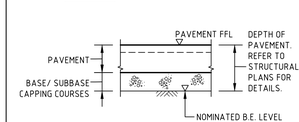


LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- 50.00 – EXISTING CONTOUR (1.00m INTERVAL)
- 70.00 – B.E.L. CONTOUR (MAJOR 1.0m)
- 70.25 – B.E.L. CONTOUR (MINOR 0.25m)
- +50.00 – B.E.L. SPOT LEVEL
- EXTENT OF STOCKPILE TO BE CUT



NOMINATED B.E.L. DETAIL
NTS

BULK EARTHWORKS PLAN - CONTAINMENT CELL
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1:750 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.2026	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.2026	E
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.2026	D
ISSUED FOR INFORMATION	26.05.2026	C
ISSUED FOR INFORMATION	22.05.2026	B
ISSUED FOR INFORMATION	08.05.2026	A
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	G

AMENDMENTS	DATE	ISSUE

ARCHITECT
sba
p: 02 9929 9988 e: info@sba.au w: www.sba.au

CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1304

CONSULT AUSTRALIA

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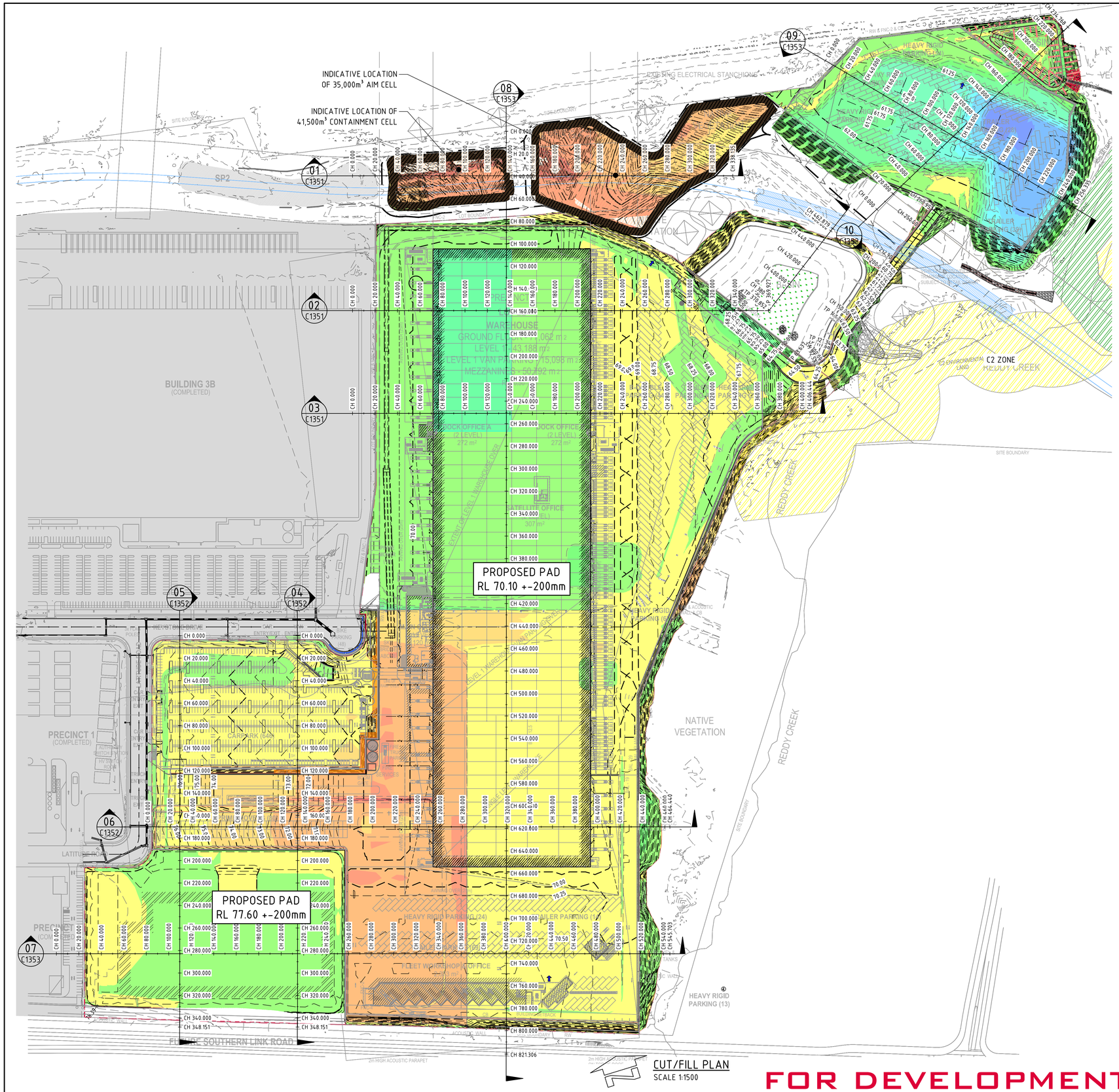
COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE:
BULK EARTHWORKS PLAN
CONTAINMENT CELL

DRAWING No C09447.74-SSDA1304
ISSUE G



DEPTH RANGE				
	No.	FROM DEPTH	TO DEPTH	COLOUR
CUT	1	-15.000	-12.500	
	2	-12.500	-10.000	
	3	-10.000	-7.500	
	4	-7.500	-5.000	
	5	-5.000	-2.500	
	6	-2.500	0.000	
FILL	7	0.000	2.500	
	8	2.500	5.000	
	9	5.000	7.500	
	10	7.500	10.000	
	11	10.000	12.500	
	12	12.500	15.000	
	13	15.000	17.500	
	14	17.500	20.000	
	15	20.000	22.500	

CUT/FILL PLAN
SCALE 1:1500

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	E
ISSUED FOR INFORMATION	26.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	G

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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1310

CONSULT AUSTRALIA

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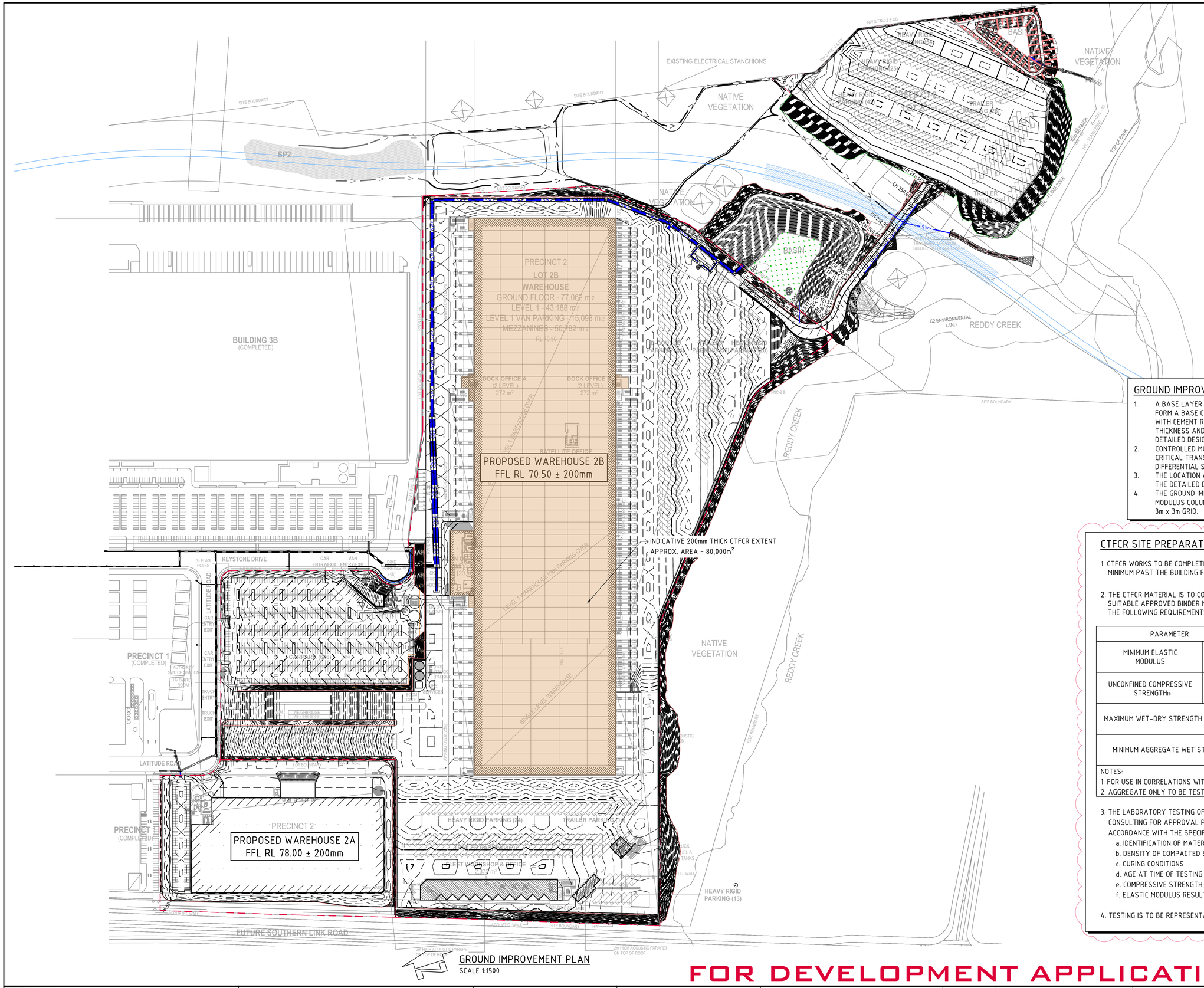
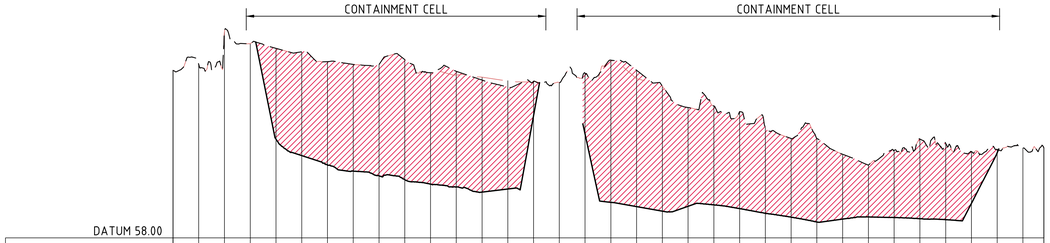
COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

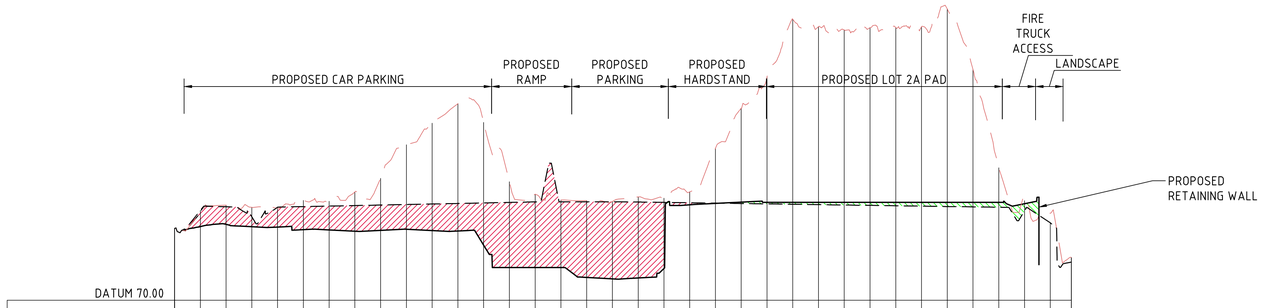
DRAWING TITLE
CUT/FILL PLAN

DRAWING No C09447.74-SSDA1310
ISSUE G


PROPOSED WAREHOUSE 2B
FFL RL 70.50 ± 200mm
PRECINCT 2
LOT 2B
WAREHOUSE
GROUND FLOOR - 77,062 m2
LEVEL 1 - 43,188 m2
LEVEL 1 VAN PARKING - 15,098 m2
MEZZANINES - 50,792 m2
RL 70.50
DOCK OFFICE A (2 LEVEL) 272 m²
DOCK OFFICE B (2 LEVEL) 272 m²
SATELLITE OFFICE
PROPOSED WAREHOUSE 2A
FFL RL 78.00 ± 200mm
PRECINCT 2
LEVEL 1 WAREHOUSE VAN PARKING OVER
SINGLE LEVEL WAREHOUSE
INDICATIVE 200mm THICK CTFCR EXTENT
APPROX. AREA = 80,000m²
BUILDING 3B
(COMPLETED)
PRECINCT 1
(COMPLETED)
PRECINCT 3
(COMPLETED)
KEYSTONE DRIVE
LATITUDE ROAD
FUTURE SOUTHERN LINK ROAD
SITE BOUNDARY
EXISTING ELECTRICAL STANCHIONS
NATIVE VEGETATION
SP2
BASIN
REDDY CREEK
C2 ENVIRONMENTAL LAND
HEAVY RIGID PARKING (24)
TRAILER PARKING (47)
HEAVY RIGID PARKING (13)
TRAILER PARKING (40)
2m HIGH ACOUSTIC PARAPET ON TOP OF ROOF
ACOUSTIC WALL
TOP OF BANK
50m SETBACK
RAV & FNC-2 & C2
RAV & FNC-2 & C3
RAV & FNC-2 & C4
RAV & FNC-2 & C5
RAV & FNC-2 & C6
RAV & FNC-2 & C7
RAV & FNC-2 & C8
RAV & FNC-2 & C9
RAV & FNC-2 &


CONTAINMENT CELL
CONTAINMENT CELL
DATUM 58.00

| | | |

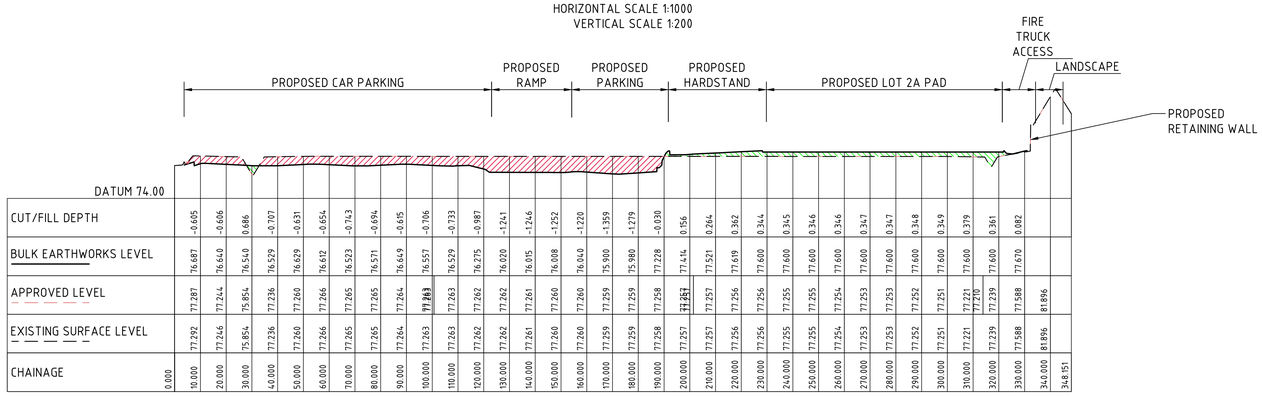


DATUM 70.00

CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	348.151
CUT/FILL DEPTH		-1.256	-1.372	-0.768	-1.546	-1.790	-1.851	-1.991	-1.967	-1.922	-2.063	-2.138	-3.286	-5.860	-5.098	-5.104	-5.873	-5.980	-5.898	-5.132	-0.161	-0.023	0.106	0.117	0.146	0.175	0.204	0.233	0.262	0.291	0.320	0.350	0.379	0.547		
BULK EARTHWORKS LEVEL		75.718	75.892	75.711	75.683	75.483	75.463	75.363	75.428	75.513	75.413	75.378	74.272	72.538	72.538	72.539	71.770	71.663	71.731	72.468	77.410	77.518	77.619	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.494		
APPROVED LEVEL		75.718	75.892	75.711	75.683	75.483	75.463	75.363	75.428	75.513	75.478	75.378	74.272	72.538	72.538	72.539	71.770	71.663	71.731	72.468	77.478	77.518	77.619	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.494		
EXISTING SURFACE LEVEL		76.974	77.264	76.479	77.228	77.273	77.314	77.354	77.395	77.426	77.476	77.517	77.557	77.598	77.636	77.643	77.643	77.643	77.629	77.600	77.571	77.542	77.512	77.483	77.454	77.425	77.396	77.367	77.338	77.309	77.280	77.251	77.221	76.947	76.009	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	348.151

SECTION BEW_S4

HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200

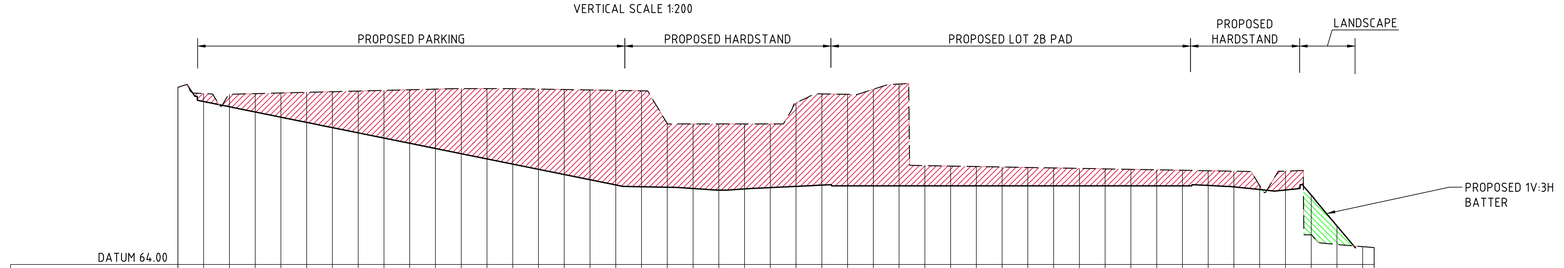


DATUM 74.00

CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	348.151
CUT/FILL DEPTH		-0.605	-0.606	0.686	-0.707	-0.631	-0.654	-0.743	-0.694	-0.615	-0.706	-0.733	-0.987	-1.241	-1.246	-1.252	-1.220	-1.359	-1.279	-0.030	0.156	0.264	0.362	0.344	0.345	0.346	0.346	0.347	0.347	0.348	0.349	0.379	0.361	0.082		
BULK EARTHWORKS LEVEL		76.687	76.640	76.540	76.529	76.629	76.612	76.523	76.571	76.649	76.557	76.529	76.275	76.020	76.015	76.008	76.040	75.900	75.980	77.228	77.414	77.521	77.619	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.600	77.670		
APPROVED LEVEL		77.287	77.244	75.854	77.236	77.260	77.266	77.265	77.265	77.264	77.263	77.263	77.262	77.262	77.261	77.260	77.260	77.259	77.259	77.258	77.257	77.257	77.256	77.256	77.255	77.255	77.254	77.253	77.253	77.252	77.251	77.221	77.239	77.588	81.896	
EXISTING SURFACE LEVEL		77.292	77.246	75.854	77.236	77.260	77.266	77.265	77.265	77.264	77.263	77.263	77.262	77.262	77.261	77.260	77.260	77.259	77.259	77.258	77.257	77.257	77.256	77.256	77.255	77.255	77.254	77.253	77.253	77.252	77.251	77.221	77.239	77.588	81.896	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	348.151

SECTION BEW_S5

HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200



DATUM 64.00

CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000	466.440
CUT/FILL DEPTH		-0.617	-0.970	-1.428	-1.882	-2.336	-2.791	-3.245	-3.700	-4.154	-4.608	-5.051	-5.458	-5.860	-6.230	-6.601	-6.971	-7.342	-7.450	-4.942	-5.015	-5.140	-5.047	-4.945	-6.673	-7.084	-7.113	-7.502	-7.913	-1.579	-1.542	-1.506	-1.470	-1.433	-1.397	-1.361	-1.325	-1.288	-1.252	-1.216	-1.142	-1.219	-0.302	-1.468	3.099	1.443		
BULK EARTHWORKS LEVEL		76.655	76.246	75.839	75.435	75.030	74.626	74.221	73.817	73.412	73.008	72.603	72.199	71.794	71.390	70.986	70.581	70.176	70.035	69.997	69.899	69.775	69.867	69.970	70.063	70.163	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.100	70.137	70.025	69.823	69.785	69.399	66.995		
APPROVED LEVEL		77.271	77.217	77.267	77.317	77.367	77.417	77.466	77.516	77.566	77.616	77.654	77.657	77.654	77.620	77.586	77.552	77.519	77.485	74.939	74.914	74.914	74.914	74.914	76.536	77.247	77.213	77.602	78.013	71.679	71.642	71.606	71.570	71.533	71.497	71.461	71.425	71.388	71.352	71.316	71.280	71.243	71.125	71.254	66.300	65.625 65.552	65.382	
EXISTING SURFACE LEVEL		77.271	77.217	77.267	77.317	77.367	77.417	77.466	77.516	77.566	77.616	77.654	77.657	77.654	77.620	77.586	77.552	77.519	77.485	74.939	74.914	74.914	74.914	74.914	76.536	77.247	77.213	77.602	78.013	71.679	71.642	71.606	71.570	71.533	71.497	71.461	71.425	71.388	71.352	71.316	71.280	71.243	71.125	71.254	66.300	65.552	65.382	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000	466.440

SECTION BEW_S6

HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200

2m 0 5 10 15 20m
SCALE 1:200 AT B1 SIZE SHEET

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPROVAL	01.07.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	E
ISSUED FOR INFORMATION	26.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS DATE ISSUE

ARCHITECT
sba
p: 02 9929 9988 e: info@sba.au w: www.sba.au

CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1352

CONSULT AUSTRALIA

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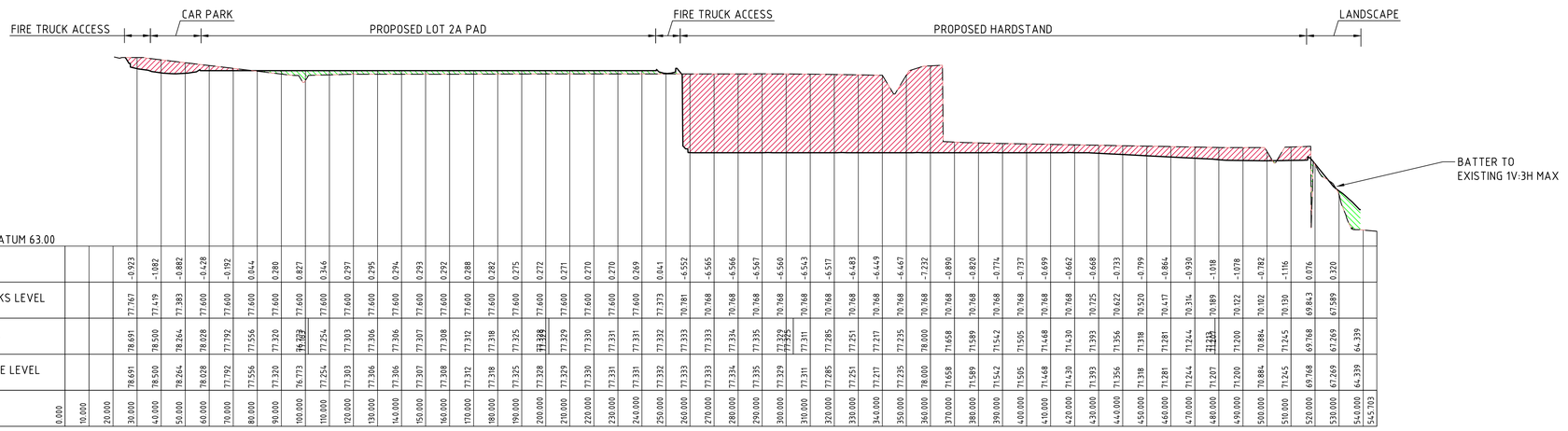
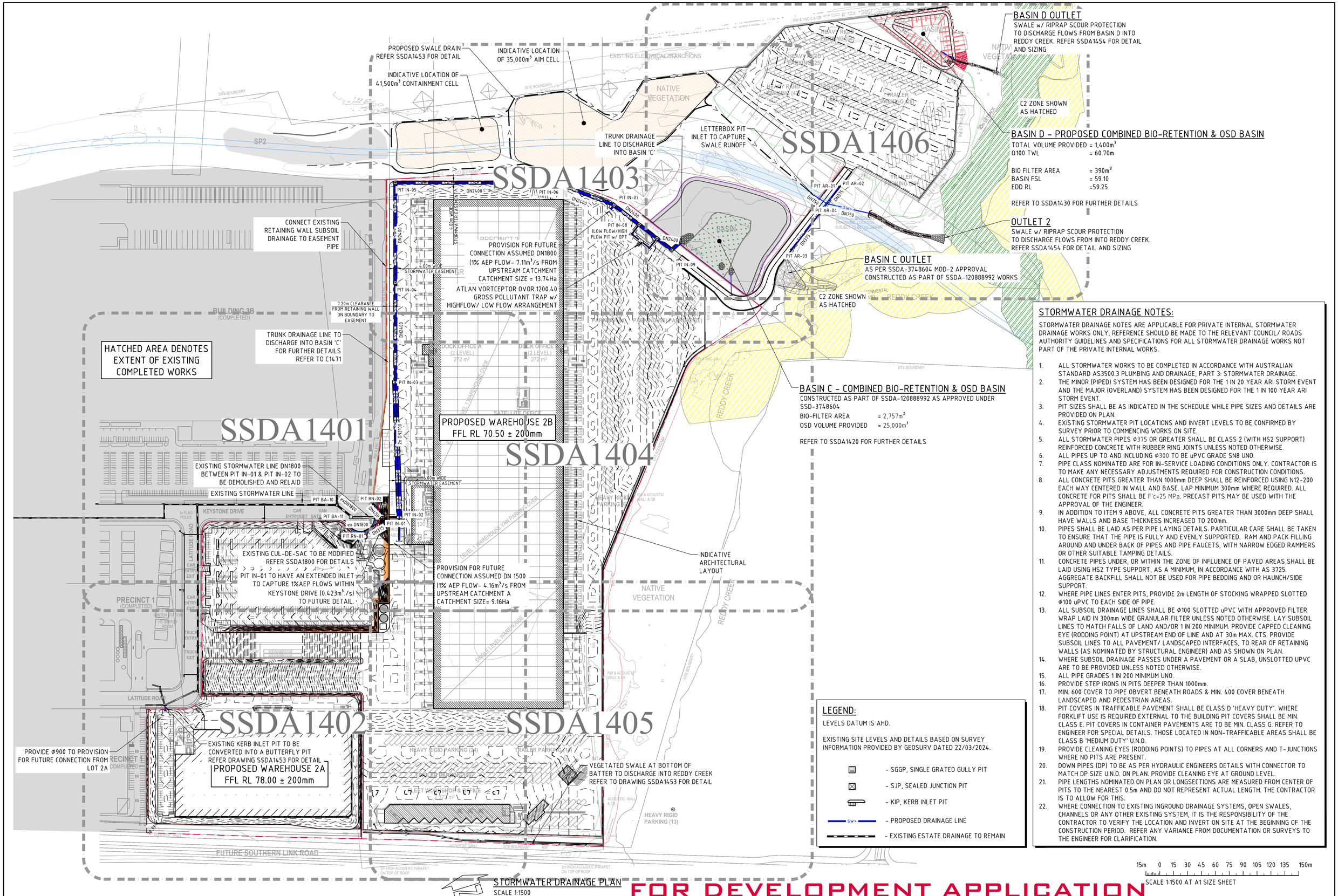
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
BULK EARTHWORK SECTIONS
SHEET 2

DRAWING No C09447.74-SSDA1352 ISSUE F


FIRE TRUCK ACCESS
CAR PARK
PROPOSED LOT 2A PAD
FIRE TRUCK ACCESS
PROPOSED HARDSTAND
LANDSCAPE
BATTER TO
EXISTING 1V:3H MAX

| DATUM 63.00 | | |



STORMWATER DRAINAGE NOTES:

STORMWATER DRAINAGE NOTES ARE APPLICABLE FOR PRIVATE INTERNAL STORMWATER DRAINAGE WORKS ONLY, REFERENCE SHOULD BE MADE TO THE RELEVANT COUNCIL/ ROADS AUTHORITY GUIDELINES AND SPECIFICATIONS FOR ALL STORMWATER DRAINAGE WORKS NOT PART OF THE PRIVATE INTERNAL WORKS.

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
4. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
5. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
6. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
7. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
8. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12–200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
9. IN ADDITION TO ITEM 9 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
10. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
11. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
12. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
13. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
14. WHERE SUBSOIL DRAINAGE PASSES UNDER A PAVEMENT OR A SLAB, UNSLOTTED UPVC ARE TO BE PROVIDED UNLESS NOTED OTHERWISE.
15. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
16. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
17. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
18. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. WHERE FORKLIFT USE IS REQUIRED EXTERNAL TO THE BUILDING PIT COVERS SHALL BE MIN. CLASS E. PIT COVERS IN CONTAINER PAVEMENTS ARE TO BE MIN. CLASS G. REFER TO ENGINEER FOR SPECIAL DETAILS. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
19. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
20. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
21. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.
22. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> – PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE TO REMAIN

15m 0 15 30 45 60 75 90 105 120 135 150m

SCALE 1:1500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN
SCALE 1:1500

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPROVAL	29.05.26	F
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPROVAL	28.05.26	E
ISSUED FOR INFORMATION	26.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPROVAL	01.07.26	H
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPROVAL	29.06.26	G

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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA 1400

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DRAWING TITLE
STORMWATER DRAINAGE PLAN

DRAWING No C09447.74-SSDA1400
ISSUE H

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE TO REMAIN

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

(COMPLETED)

INDICATIVE ARCHITECTURAL LAYOUT

CONNECT EXISTING RETAINING WALL SUBSOIL DRAINAGE TO EASEMENT PIPE

TRUNK DRAINAGE LINE TO DISCHARGE INTO BASIN 'C' FOR FURTHER DETAILS REFER TO C1471

HATCHED AREA DENOTES EXTENT OF EXISTING COMPLETED WORKS

LOT BOUNDARY

RW & FNC - 4

RW & FNC-1

PIT IN-03

2x DN1200

AWNING OVER (25m)

DOCK OFFICE A
(2 LEVEL)
272 m²

SUB

MSB

EXTENT OF LEVEL 1 WAREHOUSE OVER

SATELLITE O
(2 LEVE
m²

PROPOSED WAREHOUSE 2B
FFL RL 70.50 ± 200mm

EXISTING STORMWATER LINE DN1800 BETWEEN PIT IN-01 & PIT IN-02 TO BE DEMOLISHED AND RELAID

EXISTING STORMWATER LINE

PIT BA-10

exDN1800

PIT RN-02

DN1200

PIT BA-11

ex DN1800

PIT IN-01

PIT IN-02

DN1200

PIT RN-01

BIKE PARKING (48)

MAIN OFFICE
2 LEVEL
2,120 m²

SKY BRIDGE ABOVE

3x FLAG POLES

KEYSTONE DRIVE

CAR ENTRY/EXIT

VAN ENTRY/EXIT

LOT BOUNDARY
LANDSCAPE SETBACK
BUILDING SETBACK

LATITUDE ROAD

CAR ENTRY EXIT

CAR ENTRY EXIT

EXISTING CUL-DE-SAC TO BE MODIFIED REFER SSDA1800 FOR DETAILS

PIT IN-01 TO HAVE AN EXTENDED INLET TO CAPTURE 1%AEP FLOWS WITHIN KEYSTONE DRIVE (0.423m³/s) TO FUTURE DETAIL.

PROVISION FOR FUTURE CONNECTION ASSUMED DN 1500 (1% AEP FLOW- 4.16m³/s FROM UPSTREAM CATCHMENT A CATCHMENT SIZE= 9.16Ha

LINE OF RAMP OVER

LEVEL 1 WAREHOUSE VAN PARKING

PRECINCT 1
(COMPLETED)

CARPARK (646)

SG

SH

PP

5m 0 10 20 30 40 50m

SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 1
SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS | DATE | ISSUE

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DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 1

DRAWING No C09447.74-SSDA1401

ISSUE E

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

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- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> – PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE TO REMAIN

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

HATCHED AREA DENOTES EXTENT OF EXISTING COMPLETED WORKS

AUTHORITY SWITCH STATION

HV SWITCH ROOM

CAR ENTRY EXIT

TRUCK ENTRY

TRUCK EXIT

CARPARK (646)

SG

SH

FIRE TRUCK PARKING

FIRE SERVICES

BOOM GATE

WEIGHBRIDGE

WEIGHBRIDGE

FNC-1

PRIME MOVERS (80)

LANDSCAPE SETBACK

BUILDING SETBACK

LOT BOUNDARY

AWNING OVER (25m)

SINGLE LEVEL WAREHOUSE

BAL - 12.5

LATITUDE ROAD

PIT EX-CA-1

RW & FNC-2

EXISTING KERB INLET PIT TO BE CONVERTED INTO A BUTTERFLY PIT REFER TO DRAWING SSDA1453 FOR DETAIL

ø900 STUB LINE FOR FUTURE CONNECTION TO BE CAPPED OFF

INDICATIVE ARCHITECTURAL LAYOUT

PRECINCT 1 (COMPLETED)

PRECINCT 2

LOT 2A

(REFE A 52)

PROPOSED WAREHOUSE 2A
FFL RL 78.00 ± 200mm

RW

75m² WASTE STORAGE

FNC-3

FNC-4

HEAVY RIGID PARKING (24)

TRAILER PARKING (69)

FLEET WORKSHOP & OFFICE
2,373 m²

GEN

MSB

SUB

CB

BUILDING SET

LANDSCAPE SE

ACOUSTIC WALL

SITE BOUNDA

FUTURE SOUTHERN LINK ROAD

2m HIGH ACOUSTIC PARAPET ON TOP OF ROOF

5m 0 10 20 30 40 50m

SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 2
SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS	DATE	ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 2

DRAWING No C09447.74-SSDA1402

ISSUE D

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> – PROPOSED DRAINAGE LINE

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

EXISTING ELECTRICAL STANCHIONS

RW & FNC

HEAVY RIGID PARKING

HEAVY RIGID PARKING (42)

INDICATIVE LOCATION OF 35,000m³ AIM CELL

PROPOSED SWALE DRAIN REFER SSDA1453 FOR DETAIL

INDICATIVE LOCATION OF 41,500m³ CONTAINMENT CELL

SITE BOUNDARY

NATIVE VEGETATION

FNC-2

LOT BOUNDARY

INDICATIVE ARCHITECTURAL LAYOUT

NATIVE VEGETATION

BASIN C - COMBINED BIO-RETENTION & OSD BASIN

DELIVERED AS APPROVED UNDER SSD-3748604
TO BE CONSTRUCTED AS PART OF SSDA-120888992 WORKS
BIO-FILTER AREA = 2,757m²
OSD VOLUME PROVIDED = 25,000m³

REFER TO SSDA1420 FOR FURTHER DETAILS

PIT IN-05

DN2400

PIT IN-06

APZ

CONNECT EXISTING RETAINING WALL SUBSOIL DRAINAGE TO EASEMENT PIPE

PIT IN-07

DN2400

PROVISION FOR FUTURE CONNECTION ASSUMED DN1800 (1% AEP FLOW= 7.11m³/s FROM UPSTREAM CATCHMENT CATCHMENT SIZE = 13.74Ha

PIT IN-08 (LOW FLOW/HIGH FLOW PIT w/ GPT

HATCHED AREA DENOTES EXTENT OF EXISTING COMPLETED WORKS

DN2400

TRUNK DRAINAGE LINE TO DISCHARGE INTO BASIN 'C'

PIT IN-09

ATLAN VORTCEPTOR-OVOR.1200.40 GROSS POLLUTANT TRAP WITH HIGH FLOW/LOW FLOW ARRANGEMENT

RW & CB

RAINBOW BOULEVARD

FNC-2

DN375

PIT AR-03

BASIN C OUTLET AS PER SSDA-3748604 MOD-2 APPROVAL TO BE CONSTRUCTED AS PART OF SSDA-120888992 WORKS

PIT IN-04

RW & FNC - 4

AWNING OVER (25m)

AWNING OVER (25m)

PRECINCT 2

LOT 2B

WAREHOUSE

GROUND FLOOR - 77,062 m 2

LEVEL 1 - 43,188 m 2

LEVEL 1 VAN PARKING - 15,098 m 2

MEZZANINES - 50,792 m 2

RL 70.50

B-DOUBLE PARKING (44)

TRAILER PARKING (55)

HEAVY RIGID PARKING (20)

RW & FNC

C2 ZONE SHOWN AS HATCHED

5m 0 10 20 30 40 50m

SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 3
SCALE 1:500

FOR DEVELOPMENT APPLICATION

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AMENDMENTS DATE ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA 1403

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DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 3

DRAWING No C09447.74-SSDA1403 ISSUE F

DOCK OFFICE A
(2 LEVEL)
272 m²

DOCK OFFICE B
(2 LEVEL)
272 m²

SATELLITE OFFICE
(2 LEVEL)
[illegible] m²

PROPOSED WAREHOUSE 2B
FFL RL 70.50 ± 200mm

B-DOUBLE PARKING (44)

TRAILER PARKING (55)

HEAVY RIGID PARKING (20)

HEAVY RIGID PARKING (6[illegible]

LOT BOUNDARY

EXTENT OF L[illegible] 1 WAREHOUSE OVER

LEVEL 1 WAREHOUSE VAN PARKING OVER

AWNING OVER (25m)

AWNING OVER (15m)

RW & FNC-1

RW & FNC-2 & GB

RW & FNC - 4

RW & ACOUSTIC WALL & CB

MAIN OFFICE
2 LEVEL
SK[illegible],120 m²

RAMP OVER

REDDY CREEK

C2 ZONE SHOWN AS HATCHED

TRUNK DRAINAGE LINE TO DISCHARGE INTO BASIN 'C' FOR FURTHER DETAILS REFER TO C1471

CONNECT EXISTING RETAINING WALL SUBSOIL DRAINAGE TO EASEMENT PIPE

EXISTING STORMWATER LINE DN1800 BETWEEN PIT IN-01 & PIT IN-02 TO BE DEMOLISHED AND RELAID

PIT IN-01 TO HAVE AN EXTENDED INLET TO CAPTURE 1%AEP FLOWS WITHIN KEYSTONE DRIVE (0.423m³/s) TO FUTURE DETAIL.

PROVISION FOR FUTURE CONNECTION ASSUMED DN 1500 (1% AEP FLOW- 4.16m³/s FROM UPSTREAM CATCHMENT A CATCHMENT SIZE= 9.16Ha

PROPOSED CUL-DE-SAC MODIFICATION. REFER SSDA1800 FOR DETAIL

INDICATIVE ARCHITECTURAL LAYOUT

PIT IN-01

PIT IN-02

PIT IN-03

2x DN2100

DN2400

DN1500

DN1350

DN1050

BAL - 40

BAL - 12.5

NATIVE VEGETATION

APZ ZONE

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE TO REMAIN

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

5m 0 10 20 30 40 50m

SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 4
SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS DATE ISSUE

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DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 4

DRAWING No C09447.74-SSDA1404 ISSUE E

NATIVE VEGETATION

REDDY CREEK

SITE BOUNDARY

SINGLE LEVEL WAREHOUSE

BAL - 12.5

AWNING OVER (5m)

BAL - 29

BAL - FLAME ZONE

BAL - 19

AWNING OVER (25m)

FIRE TRUCK PARKING

FIRE SERVICES

BOOM GATE

AWNING OVER (25m)

AWNING OVER (25m)

RW & ACOUSTIC WALL & CB

INDICATIVE ARCHITECTURAL LAYOUT

HEAVY RIGID PARKING (24)

TRAILER PARKING (14)

APZ

TRAILER PARKING (69)

FLEET WORKSHOP & OFFICE
2,373 m²

TRUCK REFUEL & FUEL TANKS

ACOUSTIC WALL & CB

HEAVY RIGID PARKING (13)

VEGETATED SWALE AT BOTTOM OF BATTER TO DISCHARGE TO REDDY CREEK
REFER SSDA1453 FOR DETAIL

FNC-2

FNC-4

GEN

MSB

SUB

TRUCK WASH

CB

BUILDING SETBACK

LANDSCAPE SETBACK

ACOUSTIC WALL

SITE BOUNDARY

RW

2m HIGH ACOUSTIC PARAPET ON TOP OF ROOF

2m HIGH ACOUSTIC PARAPET ON TOP OF ROOF

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> – PROPOSED DRAINAGE LINE

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

5m 0 10 20 30 40 50m

SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 5

SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS DATE ISSUE

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CLIENT
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PROJECT
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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

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DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 5

DRAWING No C09447.74-SSDA1405 ISSUE D

BASIN D – PROPOSED COMBINED BIO-RETENTION & OSD BASIN

TOTAL VOLUME PROVIDED = 1,400m³
Q100 TWL = 60.70m

BIO FILTER AREA = 390m²
BASIN FSL = 59.10
EDD RL =59.25

REFER TO SSDA1430 FOR FURTHER DETAILS

BASIN D OUTLET

SWALE w/ RIPRAP SCOUR PROTECTION TO DISCHARGE FLOWS FROM BASIN D INTO REDDY CREEK. REFER SSDA1454 FOR DETAIL AND SIZING

PROPOSED SWALE DRAIN
REFER SSDA1453 FOR DETAIL

BASIN C – COMBINED BIO-RETENTION & OSD BASIN

DELIVERED AS APPROVED UNDER SSD-3748604
TO BE CONSTRUCTED AS PART OF SSDA-120888992 WORKS

BIO-FILTER AREA = 2,757m²
OSD VOLUME PROVIDED = 25,000m³

REFER TO SSDA1420 FOR FURTHER DETAILS

HATCHED AREA DENOTES EXTENT OF EXISTING COMPLETED WORKS

1200x1200 LETTERBOX PIT TO CAPTURE SWALE RUNOFF

Φ750 PIPE CROSSING BELOW ACCESS ROAD

VEHICLE CROSSOVER PIT TRANSGRID, LOCATION SUBJECT TO DETAIL DESIGN

OUTLET 1

SWALE w/ RIPRAP SCOUR PROTECTION TO DISCHARGE FLOWS FROM INTO REDDY CREEK. REFER SSDA1454 FOR DETAIL AND SIZING

BASIN C OUTLET AS PER SSDA-3748604 MOD-2 APPROVAL TO BE CONSTRUCTED AS PART OF SSDA-120888992 WORKS

TRUNK DRAINAGE LINE TO DISCHARGE INTO BASIN 'C'

C2 ZONE SHOWN AS HATCHED

C2 ZONE SHOWN AS HATCHED

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW> – PROPOSED DRAINAGE LINE

STORMWATER DRAINAGE NOTES:

1. REFER TO DRAWING SSDA1400 FOR STORMWATER DRAINAGE NOTES

5m 0 10 20 30 40 50m
SCALE 1:500 AT A1 SIZE SHEET

STORMWATER DRAINAGE PLAN – SHEET 6

SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS	DATE	ISSUE

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PROJECT
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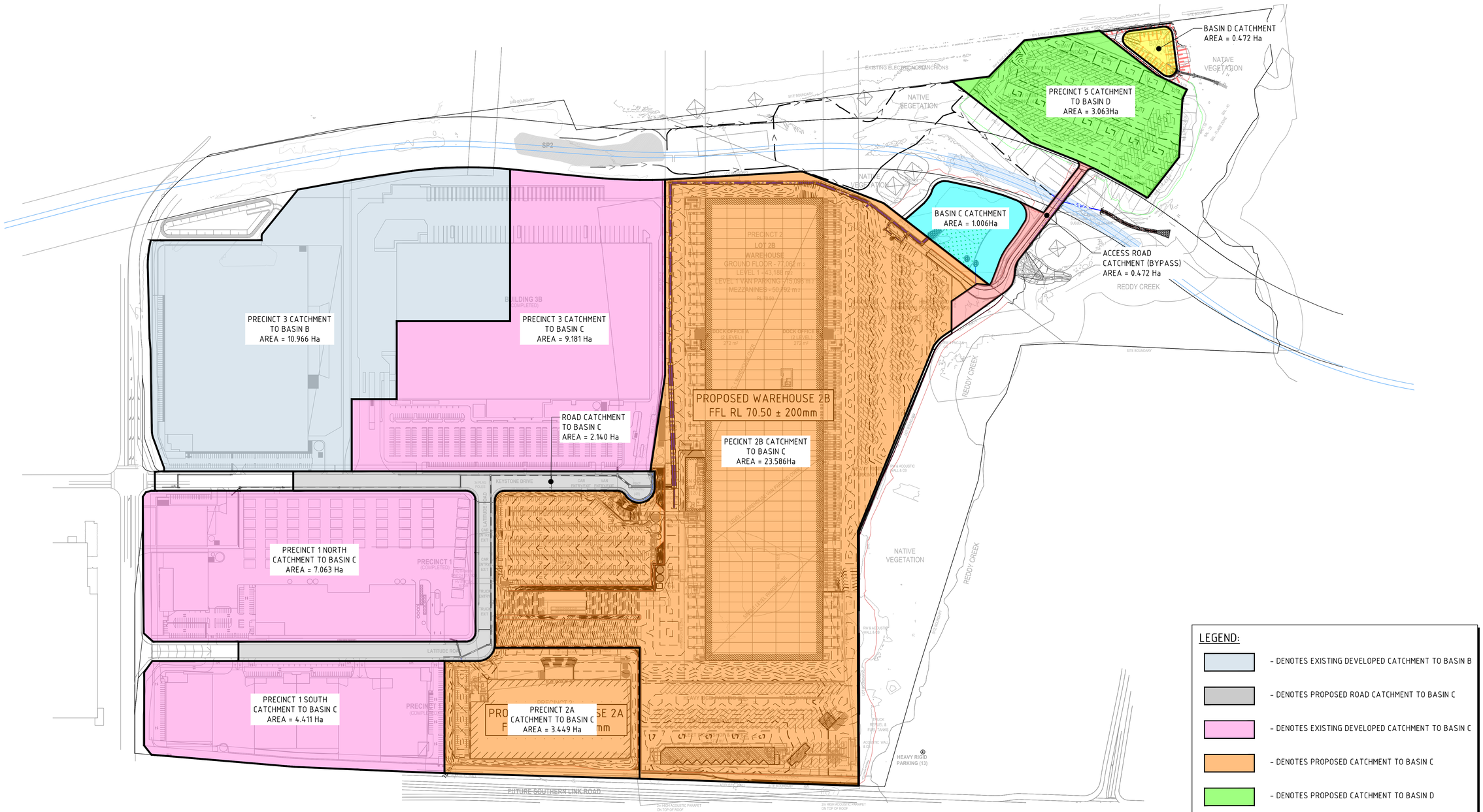
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1406

DRAWING TITLE
STORMWATER DRAINAGE PLAN – SHEET 6

DRAWING No C09447.74-SSDA1406

ISSUE F



LEGEND:

- DENOTES EXISTING DEVELOPED CATCHMENT TO BASIN B
- DENOTES PROPOSED ROAD CATCHMENT TO BASIN C
- DENOTES EXISTING DEVELOPED CATCHMENT TO BASIN C
- DENOTES PROPOSED CATCHMENT TO BASIN C
- DENOTES PROPOSED CATCHMENT TO BASIN D
- DENOTES BASIN C CATCHMENT
- DENOTES BASIN D CATCHMENT
- DENOTES ACCESS ROAD CATCHMENT TO BYPASS

15m 0 15 30 45 60 75 90 105 120 135 150m

SCALE 1:1500 AT A1 SIZE SHEET

STORMWATER QUANTITY CATCHMENT PLAN

SCALE 1:2000

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.05.26	C
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	B
ISSUED FOR INFORMATION	27.05.26	A

AMENDMENTS	DATE	ISSUE

ARCHITECT
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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA 1410

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COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER QUANTITY CATCHMENT PLAN

DRAWING No C09447.74-SSDA1410 ISSUE D

TRUNK DRAINAGE LINE TO
DISCHARGE INTO BASIN 'C'

BIO-RETENTION BASIN C
TO BE DELIVERED AS PART OF WORKS AS
PER SSDA-3748604 MOD-2 APPROVAL

1%AEP TWL - 64.27
TOTAL VOLUME REQUIRED: 21,358m³
VOLUME PROVIDED: 25,000m³
EXTENDED DETENTION RL 60.40
BIO FILTER MEDIA RL 60.10
BIO-FILTER AREA = 2757m²

DN2400 HEADWALL w/
RIPRAP SCOUR PROTECTION

GROSS POLLUTANT TRAP w/
HIGHFLOW/ LOW FLOW ARRANGEMENT

DN450 HEADWALL w/
RIPRAP SCOUR PROTECTION

PROVISION FOR FUTURE
CONNECTION ASSUMED DN450

C2 ZONE SHOWN
AS HATCHED

DN2400
DN450
SWx
RW & C
LOT BOUNDARY
RAMP UP
1:20
ENC-2
VEH
TRA
SUB

BASIN C PLAN
SCALE 1:250

2m 0 5 10 15 20 25m
SCALE 1:250 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	F
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ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
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AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA 1420

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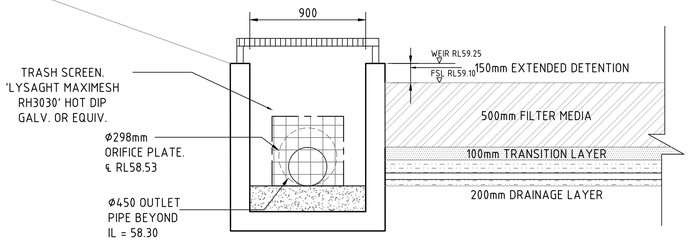
DRAWING TITLE
STORMWATER BIORETENTION/DETENTION
BASIN C - PLAN

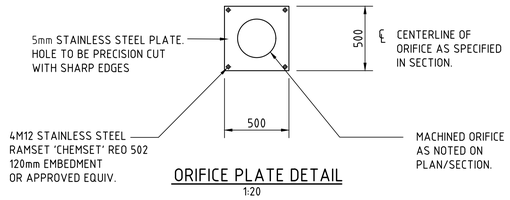
DRAWING No C09447.74-SSDA1420
ISSUE F

EMERGENCY OVERFLOW WEIR RL 60.75

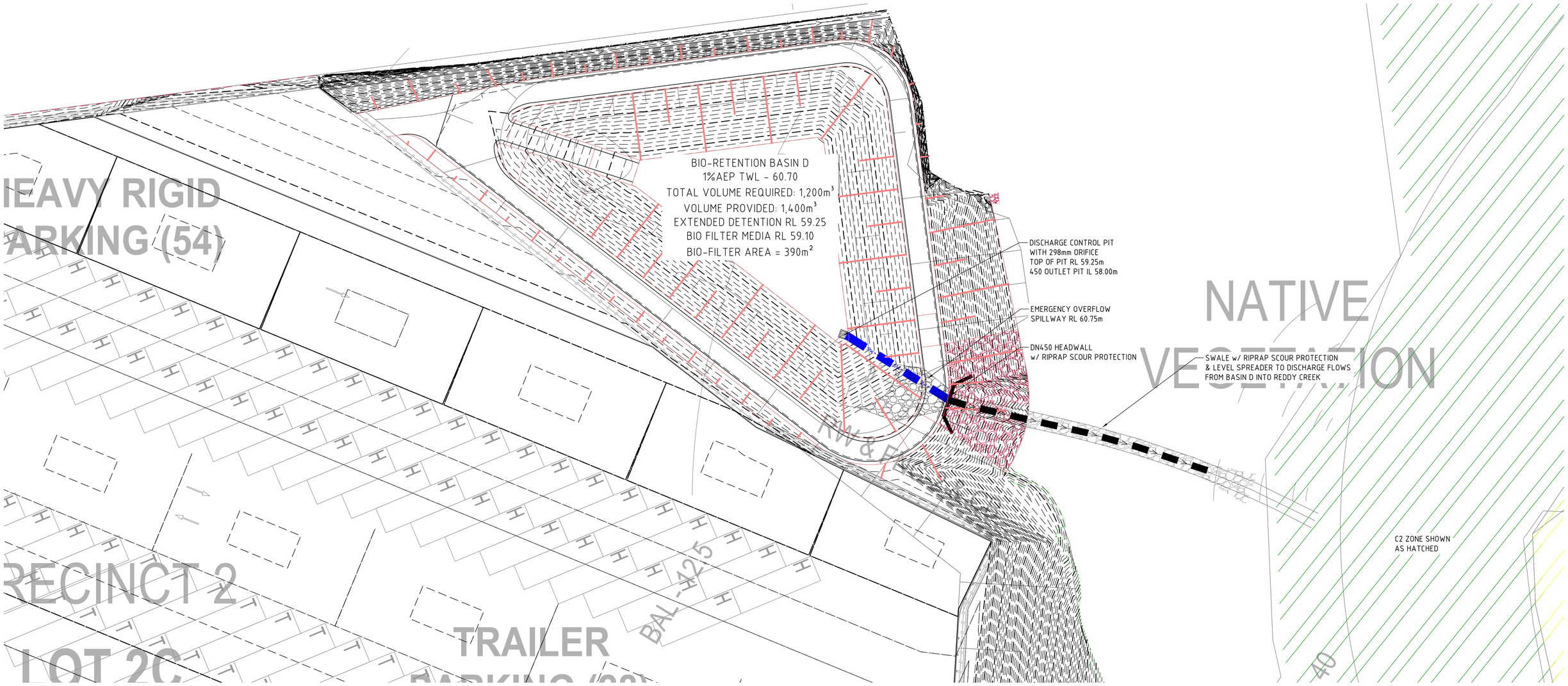
1% AEP TWL 60.74

DCP DETAIL 1:20 (X)





ORIFICE PLATE DETAIL
1:20



BASIN D PLAN
SCALE 1:250

2m 0 5 10 15 20 25m
SCALE 1:250 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	F
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ISSUED FOR INFORMATION	22.05.26	C
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ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS DATE ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1430

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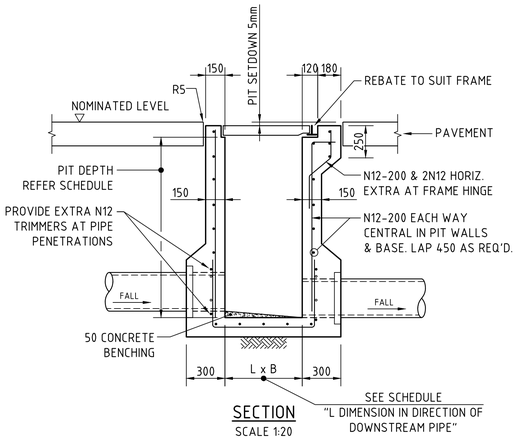
CIVIL & STRUCTURAL ENGINEERS

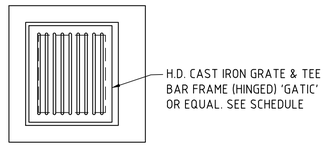
DRAWING TITLE
STORMWATER BIORETENTION/DETENTION
BASIN D - PLAN

DRAWING No C09447.74-SSDA1430 ISSUE F

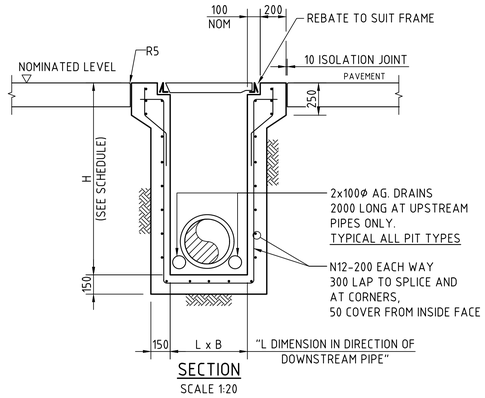


SECTION
SCALE 1:20

SINGLE GRATED GULLY PIT - SGGP

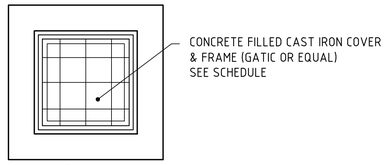


PLAN
SCALE 1:20

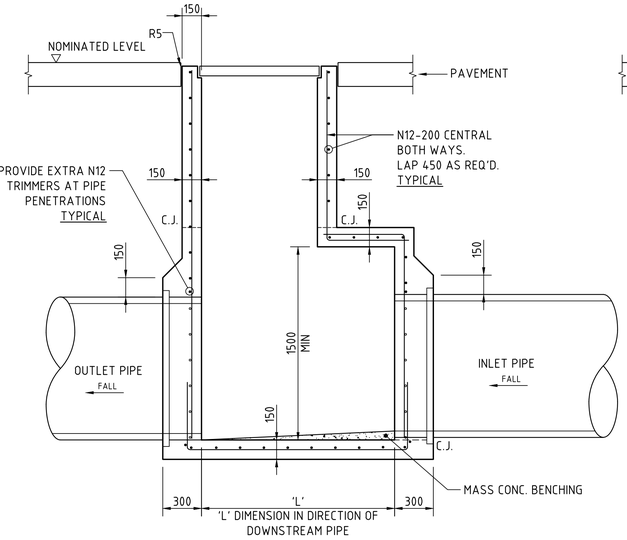


SECTION
SCALE 1:20

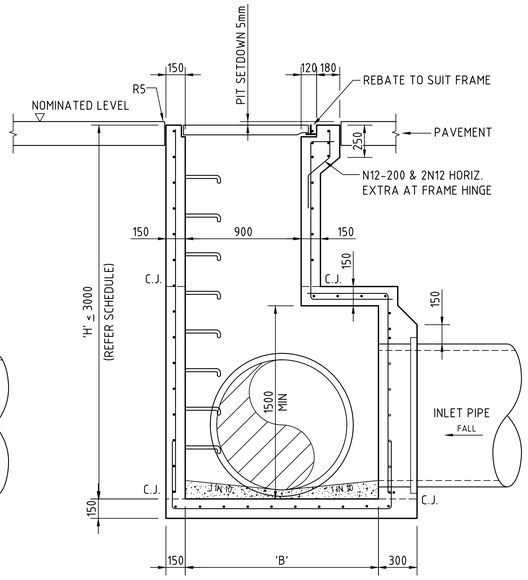
SEALED JUNCTION PIT - SJP



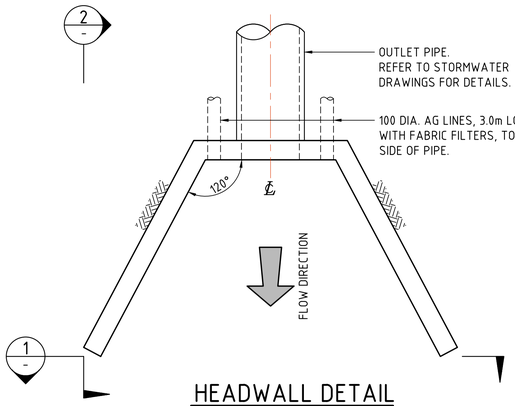
PLAN
SCALE 1:20



LONG SECTION
SCALE 1:20

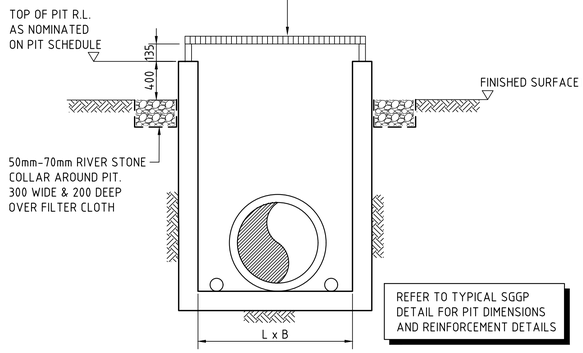


CROSS SECTION
SCALE 1:20



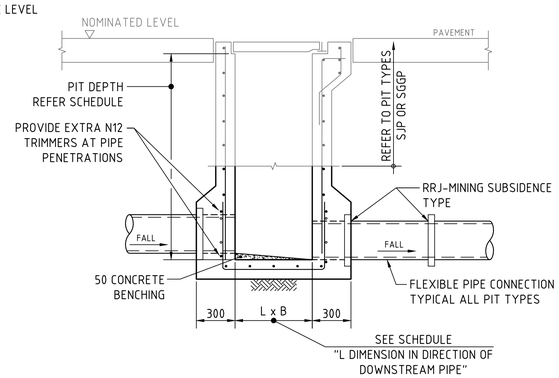
HEADWALL DETAIL

SCALE 1:20



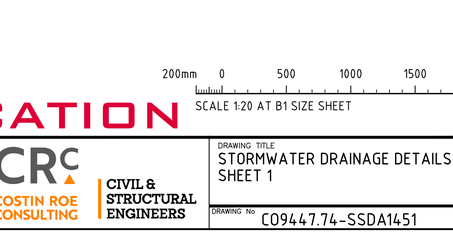
LETTERBOX PIT DETAIL

SCALE 1:20



SECTION
SCALE 1:20

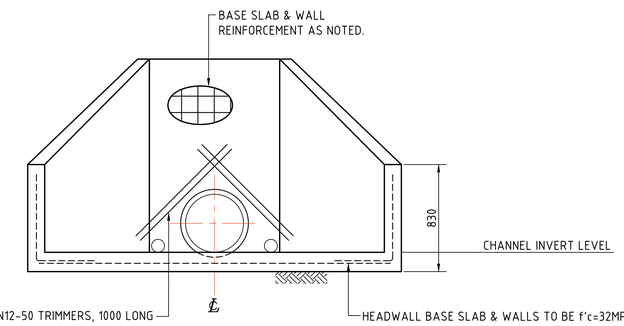
FLEXIBLE PIPE CONNECTION TYPICAL ALL PIT TYPES



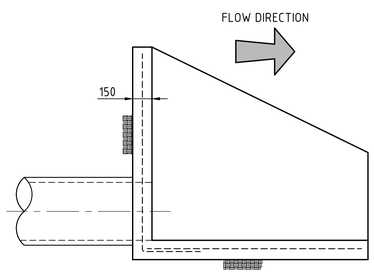
PLAN
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP

SUBSOIL NOT SHOWN
FOR CLARITY



SECTION 1:20 1 -



SECTION 1:20 2 -

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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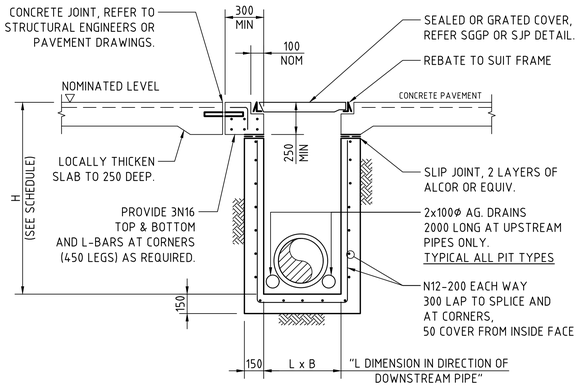
CIVIL & STRUCTURAL ENGINEERS

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1451

DRAWING TITLE
STORMWATER DRAINAGE DETAILS - SHEET 1

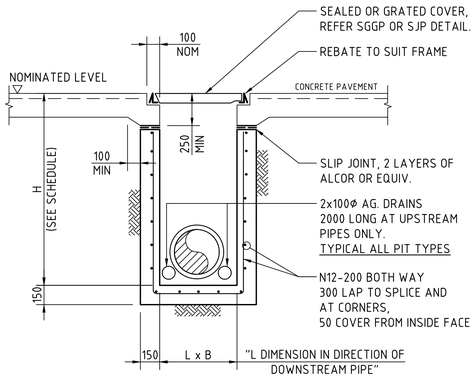
DRAWING No C09447.74-SSDA1451 ISSUE C



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

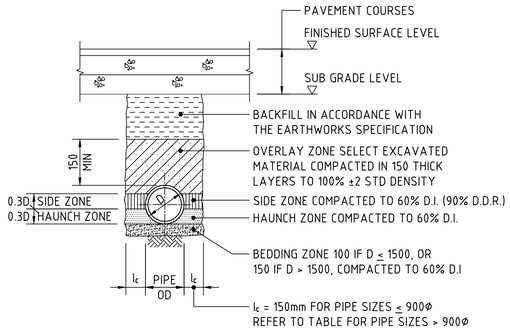
(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

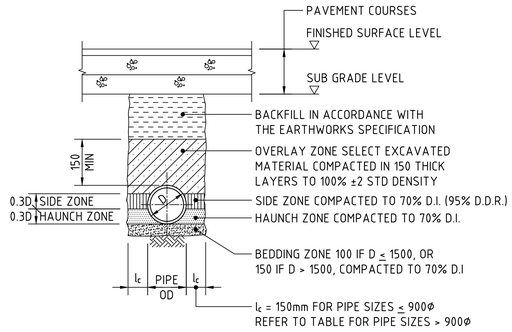
(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

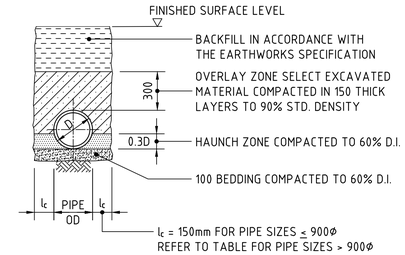
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	lc (mm)
≤ 900ø	150
1050ø	175
1200ø	200
1350ø	225
1500ø	250
1650ø	275
1800ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800ø	



TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

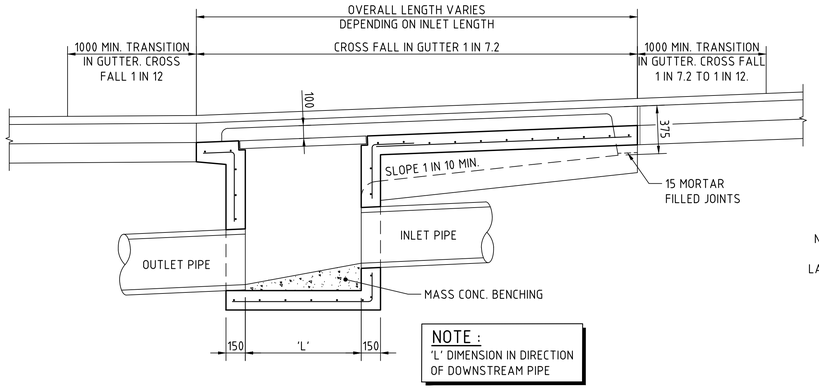
SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	



TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS
SCALE 1:20

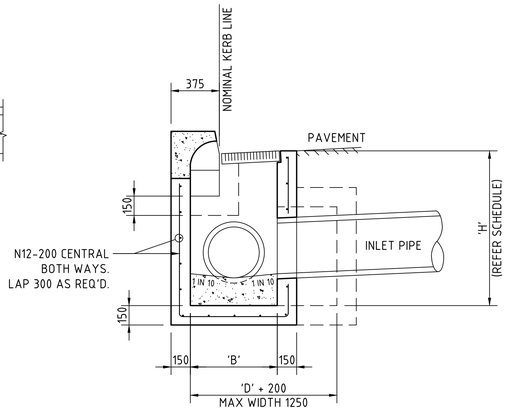
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	lc (mm)
≤ 900ø	150
1050ø	175
1200ø	200
1350ø	225
1500ø	250
1650ø	275
1800ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800ø	

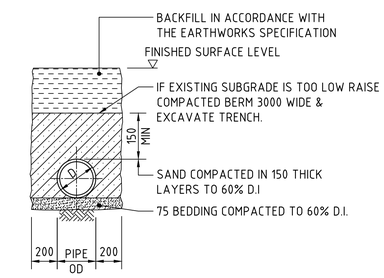


NOTE :
'L' DIMENSION IN DIRECTION OF DOWNSTREAM PIPE

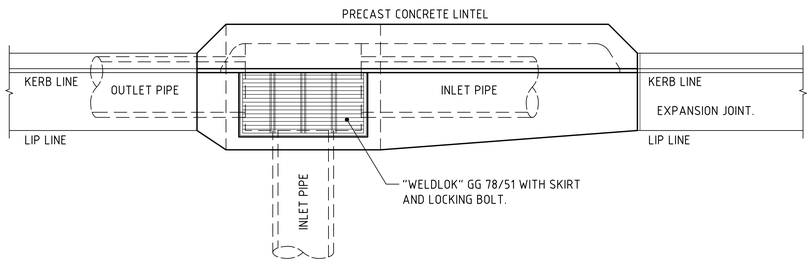
LONG SECTION
SCALE 1:20



CROSS SECTION
SCALE 1:20



SUPPORT TO uPVC PIPES
SCALE 1:20



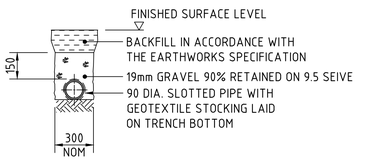
PLAN
SCALE 1:20

KERB INLET PIT - KIP

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
PIT	80	20	GP	NIL	32

NOTE :

1. WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
2. SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
3. ALL REINFORCING TO HAVE 30 MIN. CLAER CONCRETE COVER.
4. FOR PITS DEEPER THAN 1000mm CLIMB RAILS SHALL BE PROVIDED.



SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

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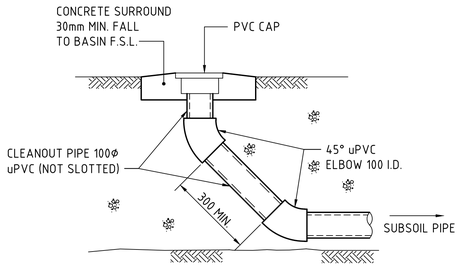
CIVIL & STRUCTURAL ENGINEERS

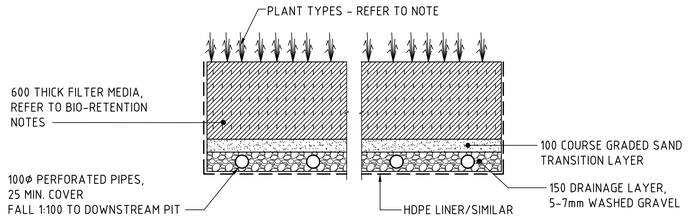
DRAWING TITLE
STORMWATER DRAINAGE DETAILS - SHEET 2

DRAWING No C09447.74-SSDA1452 ISSUE C



BIORETENTION CLEANOUT EYE ELEVATION

SCALE 1:20
DENOTED C.E. ON PLAN



TYPICAL BIO-RETENTION DETAIL

SCALE 1:20

BIO-RETENTION NOTES :

FILTER MEDIA TO BE LOAMY SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:

CLAY & SILT (<0.05mm)	<3%
VERY FINE SAND (0.05-0.15mm)	5-30%
FINE SAND (0.15-0.25mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm)	40-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.4mm)	<3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:

a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5%(W/W).
b. PH TO BE BETWEEN 5.5 AND 7.5
c. PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

PLANTS TO BE IN ACCORDANCE WITH LIVERPOOL CITY COUNCIL REQUIREMENTS.

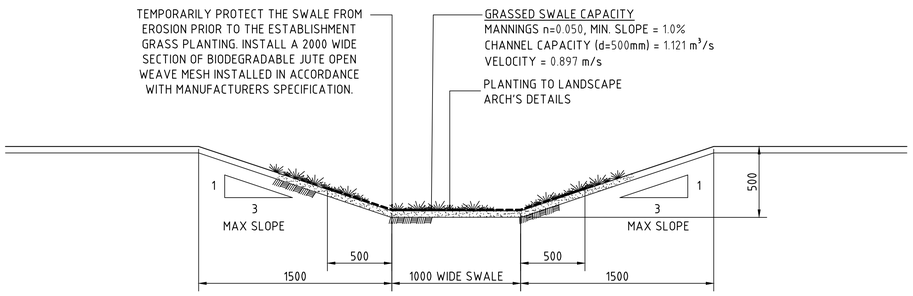
PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF ROADWORKS, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL

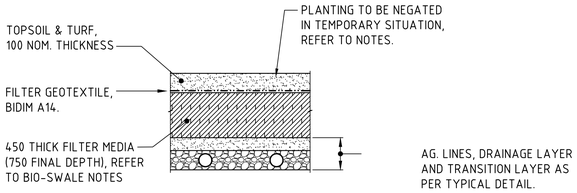
PRIOR TO PLANTING, THE TOP 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

TABLE: RECIPE FOR AMELIORATING TOP 100mm OF BIORETENTION FILTER MEDIA

CONSTITUENT	QUANTITY (kg/m2 OF FILTER AREA)
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK (16.4.14)	4
LIME	20



GRASSED SWALE DETAIL

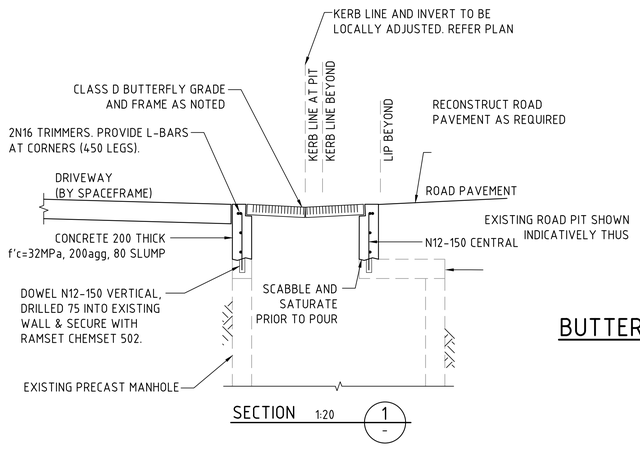


TEMPORARY BIO-RETENTION PROTECTION DETAIL

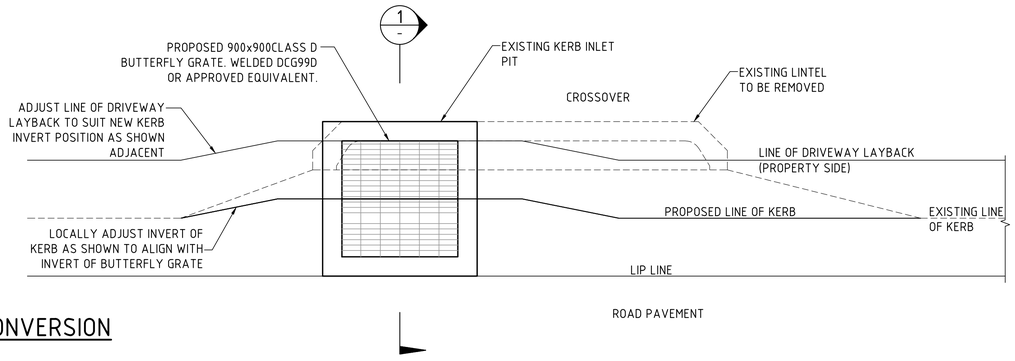
SCALE 1:20
TEMPORARY CONSTRUCTION REQUIREMENT DETAIL -
REFER TO NOTES FOR IMPLEMENTATION PERIODS.

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
O-F WEIR	80	20	GP	NIL	32

BIO-RETENTION BASIN DETAILS



BUTTERFLY GRATE CONVERSION



200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	C
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	B
ISSUED FOR INFORMATION	21.05.26	A

AMENDMENTS	DATE	ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1453

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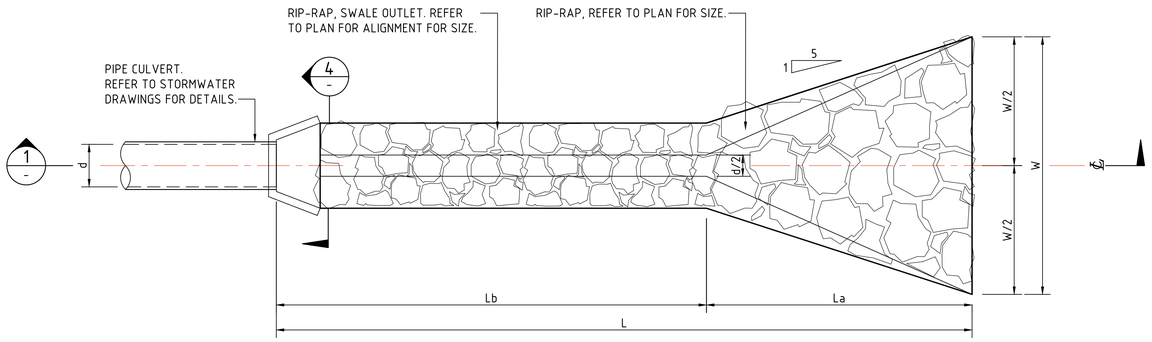
DRAWING TITLE
STORMWATER DRAINAGE DETAILS - SHEET 3

DRAWING No C09447.74-SSDA1453
ISSUE C

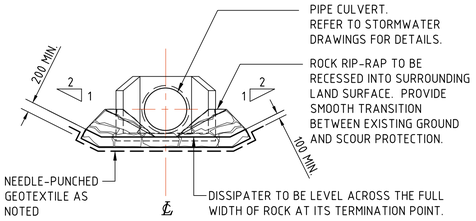
DISSIPATER NOTES :

1. ALIGN STRUCTURE EVENLY WITH BANK.
2. LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
3. PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
4. DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
5. SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
6. RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (d50= 150mm MINIMUM) AS NOTED ON THE PLAN. RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1.6x AVERAGE ROCK SIZE (d50).
7. RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOFAB A44.
8. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
9. GAPS IN RIP-RAP TO BE HAND PACKED WITH TOPSOIL & PLANTED WITH NATIVE SEDGES & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP BOULDERS.
10. ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERFALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
11. ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.



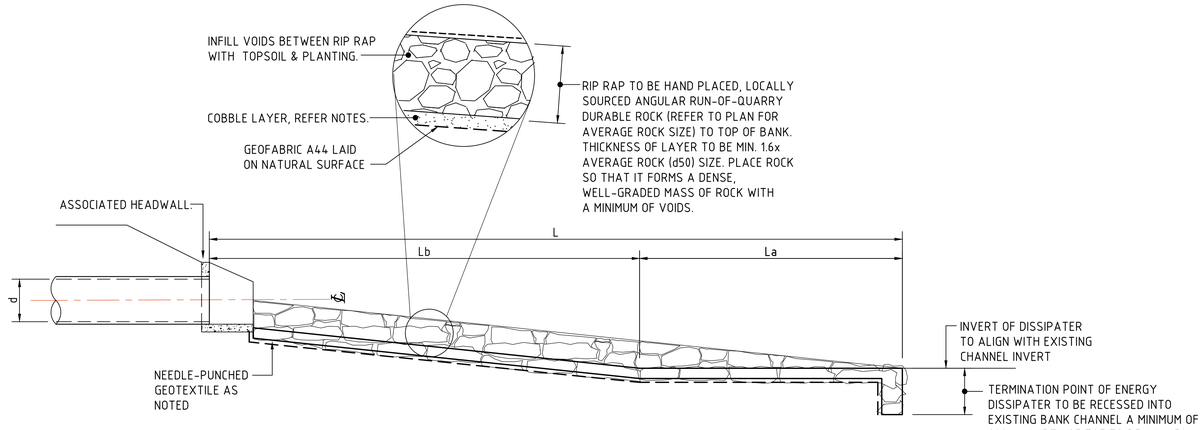
STORMWATER OUTLET DISSIPATER WITH HEADWALL AND RIP RAP SWALE

SCALE 1:50



SECTION 1:50 (4)

DISSIPATER SCHEDULE					
DISCHARGE POINT	d	L	La	Lb	W
BASIN D OUTLET	450	46.5	6.5	40	5
OUTLET 2	900	87	15	72	10



SECTION 1:50 (3)

500mm 0 1 2 3 4 5m

SCALE 1:50 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
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AMENDMENTS	DATE	ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1454

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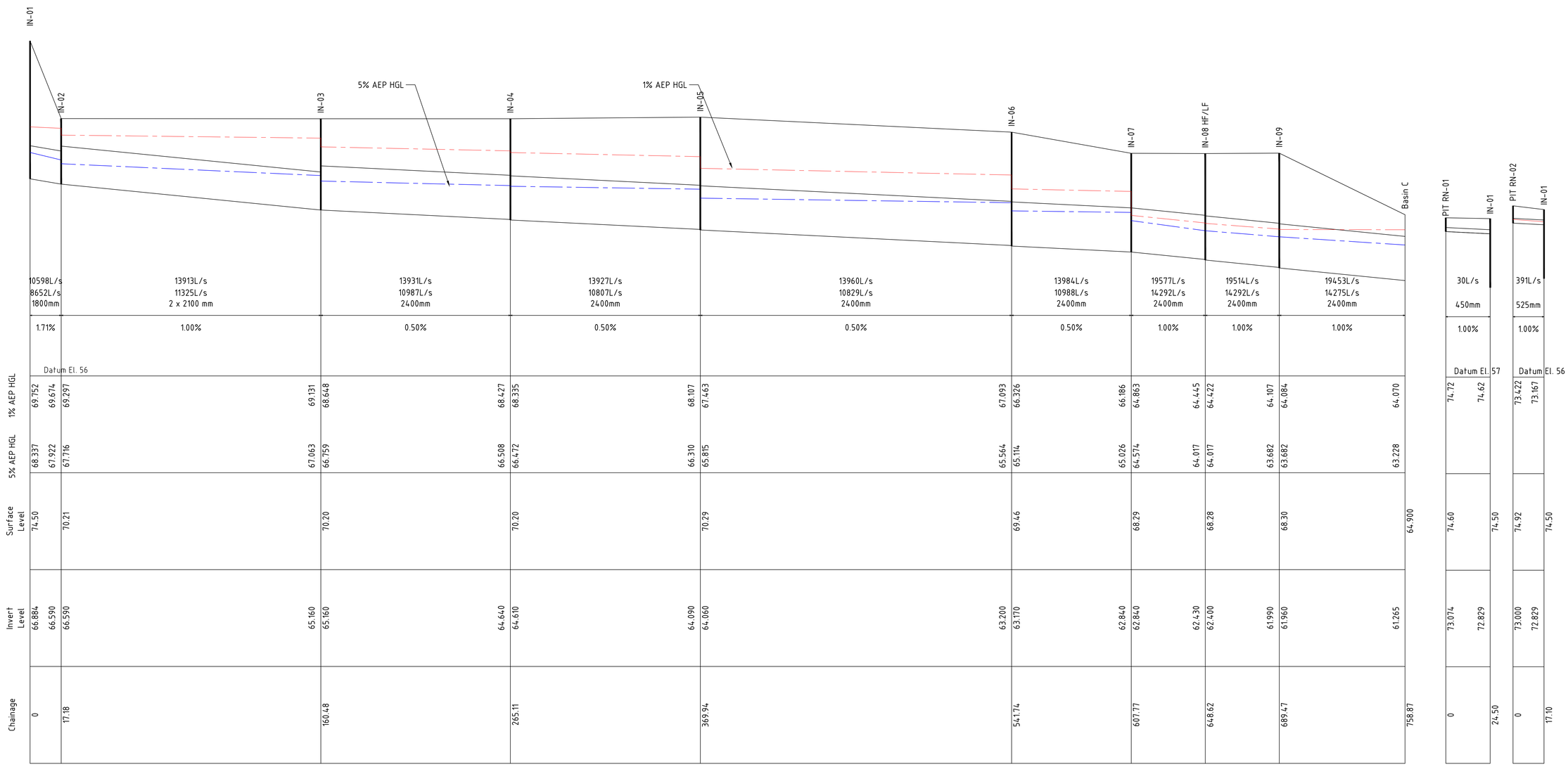
DRAWING TITLE
STORMWATER DRAINAGE DETAILS - SHEET 4

DRAWING No C09447.74-SSDA1454

ISSUE C



STORMWATER LONGSECTIONS

SCALE 1:1000 HORIZONTAL
SCALE 1:100 VERTICAL

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A1 SIZE SHEET

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	E
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS DATE ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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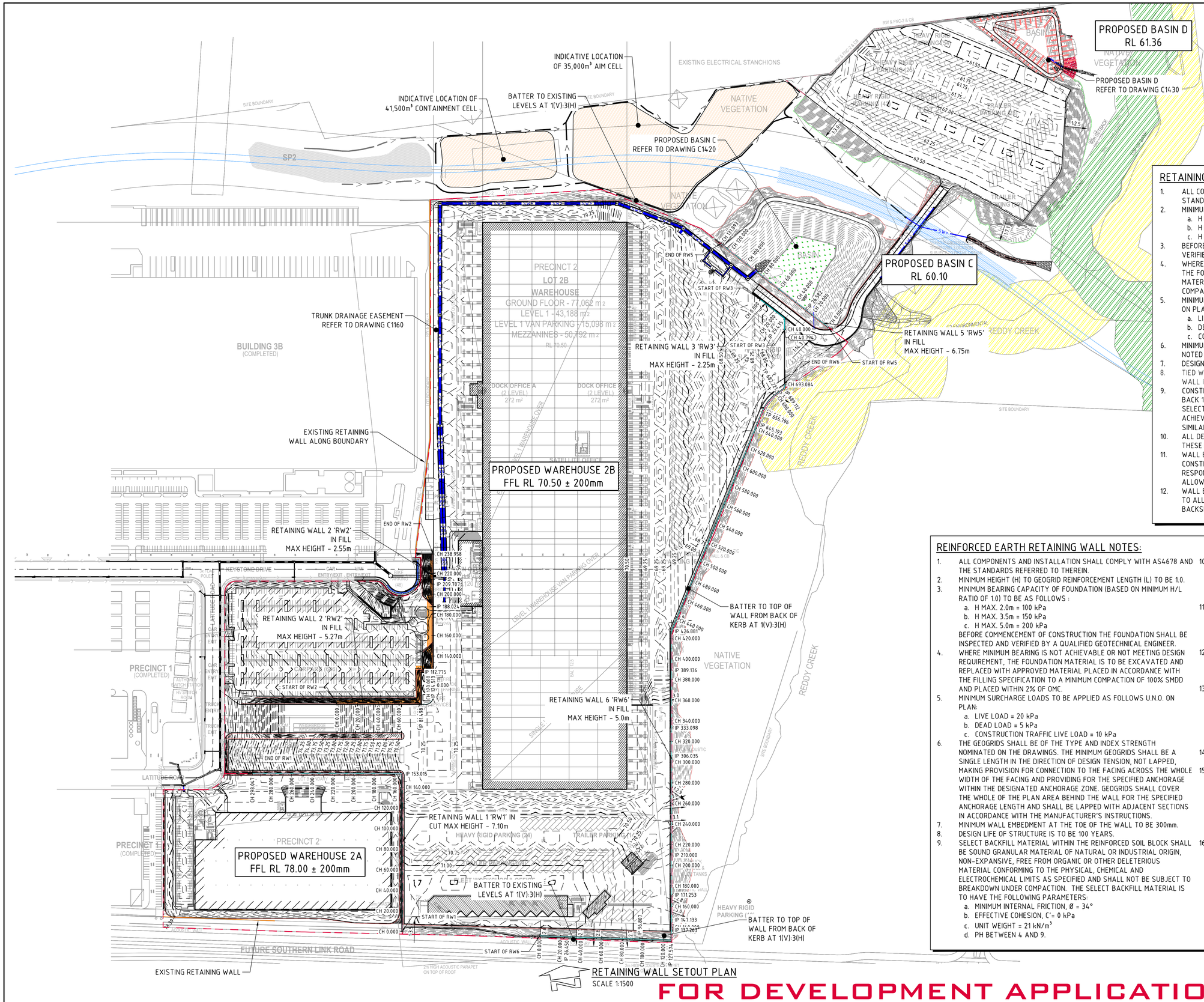
DRAWING TITLE
STORMWATER DRAINAGE LONG SECTIONS - SHEET 1

DRAWING No C09447.74-SSDA1471
ISSUE E



RETAINING WALL NOTES:

1. ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
2. MINIMUM BEARING CAPACITY OF FOUNDATION TO BE AS FOLLOWS :
   a. H MAX. 2.0m = 100 kPa
   b. H MAX. 3.5m = 150 kPa
   c. H MAX. 5.0m = 200 kPa
3. BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
4. WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
5. MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O.
   ON PLAN :
   a. LIVE LOAD = 20 kPa
   b. DEAD LOAD = 5 kPa
   c. CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
6. MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm MINIMUM UNLESS NOTED OTHERWISE.
7. DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
8. TIED WALLS ARE TO BE TEMPORARILY PROPPED AT TOP UNTIL SUCH TIME THE TOP OF WALL IS TIED TO THE SLAB AND 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
9. CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
10. ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
11. WALL ELEVATIONS ALLOW FOR NOMINAL EMBEDMENT DEPTHS. WHERE DESIGN AND CONSTRUCT (D+C) WALL SYSTEMS ARE PROPOSED IT IS THE CONTACTORS RESPONSIBILITY TO ALLOW FOR THE FINAL EMBEDMENT DEPTHS AS PER THE D+C DESIGN. ALLOWANCE FOR OVERALL WALL AREAS TO CONSIDER THE FINAL EMBEDMENT DEPTH.
12. WALL ELEVATIONS AND AREAS ARE BASED ON THE VERTICAL PLAN AREA. CONTRACTOR TO ALLOW ADDITIONAL SURFACE AREA WHERE WALLS ARE NOT VERTICAL OR HAVE BACKSLOPES.

REINFORCED EARTH RETAINING WALL NOTES:

1. ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
2. MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
3. MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS :
   a. H MAX. 2.0m = 100 kPa
   b. H MAX. 3.5m = 150 kPa
   c. H MAX. 5.0m = 200 kPa
   BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
4. WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
5. MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
   a. LIVE LOAD = 20 kPa
   b. DEAD LOAD = 5 kPa
   c. CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
6. THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm.
8. DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
9. SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. THE SELECT BACKFILL MATERIAL IS TO HAVE THE FOLLOWING PARAMETERS:
   a. MINIMUM INTERNAL FRICTION, Ø = 34°
   b. EFFECTIVE COHESION, C'= 0 kPa
   c. UNIT WEIGHT = 21 kN/m³
   d. PH BETWEEN 4 AND 9.
10. SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300mm (LOOSE). COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3798.
11. PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300mm WIDE 12-20mm AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100mm MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30m MAX. SPACING.
12. THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
13. CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500kG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
14. ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
15. TOP OF WALL HEIGHTS ARE NOTED TO ALIGN WITH FINISHED PAVEMENT HEIGHTS. THE CONTRACTOR AND THEIR DESIGN AND CONSTRUCT WALLING CONTRACTORS ARE TO ENSURE THAT ALL WALL STRAPS ARE INSTALLED BELOW THE DESIGN EARTHWORKS SUBGRADE. CONTRACTOR TO ALLOW FOR WALL STRAPS TO BE GRADED AWAY FROM THE FACE OF THE WALL OR OTHERWISE INSTALLED TO SUIT EARTHWORKS DESIGN LEVELS AND GRADES.
16. DIFFERENTIAL SETTLEMENT NOTE:
    FUTURE BUILDING AND SERVICE DESIGNERS TO CONSIDER DIFFERENTIAL SETTLEMENT OF REINFORCED EARTH WALL BLOCK AND GENERAL FILL AREAS. PARTICULAR ATTENTION TO BE DRAWN TO HEAVILY LOADED AREAS, OR DIFFERING LOADED AREAS (INCLUDING SPRINKLER TANK AND TRUCK PAVEMENT AREAS) AND WHERE SIGNIFICANT CHANGES IN OVERALL WALL HEIGHT OR FILL AMOUNTS ARE EXPERIENCED. IT IS THE RESPONSIBILITY OF THE FUTURE DESIGNERS TO ENSURE APPROPRIATE DESIGN CONSIDERATION TO DIFFERENTIAL SETTLEMENT ARE MADE DEPENDING ON THE DESIGN ELEMENT AND INTERACTION WITH RETAINED ELEMENTS AND GENERAL FILL MATERIAL.

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.26	F
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ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	D
ISSUED FOR INFORMATION	22.05.26	C
ISSUED FOR INFORMATION	08.05.26	B
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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1600

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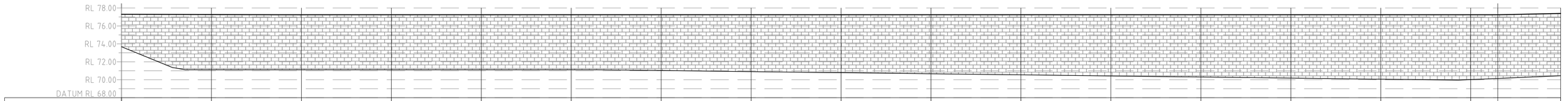
DRAWING TITLE
RETAINING WALL SETOUT PLAN

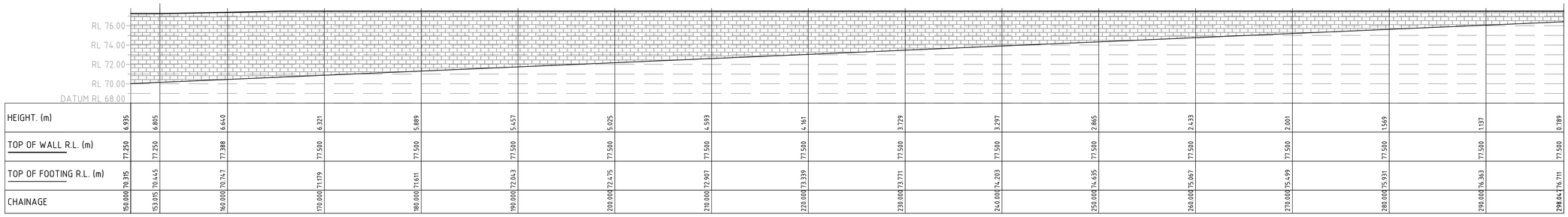
DRAWING No C09447.74-SSDA1600
ISSUE G



HEIGHT. (m)	3.619	6.157	6.135	6.135	6.134	6.134	6.221	6.343	6.464	6.585	6.704	6.825	6.947	7.067	7.189	7.235	7.105	6.940
TOP OF WALL R.L. (m)	77.300	77.272	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.250	77.388
TOP OF FOOTING R.L. (m)	73.681	71.115	71.115	71.115	71.116	71.116	71.029	70.907	70.786	70.665	70.546	70.425	70.303	70.183	70.061	70.015	70.145	70.447
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	153.095	160.000

RETAINING WALL 1 'RW1' ELEVATION

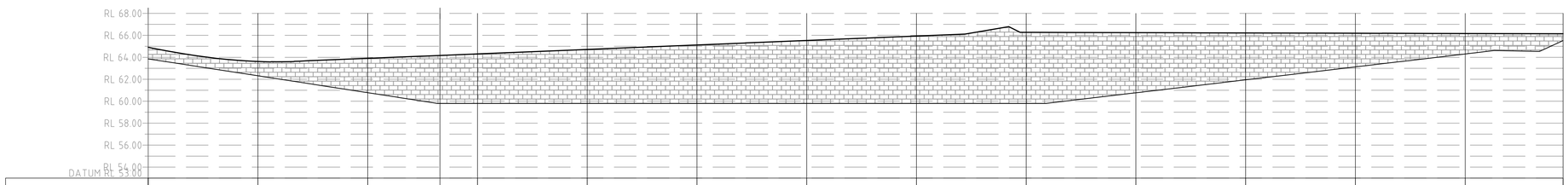
WALL SURFACE AREA = 1600m²
WALL TYPE: REINFORCED EARTH RETAINING WALL



HEIGHT. (m)	6.935	6.805	6.640	6.321	5.889	5.457	5.025	4.593	4.161	3.729	3.297	2.865	2.433	2.001	1.569	1.137	0.789
TOP OF WALL R.L. (m)	77.250	77.250	77.388	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500	77.500
TOP OF FOOTING R.L. (m)	70.315	70.445	70.747	71.179	71.611	72.043	72.475	72.907	73.339	73.771	74.203	74.635	75.067	75.499	75.931	76.363	76.711
CHAINAGE	150.000	153.095	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	298.842

RETAINING WALL 1 'RW1' ELEVATION

WALL SURFACE AREA = 1600m²
WALL TYPE: REINFORCED EARTH RETAINING WALL



HEIGHT. (m)	1.055	1.305	3.128	4.368	4.507	4.916	5.324	5.732	6.137	6.474	5.476	4.269	3.066	1.862	0.621
TOP OF WALL R.L. (m)	64.908	63.622	63.906	64.168	64.307	64.716	65.124	65.532	65.937	66.274	66.244	66.216	66.191	66.166	66.143
TOP OF FOOTING R.L. (m)	63.854	62.316	60.778	59.800	59.800	59.800	59.800	59.800	59.800	59.800	60.768	61.946	63.125	64.303	65.522
CHAINAGE	0.000	10.000	20.000	26.582	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	128.922

RETAINING WALL 5 'RW5' ELEVATION

WALL SURFACE AREA = 534m²
WALL TYPE: REINFORCED EARTH RETAINING WALL

2m 0 5 10 15 20m
SCALE 1:200 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	22.05.26	B
ISSUED FOR INFORMATION	08.05.26	A

AMENDMENTS DATE ISSUE

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PROJECT
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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1631

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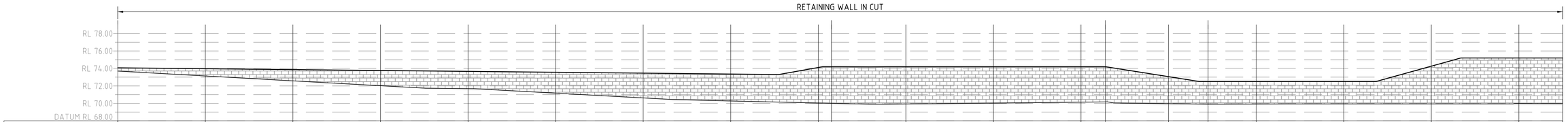
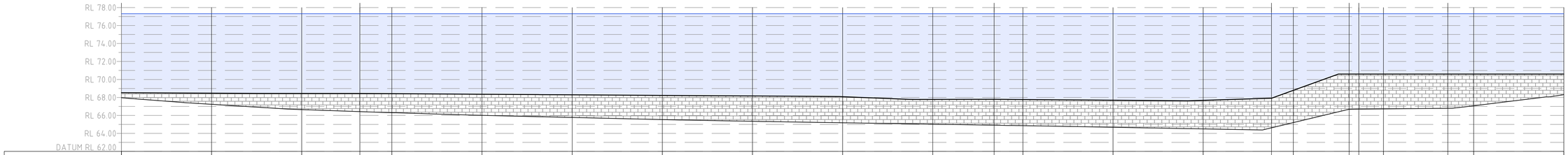
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
RETAINING WALL ELEVATIONS
SHEET 1

DRAWING No C09447.74-SSDA1631
ISSUE D


RETAINING WALL IN CUT
RL 78.00
RL 76.00
RL 74.00
RL 72.00
RL 70.00
DATUM RL 68.00

| | | |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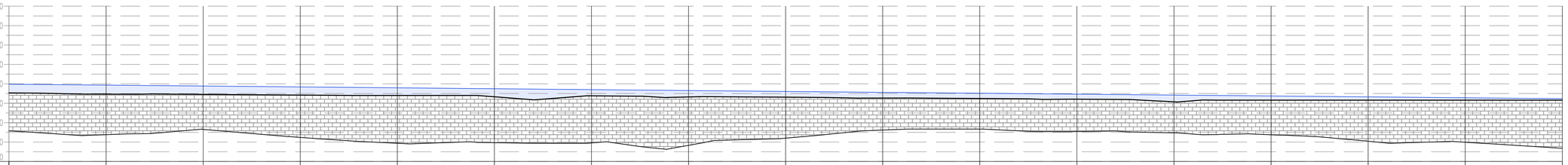
RL 66.00
RL 64.00
DATUM RL 62.00

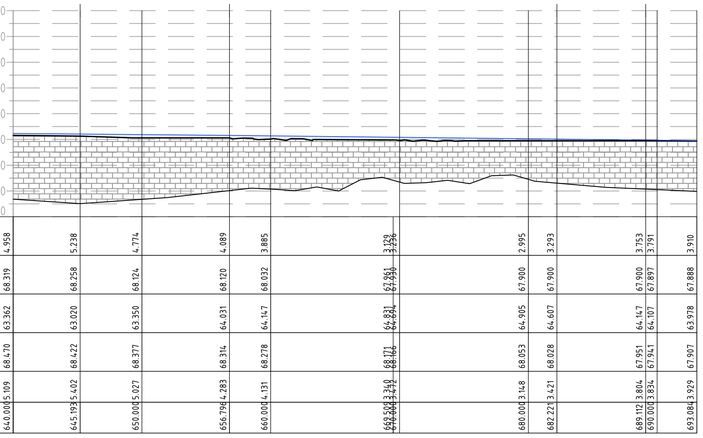
| | | |



HEIGHT. (m)	3.907	4.172	3.612	4.364	4.925	4.729	4.849	4.984	4.218	3.297	3.152	3.340	3.194	3.573	4.237	4.343	4.958
TOP OF WALL R.L. (m)	69.962	68.936	68.915	68.841	68.800	68.665	68.760	68.648	68.624	68.531	68.488	68.420	68.145	68.321	68.321	68.320	68.319
TOP OF FOOTING R.L. (m)	65.155	64.763	65.302	64.477	63.875	63.937	63.911	63.664	64.405	65.234	65.335	65.080	64.951	64.748	64.084	63.977	63.362
APPROVED LEVEL	69.962	69.869	69.776	69.683	69.589	69.496	69.403	69.310	69.216	69.123	69.030	68.937	68.843	68.750	68.657	68.564	68.470
HEIGHT APPROVED WALL(m)	4.808	5.106	4.474	5.206	5.714	5.559	5.492	5.645	4.811	3.889	3.694	3.857	3.893	4.002	4.573	4.587	5.109
CHAINAGE	480.000	490.000	500.000	510.000	520.000	530.000	540.000	550.000	560.000	570.000	580.000	590.000	600.000	610.000	620.000	630.000	640.000

RETAINING WALL 6 'RW6' ELEVATION

WALL SURFACE AREA = 1980m²
WALL TYPE: REINFORCED EARTH RETAINING WALL



HEIGHT. (m)	4.958	5.238	4.774	4.089	3.885	3.129	3.256	2.995	3.293	3.753	3.791	3.910
TOP OF WALL R.L. (m)	68.319	68.258	68.124	68.120	68.032	67.961	67.939	67.900	67.900	67.900	67.897	67.888
TOP OF FOOTING R.L. (m)	63.362	63.020	63.350	64.031	64.147	64.831	64.694	64.905	64.607	64.147	64.107	63.978
APPROVED LEVEL	68.470	68.422	68.377	68.314	68.278	68.171	68.162	68.053	68.028	67.951	67.941	67.907
HEIGHT APPROVED WALL(m)	5.109	5.492	5.027	4.283	4.131	3.340	3.472	3.148	3.421	3.804	3.834	3.929
CHAINAGE	640.000	645.193	650.000	656.794	660.000	663.504	664.444	680.000	682.221	689.112	690.000	693.084

RETAINING WALL 6 'RW6' ELEVATION

WALL SURFACE AREA = 1980m²
WALL TYPE: REINFORCED EARTH RETAINING WALL

2m 0 5 10 15 20m
SCALE 1:200 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	22.05.26	B
ISSUED FOR INFORMATION	08.05.26	A

AMENDMENTS DATE ISSUE

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PROJECT
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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1634

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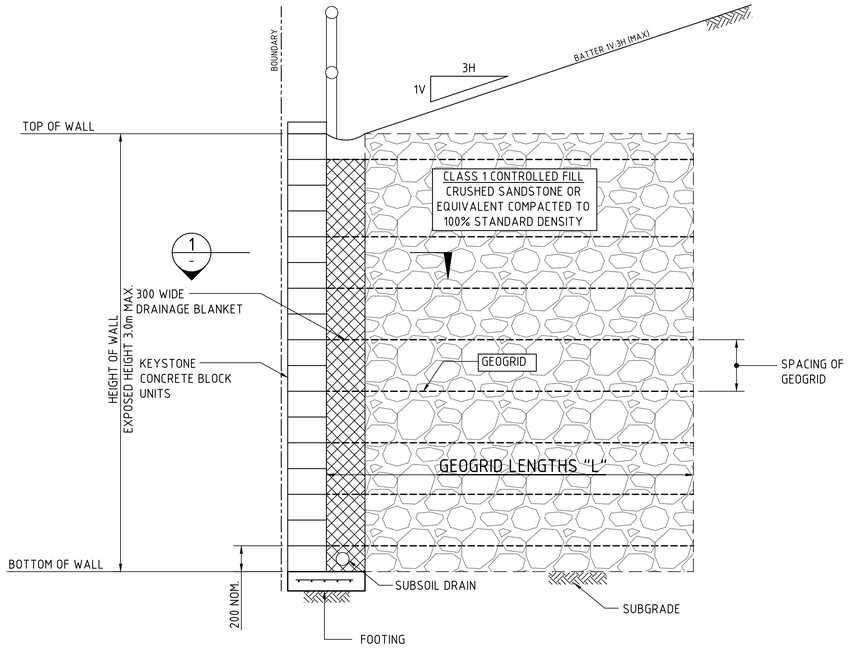
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
RETAINING WALL ELEVATIONS
SHEET 4

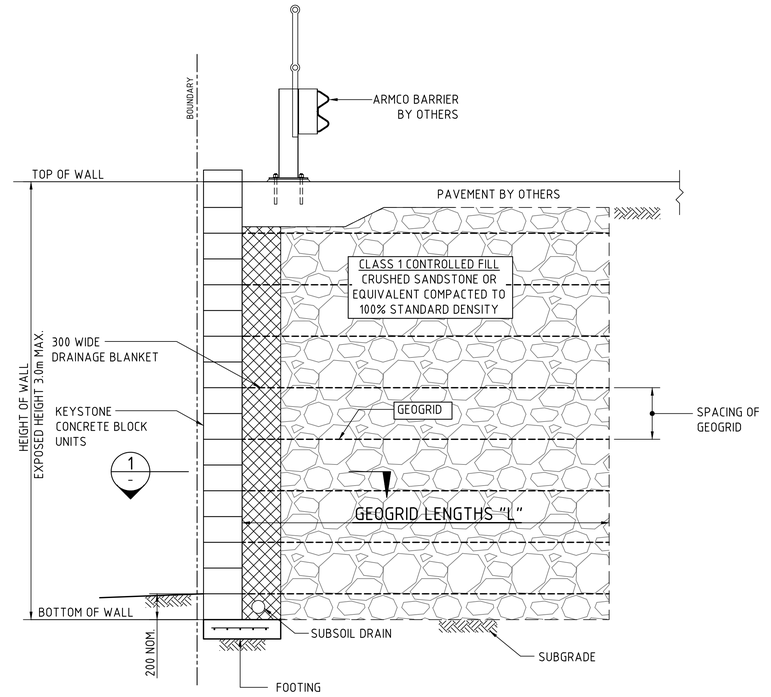
DRAWING No C09447.74-SSDA1634
ISSUE D



RETAINING WALL TYPE 1
(REINFORCED EARTH WALL)
SCALE 1:20

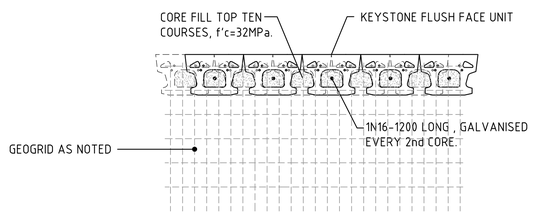
REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO UCBC DETAILS.

R.E. WALL NOTE:
R.E. WALL DESIGN SHOWN NOMINALLY ONLY.
DETAIL DESIGN CALCS. TO BE UNDERTAKEN FOLLOWING DA SUBMISSION STAGE.

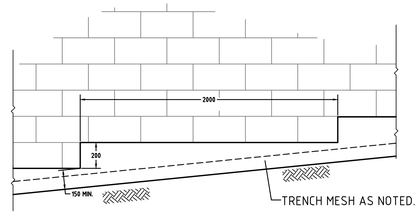


RETAINING WALL TYPE 2
(REINFORCED EARTH WALL)
SCALE 1:20

REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO UCBC DETAILS.



SECTION 1:20 (1 / -)



REINFORCED EARTH WALL TYPICAL LEVELLING STRIP STEP DETAIL
SCALE 1:20

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	C
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ISSUED FOR INFORMATION	08.05.26	A

AMENDMENTS	DATE	ISSUE

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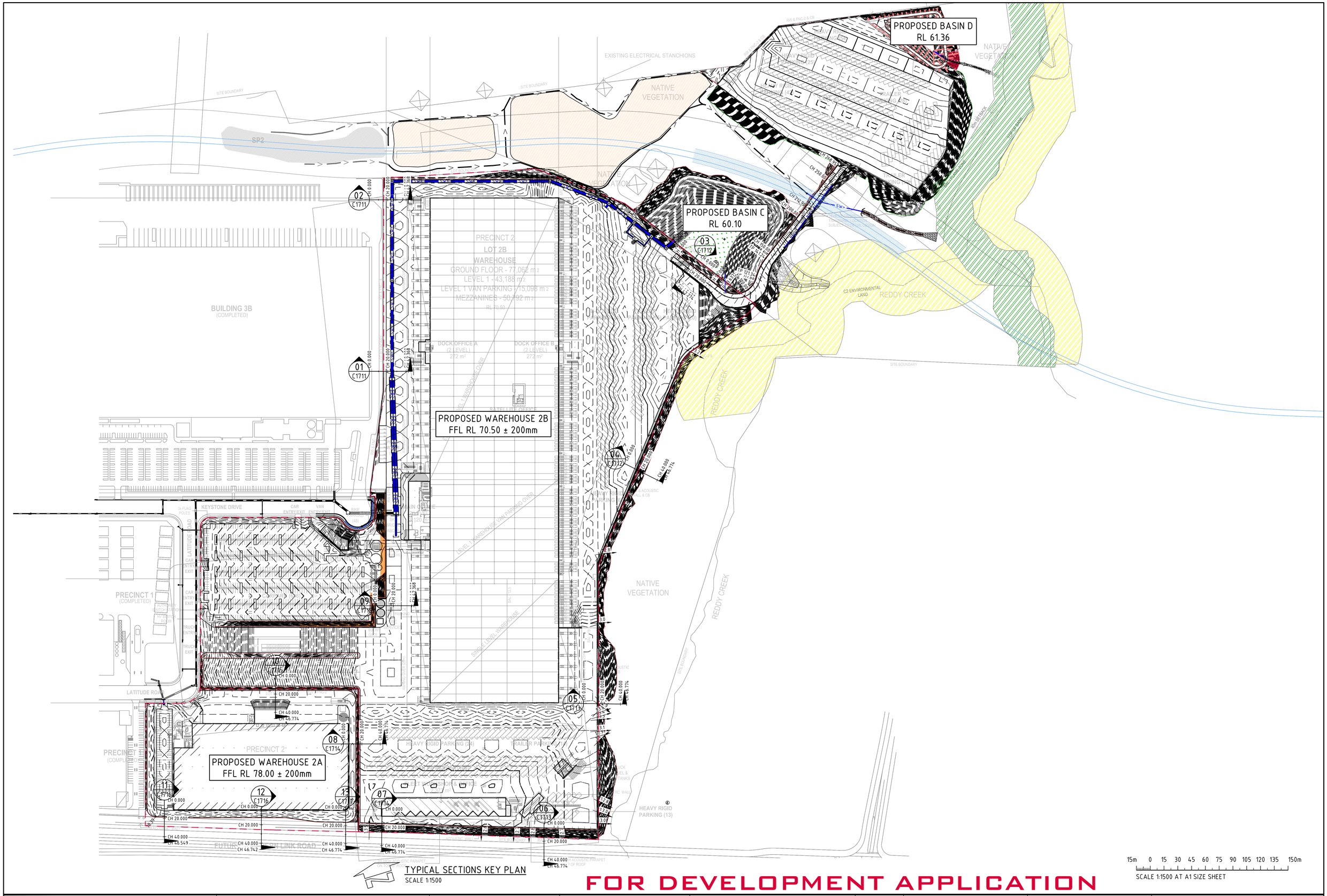
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1651

DRAWING TITLE
RETAINING WALL DETAILS

DRAWING No C09447.74-SSDA1651

ISSUE C



FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	E
ISSUED FOR DEVELOPMENT APPLICATION	26.06.26	D
ISSUED FOR DEVELOPMENT APPLICATION	29.05.26	C
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS	DATE	ISSUE

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LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1700

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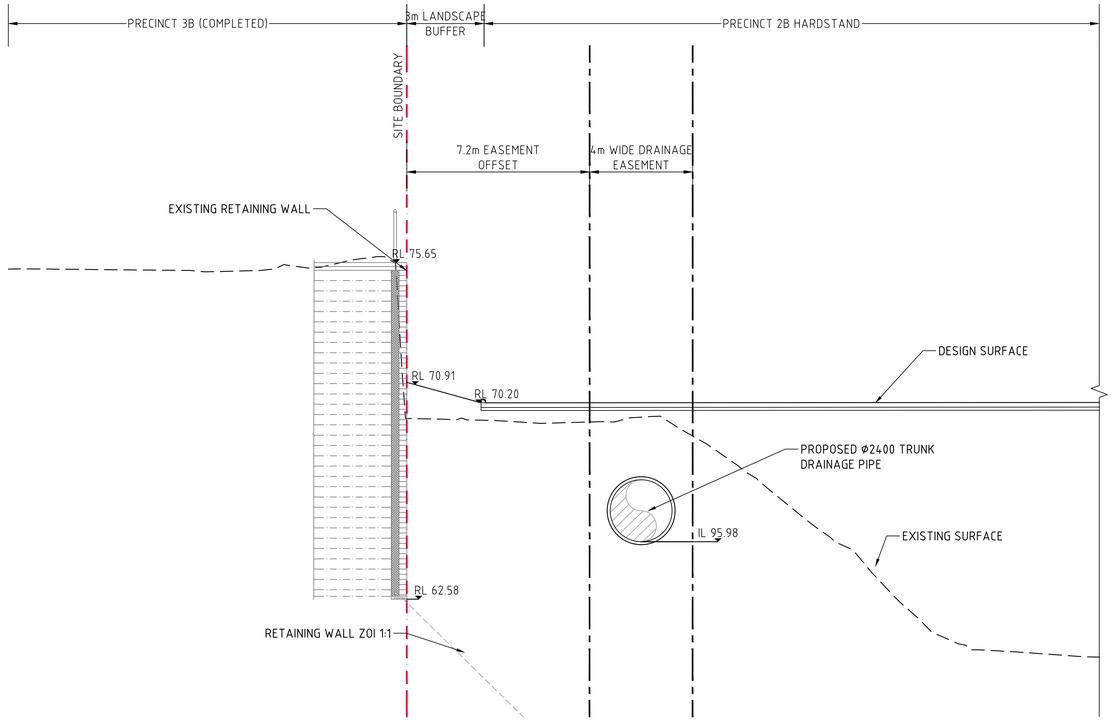
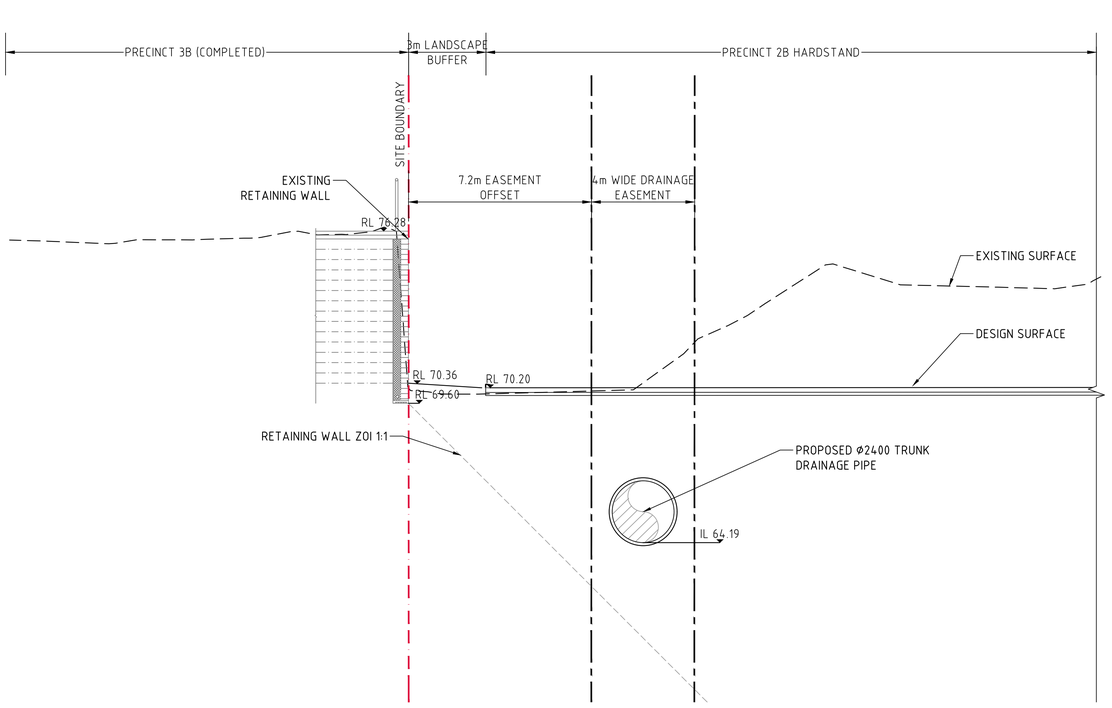
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
TYPICAL SECTIONS KEY PLAN

DRAWING No C09447.74-SSDA1700
ISSUE E



SECTION 1 1:100 (1 / C1700)



SECTION 2 1:100 (2 / C1700)

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	E
ISSUED FOR DEVELOPMENT APPLICATION	29.06.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS DATE ISSUE

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LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1711

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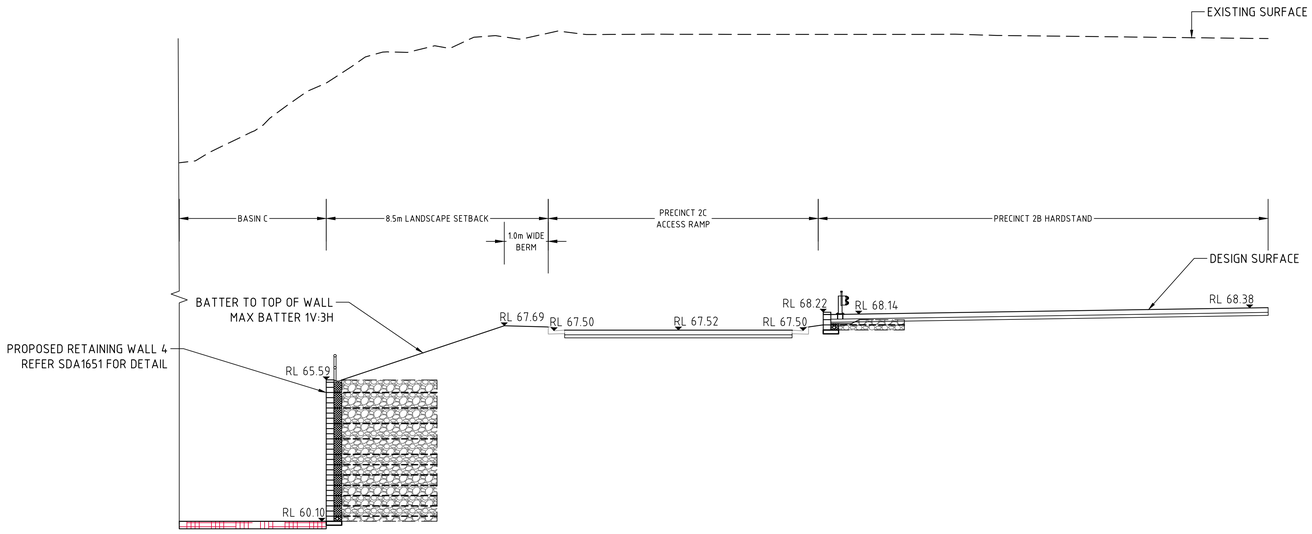
CIVIL & STRUCTURAL ENGINEERS

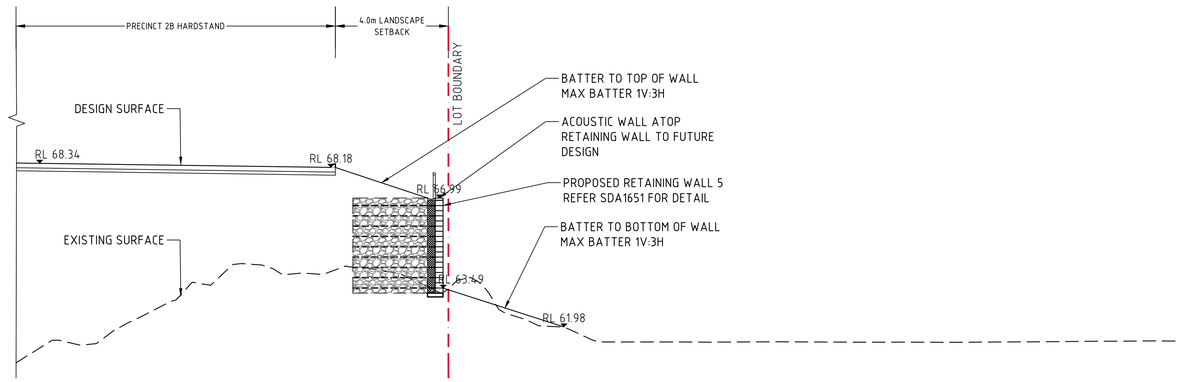
DRAWING TITLE
TYPICAL SECTIONS - SHEET 1

DRAWING No C09447.74-SSDA1711

ISSUE E



SECTION 3 1:100 — 3 / C1700



SECTION 4 1:100 — 4 / C1700

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS	DATE	ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1712

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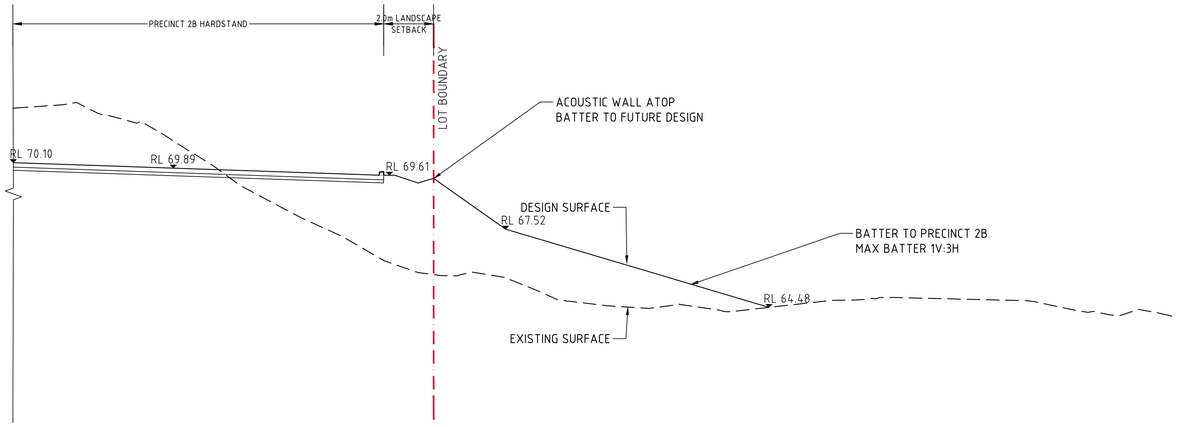
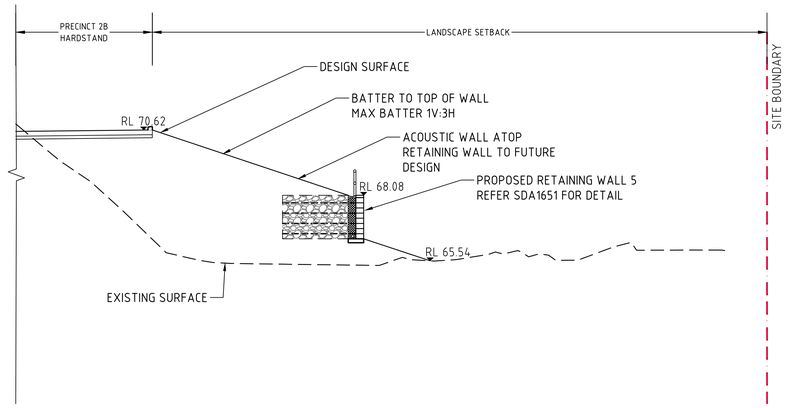
DRAWING TITLE
TYPICAL SECTIONS - SHEET 2

DRAWING No C09447.74-SSDA1712

ISSUE D



SECTION 5 1:100 — 5 / C1700



SECTION 6 1:100 — 6 / C1700

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS	DATE	ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1713

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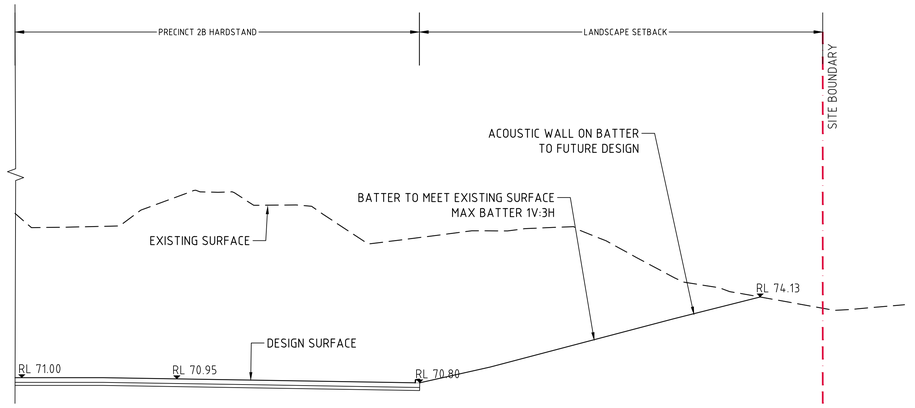
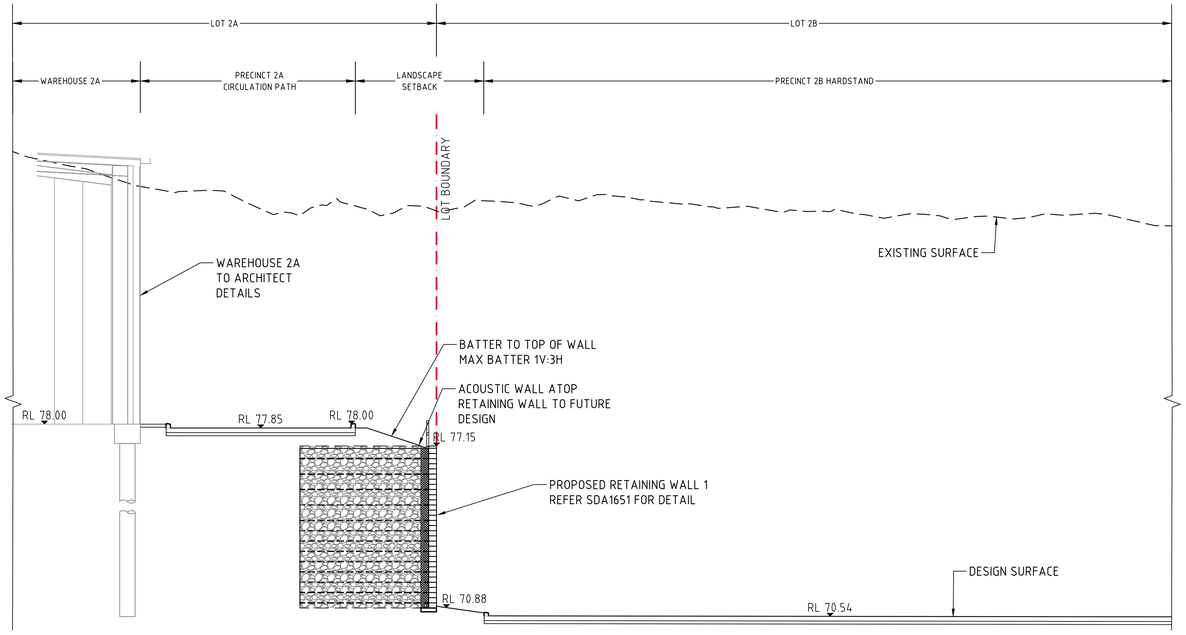
DRAWING TITLE
TYPICAL SECTIONS - SHEET 3

DRAWING No C09447.74-SSDA1713

ISSUE D



SECTION 17 1:100 — 7 / C1700



SECTION 8 1:100 — 8 / C1700

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS	DATE	ISSUE

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PROJECT
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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA1714

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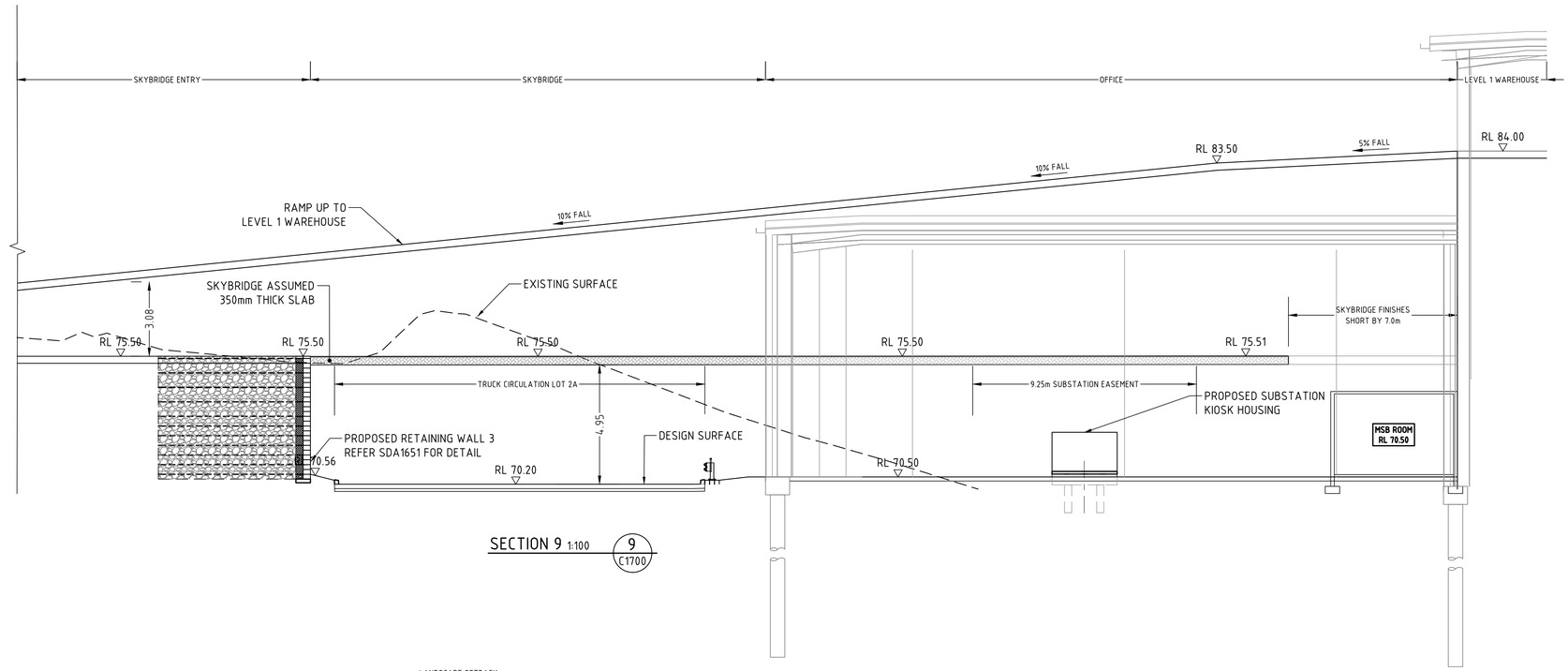
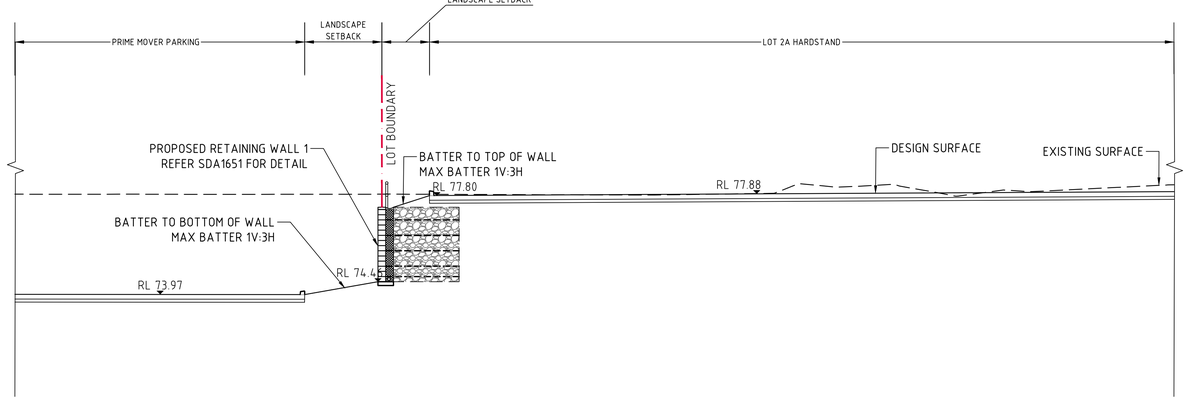
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
TYPICAL SECTIONS - SHEET 4

DRAWING No C09447.74-SSDA1714 ISSUE D



SECTION 9 1:100 (9 / C1700)



SECTION 10 1:100 (10 / C1700)

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	E
ISSUED FOR DEVELOPMENT APPLICATION	22.06.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

AMENDMENTS	DATE	ISSUE

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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA1715

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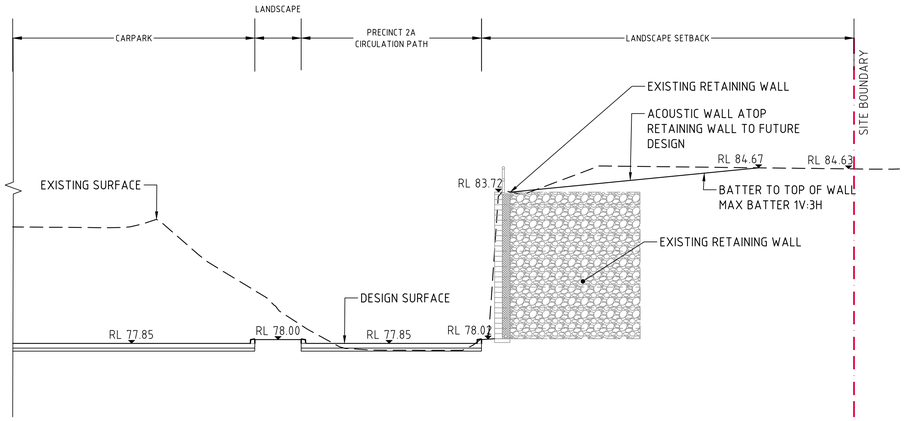
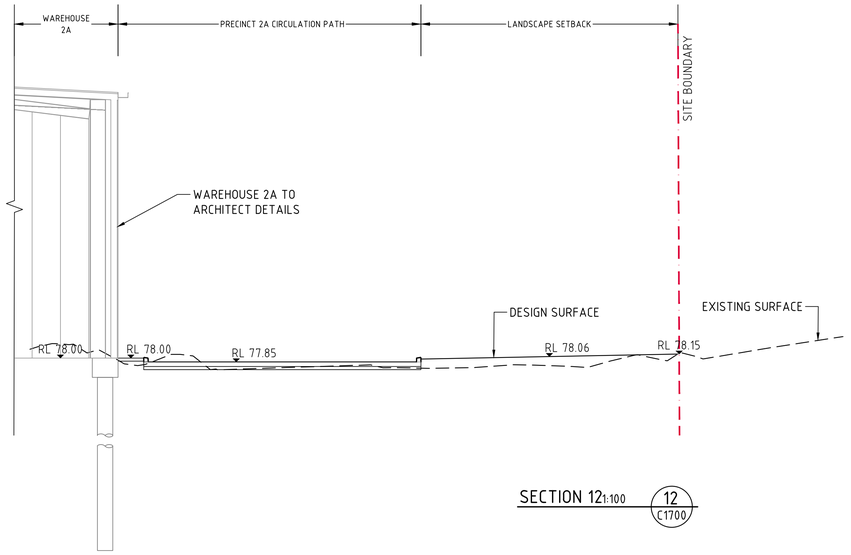
DRAWING TITLE
TYPICAL SECTIONS - SHEET 5

DRAWING No C09447.74-SSDA1715

ISSUE E



SECTION 11 1:100 — 11 / C1700



SECTION 12 1:100 — 12 / C1700

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	26.05.26	B
ISSUED FOR INFORMATION	15.05.26	A

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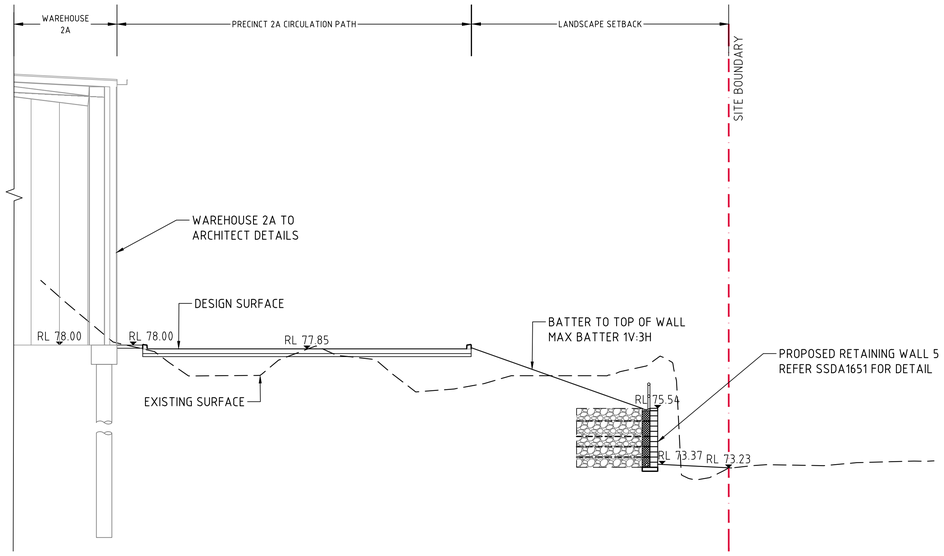
DRAWING TITLE
TYPICAL SECTIONS - SHEET 6

DRAWING No C09447.74-SSDA1716 ISSUE D



SECTION 13 1:100 — 13 / C1700

1m 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	15.05.26	A

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DRAWING TITLE
TYPICAL SECTIONS - SHEET 7

DRAWING No C09447.74-SSDA1717 ISSUE D

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SW – PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE TO REMAIN

CAR ENTRY/EXIT

VAN ENTRY/EXIT

1% AEP GUTTER FLOW 0.43m³/s

BA-10 IL 68.67

NEW VEHICLE CROSSING TO BE RESERVED

NEW PIT AT LOW POINT. SIZED TO ACCEPT 1% AEP GAP FLOW NOTED ADJACENT. DETAIL TO BE CONFIRMED

NEW ASPHALT PAVEMENT

BA-11 IL 68.335

BA-11 A US67.893 DS66.70

DN 450

DN 375

1:4 BATTER

BIKE PARKING (48)

RW & FNC-1

POTENTIAL LOCATION OF RELOCATED PRIME MOVER PARKING

REVISED RETAINING WALL POSITION

2x DN2100 PIPES TO BASIN C

SILVERBANK CIRCULATION ROAD FSL RL70.20

DN 1500 LOT CONNECTION PIPE FOR SILVERBANK

PRIME MOVER PARKING TO BE RELOCATED (SUBJECT TO COORD W/ARCH)

INDICATIVE REINFORCED EARTH WALL STRAPS SHOWN.

NEW VEHICLE CROSSING FOR SIVERBACK DEVELOPMENT

NEW KERB AND GUTTER

EXISTING PIPE TO BE DECOMMISSIONED- LOCATION TO BE CONFIRMED ON SITE

NEW FOOTPATH AROUND EXISTING CUL DE SAC

W-BEAM BARRIER WITH REFLECTIVE CHEVRON SIGNS

RAMP UP

RAMP OVER

SUB

MSB

GEN

SG

SH

PP

3,120 m²

2m 0 5 10 15 20m

SCALE 1:200 AT A1 SIZE SHEET

CUL DE SAC MODIFICATION PLAN

SCALE 1:200

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DRAWING TITLE
CUL DE SAC MODIFICATION PLAN

DRAWING No C09447.74-SSDA1800

ISSUE E

PROPOSED SWALE DRAIN
REFER SSDA1453 FOR DETAIL

EXISTING SWALE DRAIN TO CONNECT INTO PROPOSED SWALE DRAIN

EXISTING SWALE DRAIN

PROPOSED ACM CONTAMINANT CELL
ACM CONTAMINANT VOLUME PROVIDED = 41,500m³

EXISTING CONTAMINANT CELL

PROPOSED AIM CONTAMINANT CELL
AIM CONTAMINANT VOLUME PROVIDED = 35,000m³

PROPOSED SWALE DRAIN
REFER SSDA1453 FOR DETAIL
FOR CONTINUATION REFER
DRAWING SSDA1401

EXISTING SWALE DRAIN

LOT BOUNDARY

PROPOSED SWALE DRAIN
REFER SSDA1453 FOR DETAIL

EXISTING SWALE DRAIN TO CONNECT INTO PROPOSED SWALE DRAIN

PROPOSED SWALE DRAIN
REFER SSDA1453 FOR DETAIL

PRECINCT 2

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES SWALE DRAIN
- DENOTES EXISTING SWALE DRAIN
- DENOTES CONSTRUCTION ENTRY
- DENOTES CONSTRUCTION ENTRY
- 50.00 – TOP OF CAPPING LAYER CONTOUR (MAJOR) 2.5m INTERVALS
- 50.50 – TOP OF CAPPING LAYER CONTOUR (MINOR) 0.5m INTERVALS

CONTAINMENT CELL PLAN
SCALE 1:500

5m 0 10 20 30 40 50m
SCALE 1:500 AT A1 SIZE SHEET

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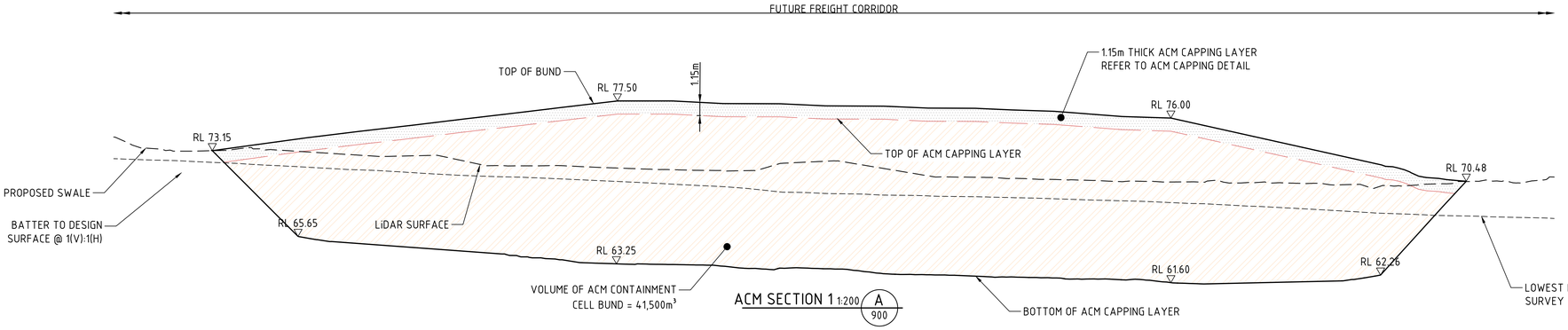
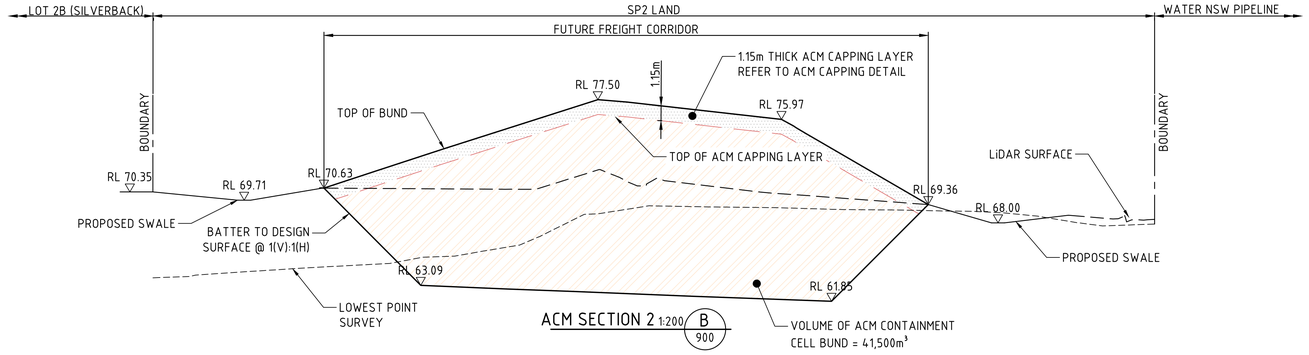
DRAWING TITLE
CONTAINMENT CELL PLAN

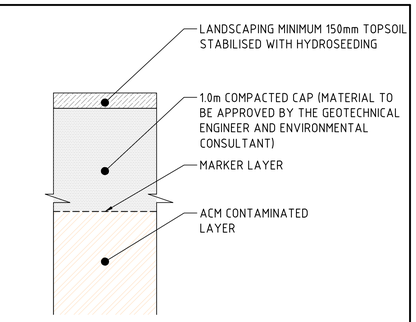
DRAWING No C09447.74-SSDA1900
ISSUE E



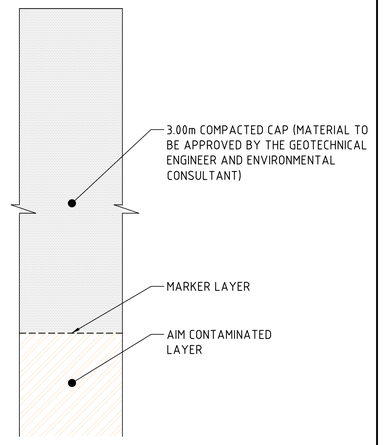
ACM SECTION 1 1:200 (A / 900)



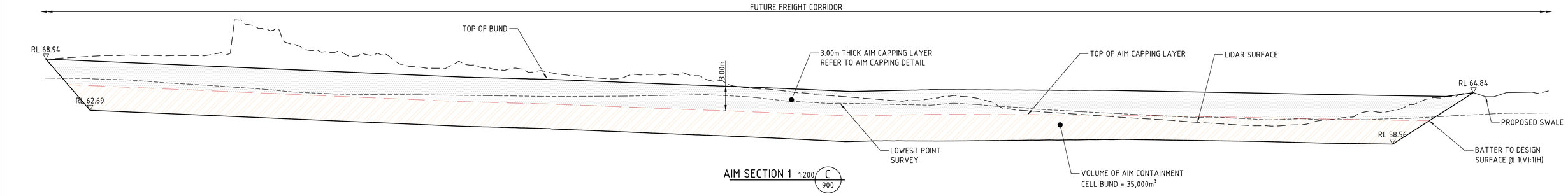
ACM SECTION 2 1:200 (B / 900)



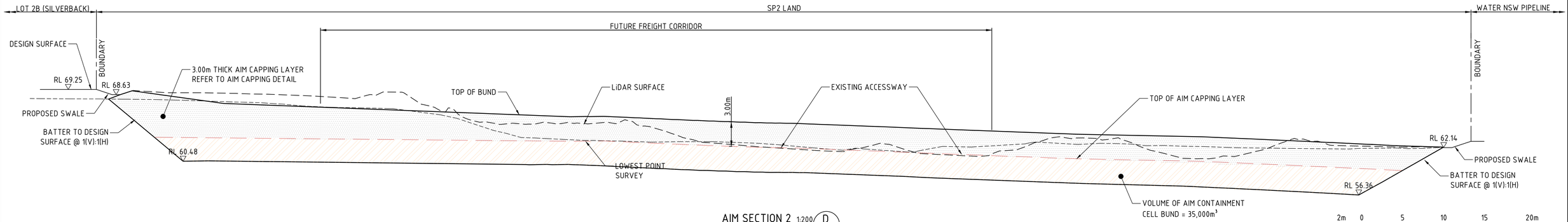
ACM CAPPING LAYER DETAIL
SCALE 1:25



AIM CAPPING LAYER DETAIL
SCALE 1:25



AIM SECTION 1 1:200 (C / 900)



AIM SECTION 2 1:200 (D / 900)

2m 0 5 10 15 20m
SCALE 1:200 AT A1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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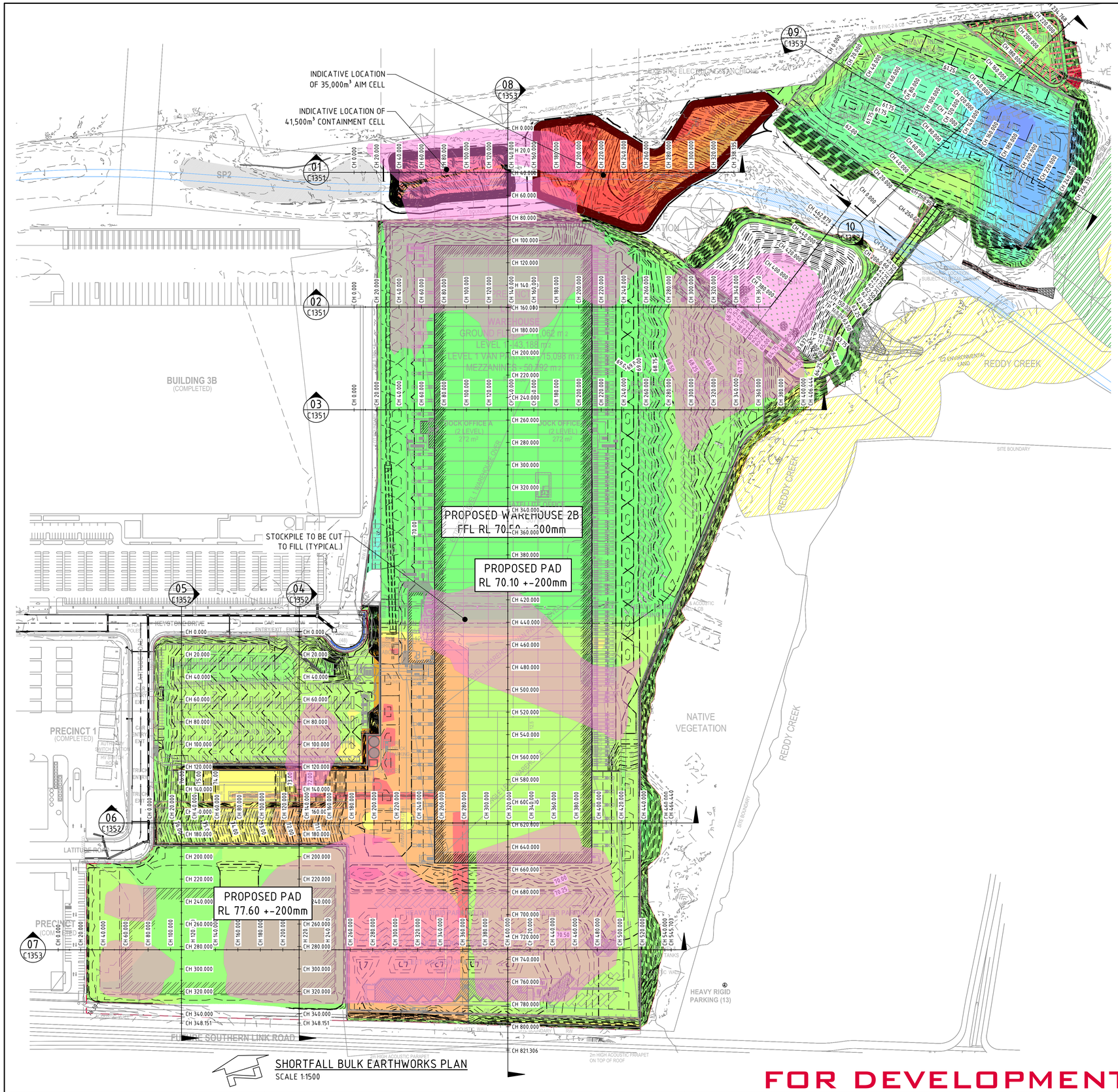
DRAWING TITLE
CONTAINMENT CELL SECTIONS

DRAWING No C09447.74-SSDA1901
ISSUE E



SHORTFALL BULK EARTHWORKS PLAN
SCALE 1:1500

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT XXXX PROVIDED BY XXXX DATED XXXX.
2. EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY FREEBURN SURVEYING DATED 25/03/2026 & THE CONSOLIDATED SUPERTIN PROVIDED BY AT&L.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED. TOPSOIL BLENDING IS NOT ACCEPTABLE. ANY BLENDING PROPOSAL IS TO BE REFERRED TO THE ENGINEER.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION. WHERE EXPOSED ROCK (WEATHERED SHALE OR SANDSTONE) IS ENCOUNTERED AT CUT SUBGRADE LEVEL, THE EARTHWORKS CONTRACTOR IS TO ALLOW TO RIP THE SURFACE TO A NOMINAL 0.3-0.4m DEPTH AND RECOMPACT (PER THE ENGINEERING SPEC) AS REQUIRED.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
10. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
15. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

SHORTFALL EARTHWORK ESTIMATES

SHORTFALL EARTHWORKS PLAN IS A COMPARISON OF THE PROPOSED BEL LEVELS TO THE REHABILITATION SURFACE LEVEL. THE RESULTS OF THIS ASSESSMENT QUANTIFY THE VOLUME OF FILL REQUIRED FOR IMPORTATION.

SITE AREA = 34.850 Ha

CUT = -509,500m³
FILL = +709,840m³

ALLOWANCES
DETAILED EXCAVATION (1,500m³/ha) = -52,275m³

ACM CAPPING LAYER = +7,100m³
AIM CAPPING LAYER = +44,115m³
CTFCR TO BE IMPORTED = +16,000m³
(NOT INCLUDED IN CUT/FILL)

REHABILITATION SURFACE VOLUME ADDITIONS
TOTAL STOCKPILE VOLUME = 780,000m³
(NOT INCLUDED IN CUT/FILL)

STOCKPILE 30% BULKING FACTOR = +234,000m³
(30% BULKING FACTOR TO BE ADDED TO FILL REQUIRED)

DIFFERENCE = +433,280m³ (i.e. FILL TO BE IMPORTED)

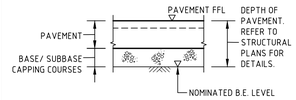
NOTE:
VOLUMES BASED ON 0mm SITE STRIP OVER THE NOMINATED AREA. EARTHWORKS VOLUMES ARE APPROXIMATE ONLY.
NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS, THE REMOVAL OF UNCONTROLLED OR CONTAMINATED MATERIAL OR ANY OTHER UNSPECIFIED EXCAVATION RELATED TO CONSTRUCTION ACTIVITIES. DETAILED EXCAVATION ALLOWANCE IS APPROXIMATE ONLY AND ACCOUNTS FOR STORMWATER/SERVICES TRENCHING AND FOUNDATIONS. THE DETAILED EXCAVATION VOLUMES ARE TO BE CONFIRMED BY THE CONTRACTOR. REFER ANY CONCERNS TO ENGINEER.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- 50.00 - EXISTING CONTOUR (1.00m INTERVAL)
- 70.00 - B.E.L. CONTOUR (MAJOR 1.0m)
- 70.25 - B.E.L. CONTOUR (MINOR 0.25m)
- +50.00 - B.E.L. SPOT LEVEL
- EXTENT OF STOCKPILE TO BE CUT



NOMINATED B.E.L. DETAIL
NTS

ALLOWANCES FOR STRUCTURE

	DEPTH OF PAVEMENT	DEPTH OF CTFCR
PRECINCT 2A		
HARDSTAND	300mm	N/A
WAREHOUSE	300mm	N/A
PRECINCT 2B		
HARDSTAND	300mm	N/A
WAREHOUSE	300mm	200mm
PRECINCT 5		
HARDSTAND	300mm	N/A

DEPTH RANGE

No.	FROM DEPTH	TO DEPTH	COLOUR
1	-15.000	-12.500	
2	-12.500	-10.000	
3	-10.000	-7.500	
4	-7.500	-5.000	
5	-5.000	-2.500	
6	-2.500	0.000	
7	0.000	2.500	
8	2.500	5.000	
9	5.000	7.500	
10	7.500	10.000	
11	10.000	12.500	
12	12.500	15.000	
13	15.000	17.500	
14	17.500	20.000	
15	20.000	22.500	

CUT
FILL

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT A1 SIZE SHEET

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ISSUED FOR INFORMATION	26.05.26	A

AMENDMENTS	DATE	ISSUE

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Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA 1950

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
BULK EARTHWORKS & CUT/FILL SHORTFALL PLAN

DRAWING No C09447.74-SSDA1950
ISSUE E

OAKDALE EAST INDUSTRIAL ESTATE - LOT 2A

LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

WAREHOUSE 2A & 2B CIVIL ENGINEERING WORKS PACKAGE

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING LIST - WAREHOUSE 2A

DRAWING NO.	DRAWING TITLE
C09447.74-SSDA2000	DRAWING LIST & GENERAL NOTES - LOT 2A & 2B
C09447.74-SSDA2200	EROSION AND SEDIMENT CONTROL PLAN
C09447.74-SSDA2250	EROSION AND SEDIMENT CONTROL DETAILS
C09447.74-SSDA2400	STORMWATER DRAINAGE PLAN
C09447.74-SSDA2451	STORMWATER DRAINAGE DETAILS - SHEET 1
C09447.74-SSDA2452	STORMWATER DRAINAGE DETAILS - SHEET 2
C09447.74-SSDA2500	FINISHED LEVELS KEY PLAN

DRAWING LIST - WAREHOUSE 2B

DRAWING NO.	DRAWING TITLE
C09447.74-SSDA3200	EROSION AND SEDIMENT CONTROL PLAN
C09447.74-SSDA3250	EROSION AND SEDIMENT CONTROL DETAILS
C09447.74-SSDA3400	STORMWATER DRAINAGE PLAN
C09447.74-SSDA3501	STORMWATER DRAINAGE PLAN - SHEET 1
C09447.74-SSDA3502	STORMWATER DRAINAGE PLAN - SHEET 2
C09447.74-SSDA3503	STORMWATER DRAINAGE PLAN - SHEET 3
C09447.74-SSDA3504	STORMWATER DRAINAGE PLAN - SHEET 4
C09447.74-SSDA3505	STORMWATER DRAINAGE PLAN - SHEET 5
C09447.74-SSDA3451	STORMWATER DRAINAGE DETAILS - SHEET 1
C09447.74-SSDA3452	STORMWATER DRAINAGE DETAILS - SHEET 2
C09447.74-SSDA3500	FINISHED LEVELS PLAN
C09447.74-SSDA3501	FINISHED LEVELS PLAN - SHEET 1
C09447.74-SSDA3502	FINISHED LEVELS PLAN - SHEET 2
C09447.74-SSDA3503	FINISHED LEVELS PLAN - SHEET 3
C09447.74-SSDA3504	FINISHED LEVELS PLAN - SHEET 4
C09447.74-SSDA3505	FINISHED LEVELS PLAN - SHEET 5

LOCALITY PLAN
N.TS

GENERAL NOTES:

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE.
   ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
   ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT.
   REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
5. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
6. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
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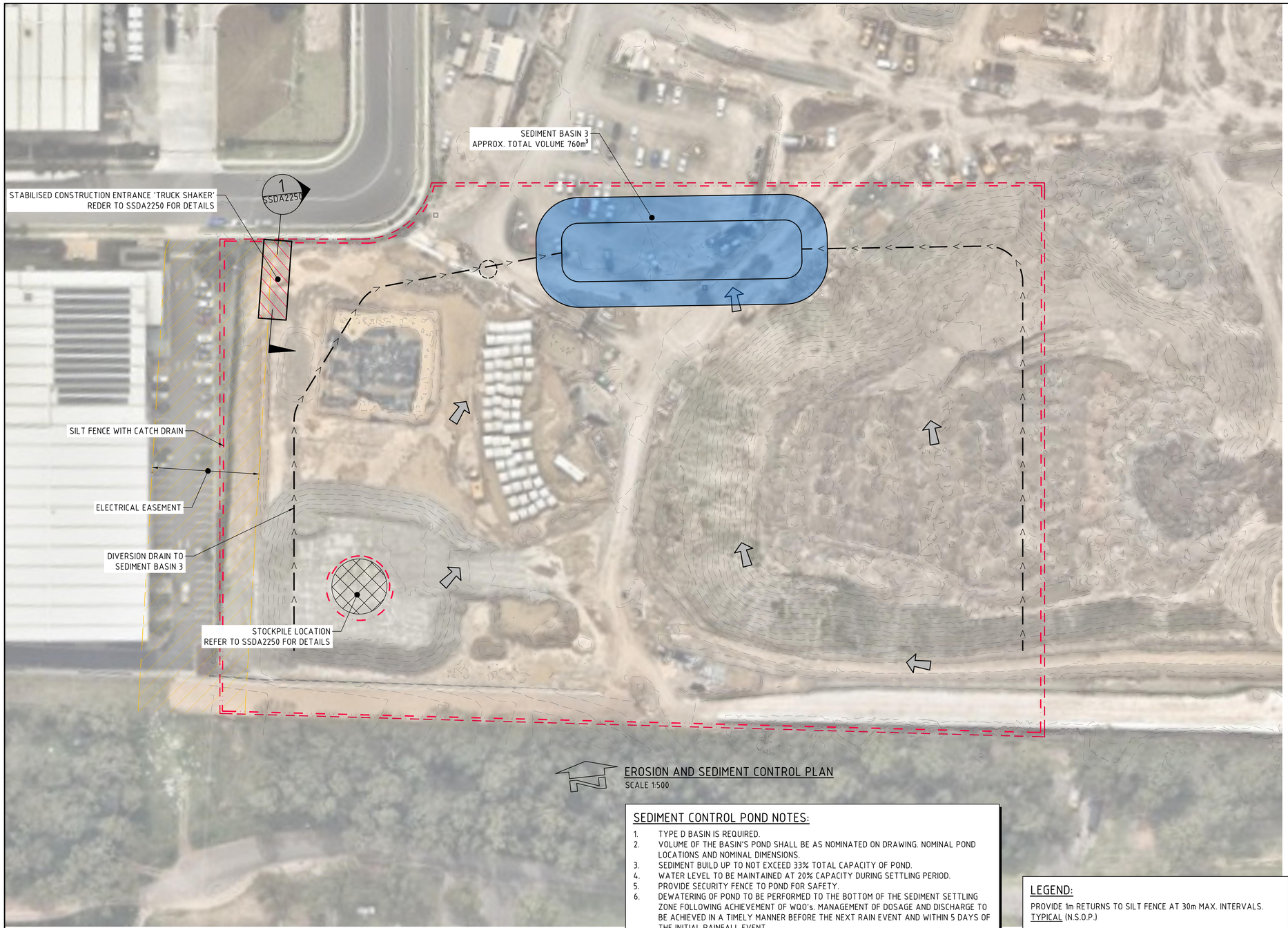
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
DRAWING LIST & GENERAL NOTES - LOT 2A

DRAWING No C09447.74-SSDA2000
ISSUE E



EROSION AND SEDIMENT CONTROL PLAN
SCALE 1:500

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

SEDIMENTATION BASIN NOTES:

1. REFER TO SEDIMENT & EROSION CONTROL NOTES.
2. FOR SEDIMENT AND EROSION CONTROL DETAILS, REFER TO THE LANDCOM 'BLUE BOOK' AND EXTRACTS ON DRAWING SSDA2250.
3. SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWAER-THE BLUE BOOK'. CAPACITY BASED ON 5-DAY RAINFALL DEPTHS AT 85th PERCENTILE INTENSITY (32.2mm) IN THE LIVERPOOL CATCHMENT AREA.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
3. REFER TO DRAWING _____ FOR SEDIMENTATION BASIN CALCULATIONS

SEDIMENT CONTROL BASIN NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASINS SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF BASIN.
4. DEWATERING OF BASIN TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
5. FOLLOWING DEWATERING PER NOTE 4, WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY AFTER A FOUR DAY SETTLING PERIOD FOLLOWING A STORM EVENT.
6. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS AS REQUIRED.
7. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
8. THE USE OF ALUM (OR ANY OTHER ALTERNATIVE) AS A FLOCCULANT IS NOT RECOMMENDED. ALUM OR ANY OTHER FLOCCULANT IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
9. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L. CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM. CORRELATION TESTS MUST BE UNDERTAKEN ON SITE TO ENSURE THIS IS ACHIEVED.
10. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE CLEAN WATER (BEING WATER WITHIN THE ADOPTED CRITERIA) WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
11. IF WATER EXCEEDS TSS OF 50mg/L DURING DEWATERING, PUMPING IS TO CEASE. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.
12. PROVIDE SECURITY FENCE TO BASIN FOR SAFETY.

SEDIMENT CONTROL POND NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASIN'S POND SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF POND.
4. WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY DURING SETTLING PERIOD.
5. PROVIDE SECURITY FENCE TO POND FOR SAFETY.
6. DEWATERING OF POND TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED IN A TIMELY MANNER BEFORE THE NEXT RAIN EVENT AND WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
7. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS
8. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
9. THE USE OF ALUM AS A FLOCULANT IS NOT RECOMMENDED AND IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
10. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L (75 NTU). CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM.
11. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE RELATIVELY CLEAN WATER WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
12. IF WATER EXCEEDS TSS OF 50mg/L (75 NTU) DURING DEWATERING, PUMPING IS TO CEASE.
13. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.

ESC DETAILED DESIGN AND CONSTRUCTION FLEXIBILITY:

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE INDICATIVE AND HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE PRELIMINARY ESCP. FINAL LOCATIONS, DIMENSIONS AND CONFIGURATIONS MAY BE ADJUSTED DURING DETAILED DESIGN AND CONSTRUCTION, PROVIDED THAT ALL MEASURES ACHIEVE EQUAL OR IMPROVED COMPLIANCE WITH THE REQUIREMENTS OF MANAGING URBAN STORMWATER – SOILS & CONSTRUCTION (LANDCOM, 2004) AND NO REDUCTION IN ENVIRONMENTAL PERFORMANCE OCCURS.

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH
- DENOTES EXISTING POND TO BE DEWATERED

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

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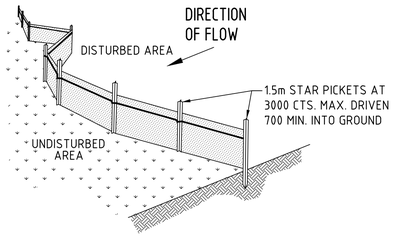
DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN

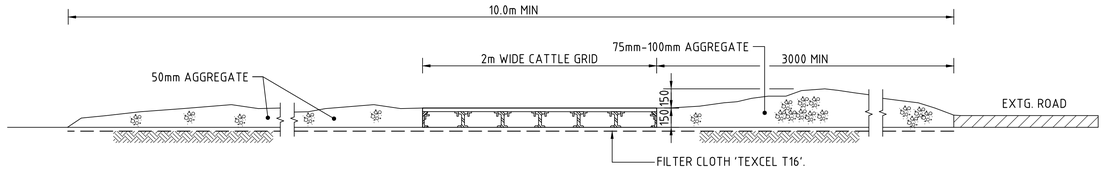
DRAWING No C09447.74-SSDA2200 ISSUE D



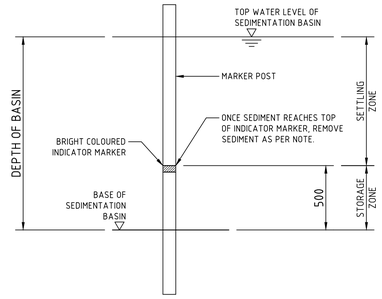
TYPICAL SILT FENCE DETAIL

N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL

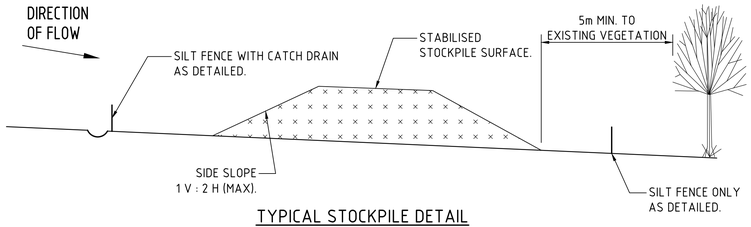


SECTION 1:20 1 - : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



SEDIMENT STORAGE MARKER

SCALE 1:20

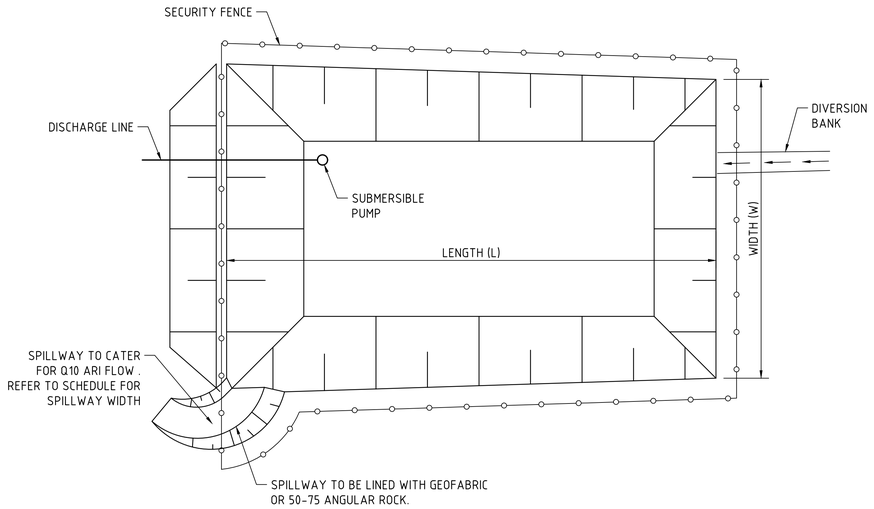


TYPICAL STOCKPILE DETAIL

N.T.S

STOCKPILE NOTES

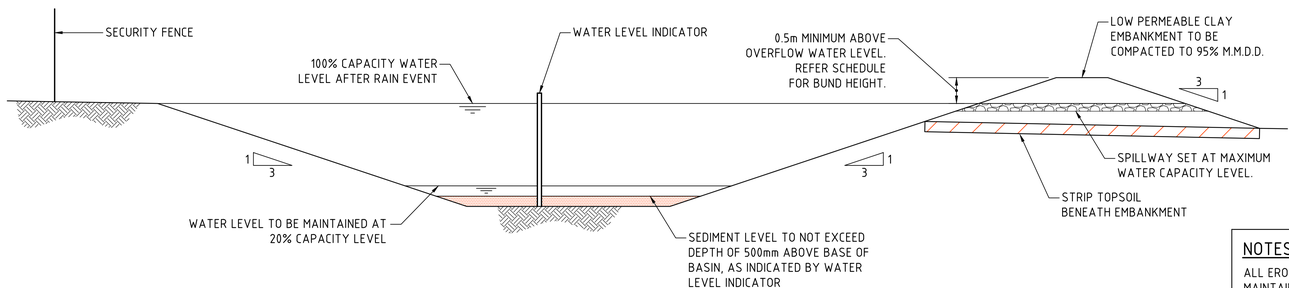
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



TYPICAL SEDIMENT CONTROL POND PLAN

SCALE 1:250

SPILLWAY DETAIL & SCHEDULE					
CATCHMENT (Ha)	FLOW (m^3/s)	WIDTH (mm)	FLOW DEPTH (mm)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (mm)
0.20	0.14	1000	200	-	600
0.5	0.2	2000	200	-	600
1	0.3	2000	200	-	700
2	0.6	4000	200	-	700
5	1.4	5000	300	200	800
10	2.8	8000	350	200	850
20	5.5	14000	400	250	900
40	11.0	20000	500	250	1000



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50

NOTES:

ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEPT DAILY.

1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

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CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
EROSION AND SEDIMENT CONTROL DETAILS

DRAWING No C09447.74-SSDA2250 ISSUE D

SITE STORMWATER DISCHARGE

SITE DISCHARGE TO EXISTING PIT EX-CA-1 AT IL 74.43m.
CONVERT KIP TO BUTTERFLY GRATE AND MAKE GOOD THE CONNECTION.
CONFIRM INVERT PRIOR TO COMMENCEMENT OF CONSTRUCTION & REFER ANY CONCERNS TO THE ENGINEER

PROPOSED 40kL UNDERGROUND RAINWATER TANK

PROPOSED RETAINING WALL

PUMP ROOM

SPRINKLER TANK

AWNING ABOVE

ROOF CATCHMENT DRAINAING TO RAINWATER TANK
AREA = 5,000m²

WAREHOUSE 2A
FFL RL 78.00m +/- 200mm

EXISTING RETAINING WALL.
CONNECT RETAINING WALL SUBSOIL DRAINAGE TO LOT 2A DRAINAGE

EXISTING RETAINING WALL.
CONNECT RETAINING WALL SUBSOIL DRAINAGE TO LOT 2A DRAINAGE

ELECTRICAL EASEMENT

ACOUSTIC WALL

STORMWWATER DRAINAGE PLAN
SCALE 1:500

STORMWATER DRAINAGE NOTES:

STORMWATER DRAINAGE NOTES ARE APPLICABLE FOR PRIVATE INTERNAL STORMWATER DRAINAGE WORKS ONLY, REFERENCE SHOULD BE MADE TO THE RELEVANT COUNCIL/ ROADS AUTHORITY GUIDELINES AND SPECIFICATIONS FOR ALL STORMWATER DRAINAGE WORKS NOT PART OF THE PRIVATE INTERNAL WORKS.

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSDA2500.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 9 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
14. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15. WHERE SUBSOIL DRAINAGE PASSES UNDER A PAVEMENT OR A SLAB, UNSLOTTED UPVC ARE TO BE PROVIDED UNLESS NOTED OTHERWISE.
16. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
17. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
18. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
19. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. WHERE FORKLIFT USE IS REQUIRED EXTERNAL TO THE BUILDING PIT COVERS SHALL BE MIN. CLASS E. PIT COVERS IN CONTAINER PAVEMENTS ARE TO BE MIN. CLASS G. REFER TO ENGINEER FOR SPECIAL DETAILS. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
20. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
21. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
22. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.
23. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- AERIAL ROOFWATER LINE
- SIPHONIC LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	C
ISSUED FOR INFORMATION	22.05.26	B
ISSUED FOR INFORMATION	01.05.26	A

AMENDMENTS DATE ISSUE

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Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA2400

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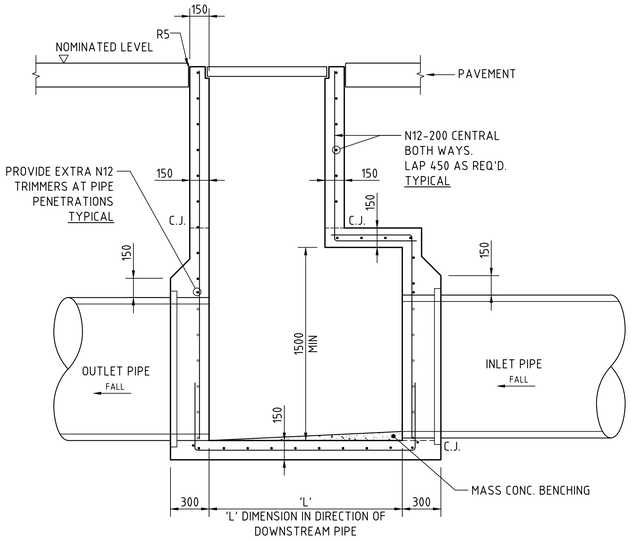
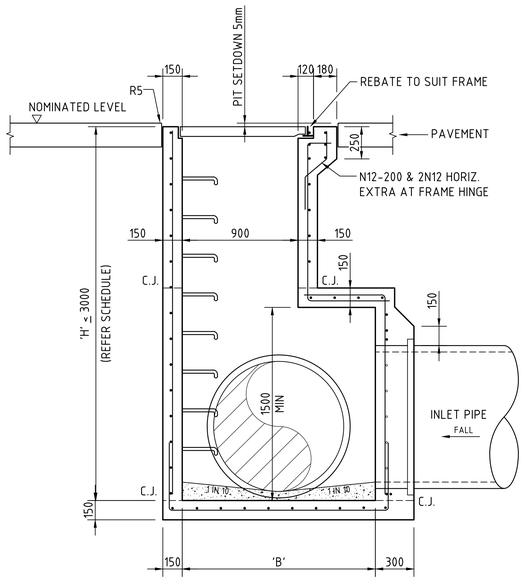
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN

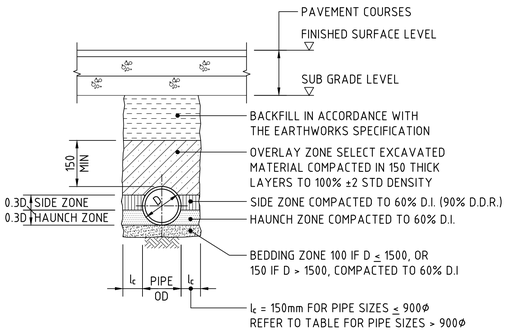
DRAWING No C09447.74-SSDA2400 ISSUE D



LONG SECTION
SCALE 1:20



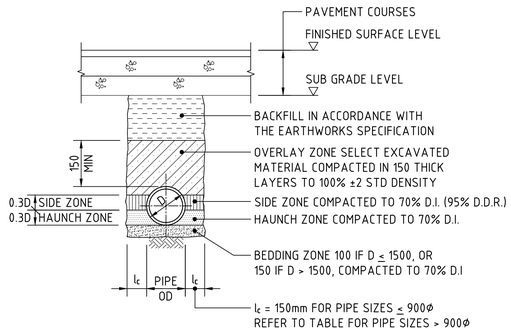
CROSS SECTION
SCALE 1:20



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

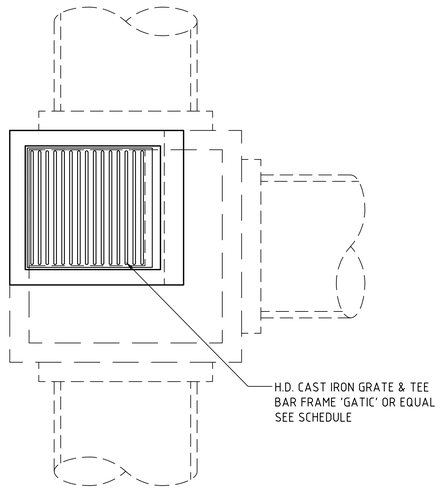
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	



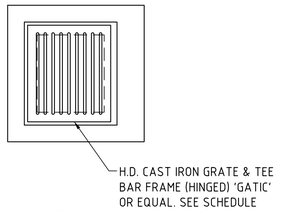
TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

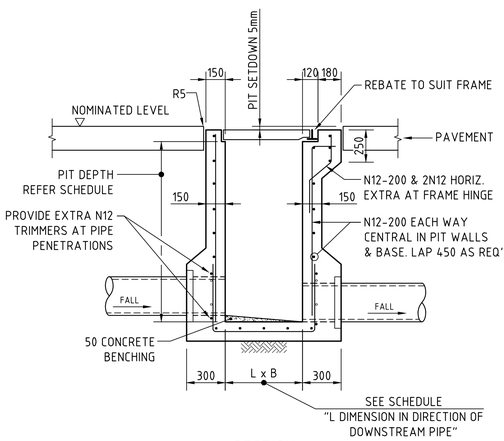


PLAN
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP
SUBSOIL NOT SHOWN
FOR CLARITY

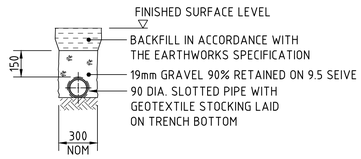


PLAN
SCALE 1:20



SECTION
SCALE 1:20

SINGLE GRATED GULLY PIT - SGGP



SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED AA | DRAWN DG | DATE APR' 26 | CHECKED DS | SIZE B1 | SCALE AS SHOWN | CAD REF: C09447.74-SSDA2451

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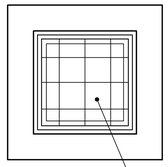
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

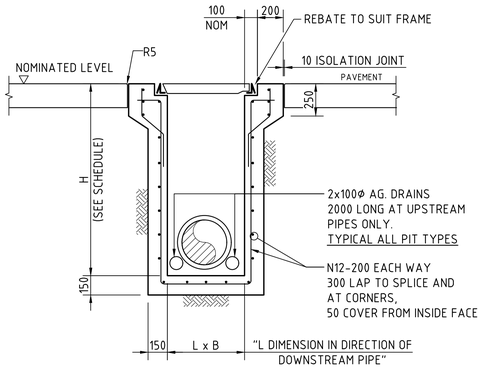
DRAWING TITLE
STORMWATER DRAINAGE DETAIL
SHEET 1

DRAWING No C09447.74-SSDA2451 ISSUE D



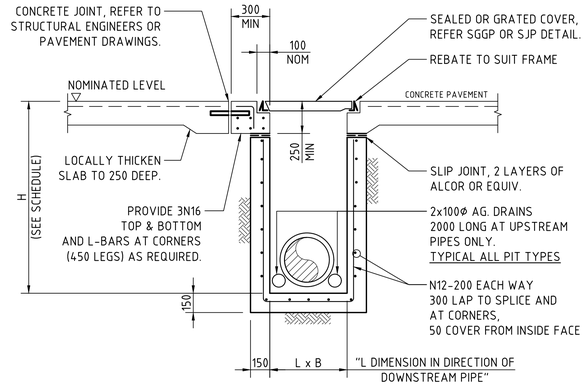
CONCRETE FILLED CAST IRON COVER
& FRAME (GATIC OR EQUAL)
SEE SCHEDULE

PLAN
SCALE 1:20



SECTION
SCALE 1:20

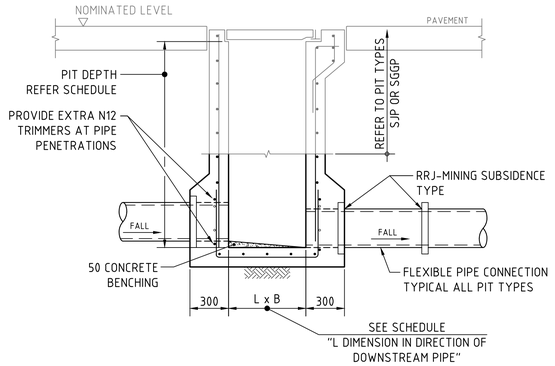
SEALED JUNCTION PIT - SJP



SECTION
SCALE 1:20

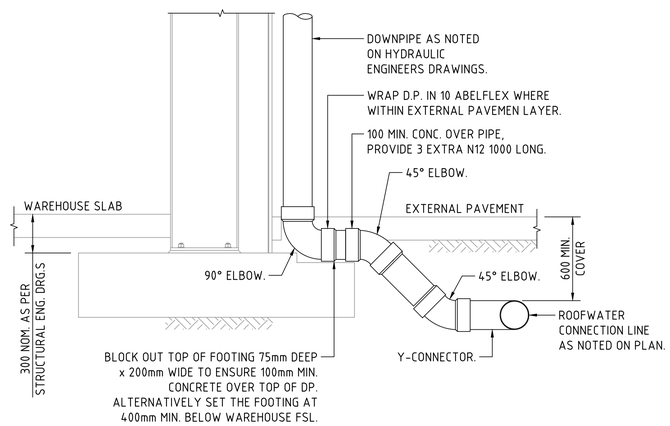
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's,
WHERE PITS ARE LOCATED IN THE CORNER OF SLAB
PANELS OR ADJACENT TO SLAB PANEL JOINTS)

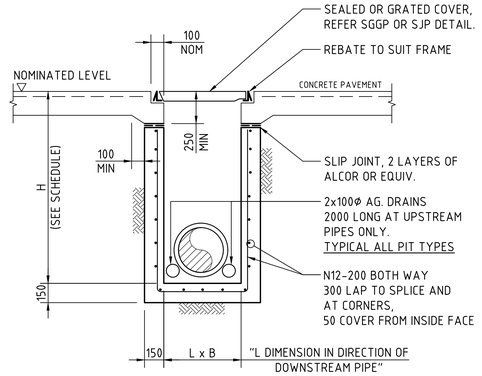


SECTION
SCALE 1:20

FLEXIBLE PIPE CONNECTION
TYPICAL ALL PIT TYPES



DOWNPIPE TURN-UP DETAIL A
(AT FOOTING LOCATION)
SCALE 1:20



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE
JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

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AMENDMENTS	DATE	ISSUE

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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA2452

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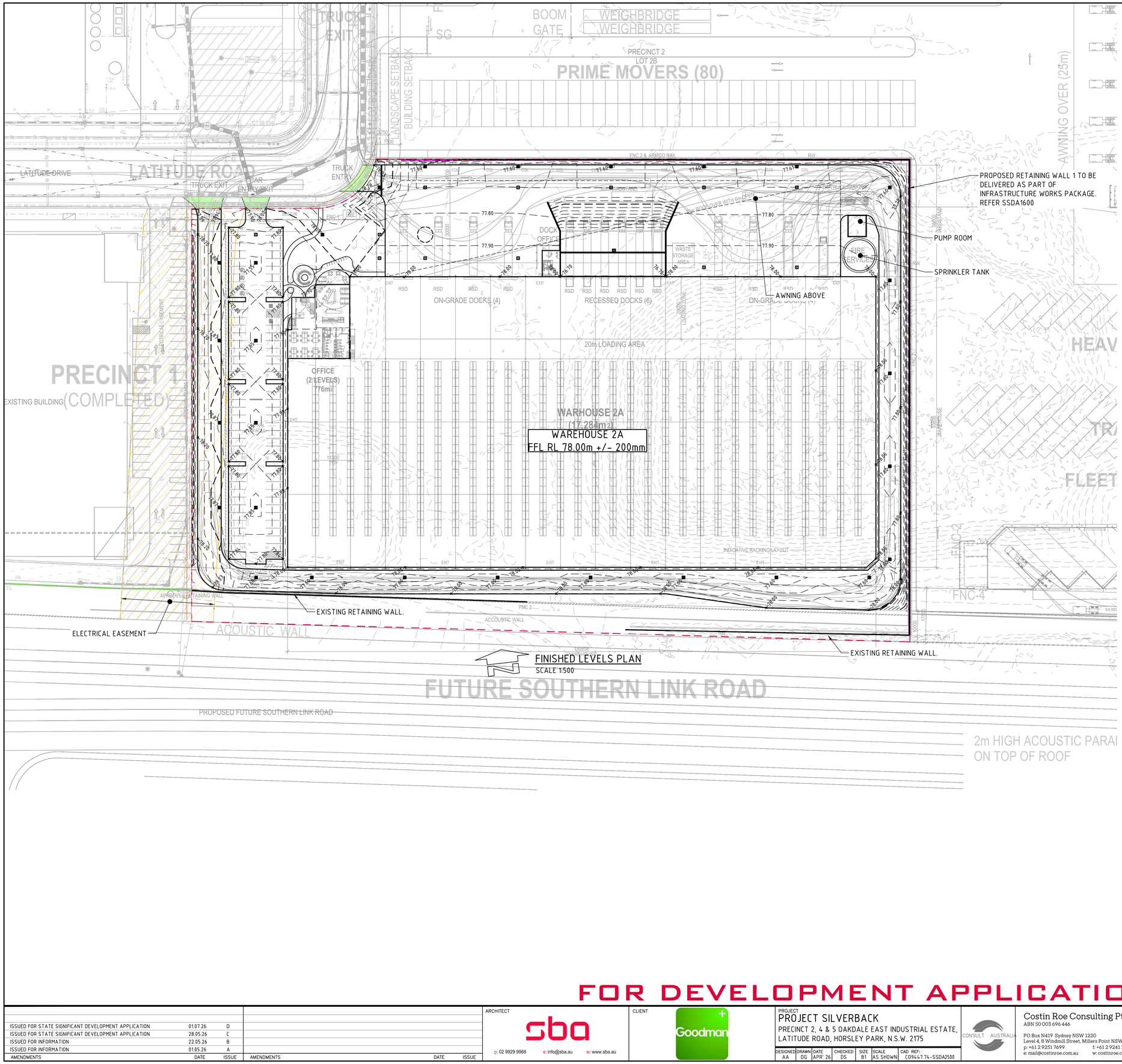
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE DETAIL
SHEET 2

DRAWING No C09447.74-SSDA2452
ISSUE D



FINISHED LEVELS PLAN
SCALE 1:500

FINISHED LEVELS PLAN NOTES:

1. LEVELS DATUM IS AUSTRALIAN HEIGHT DATUM (A.H.D.).
2. GRADING REQUIREMENTS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2890.1, AS2890.2 AND AS2890.6.
3. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
4. CONTOUR INTERVALS
   - THE MINOR CONTOUR INTERVAL IS 0.1m.
   - THE MAJOR CONTOUR INTERVAL IS 0.5m.
5. HARDSTAND GRADING
   - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
   - GRADING OF ON-GRADE DOCKS TO BE 1:100 (1%) FALL AWAY FROM THE DOCK FACE FOR A LENGTH OF 15m U.N.O.
   - GRADING OF TRUCK CIRCULATION ZONES TO BE MINIMUM AS NOTED ABOVE, 3-4% NOMINAL AND MAX. 5%.
6. CAR PARKING AREA GRADES
   - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%), DESIRABLE MINIMUM GRADE 1:50 (2%).
   - MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) N CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
   - DISABLED ACCESS PARKING ZONES AND SHARED SPACE TO BE MAXIMUM OF 1:33 (3%) IN ASPHALT PAVEMENT AND MAXIMUM OF 1:40 (2.5%) IN CONCRETE PAVEMENT.
   - CARPARK RAMP GRADES TO BE MAX 1:5 WITH 2.5m SMOOTH TRANSITION AT TOP AND BOTTOM U.N.O.
7. TRUCK RAMP GRADES
   - MAXIMUM B-DOUBLE OR 19.0m AV RAMP GRADES ARE TO BE 1:8.3 (12%) U.N.O. ON PLAN
   - PROVIDE MINIMUM 4.0m LONG TRANSITION WHERE CHANGES OF GRADE EXCEED 1:20 (5%) AT A CREST U.N.O.
   - PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGE OF GRADE EXCEED 1:20 (5%) AT A SAG U.N.O.
   - TRANSITIONS ARE TO PROVIDE A SMOOTH CONTINOUS CIRCULAR AND TANGENTIAL CHANGE IN GRADE TO ENSURE NO SHARP OR ACUTE CHANGES IN GRADE ARE PRESENT.
8. WHERE FIRE BRIGADE ACCESS IS REQUIRED, MAXIMUM RAMP GRADIENTS ARE TO BE 1:6 (16.6%), DESIRABLE RAMP GRADIENTS ARE TO BE 1:8 (12.5%) WITH 7m TRANSITION TOP AND BOTTOM U.N.O. ON PLAN.
9. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H U.N.O. BASED ON GEOTECHNICAL ASSESSMENT. PROVIDE MINIMUM 0.5m BERM BETWEEN THE BACK OF KERB OR PAVEMENT EDGES AND THE TOP OR TOE OF A BATTER.
10. ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL. GRADE.
12. ALL PAVEMENTS ARE TO BE SET AT 30mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS. PROVIDE LOCAL FEATHERING AT DOORWAYS OR ROLLER SHUTTERS TO PROVIDE FLUSH FINISH AS REQUIRED.
13. WHERE NEW AND EXISTING INTERFACING IS REQUIRED, MATCH EXISTING LEVELS AND PROVIDE SMOOTH INTERFACE BETWEEN NEW AND EXISTING GRADIENTS. REFER ANY CONCERNS TO THE ENGINEER.

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 – FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 – FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

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PROJECT SILVERBACK
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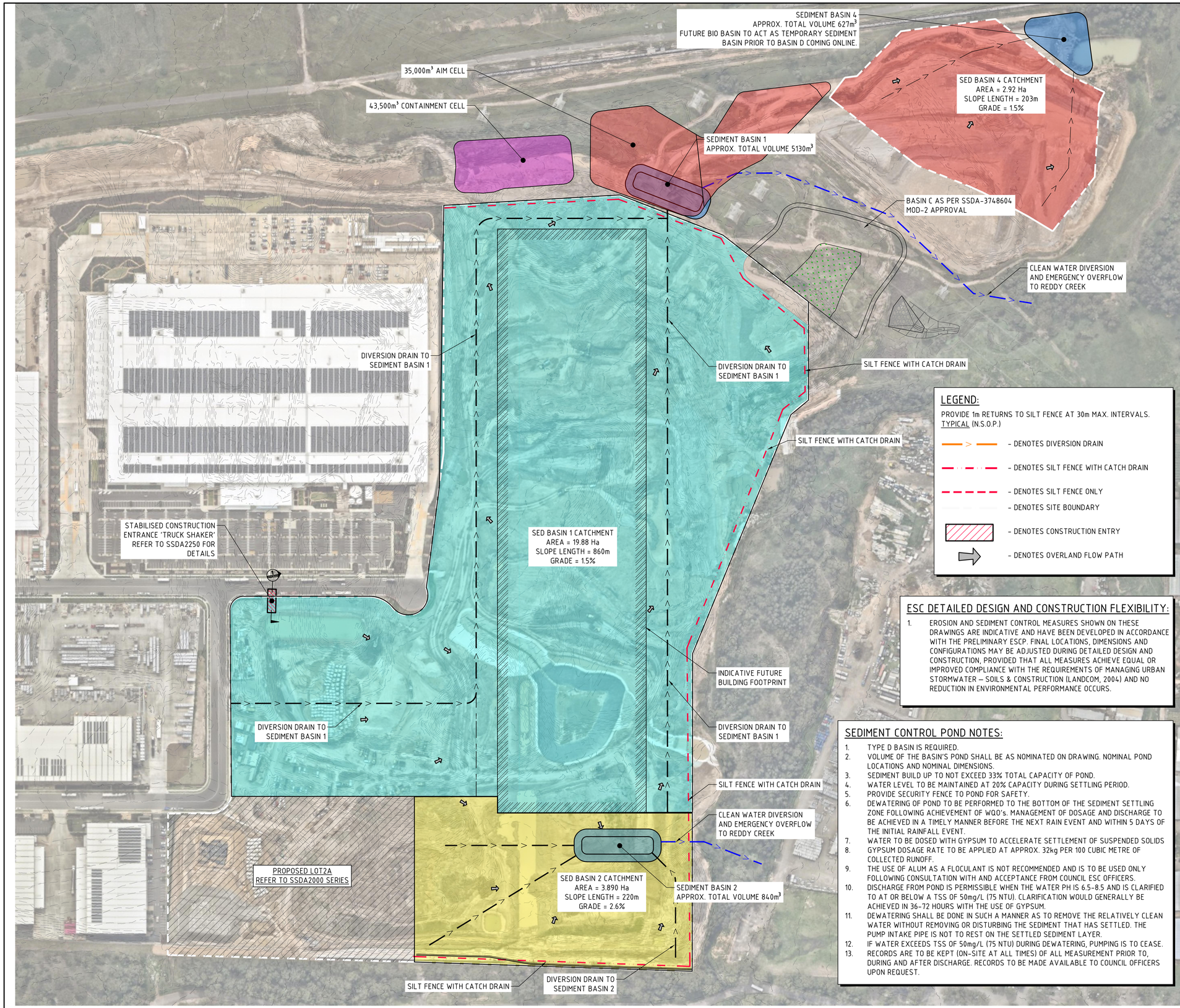
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA2500

DRAWING TITLE
FINISHED LEVELS PLAN

DRAWING No C09447.74-SSDA2500
ISSUE D



LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES SITE BOUNDARY
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.
18. ESC PLANS ARE SUBJECT TO CHANGE SHOULD CPESC SIGNOFF BE RECEIVED

SEDIMENTATION BASIN NOTES:

1. REFER TO SEDIMENT & EROSION CONTROL NOTES.
2. FOR SEDIMENT AND EROSION CONTROL DETAILS, REFER TO THE LANDCOM 'BLUE BOOK' AND EXTRACTS ON DRAWING SSDA1250.
3. SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWAER-THE BLUE BOOK'. CAPACITY BASED ON 5-DAY RAINFALL DEPTHS AT 85th PERCENTILE INTENSITY (32.2mm) IN THE LIVERPOOL CATCHMENT AREA.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
3. REFER TO DRAWING SSDA1250 FOR SEDIMENTATION BASIN CALCULATIONS

ESC DETAILED DESIGN AND CONSTRUCTION FLEXIBILITY:

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE INDICATIVE AND HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE PRELIMINARY ESCP. FINAL LOCATIONS, DIMENSIONS AND CONFIGURATIONS MAY BE ADJUSTED DURING DETAILED DESIGN AND CONSTRUCTION, PROVIDED THAT ALL MEASURES ACHIEVE EQUAL OR IMPROVED COMPLIANCE WITH THE REQUIREMENTS OF MANAGING URBAN STORMWATER – SOILS & CONSTRUCTION (LANDCOM, 2004) AND NO REDUCTION IN ENVIRONMENTAL PERFORMANCE OCCURS.

SEDIMENT CONTROL POND NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASIN'S POND SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF POND.
4. WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY DURING SETTLING PERIOD.
5. PROVIDE SECURITY FENCE TO POND FOR SAFETY.
6. DEWATERING OF POND TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED IN A TIMELY MANNER BEFORE THE NEXT RAIN EVENT AND WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
7. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS
8. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
9. THE USE OF ALUM AS A FLOCULANT IS NOT RECOMMENDED AND IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
10. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L (75 NTU). CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM.
11. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE RELATIVELY CLEAN WATER WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
12. IF WATER EXCEEDS TSS OF 50mg/L (75 NTU) DURING DEWATERING, PUMPING IS TO CEASE.
13. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.

SEDIMENT CONTROL BASIN NOTES:

1. TYPE D BASIN IS REQUIRED.
2. VOLUME OF THE BASINS SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
3. SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF BASIN.
4. DEWATERING OF BASIN TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO's. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
5. FOLLOWING DEWATERING PER NOTE 4, WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY AFTER A FOUR DAY SETTLING PERIOD FOLLOWING A STORM EVENT.
6. WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS AS REQUIRED.
7. GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
8. THE USE OF ALUM (OR ANY OTHER ALTERNATIVE) AS A FLOCCULANT IS NOT RECOMMENDED. ALUM OR ANY OTHER FLOCCULANT IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
9. DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L. CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM. CORRELATION TESTS MUST BE UNDERTAKEN ON SITE TO ENSURE THIS IS ACHIEVED.
10. DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE CLEAN WATER (BEING WATER WITHIN THE ADOPTED CRITERIA) WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
11. IF WATER EXCEEDS TSS OF 50mg/L DURING DEWATERING, PUMPING IS TO CEASE. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.
12. PROVIDE SECURITY FENCE TO BASIN FOR SAFETY.

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA3200

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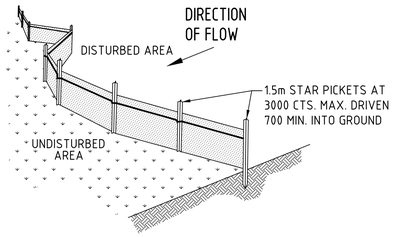
DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN

DRAWING No C09447.74-SSDA3200

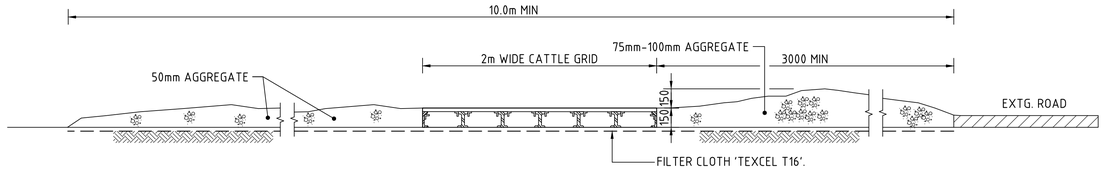
ISSUE D



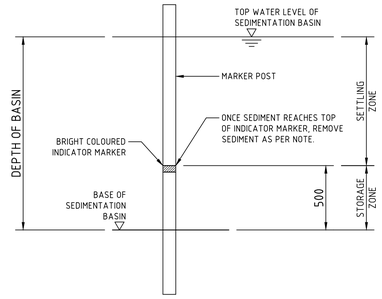
TYPICAL SILT FENCE DETAIL

N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL

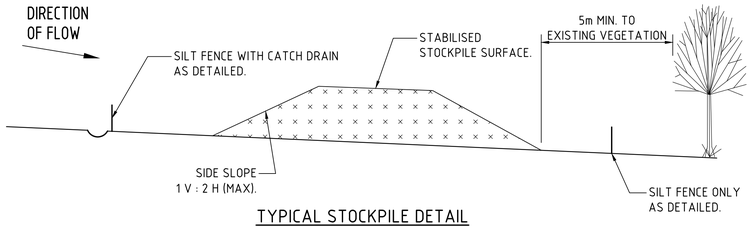


SECTION 1:20 1 - : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



SEDIMENT STORAGE MARKER

SCALE 1:20

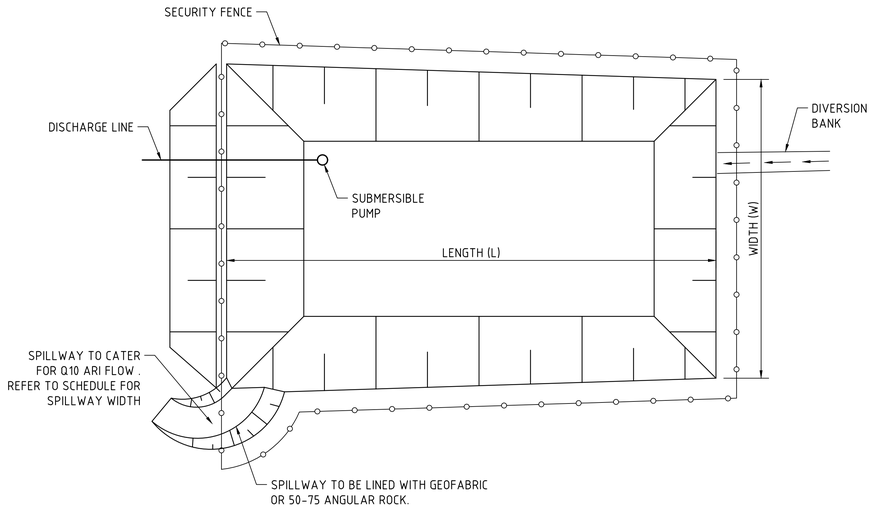


TYPICAL STOCKPILE DETAIL

N.T.S

STOCKPILE NOTES

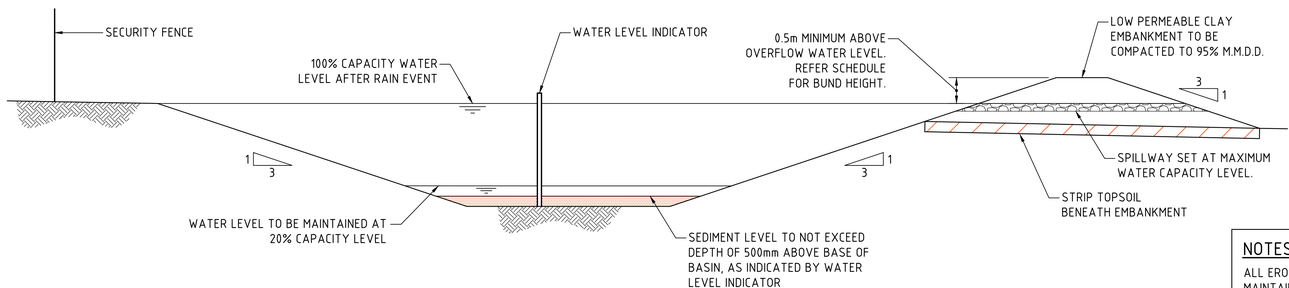
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



TYPICAL SEDIMENT CONTROL POND PLAN

SCALE 1:250

SPILLWAY DETAIL & SCHEDULE					
CATCHMENT (Ha)	FLOW (m^3/s)	WIDTH (mm)	FLOW DEPTH (mm)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (mm)
0.20	0.14	1000	200	-	600
0.5	0.2	2000	200	-	600
1	0.3	2000	200	-	700
2	0.6	4000	200	-	700
5	1.4	5000	300	200	800
10	2.8	8000	350	200	850
20	5.5	14000	400	250	900
40	11.0	20000	500	250	1000



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50

NOTES:

ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEPT DAILY.

1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED AA | DRAWN DG | DATE APR' 26 | CHECKED DS | SIZE B1 | SCALE AS SHOWN | CAD REF: C09447.74-SSDA3250

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
EROSION AND SEDIMENT CONTROL DETAILS

DRAWING No C09447.74-SSDA3250 ISSUE C

PROPOSED GROSS POLLUTANT TRAP
OCEANSAVE OS-2318-D OR SIMILAR
APPROVED EQUIVALENT

SITE DISCHARGE 3:
DISCHARGE TO BASIN D. REFER
DRAWING SSDA1430

BIO-RETENTION AND OSD BASIN D
REFER DRAWING
C09774.74-SSDA1430

EXISTING ELECTRICAL STANCHIONS

NATIVE VEGETATION

FUTURE RAIL CORRIDOR
FLYOVER BY TFNSW

PROPOSED RAINWATER TANK
UNDERGROUND TO FUTURE DESIGN

ROOF CATCHMENT DRAINING TO
RAINWATER TANK
AREA = 12,000m²

SITE DISCHARGE 2:
DISCHARGE TO COUNCIL TRUNK
AT PIT IN-07 DRAINAGE IL62.48.

SSDA3405

SSDA3402

PRECINCT 2
WAREHOUSE
GROUND FLOOR - 77,062 m2
LEVEL 1 - 43,188 m2
LEVEL 1 VAN PARKING - 15,098 m2
MEZZANINES - 50,792 m2

AWNING ABOVE

BUILDING 3B
(COMPLETED)

PROPOSED COUNCIL TRUNK DRAINAGE
REFER DRAWING C09447.74-SSDA1400

DOCK OFFICE A
(2 LEVEL)
272 m²

DOCK OFFICE
(2 LEVEL)
272 m²

AWNING ABOVE

PROPOSED WAREHOUSE
FFL RL 70.50

BASIN

BIO-RETENTION AND OSD BASIN C AS
APPROVED UNDER SSDA-3748604

C2 ENVIRONMENTAL
CONSERVATION ZONE

C2 ENVIRONMENTAL

REDDY CREEK

PROPOSED
SPRINKLER TANKS.

PROPOSED
PUMP ROOM

SITE DISCHARGE 1:
DISCHARGE TO COUNCIL TRUNK
AT PIT IN-02 DRAINAGE IL66.59.

SSDA3403

AWNING ABOVE

KEYSTONE DRIVE

PRECINCT 1
(COMPLETED)

SSDA3401

AWNING ABOVE

AWNING ABOVE

AWNING ABOVE

PROPOSED WEIGHBRIDGE

PROPOSED LOT2A
REFER TO SSDA2000 SERIES

PROPOSED WAREHOUSE 2A
FFL RL 78.00 ± 200mm

SSDA3404

HEAVY RIGID
PARKING (13)

FUTURE SOUTHERN LINK ROAD

STORMWATER DRAINAGE KEY PLAN
SCALE 1:1500

STORMWATER DRAINAGE NOTES:

STORMWATER DRAINAGE NOTES ARE APPLICABLE FOR PRIVATE INTERNAL STORMWATER DRAINAGE WORKS ONLY, REFERENCE SHOULD BE MADE TO THE RELEVANT COUNCIL/ ROADS AUTHORITY GUIDELINES AND SPECIFICATIONS FOR ALL STORMWATER DRAINAGE WORKS NOT PART OF THE PRIVATE INTERNAL WORKS.

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSDA3500.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Φ375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Φ300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 9 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Φ100 uPVC TO EACH SIDE OF PIPE.
14. ALL SUBSOIL DRAINAGE LINES SHALL BE Φ100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15. WHERE SUBSOIL DRAINAGE PASSES UNDER A PAVEMENT OR A SLAB, UNSLOTTED UPVC ARE TO BE PROVIDED UNLESS NOTED OTHERWISE.
16. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
17. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
18. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
19. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. WHERE FORKLIFT USE IS REQUIRED EXTERNAL TO THE BUILDING PIT COVERS SHALL BE MIN. CLASS E. PIT COVERS IN CONTAINER PAVEMENTS ARE TO BE MIN. CLASS G. REFER TO ENGINEER FOR SPECIAL DETAILS. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
20. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
21. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
22. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.
23. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- SW> - PROPOSED DRAINAGE LINE
- SW> - EXISTING DRAINAGE LINE
- SW> - PROPOSED COUNCIL TRUNK DRAINAGE LINE
- DP - ROOFWATER DOWNPIPE (INDICATIVE)
- rw> - ROOFWATER LINE
- a-rw> - AERIAL ROOFWATER LINE
- sd> - SIPHONIC LINE
- ss> - SUBSOIL LINE
- DRAINAGE FLOW DIRECTION
- OVERLAND FLOW DIRECTION
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

NOTES:

1. PITS TO BE FITTED WITH OCEAN PROTECT 'OCEANGUARD OG200' INSERT. SHOWN THUS ◇
2. SUBSOIL DRAINAGE TO BE INSTALLED ALONG ALL KERB AND LANDSCAPED INTERFACES.

ROOFWATER NOTE:

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER. TYPICAL

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE KEY PLAN

DRAWING No C09447.74-SSDA3400 ISSUE E

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY GEOSURV DATED 22/03/2024.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- SW> – PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- SW> – PROPOSED COUNCIL TRUNK DRAINAGE LINE
- DP – ROOFWATER DOWNPIPE (INDICATIVE)
- RW> – ROOFWATER LINE
- SS> – SUBSOIL LINE
- DRAINAGE FLOW DIRECTION
- OVERLAND FLOW DIRECTION
- 50.00 – FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 – FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

NOTES:

1. PITS TO BE FITTED WITH OCEAN PROTECT 'OCEANGUARD OG200' INSERT. SHOWN THUS ◇
2. SUBSOIL DRAINAGE TO BE INSTALLED ALONG ALL KERB AND LANDSCAPED INTERFACES.
3. REFER DRAWING SSDA3400 FOR STORMWATER DRAINAGE NOTES

ROOFWATER NOTE:

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER. TYPICAL

PROPOSED PUMP ROOM

PROPOSED SPRINKLER TANKS.

SITE DISCHARGE 1:
DISCHARGE TO COUNCIL TRUNK AT PIT IN-02 DRAINAGE IL66.59.

KEYSTONE DRIVE

3x FLAG POLES

LATITUDE ROAD

CAR ENTRY/EXIT

VAN ENTRY/EXIT

BIKE PARKING (48)

MAIN OFFICE LEVEL 1 120 m

SKY BRIDGE ABOVE

AWNING ABOVE

PROPOSED WAREHOUSE FFL RL 70.50

LEVEL 1 WAREHOUSE VAN PARKING OVER

CAR ENTRY/EXIT

CAR ENTRY/EXIT

TRUCK ENTRY

TRUCK EXIT

CARPARK (646)

PRECINCT 1 (COMPLETED)

AUTHORITY SWITCH STATION

HV SWITCH ROOM

FIRE TRUCK PARKING

SERVICES

BOOM GATE

WEIGHBRIDGE

PROPOSED WEIGHBRIDGE

DEMO MOVERS (30)

AWNING OVER (25m)

SINGLE LEVEL WAREHOUSE

BAL - 12.5

PROPOSED LOT2A
REFER TO SSDA2000 SERIES

LOT BOUNDARY

RW & FNC2

HEAVY RIGID PARKING (24)

TRAILER P

BREAKLINE – REFER TO DRAWING SSDA3403 AND SSDA3404 FOR CONTINUATION

STORMWATER DRAINAGE PLAN - SHEET 1
SCALE 1:500

SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS	DATE	ISSUE

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CLIENT
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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
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COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 1

DRAWING No C09447.74-SSDA3401

ISSUE D

LEGEND:

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- FREIGHT CORRIDOR EASEMENT

NOTES:

1. PITS TO BE FITTED WITH OCEAN PROTECT 'OCEANGUARD OG200' INSERT. SHOWN THUS ◇
2. SUBSOIL DRAINAGE TO BE INSTALLED ALONG ALL KERB AND LANDSCAPED INTERFACES.
3. REFER DRAWING SSDA3400 FOR STORMWATER DRAINAGE NOTES

ROOFWATER NOTE:

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER. TYPICAL

PROPOSED 220kL RAINWATER TANK UNDERGROUND

ROOF CATCHMENT DRAINING TO RAINWATER TANK AREA = 12,000m²

SITE DISCHARGE 2:
DISCHARGE TO COUNCIL TRUNK AT PIT IN-07 DRAINAGE IL62.48.

BIO-RETENTION AND OSD BASIN C AS APPROVED UNDER SSDA-3748604

ATLAN VORTCEPTOR-OVOR.1200 GROSS POLLUTANT TRAP WITHIN COUNCIL TRUNK DRAINAGE

FUTURE RAIL CORRIDOR FLYOVER BY TfNSW

PROPOSED COUNCIL TRUNK DRAINAGE REFER DRAWING C09447.74-SSDA1400

FUTURE RAIL CORRIDOR FLYOVER

AWNING ABOVE

AWNING ABOVE

PROPOSED SIPHONIC ROOF DRAINAGE TO RAINWATER TANK

PROPOSED WAREHOUSE FFL RL 70.50

PRECINCT 2

LOT 2B

WAREHOUSE

GROUND FLOOR - 77,062 m 2

LEVEL 1 - 43,188 m 2

LEVEL 1 VA - 15,098 m 2

MEZZANINES - 50,792 m 2

RL 70.50

DOCK OFFICE A (2 LEVEL) 272 m²

DOCK OFFICE B (2 LEVEL) 272 m²

B-DOUBLE PARKING (44)

TRAILER & HEAVY RIGID PARKING (55 PARKING (20)

VEGETATION

NATIVE VEGETATION

BASIN

C2 ENVIRONMENTAL CONSERVATION ZONE

LOT BOUNDARY

RW & FNC-4

FNC-2

FNC-2 & RW

BREAKLINE - REFER TO DRAWING SSDA3403 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3405 FOR CONTINUATION

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 2
SCALE 1:500

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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

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CRC COSTIN ROE CONSULTING — CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 2

DRAWING No C09447.74-SSDA3402

ISSUE D

BREAKLINE - REFER TO DRAWING SSDA3402 FOR CONTINUATION

DOCK OFFICE A
(2 LEVEL)
272 m²

DOCK OFFICE B
(2 LEVEL)
272 m²

SATELLITE OFFICE
(2 LEVEL)
m²

EXTENT OF LEVEL 1 WAREHOUSE OVER

PROPOSED WAREHOUSE
FFL RL 70.50

PROPOSED WAREHOUSE 2
FFL RL 70.50 ± 200mm

PROPOSED WAREHOUSE
FFL RL 70.50

LEVEL 1 WAREHOUSE VAN PARKING OVER

LOT BOUNDARY

REDDY CREEK

C2 ENVIRONMENTAL CONSERVATION ZONE

RW & FNC-2 & SUB

RW & FNC-4

RW & FNC-1

PROPOSED PUMP ROOM

PROPOSED SPRINKLER TANKS.

REFER ROOFWATER NOTE

AWNING ABOVE

SITE DISCHARGE 1:
DISCHARGE TO COUNCIL TRUNK AT PIT IN-02 DRAINAGE IL66.59

BIKE PARKING (48)

MAIN OFFICE LEVEL 120 m

HEAVY RIGID PARKING (6)

& ACOUSTIC WALL & CB

BAL - 12.5

NATIVE VEGETATION

PIT G09 · PIT G08 · PIT G08a · PIT G07 · PIT G07a · PIT G06 · PIT G06a · PIT G05 · PIT G05a · PIT G04 · PIT G03 · PIT G02 · PIT G02a · PIT G01 · PIT F22 · PIT A06b · PIT A05 · PIT A06 · PIT F21 · PIT F20 · PIT H14a · PIT H14 · PIT H13a · PIT H13 · PIT H12a · PIT H12 · PIT H11a · PIT H11 · PIT H10a · PIT H10 · PIT H09a · PIT H09 · PIT H08a · PIT H08 · PIT H07a · PIT H07 · PIT H06a · PIT H06 · PIT H05a · PIT H05 · PIT H04a · PIT I06 · PIT I05 · PIT I04 · PIT I03 · PIT I02 · PIT I01 · PIT J03 · PIT J02 · PIT J01 · PIT K01

LEGEND:

LEVELS DATUM IS AHD.

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- OVERLAND FLOW DIRECTION
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
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- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

NOTES:

1. PITS TO BE FITTED WITH OCEAN PROTECT 'OCEANGUARD OG200' INSERT. SHOWN THUS ◇
2. SUBSOIL DRAINAGE TO BE INSTALLED ALONG ALL KERB AND LANDSCAPED INTERFACES.
3. REFER DRAWING SSDA3400 FOR STORMWATER DRAINAGE NOTES.

ROOFWATER NOTE:

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER. TYPICAL

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

BREAKLINE - REFER TO DRAWING SSDA3401 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3404 FOR CONTINUATION

STORMWATER DRAINAGE PLAN - SHEET 3
SCALE 1:500

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS DATE ISSUE

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 3

DRAWING No C09447.74-SSDA3403 ISSUE D

BREAKLINE - REFER TO DRAWING SSDA3403 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3401 FOR CONTINUATION

SINGLE LEVEL WAREHOUSE

PROPOSED WAREHOUSE
FFL RL 70.50

AWNING ABOVE

AWNING OVER (25m)

BAL - 12.5

NATIVE VEGETATION

REDDY CREEK

SITE BOUNDARY

FIRE TRUCK PARKING

BOOM GATE

SERVICES

HEAVY RIGID PARKING (24)

TRAILER PARKING (14)

TRAILER PARKING (69)

FLEETWORKSHOP & OFFICE
2,373 m²

HEAVY RIGID PARKING (13)

ACOUSTIC WALL

BUILDING SETBACK

RW

LEGEND:

LEVELS DATUM IS AHD.

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- SW> – PROPOSED COUNCIL TRUNK DRAINAGE LINE
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- DRAINAGE FLOW DIRECTION
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NOTES:

1. PITS TO BE FITTED WITH OCEAN PROTECT 'OCEANGUARD OG200' INSERT. SHOWN THUS ◇
2. SUBSOIL DRAINAGE TO BE INSTALLED ALONG ALL KERB AND LANDSCAPED INTERFACES.
3. REFER DRAWING SSDA3400 FOR STORMWATER DRAINAGE NOTES

ROOFWATER NOTE:

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PITS. REFER ALL CONCERN TO ENGINEER. TYPICAL

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 4

SCALE 1:500

FOR DEVELOPMENT APPLICATION

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 4

DRAWING No C09447.74-SSDA3404 ISSUE C

PROPOSED GROSS POLLUTANT TRAP
OCEANSAVE OS-2318-D OR SIMILAR
APPROVED EQUIVALENT

SITE DISCHARGE 3:
DISCHARGE TO BASIN D. REFER
DRAWING SSDA1430

BIO-RETENTION AND OSD BASIN D
REFER DRAWING
C09774.74-SSDA1430

BIO-RETENTION AND OSD BASIN C AS
APPROVED UNDER SSDA-3748604

FUTURE RAIL CORRIDOR
FLYOVER BY TfNSW

BREAKLINE - REFER TO DRAWING SSDA3402 FOR CONTINUATION

VEHICLE CROSSOVER PER
TRANSGRID LOCATION
SUBJECT TO DETAIL DESIGN

C2 ENVIRONMENTAL
CONSERVATION ZONE

LEGEND:

LEVELS DATUM IS AHD.

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ROOFWATER NOTE:

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5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

STORMWATER DRAINAGE PLAN - SHEET 5
SCALE 1:500

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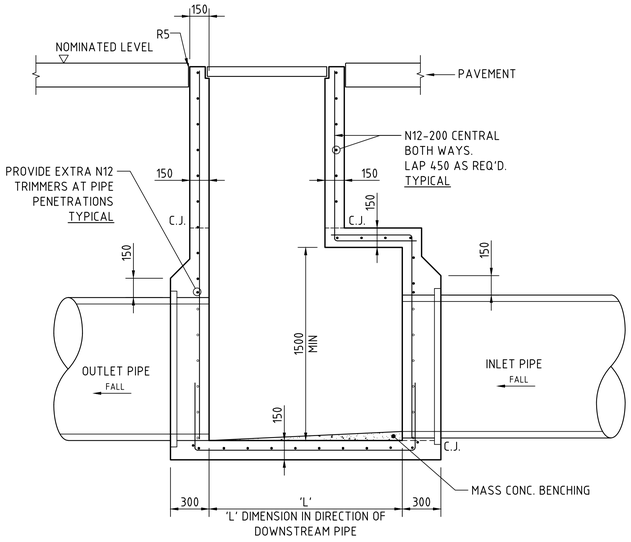
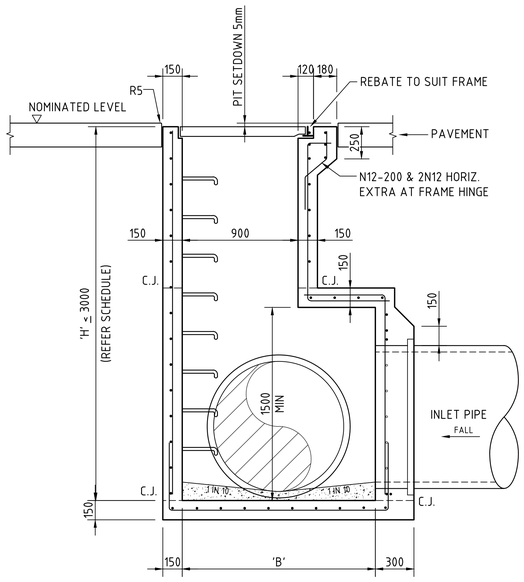
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
STORMWATER DRAINAGE PLAN - SHEET 5

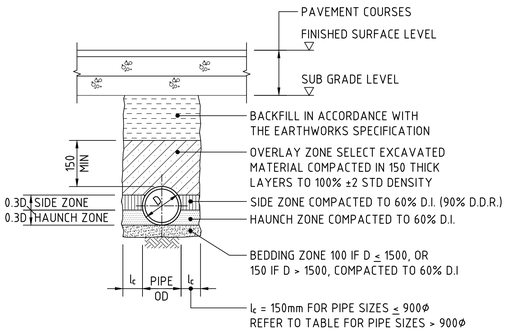
DRAWING No C09447.74-SSDA3405
ISSUE D



LONG SECTION
SCALE 1:20



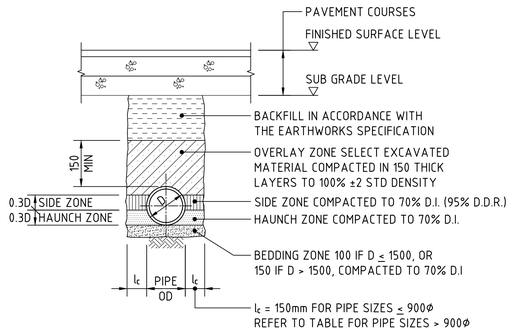
CROSS SECTION
SCALE 1:20



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

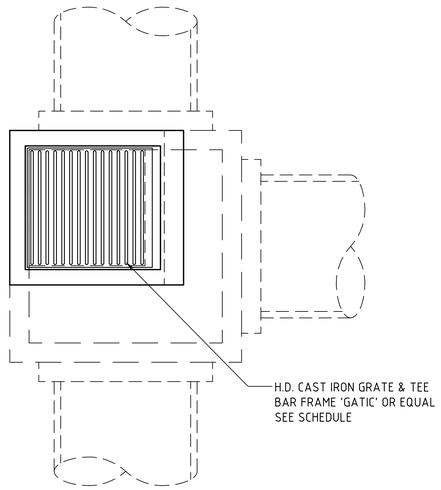
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	

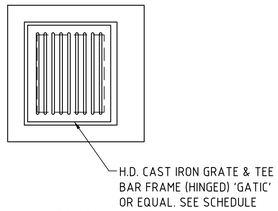


TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	



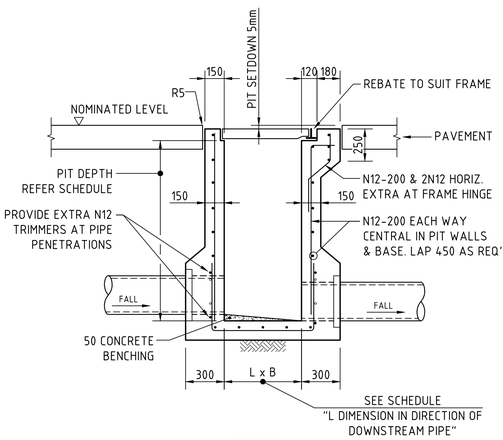
PLAN
SCALE 1:20



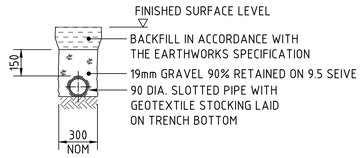
PLAN
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP

SUBSOIL NOT SHOWN
FOR CLARITY



SECTION
SCALE 1:20



SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

SINGLE GRATED GULLY PIT - SGGP

5m 0 10 20 30 40 50m
SCALE 1:500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

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ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS DATE ISSUE

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CLIENT
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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE,
LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA3451

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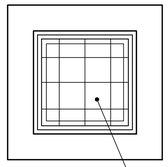
CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

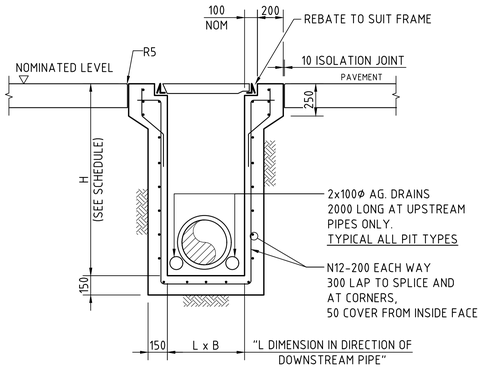
DRAWING TITLE
STORMWATER DRAINAGE DETAIL
SHEET 1

DRAWING No C09447.74-SSDA3451 ISSUE C



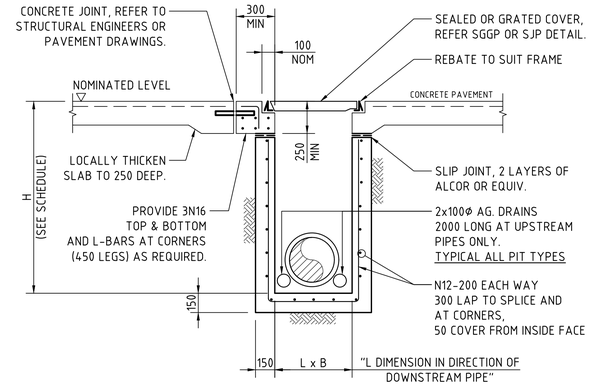
CONCRETE FILLED CAST IRON COVER
& FRAME (GATIC OR EQUAL)
SEE SCHEDULE

PLAN
SCALE 1:20



SECTION
SCALE 1:20

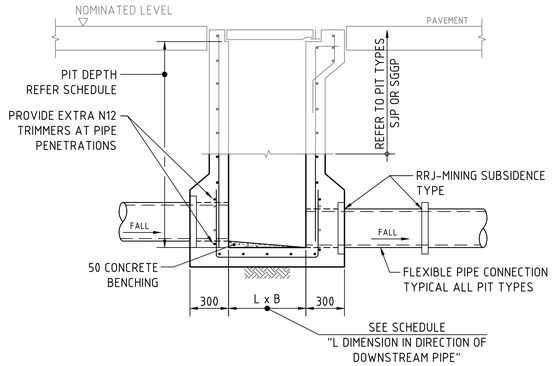
SEALED JUNCTION PIT - SJP



SECTION
SCALE 1:20

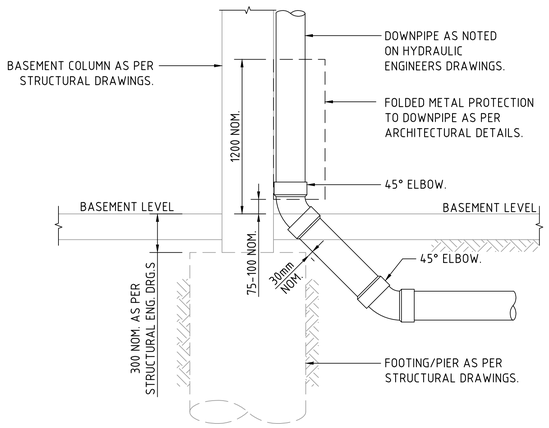
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's,
WHERE PITS ARE LOCATED IN THE CORNER OF SLAB
PANELS OR ADJACENT TO SLAB PANEL JOINTS)



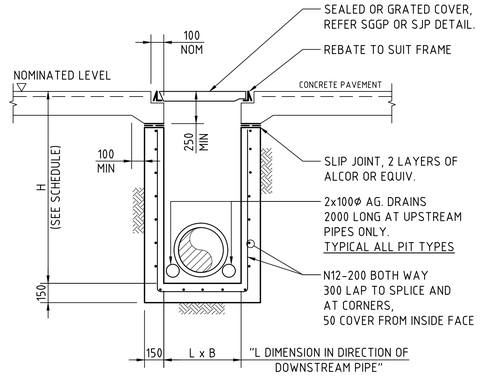
SECTION
SCALE 1:20

FLEXIBLE PIPE CONNECTION
TYPICAL ALL PIT TYPES



DOWNPIPE TURN-UP DETAIL (PIER)

(AT COLUMN LOCATION)
SCALE 1:20



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE
JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)

5m 0 10 20 30 40 50m

SCALE 1:500 AT B1 SIZE SHEET

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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA3452

DRAWING TITLE
STORMWATER DRAINAGE DETAIL
SHEET 2

DRAWING No C09447.74-SSDA3452

ISSUE C

FINISHED LEVELS PLAN NOTES:

1. LEVELS DATUM IS AUSTRALIAN HEIGHT DATUM (A.H.D.).
2. GRADING REQUIREMENTS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2890.1, AS2890.2 AND AS2890.6.
3. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
4. CONTOUR INTERVALS
   - THE MINOR CONTOUR INTERVAL IS 0.1m.
   - THE MAJOR CONTOUR INTERVAL IS 0.5m.
5. HARDSTAND GRADING
   - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
   - GRADING OF ON-GRADE DOCKS TO BE 1:100 (1%) FALL AWAY FROM THE DOCK FACE FOR A LENGTH OF 15m U.N.O.
   - GRADING OF TRUCK CIRCULATION ZONES TO BE MINIMUM AS NOTED ABOVE, 3-4% NOMINAL AND MAX. 5%.
6. CAR PARKING AREA GRADES
   - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%), DESIRABLE MINIMUM GRADE 1:50 (2%).
   - MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) N CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
   - DISABLED ACCESS PARKING ZONES AND SHARED SPACE TO BE MAXIMUM OF 1:33 (3%) IN ASPHALT PAVEMENT AND MAXIMUM OF 1:40 (2.5%) IN CONCRETE PAVEMENT.
   - CARPARK RAMP GRADES TO BE MAX 1:5 WITH 2.5m SMOOTH TRANSITION AT TOP AND BOTTOM U.N.O.
7. TRUCK RAMP GRADES
   - MAXIMUM B-DOUBLE OR 19.0m AV RAMP GRADES ARE TO BE 1:8.3 (12%) U.N.O. ON PLAN
   - PROVIDE MINIMUM 4.0m LONG TRANSITION WHERE CHANGES OF GRADE EXCEED 1:20 (5%) AT A CREST U.N.O.
   - PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGE OF GRADE EXCEED 1:20 (5%) AT A SAG U.N.O.
   - TRANSITIONS ARE TO PROVIDE A SMOOTH CONTINOUS CIRCULAR AND TANGENTIAL CHANGE IN GRADE TO ENSURE NO SHARP OR ACUTE CHANGES IN GRADE ARE PRESENT.
8. WHERE FIRE BRIGADE ACCESS IS REQUIRED, MAXIMUM RAMP GRADIENTS ARE TO BE 1:6 (16.6%), DESIRABLE RAMP GRADIENTS ARE TO BE 1:8 (12.5%) WITH 7m TRANSITION TOP AND BOTTOM U.N.O. ON PLAN.
9. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H U.N.O. BASED ON GEOTECHNICAL ASSESSMENT. PROVIDE MINIMUM 0.5m BERM BETWEEN THE BACK OF KERB OR PAVEMENT EDGES AND THE TOP OR TOE OF A BATTER.
10. ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL. GRADE.
12. ALL PAVEMENTS ARE TO BE SET AT 30mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS. PROVIDE LOCAL FEATHERING AT DOORWAYS OR ROLLER SHUTTERS TO PROVIDE FLUSH FINISH AS REQUIRED.
13. WHERE NEW AND EXISTING INTERFACING IS REQUIRED, MATCH EXISTING LEVELS AND PROVIDE SMOOTH INTERFACE BETWEEN NEW AND EXISTING GRADIENTS. REFER ANY CONCERNS TO THE ENGINEER.

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

SSDA3505

SSDA3502

SSDA3503

SSDA3501

SSDA3504

PROPOSED WAREHOUSE
FFL RL 70.50 +/- 200mm

PROPOSED WAREHOUSE 2A
FFL RL 78.00 ± 200mm

PROPOSED LOT2A
REFER TO SSDA2000 SERIES

PROPOSED PUMP ROOM

PROPOSED SPRINKLER TANKS.

PROPOSED SUSPENDED RAMP TO LEVEL 1 HARDSTAND

AWNING ABOVE

BUILDING 3B (COMPLETED)

PRECINCT 1 (COMPLETED)

NATIVE VEGETATION

EXISTING ELECTRICAL STANCHIONS

SITE BOUNDARY

SP2

EDDY CREEK

FUTURE SOUTHERN LINK ROAD

HEAVY RIGID PARKING (13)

FINISHED LEVELS KEY PLAN
SCALE 1:1500

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

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PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

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DRAWING TITLE
FINISHED LEVELS KEY PLAN

DRAWING No C09447.74-SSDA3500 ISSUE E

FINISHED LEVELS PLAN NOTES:

1. REFER DRAWING SSDA3500 FOR FINISHED LEVELS NOTES

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 — FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 — FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

PROPOSED PUMP ROOM

PROPOSED SPRINKLER TANKS.

EXISTING RETAINING WALL ON BOUNDARY

AWNING ABOVE

PROPOSED SUSPENDED RAMP TO LEVEL 1 HARDSTAND

PROPOSED WAREHOUSE FFL RL 70.50 +/- 200mm

LEVEL 1 WAREHOUSE VAN PARKING OVER

BREAKLINE - REFER TO DRAWING SSDA3503 AND SSDA3504 FOR CONTINUATION

KEYSTONE DRIVE

LATITUDE ROAD

LOT BOUNDARY

CAR ENTRY/EXIT

VAN ENTRY/EXIT

3x FLAG POLES

CAR ENTRY/EXIT

CAR ENTRY/EXIT

TRUCK ENTRY

TRUCK EXIT

CARPARK (646)

BIKE PARKING (48)

MAIN OFFICE LEVEL 1 120 m²

SKYBRIDGE ABOVE

RW & FNC-1

RW & FNC2

RETAINING WALL 2 TO BE DELIVERED AS PART OF INFRASTRUCTURE WORKS PACKAGE. REFER SSDA1600

PROPOSED SKYBRIDGE FROM CARPARK TO WAREHOUSE 2B OFFICE

RETAINING WALL 1 TO BE DELIVERED AS PART OF INFRASTRUCTURE WORKS PACKAGE. REFER SSDA1600

PROPOSED LOT2A
REFER TO SSDA2000 SERIES

PRECINCT 1 (COMPLETED)

AUTHORITY SWITCH STATION

HV SWITCH ROOM

FIRE TRUCK PARKING

FIRE SERVICES

BOOM GATE

WEIGHBRIDGE

PEDESTRIAN ACCESS

PEDESTRIAN ACCESS RAMP OVER

AWNING OVER (25m)

PEDESTRIAN ACCESS RAMP OVER

PEDESTRIAN ACCESS

PEDESTRIAN ACCESS

PEDESTRIAN ACCESS

FINISHED LEVELS PLAN NOTES:

1. REFER DRAWING SSDA3500 FOR FINISHED LEVELS NOTES

LEGEND:

LEVELS DATUM IS AHD.

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- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
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- 50.10 – FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

VEGETATION

FUTURE RAIL CORRIDOR FLYOVER BY TfNSW

MAX BATTER 1V:3H (TYP.)

FNC-2

LOT BOUNDARY

NATIVE VEGETATION

EXISTING RETAINING WALL ON BOUNDARY

AWNING ABOVE

AWNING OVER (2.0m)

RW & FNC - 4

LOT BOUNDARY

PRECINCT 2

LOT 2B

WAREHOUSE

GROUND FLOOR - 77,062 m 2

LEVEL 1 - 43,188 m 2

LEVEL 1 VA - 15,098 m 2

MEZZANINES - 50,792 m 2

RL 70.50

PROPOSED WAREHOUSE FFL RL 70.50 +/- 200mm

AWNING ABOVE

DOCK OFFICE A (2 LEVEL) 272 m2

DOCK OFFICE B (2 LEVEL) 272 m2

SUB

MSB

BASIN

LOT BOUNDARY

RW & FNC - 3

AWNING ABOVE

RW & FNC - 2

LOT BOUNDARY

B-DOUBLE PARKING (44)

TRAILER PARKING (55)

HEAVY ROAD PARKING (20)

C2 ENVIRONMENTAL CONSERVATION ZONE

FNC-2 & 3

BREAKLINE - REFER TO DRAWING SSDA3505 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3503 FOR CONTINUATION

FINISHED LEVELS PLAN - SHEET 2
SCALE 1:1500

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

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CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
FINISHED LEVELS PLAN - SHEET 2

DRAWING No C09447.74-SSDA3502

ISSUE D

BREAKLINE - REFER TO DRAWING SSDA3502 FOR CONTINUATION

FINISHED LEVELS PLAN NOTES:

1. REFER DRAWING SSDA3500 FOR FINISHED LEVELS NOTES

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
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- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

DOCK OFFICE A (2 LEVEL) 272 m²

DOCK OFFICE B (2 LEVEL) 272 m²

EXTENT OF LEVEL 1 WAREHOUSE OVER

SATELLITE OFFICE (2 LEVEL) 307 m²

PROPOSED WAREHOUSE FFL RL 70.50 +/- 200mm

PROPOSED WAREHOUSE FFL RL 70.50 +/- 200mm

LEVEL 1 WAREHOUSE VAN PARKING OVER

PRIME MOVER PARKING (2 LEVEL) AWNING OVER (25m)

MAIN OFFICE (1 LEVEL) 120 m²

SKY BRIDGE ABOVE

RAMP OVER

HEAVY RIGID PARKING (6) & ACOUSTIC WALL & CB

NATIVE VEGETATION

REDDY CREEK

REDDY CREEK

C2 ENVIRONMENTAL CONSERVATION ZONE

MAX BATTER 1V:3H (TYP.)

PROPOSED PUMP ROOM

PROPOSED SPRINKLER TANKS.

AWNING ABOVE

AWNING ABOVE

EXISTING RETAINING WALL ON BOUNDARY

RETAINING WALL 2 TO BE DELIVERED AS PART OF INFRASTRUCTURE WORKS PACKAGE. REFER SSDA1600

PROPOSED SUSPENDED RAMP TO LEVEL 1 HARDSTAND

RW & FNC-1

RW & FNC-2 & ACOUSTIC WALL & CB

RW & FNC-4

BAL - 12.5

BREAKLINE - REFER TO DRAWING SSDA3501 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3504 FOR CONTINUATION

FINISHED LEVELS PLAN - SHEET 1
SCALE 1:1500

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

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DRAWING TITLE
FINISHED LEVELS PLAN - SHEET 3

DRAWING No C09447.74-SSDA 3503

ISSUE D

BREAKLINE - REFER TO DRAWING SSDA3403 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING SSDA3501 FOR CONTINUATION

RETAINING WALL 2 TO BE DELIVERED AS PART OF INFRASTRUCTURE WORKS PACKAGE. REFER SSDA1600

PROPOSED SKYBRIDGE FROM CARPARK TO WAREHOUSE 2B OFFICE

RETAINING WALL 1 TO BE DELIVERED AS PART OF INFRASTRUCTURE WORKS PACKAGE. REFER SSDA1600

FIRE TRUCK PARKING

FIRE SERVICES

BOOM GATE

SINGLE LEVEL WAREHOUSE

BAL - 12.5

PROPOSED WAREHOUSE
FFL RL 70.50 +/- 200mm

AWNING ABOVE

AWNING OVER (25m)

NATIVE VEGETATION

REDDY CREEK

SITE BOUNDARY

MAX BATTER 1V:3H (TYP.)

HEAVY RIGID PARKING (24)

TRAILER PARKING (14)

TRAILER PARKING (69)

FLEET WORKSHOP & OFFICE
2,373 m²

HEAVY RIGID PARKING (13)

ACOUSTIC WALL

BUILDING SETBACK

FINISHED LEVELS PLAN NOTES:

1. REFER DRAWING SSDA3500 FOR FINISHED LEVELS NOTES

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 — FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 — FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

15m 0 15 30 45 60 75 90 105 120 135 150m

SCALE 1:1500 AT B1 SIZE SHEET

FINISHED LEVELS PLAN - SHEET 1

SCALE 1:1500

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CLIENT
Goodman

PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR' 26	DS	B1	AS SHOWN	C09447.74-SSDA3504

CONSULT AUSTRALIA

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
FINISHED LEVELS PLAN - SHEET 4

DRAWING No C09447.74-SSDA3504

ISSUE C

FINISHED LEVELS PLAN NOTES:

1. REFER DRAWING SSDA3500 FOR FINISHED LEVELS NOTES

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 — FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 — FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ELECTRICAL EASEMENT
- COUNCIL TRUNK DRAINAGE EASEMENT
- FREIGHT CORRIDOR EASEMENT

SITE BOUNDARY

RW & FNC-2 & CB

HEAVY RIGID PARKING (24)

HEAVY RIGID PARKING (25)

HEAVY RIGID PARKING (42)

PRECINCT 2 LOT 2C

TRAILER PARKING (20)

TRAILER PARKING (39)

BASIN

NATIVE VEGETATION

MAX BATTER 1V:3H (TYP.)

FUTURE RAIL CORRIDOR FLYOVER BY TfNSW

BREAKLINE - REFER TO DRAWING SSDA3402 FOR CONTINUATION

VEHICLE CROSSOVER FOR TRANSGRID LOCATION SUBJECT TO DETAIL DESIGN

C2 ENVIRONMENTAL CONSERVATION ZONE

40m SETBACK

BAL - 12.5

BAL - 19

BAL - 29

BAL FLAME ZONE

TOP OF BANK

FINISHED LEVELS PLAN - SHEET 1
SCALE 1:1500

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

FOR DEVELOPMENT APPLICATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	01.07.26	D
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	29.06.26	C
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	28.05.26	B
ISSUED FOR INFORMATION	22.05.26	A

AMENDMENTS	DATE	ISSUE

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PROJECT
PROJECT SILVERBACK
PRECINCT 2, 4 & 5 OAKDALE EAST INDUSTRIAL ESTATE, LATITUDE ROAD, HORSLEY PARK, N.S.W. 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
AA	DG	APR '26	DS	B1	AS SHOWN	C09447.74-SSDA3505

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CRC COSTIN ROE CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE
FINISHED LEVELS PLAN - SHEET 5

DRAWING No C09447.74-SSDA3505

ISSUE D

COSTIN ROE CONSULTING

APPENDIX B
MUSIC MODEL CONFIGURATION & PARAMATERS

B.1 Introduction

The MUSIC model was chosen to model water quality. This model, released by the Cooperative Research Centre for Catchment Hydrology (CRCCH), is a standard industry model for this purpose. MUSIC (the Model for Urban Stormwater Improvement Conceptualisation) is suitable for simulating catchment areas of up to 100 km2 and utilises a continuous simulation approach to model water quality.

By simulating the performance of stormwater management systems, MUSIC can be used to predict if the proposed systems and changes to land use are appropriate for their catchments and capable of meeting specified water quality objectives (CRC 2002). The water quality constituents modelled in MUSIC, of relevance to this report, include Total Suspended Solids (TSS), Total Phosphorus (TP) and Total Nitrogen (TN).

The pollutant retention criteria set out in Section 4.3 of the Development Control Plan for the Oakdale Easte Estate and nominated in **Section 6.2** of this report were used as a basis for assessing the effectiveness of the selected treatment trains.

The MUSIC model "9447.74-Rev_A.sqz" was set up to examine the effectiveness of the water quality treatment train and to predict if Council's requirements have been achieved.

Modelling parameters used are based on those nominated in the Sydney Catchment Management Authority (SCA) document Using Music in Sydney's Drinking Water Catchment – A Sydney Catchment Authority Standard (2012) and the Fairfield City Council Stomwater Policy and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan).

B.2 Rainfall data

As per the recommendation of Table 3-1 of *Draft NSW MUSIC Modelling Guidelines (2011)*, six-minute pluviographic data for the Sydney Meteorological Office Station was sourced from the Bureau of Meteorology (BOM) as nominated below. Evapo-transpiration data for the period was sourced from the Sydney Monthly Areal PET data set supplied with the MUSIC software.

Input	Data Used
Rainfall Station	067035 Liverpool (Whitlam Centre)
Rainfall Period	1967-1976 (10 years)
Mean Annual Rainfall (mm)	857
Evapo- transpiration	Sydney Monthly Areal PET
Model Time step	6 minutes

B.3 Rainfall runoff parameters

Parameter	Value
Rainfall Threshold	1.40
Soil Storage Capacity (mm)	170
Initial Storage (% capacity)	30
Field Capacity (mm)	70

Infiltration Capacity Coefficient a	210
Infiltration Capacity exponent b	4.7
Initial Depth (mm)	10
Daily Recharge Rate (%)	50
Daily Baseflow Rate (%)	4
Daily Seepage Rate (%)	0.0

B.4 Pollutant concentrations & source nodes

Pollutant concentrations for source nodes are based on parameters adopted by the WSC as per **Table B.1.**

Flow Type	Surface Type	TSS (log_{10} values)		TP (log_{10} values)		TN (log_{10} values)	
		Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
Baseflow	Roof	NA	NA	NA	NA	NA	NA
	Mixed	1.20	0.17	-0.85	0.19	0.11	0.12
Stormflow	Roof	1.30	0.32	-0.89	0.25	0.30	0.19
	Mixed	2.15	0.32	-0.60	0.25	0.30	0.19

Table B.1 - Pollutant Concentrations

The MUSIC model has been setup with a treatment train approach based on the pollutant concentrations in **Table B.1** above.

The relevant stormwater catchment sizes are shown in the drawings in **Appendix A** and their configuration within the MUSIC model.

B.5 Treatment nodes

The Atlan Vortceptor Twin SVO.1200 unit and XXX were for the treatment modelling of this development. These nodes were obtained from Atlan's MUSIC treatment node modelled.

The bio-retention basins were modelled in line with the parameters set in Fairfield City Council's Stormwater Policy, and had the following parameters:

- Extended Detention Depth: 0.3m
- Saturated hydraulic conductivity: 100mm/h
- Filter Media Depth: 0.5m
- TN content of Filter Media: 800mg/kg
- Orthophosphate Content of Filter Media: 40mg/kg
- Exfiltration rate: 0mm/h

B.6 Results

Tables B.3 show the results of the MUSIC analysis. The site treatment effectiveness is expressed as a percentage reduction and as a residual concentration. The tables compare the post-development pollutant loads without treatment versus post-development loads with treatment.

Table B.3 - MUSIC analysis results – Allowable Load Reduction

	Total Source Load (kg/yr)	Total Residual Load (kg/yr)	Reduction Achieved (%)	Target Reduction (%)
Total Suspended Solids (kg/yr)	63,570	8970	85.89	85.00
Total Phosphorus (kg/yr)	115.8	39.18	66.17%	55.00
Total Nitrogen (kg/yr)	961	428.4	55.42%	40.00
Gross Pollutants (kg/yr)	11590	33.84	99.71%	90.00

The model results indicate that, through the use of the STM in the treatment train, pollutant load reduction percentages and the pollutant residual load concentrations for Total Suspended Solids, Total Phosphorous, Total Nitrogen and Gross Pollutants will meet the requirements of Fairfield City Council and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan) requirements on an overall catchment basis.

B.7 Modelling discussion

MUSIC modelling has been performed to assess the effectiveness of the selected treatment trains and to ensure that the pollutant retention requirements of the Fairfield City Council and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan) have been met.

The MUSIC modelling has shown that the proposed treatment train of STM will provide stormwater treatment which will meet WSADCP requirements in an effective and economical manner.

Hydrocarbon and oil & grease removal cannot be modelled with MUSIC software. As an industrial estate with users for individual development sites not known, the exact levels of hydrocarbons would not be known however given the expected use of the site as a warehouse distribution centre these pollutants would not be expected to be large. Potential sources of hydrocarbons and/or oil & grease which drain to the stormwater system would be limited to leaking engine sumps or for accidental fuel spills/leaks and leaching of bituminous pavements (car parking only). The potential for these pollutants is low and published data from the CSIRO indicates that average concentrations from industrial sites are in the order of 10mg/L and we would expect source loading from this site to be near to or below this concentration.

Given the expected low source loadings of hydrocarbons and oil/grease and removal efficiencies of the treatment devices and bio-retention systems we consider that the requirements of Fairfield City Council and the Development Control Plan for the Oakdale East Estate (Prepared by Keylan) have been met.

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APPENDIX C
DRAFT SOIL AND WATER MANAGAMENT PLAN

C.1 Introduction

An erosion and sediment control plan (ESCP) is shown on drawing **Co9447.74-DA200** with details on **DA250.** These are conceptual plans only providing sufficient detail to clearly show that the works can proceed without undue pollution to receiving waters. A detailed plan will be prepared once consent is given and before works start.

The ESCP considers initial site establishment, requirements during construction of roads and infrastructure and estate earthworks, completion of estate works and the period between this and development of individual lots.

C.2 General conditions

- The ESCP will be read in conjunction with the engineering plans, and any other plans or written instructions that may be issued in relation to development at the subject site.
- Contractors will ensure that all soil and water management works are undertaken as instructed in this specification and constructed following the guidelines stated in:
    - *Best Practice Erosion and Sediment Control document International Erosion Control Association (ICEA*) Australasia – "The White Book".
    - Managing Urban Stormwater – Soils & Construction Volume 1 ('Blue Book')(Landcom, 2004).
    - Development Control Plan for the Oakdale East Estate (Prepared by Keylan)
- All subcontractors will be informed of their responsibilities in minimising the potential for soil erosion and pollution to down slope areas.

C.3 Land disturbance

Where practicable, the soil erosion hazard on the site will be kept as low as possible and as recommended in Table C.1.

Table C.1 Limitations to Access

Land Use	Limitation	Comments
Construction areas	Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans.	All site workers will clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope), or similar materials.
Access areas	Limited to a maximum width of 5 metres	The site manager will determine and mark the location of these zones onsite. They can vary in position so as to best conserve existing vegetation and

		protect downstream areas while being considerate of the needs of efficient works activities. All site workers will clearly recognise these boundaries.
Remaining lands	Entry prohibited except for essential management works	

C.4 Erosion control conditions

1. Clearly visible barrier fencing shall be installed as shown on the plan and elsewhere at the discretion of the site superintendent to ensure traffic control and prohibit unnecessary site disturbance. Vehicular access to the site shall be limited to only those essential for construction work and they shall enter the site only through the stabilised access points.
2. Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils remain on the surface at the completion of works.
3. Where practicable, schedule the construction program so that the time from starting land disturbance to stabilisation has a duration of less than six months.
4. Notwithstanding this, schedule works so that the duration from the conclusion of land shaping to completion of final stabilisation is less than 20 working days.
5. Land recently established with grass species will be watered regularly until an effective cover has properly established and plants are growing vigorously. Further application of seed might be necessary later in areas of inadequate vegetation establishment.
6. Where practical, foot and vehicular traffic will be kept away from all recently established areas
7. Earth batters shall be constructed in accordance with the Geotechnical Engineers Report or with as law a gradient as practical but not steeper than:
   - 2H:1V where slope length is less than 7 metres
   - 2.5H:1V where slope length is between 7 and 10 metres
   - 3H:1V where slope length is between 10 and 12 metres
   - 4H:1V where slope length is between 12 and 18 metres
   - 5H:1V where slope length is between 18 and 27 metres
   - 6H:1V where slope length is greater than 27 metres
8. All earthworks, including waterways/drains/spillways and their outlets, will be constructed to be stable in at least the design storm event.
9. During windy weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in sufficient quantities, soil binders and/or dust retardants will be used or the surface will be left in a cloddy state that resists removal by wind.

C.5 Pollution control conditions

1. Stockpiles will not be located within 5 metres of hazard areas, including likely areas of high velocity flows such as waterways, paved areas and driveways. Silt/ sediment fences and appropriate stabilisation of stockpiles are to be provided as detailed on the drawings.

2. Sediment fences will:
    a. Be installed where shown on the drawings, and elsewhere at the discretion of the site superintendent to contain the coarser sediment fraction (including aggregated fines) as near as possible to their source.
    a. Have a catchment area not exceeding 720 square meters, a storage depth (including both settling and settled zones) of at least 0.6 meters, and internal dimensions that provide maximum surface area for settling, and
    b. Provide a return of 1 metre upslope at intervals along the fence where catchment area exceeds 720 square meters, to limit discharge reaching each section to 10 litres/second in a maximum 20-year tc discharge.
2. Sediment removed from any trapping device will be disposed in locations where further erosion and consequent pollution to down slope lands and waterways will not occur.
3. Water will be prevented from directly entering the permanent drainage system unless it is relatively sediment free (i.e. the catchment area has been permanently landscaped and/or likely sediment has been treated in an approved device). Nevertheless, stormwater inlets will be protected.
4. Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised.

C.6 Waste management conditions

Acceptable bind will be provided for any concrete and mortar slurries, paints, acid washings, lightweight waste materials and litter. Clearance service will be provided at least weekly.

C.7 Site inspection and maintenance

1. A self-auditing program will be established based on a Check Sheet. A site inspection using the Check Sheet will be made by the site manager:
    - At least weekly.
    - Immediately before site closure.
    - Immediately following rainfall events in excess of 5mm in any 24-hour period.

    The self-audit will include:

    - Recording the condition of every sediment control device
    - Recording maintenance requirements (if any) for each sediment control device
    - Recording the volumes of sediment removed from sediment retention systems, where applicable
    - Recording the site where sediment is disposed
    - Forwarding a signed duplicate of the completed Check Sheet to the project manager/developer for their information
2. In addition, a suitably qualified person will be required to oversee the installation and maintenance of all soil and water management works on the site. The

person shall be required to provide a short monthly written report. The responsible person will ensure that:

- The plan is being implemented correctly
- Repairs are undertaken as required
- Essential modifications are made to the plan if and when necessary

The report shall carry a certificate that works have been carried out in accordance with the plan.

3. Waste bins will be emptied as necessary. Disposal of waste will be in a manner approved by the Site Superintendent.
4. Proper drainage will be maintained. To this end drains (including inlet and outlet works) will be checked to ensure that they are operating as intended, especially that,
    a. No low points exist that can overtop in a large storm event
    b. Areas of erosion are repaired (e.g. lined with a suitable material) and/or velocity of flow is reduced appropriately through construction of small check dams of installing additional diversion upslope.
    c. Blockages are cleared (these might occur because of sediment pollution, sand/soil/spoil being deposited in or too close to them, breached by vehicle wheels, etc.).
5. Sand/soil/spoil materials placed closer than 2 meters from hazard areas will be removed. Such hazard areas include and areas of high velocity water flows (e.g. waterways and gutters), paved areas and driveways
6. Recently stabilised lands will be checked to ensure that erosion hazard has been effectively reduced. Any repairs will be initiated as appropriate.
7. Excessive vegetation growth will be controlled through mowing or slashing.
8. All sediment detention systems will be kept in good, working condition. In particular, attention will be given to:
    a. Recent works to ensure they have not resulted in diversion of sediment laden water away from them
    b. Degradable products to ensure they are replaced as required, and
    c. Sediment removal, to ensure the design capacity or less remains in the settling zone.
9. Any pollutants removed from sediment basins or litter traps will be disposed of in areas where further pollution to down slope lands and waterways should not occur.
10. Additional erosion and/or sediment control works will be constructed as necessary to ensure the desired protection is given to down slope lands and waterways, i.e. make ongoing changes to the plan where it proves inadequate in practice or is subjected to changes in conditions at the work site or elsewhere in the catchment.
11. Erosion and sediment control measures will be maintained in a functioning condition until all earthwork activities are completed and the site stabilised
12. Litter, debris and sediment will be removed from the gross pollutant traps and trash racks as required.

EROSION AND SEDIMENT CONTROL

WEEKLY SITE INSPECTION SHEET

LOCATION . . . . . .

INSPECTION OFFICER . . . . . .DATE . . . . . .

SIGNATURE . . . . . .

Legend: □ OK □ Not OK N/A Not applicable

Item	Consideration	Assessment
1	Public roadways clear of sediment.	. . . . .
2	Entry/exit pads clear of excessive sediment deposition.	. . . . .
3	Entry/exit pads have adequate void spacing to trap sediment.	. . . . .
4	The construction site is clear of litter and unconfined rubbish.	. . . . .
5	Adequate stockpiles of emergency ESC materials exist on site.	. . . . .
6	Site dust is being adequately controlled.	. . . . .
7	Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.	. . . . .
8	Up-slope "clean" water is being appropriately diverted around/through the site.	. . . . .
9	Drainage lines are free of soil scour and sediment deposition.	. . . . .
10	No areas of exposed soil are in need of erosion control.	. . . . .
11	Earth batters are free of "rill" erosion.	. . . . .
12	Erosion control mulch is not being displaced by wind or water.	. . . . .
13	Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.	. . . . .
14	Sediment fences are free from damage.	. . . . .
15	Sediment-laden stormwater is not simply flowing "around" the sediment fences or other sediment traps.	. . . . .
16	Sediment controls placed up-slope/around stormwater inlets are appropriate for the type of inlet structure.	. . . . .
17	All sediment traps are free of excessive sediment deposition.	. . . . .
18	The settled sediment layer within a sediment basin is clearly visible through the supernatant prior to discharge such water.	. . . . .
19	All reasonable and practicable measures are being taken to control sediment runoff from the site.	. . . . .
20	All soil surfaces are being appropriately prepared (i.e. pH, nutrients, roughness and density) prior to revegetation.	. . . . .
21	Stabilised surfaces have a minimum 70% soil coverage.	. . . . .
22	The site is adequately prepared for imminent storms.	. . . . .
23	All ESC measures are in proper working order.	. . . . .

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APPENDIX D
STORMWATER SYSTEM MAINTENANCE SCHEDULE

Maintenance Action	Frequency	Responsibility	Procedure
Swales/Landscaped Areas			
Check density of vegetation and ensure minimum height of 150mm is maintained. Check for any evidence of weed infestation	Six monthly	Maintenance Contractor	Replant and/or fertilise, weed and water in accordance with landscape consultant specifications
Inspect swale for excessive litter and sediment build up	Six monthly	Maintenance Contractor	Remove sediment and litter and dispose in accordance with local authorities' requirements.
Check for any evidence of channelisation and erosion	Six monthly/ After Major Storm	Maintenance Contractor	Reinstate eroded areas so that original, designed swale profile is maintained
Weed Infestation	Three Monthly	Maintenance Contractor	Remove any weed infestation ensuring all root ball of weed is removed. Replace with vegetation where required.
Inspect swale surface for erosion	Six Monthly	Maintenance Contractor	Replace top soil in eroded area and cover and secure with biodegradable fabric. Cut hole in fabric and revegetate.
Inlet & Junction Pits			
Inside of pits	Six Monthly	Maintenance Contractor	Remove grate and inspect internal walls and base, repair where required. Remove any collected sediment, debris, litter.
Outside of pits	Four Monthly/ After Major Storm	Maintenance Contractor	Clean grate of collected sediment,

			debris, litter and vegetation.
Proprietary Treatment Devices (GPT)			
Refer to Manufacturers Operation and Maintenance Manuel	Annually	Maintenance Contractor	Refer to Manufacturers Operation and Maintenance Manuel
Bioretention Basin			
Check all items nominated for Swales/Landscaped Areas above	Refer to Swales/Landscaped Areas section above	Refer to Swales/Landscaped Areas section above	Refer to Swales/Landscaped Areas section above
Check for sediment accumulation at inflow points	Six monthly/ After Major Storm	Maintenance Contractor	Remove sediment and dispose in accordance with local authorities' requirements.
Check for erosion at inlet or other key structures.	Six monthly/ After Major Storm	Maintenance Contractor	Reinstate eroded areas so that original, designed profile is maintained
Check for evidence of dumping (litter, building waste or other).	Six monthly	Maintenance Contractor	Remove waste and litter and dispose in accordance with local authorities' requirements.
Check condition of vegetation is satisfactory (density, weeds, watering, replating, mowing/ slashing etc)	Six monthly	Maintenance Contractor	Replant and/or fertilise, weed and water in accordance with landscape consultant specifications
Check for evidence of prolonged ponding, surface clogging or clogging of drainage structures	Six monthly/ After Major Storm 5-10 years	Maintenance Contractor	Remove sediment and dispose in accordance with local authorities' requirements. Replace filter media & planting – refer to appropriately qualified engineer or stormwater specialist

Check stormwater pipes and pits	Six monthly/ After Major Storm	Maintenance Contractor	Refer to Inlet/Junction Pit section.
Stormwater System			
General Inspection of complete stormwater drainage system	Bi-annually	Maintenance Contractor	Inspect all drainage structures noting any dilapidation in structures and carry out required repairs.
OSD System			
Inspect and remove any blockage from orifice	Six Monthly	Maintenance Contractor/ Owner	Remove grate and screen to inspect orifice.
Inspect trash screen and clean	Six Monthly	Maintenance Contractor/ Owner	Remove grate and screen if required to clean it.
Inspect flap valve and remove any blockage.	Six Monthly	Maintenance Contractor/ Owner	Remove grate. Ensure flap valve moves freely and remove any blockages or debris.
Inspect pit sump for damage or blockage.	Six Monthly	Maintenance Contractor/ Owner	Remove grate & screen. Remove sediment/ sludge build up and check orifice and flap valve are clear.
Inspect storage areas and remove debris/ mulch/ litter etc likely to block screens/ grates.	Six Monthly	Maintenance Contractor/ Owner	Remove debris and floatable materials.
Check attachment of orifice plate and screen to wall of pit	Annually	Maintenance Contractor	Remove grate and screen. Ensure plate or screen mounted securely, tighten fixings if required. Seal gaps if required.
Check orifice diameter is correct and retains sharp edge.	Five yearly	Maintenance Contractor	Compare diameter to design (see Work-as-Executed) and ensure edge is not pitted or damaged.
Check screen for corrosion	Annually	Maintenance Contractor	Remove grate and screen and examine for rust or corrosion,

			especially at corners or welds.
Inspect overflow weir and remove any blockage	Six monthly	Maintenance Contractor/ Owner	Ensure weir is free of blockage.
Inspect walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls, repair as necessary.
Check step irons	Annually	Maintenance Contractor	Ensure fixings are secure and irons are free from corrosion.

APPENDIX E
SSD-12088992 SEAR'S DATED 08TH MAY 2026

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