Oakdale East Estate – Precinct 2

Development Application Engineering Report

January 2025

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Development Application Engineering Report

21 January 2025

Our Ref:

OP2-AAP-DA-RPT-CI-00001-Engineering Report

Kate Robinson

Civil Designer

Michelle Fletcher

Stormwater Engineer

Jon-Paul Barrett

Verifier

Prepared By:
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street,
Sydney
NSW
2000
Tel: (02) 8907 9000
Fax (02) 8907 9001

Prepared For:
Goodman Property Services Pty Ltd
The Hayesbery
1-11 Hayes Rd
Rosebery
NSW
2018
Tel: ((02) 9230 7400

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Acronyms and Abbreviations

Acronym	Definition
AEP	Annual Exceedance Probability
AR&R	Australian Rainfall & Runoff
AGRD	Austroads Guide to Road Design
CC	Construction Certificate
DA	Development Application
BYDA	Before You Dig Australia
DCP	Development Control Plan
EPA	Environmental Protection Authority
ESC	Erosion and Sediment Control
OEE	Oakdale Easte Estate
GP	Gross Pollutant
GPT	Gross Pollutant Trap
MDP	Metropolitan Development Plan
OSD	On Site Detention
PMF	Probable Maximum Flood
SCA	Sydney Catchment Authority
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
WSUD	Water Sensitive Urban Design

Executive Summary

This Civil Engineering Report has been prepared by Arcadis Australia Pacific Pty Ltd (Arcadis) on behalf of The Goodman Property Services Pty Ltd (Goodman) to support a State Significant Development Application (SSD-TBC) for the development of Precinct 2 within the Oakdale East Estate, located at 2 Old Wallgrove Rd, Kemps Creek, NSW. The Oakdale East Estate (OEE)is designed to accommodate a range of industrial and logistical operations, enhancing regional economic development.

The proposed development includes warehouses 2A-1, 2A-2, 2B-1, and 2B-2. Development consent for Stage 2 of the OEE site was granted on 11 October 2023 under SSD-3748604. The development of Precinct 2 is further supported by the Modification 3 application to SSD-3748604 (MOD3), which proposes amendments to the concept master plan to align with the new warehouses.

This report outlines the civil engineering aspects of the project, including site layout, stormwater management. It should be read in conjunction with the Civil Infrastructure Report prepared by AT&L to support the MOD3 application (dated August 2024).

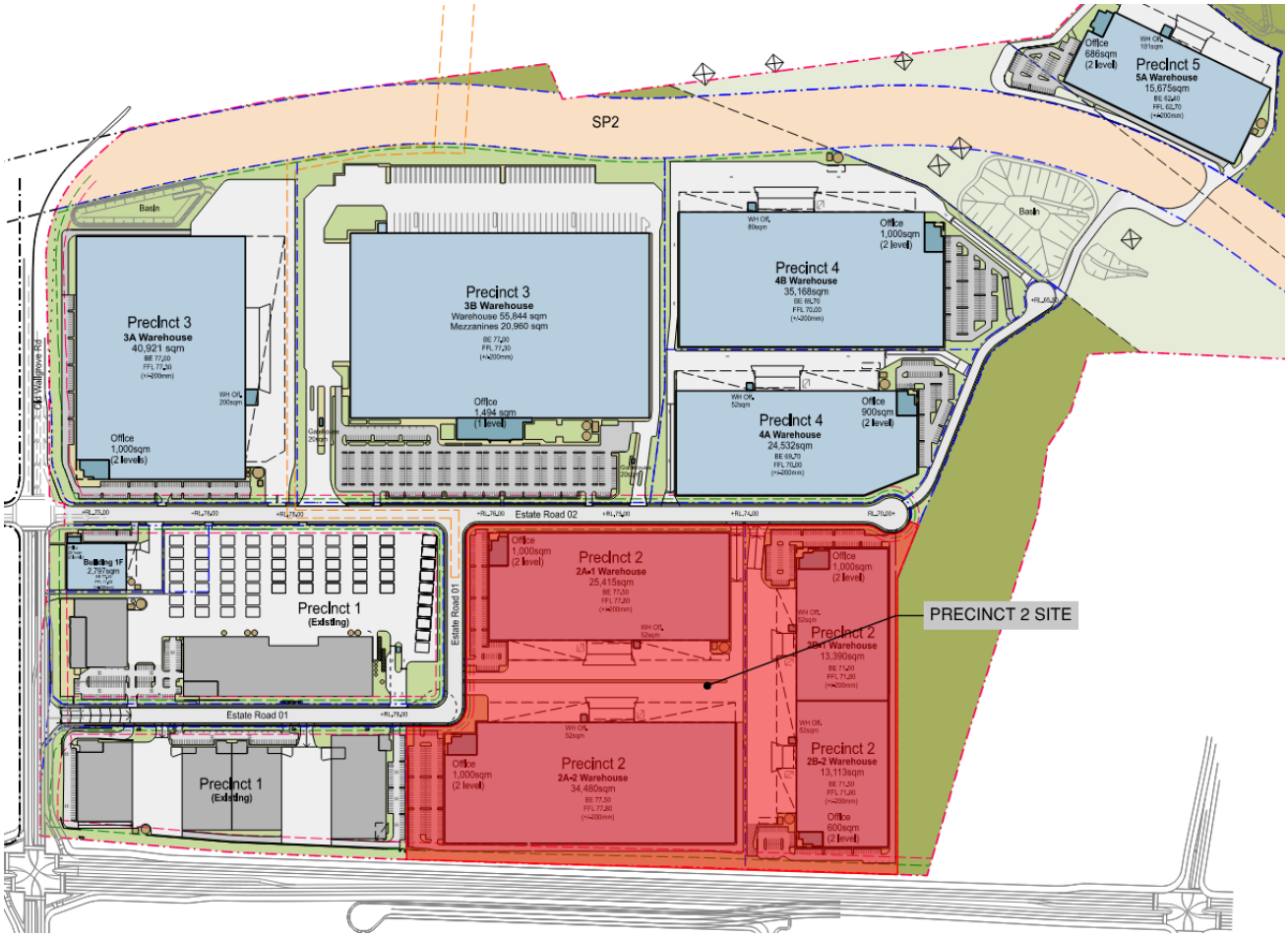


Figure 1-1 Precinct 2 Locality Plan (Prepared by SBA Architects)

1 Precinct Overview

Once developed, Precinct 2 of the Oakdale East Estate will consist of multiple warehouse facilities designed to support industrial operations and enhance logistical efficiencies in the region. The precinct will include a comprehensive layout featuring stormwater management systems, access roads, and open spaces, contributing to both operational functionality and environmental sustainability.

The development of Precinct 2 encompasses warehouses 2A-1, 2A-2, 2B-1, and 2B-2, strategically positioned to optimize access to major transport routes. Future expansions are planned to the north, south, and west, which may include additional warehousing and support facilities to accommodate anticipated growth in the logistics sector.

Figure 1-2 Precinct 2 Layout (Prepared by SBA Architects)

Key precinct elements include:

- Three warehouses with a total gross floor area of 86,554m2.
- Four offices totalling 3200m2
- Four dock offices totalling 404m2
- Loading dock and hardstand areas on the sides of the warehouses.
- Internal access roads with access from proposed Estate Road 1 to the West and egress to Estate Road 2 to the North.
- Parking for up to 388 cars with driveway access to and from Estate Road 1 and 2.
- Landscaping adjacent to the boundaries of Precinct 2 and within the carpark.

Arcadis' scope of works for Precinct 2 includes bulk earthworks, stormwater infrastructure that incorporates Water Sensitive Urban Design (WSUD) principles.

Key infrastructure elements include:

- Bulk earthworks and retaining walls
- Stormwater management, including drainage and water sensitive urban design
- Construction-phase erosion and sediment control
- Internal roads, driveways and parking
- External infrastructure and utility services

2 Conditions of Consent and SEARs

2.1 Precinct 2 Secretary's Environmental Assessment Requirements (SEARs)

This report responds to the NSW Planning Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning and Environment (DPE) on 15 November 2024. Table 2 below summaries all key civil infrastructure and water management issues raised in the SEARs and how they have been addressed in this report.

Table 2-1 Secretary's Environmental Assessment Requirements addressed in this report

Condition	Response
• ***Soils and Water*** *– including:*	
• *description of the proposed erosion and sediment controls during construction*	Refer to **Section 8.**
• *consideration of how the proposed development ties in with the stormwater management system for the Oakdale Easte Industrial Estate (SSD-37486043)*	Refer to **Section 7.2.**
• *demonstration that post-development stormwater flows from the site do not exceed pre-development flows*	Refer to **Section 7.4.**
• *an assessment of the downstream impacts on the Warragamba Pipelines corridor located directly north of the development site*	A Flood Assessment was prepared by BMT (dated 8 June 2022) to accompany SSD 37486043, which included flooding assessment for the Warragamba pipelines corridor. This assessment determined the design flood levels, assessed flood behaviour, and considered any relevant flood studies to conclude that the site was suitable for the proposed industrial development. This Flood Assessment remains relevant to the Warragamba pipelines corridor, despite no works being sought under this modification.
• *description of the measures to minimise water use*	Refer to **Section 7.5**
• ***Infrastructure Requirements*** *– an infrastructure delivery, management and staging plan that includes:*	Refer to **Section 9**

• *an assessment of impacts of the development on existing utility infrastructure and service provider assets surrounding the site*	Refer to **Section 9**
• *a detailed written and/or graphical description of infrastructure required on the site, including any electrical substation/s and on-site switch yard/s*	Refer to **Section 9**
• *details of the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater and recycled water*	Refer to **Section 9.3**
• *a description of how any upgrades will be co-ordinated, funded and delivered on time and be maintained to facilitate the development*	Refer to **Section 9.4**
• *identification of any existing infrastructure or easements on or off the site which may be impacted by construction or operation of the development and details of measures to be implemented to address any impacts.*	

2.2 SSD-37486043 Conditions of Consent Relating to Future Development Works

Table 2-2 Conditions of Consent under SSD-37486043 applicable to the proposed development of Precinct 2

Condition	Response
TRANSPORT ACCESS AND PARKING	
Transport	
B4. Future DAs shall be accompanied by a transport, access and parking assessment. The assessment must:	
(a) assess the impacts on the safety and capacity of the surrounding road network and access points during construction and operation of the relevant stage in accordance with TfNSW guidelines;	Refer to Traffic engineer (ASON) report.
(b) demonstrate internal roads, driveways and car parking complies with relevant Australian Standards and the car parking rates in Condition A10;	Refer to **Section 6.**
(c) demonstrate the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant Austroads guidelines;	Refer to Traffic engineer (ASON) turn paths plans prepared by the traffic consultant showing manoeuvrability within Precinct 2.

(d) detail the scope and timing of any required road or intersection upgrades to service the relevant stage; and	
(e) detail measures to promote non-car travel modes, including a Sustainable Travel Plan identifying pedestrian and cyclist facilities to service the relevant stage of the development including pedestrian connections to offices and warehouse buildings in accordance with relevant guidelines and standards.	Refer to Traffic engineer (ASON) report.
Access	
B6. Future DAs must:	
(a) demonstrate the layout, spacing and position of all access points to the estate road network would: *(i) minimise road safety risks, including consideration of minimising potential conflicts with other driveways within the development;* *(ii) include adequate sight distances for all turning movements;* *(iii) accommodate the turning path of the largest vehicles accessing the site to minimise the risk of conflict with other vehicles on the estate road network; and* *(iv) minimise congestion and queueing on the estate road network.*	Refer to Traffic engineer (ASON) turn paths plans prepared by the traffic consultant showing manoeuvrability within Precinct 2.
(b) detail measures to minimise road safety risks and congestion such as: NSW Government 5 Oakdale East Industrial Estate Department of Planning and Environment (SSD-37486043) *(i) consolidation of access points to reduce the number of driveways in close proximity to each other;* *(ii) line marking, warning signage and parking restrictions;* *(iii) restricted turning movements, such as left-in left-out restrictions; and* *(iv) installation of traffic controls.*	Refer to Traffic engineer (ASON) report for addressing road safety risks at driveways and within the development.
STORMWATER MANAGEMENT *B11. Future development on the site must achieve compliance with Fairfield City Council's Stormwater Management Policy, September 2017 or its latest version.* *B12. Future DAs must include an update to the Stormwater Management System Design required under Condition D58. The strategy must:* *(a) be prepared in consultation with Council;* *(b) be prepared by a suitably qualified chartered professional engineer with experience in modelling, design, and supervision of WSUD systems;*	Arcadis confirm that the Stormwater Management Strategy has been prepared by a suitably qualified chartered professional engineer with experience in modelling, design, and supervision of WSUD systems in consultation with the relevant stormwater management authority. If and when required, Arcadis can provide further details to confirm this requirement. The Water Management Strategy documented in AT&L's MOD3 Civil Infrastructure Report (dated August 2024) demonstrates that the Stage 2 requirements that include Precinct 2 satisfy the

(c) consider the approved or as modified stormwater management system for preceding stages of the development;	stormwater quality, quantity and flow controls for the OEE Site.
(d) demonstrate the relevant stage can comply with the water flow and quality targets in Fairfield City Council's Stormwater Management Policy, September 2017 or its latest version; and	
(e) detail any infrastructure required to connect the relevant stage to the approved stormwater management system for the site.	Refer to **Section 7**
SYDNEY WATER	
B18. Future developments must include a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the Sydney Water Act 1994 (NSW).	Refer to **Section 9**

3 Design Criteria

3.1 Design Codes and Standards

Normal text

3.1.1 Design Standards

Table 3-1 Adopted Design Standards

Standard No.	Description
AS/NZS 2890.1 (January 2004)	Parking facilities: Off-street car parking
AS 2890.2 (February 2018)	Parking facilities: Off-street commercial vehicle facilities
AS/NZS 2890.6 (June 2022)	Parking facilities: Off-street parking for people with disabilities
AGRD Part 3 Ed3.4 (February 2021)	Guide to Road Design Part 3: Geometric Design
AGRD Part 4 Ed2.1 (February 2021)	Guide to Road Design Part 4: Intersections and Crossings - General
AGRD Part 4A Ed3.1 (February 2021)	Guide to Road Design Part 4A: Un-signalised and Signalised Intersections
AS 3500.3 (May 2021)	Plumbing and Drainage Part 3: Stormwater drainage
AGRD Part 5 (February 2021)	Guide to Road Design Part 5: Drainage – General and Hydrology Considerations
AGRD Part 5A Ed 2.0 (September 2021)	Guide to Road Design Part 5A: Drainage – Road Surface, Networks, Basins and Subsurface

AGRD Part 5B Ed 1.1 (August 2018)	Guide to Road Design Part 5B: Drainage – Open Channels, Culverts and Floodways
AGRD Part 6 (June 2022)	Guide to Road Design Part 6: Roadside Design Safety and Barriers
AGRD Part 6 (November 2009)	Guide to Road Design Part 6: Roadside Design Safety and Barriers
AR&R 2019	Australian Rainfall and Runoff (2019)
BMT WBM (August 2015)	NSW MUSIC Modelling Guidelines
Stormwater Management Policy (September 2017)	Fairfield City Council Stormwater Management Policy
Policy No. 4-515	Fairfield City Council Specification for Roadworks and Drainage associated with subdivision or other development

3.2 Design Software

Table 3-2 Design Software

Software	Version
12d	15
AutoCAD	2024
Autodesk Vehicle Tracking	2024
Civil 3D	2024

4 Reference Documents

Table 4-1 Reference Documents

Document/File Name	Type	Date Received	Prepared By	Description
Precinct 2_Combined Drawing Set_241112	PDF	12/11/2024	SBA	Precinct 2 architectural layout
20-798-OEE-CAD	DWG	25/09/2024	AT&L	SSDA Infrastructure base file
86545.14.R.109.Rev0	PDF	20/12/2023	Douglas partners	SSDA – Precinct 2 Geotech report

5 Earthworks

5.1 Pre-developed geotechnical conditions

As part of the SSD-37486043 application, a geotechnical investigation was undertaken by Douglas Partners and was summarised in their report dated December 2023 (reference 86545.14.R.008 Rev3). Based on the results of the geotechnical investigations, DP prepared a document titled *Interim Geotechnical Design Guidance Report – Precinct 2* (20 December 2023, reference 86545.14.R.109.Rev0). This Specification document forms the basis of bulk earthworks across the Precinct 2 site which was approved under SSD-37486043.

5.2 Bulk Earthworks

Bulk earthworks within Precinct 2 will be undertaken as part of estate-wide infrastructure works that have been approved under S4.55 MOD No. DA 347.3/2021, which will require excavation to depths of up to 30 metres below natural ground level. This will result in construction of benched pads to prepare Precinct 2 for works proposed under SSD-77020757. The bulk earthworks under S4.55 MOD No. DA 347.3/2021 require fill across most of the Precinct 2, with some cut in the south-western corner of the precinct (refer to Figure 5-1).

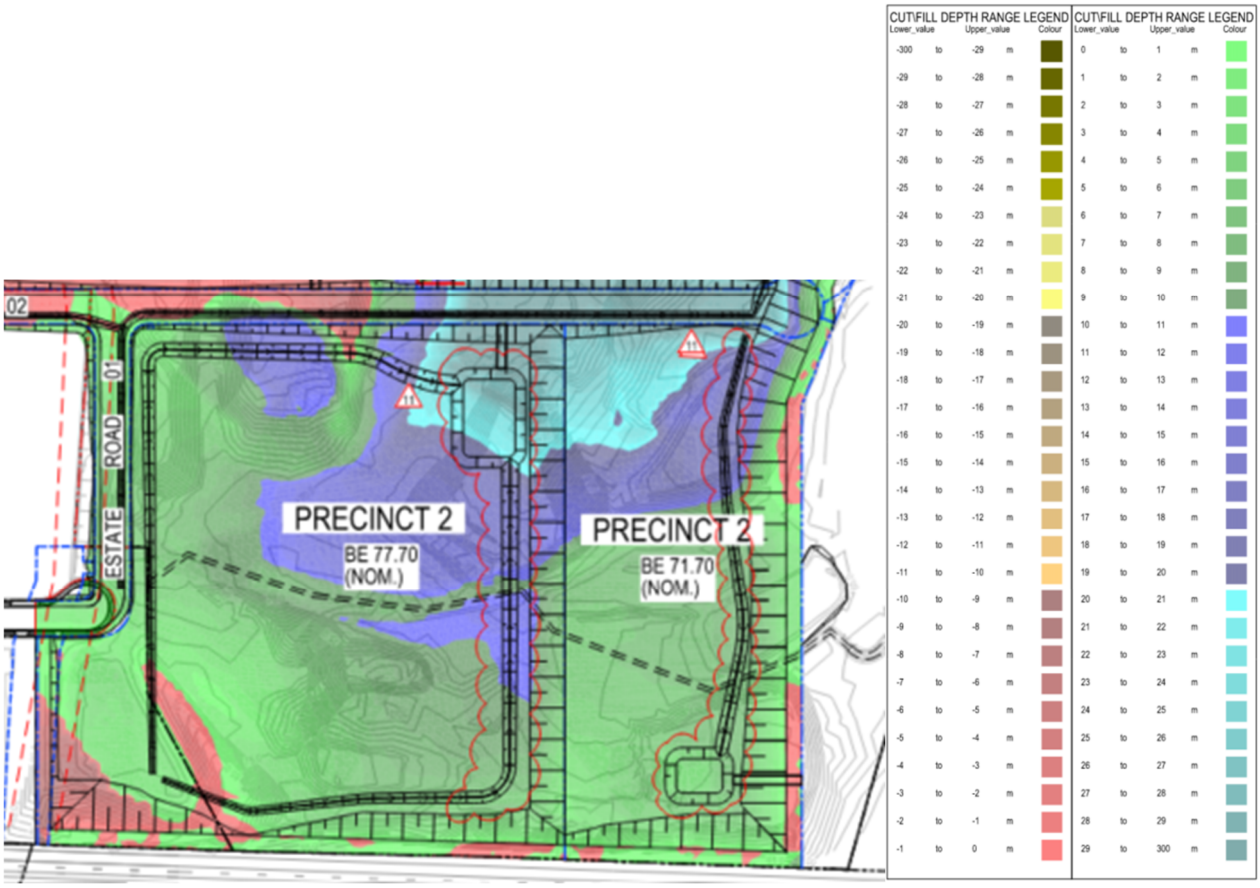


Figure 5-1 Cut / Fill Plan within Precinct 2 for bulk earthworks proposed under S4.55 MOD No. DA 347.3/2021

The finished floor level (FFL) of the proposed warehouses and office buildings within Precinct 2 have been set at RL 78.00 for Warehouse 2A-2, RL 77.80 for warehouse 2A-1 and RL 71.80 for warehouses 2B-2 and 2B-2, which is 100-300mm higher than the bulk earthworks level documented in SSD-37486043, nominally being RL 77.70 for the 2A pads and 71.70 for the 2B pads. It shall be noted that all proposed levels, both bulk and final, include a tolerance of +/- 1000mm as shown on the Arcadis drawings located within Appendix A. Site constraints relating to access, layout and stormwater drainage have impacted on the design surface levels. The bulk earthworks volumes specific to the Precinct 2 works show a net cut of 40,242, a net fill of 22,017 and therefore a net import of 18,224 m3, which will likely be sourced from spoil generated by the development

itself through footings, stormwater excavation, rainwater/stormwater reuse tanks, services, inground services and the like. Refer to the Arcadis drawing number CI-0101, as located within Appendix A. In calculating the additional earthworks that will be required for Precinct 2, the following assumptions have been made:

- Bulk earthworks levels are set down 300mm below FFL
- All state-wide bulk earthworks within Precinct 2 have been completed.
- No allowance for footings, stormwater excavation or below ground services
- Volumes do not account for the following:
  - Bulking factors
  - Select materials for landscaping
  - Retaining wall backfill
  - Erosion and sediment control measures (e.g., catch drains, sediment basins)
  - Rainwater tanks and stormwater reuse tanks
  - Utilities trenching

5.3 Retaining Walls

Retaining walls are proposed along the northern boundary of warehouse 2A-1 adjacent to Estate Road 2, along the northern boundary of warehouse 2B-1 at the entry driveway and carpark and along the inter-allotment boundary between the 2A and 2B pads. The extent of proposed retaining walls within Precinct 2 is shown on drawings CI-0141. Typical sections of the retaining walls are shown on drawing CI-0241 to CI-0243. Retaining walls are to be constructed under SSD-37486043 at the southern and eastern boundaries of Precinct 2. Refer to AT&Ls MOD3 civil drawings for further details of these retaining walls.

6 Internal Access and Pavement

6.1 Pavement Design

Hardstand pavements adjacent to the proposed warehouse and office buildings are expected to be concrete. These pavements will be subject to design by a structural engineer at the detailed design stage. The proposed extent of hardstand pavements is presented on drawing CI-0341. Carpark pavements will be generally flexible pavements, expected to include an asphalt wearing course. Final pavement design will be confirmed at the detailed design stage. The proposed extent of carpark pavements is presented on drawing CI-0341.

6.2 Driveways and Vehicle Crossings

Seven driveways and vehicle crossings will be constructed as access points to Precinct 2:

- Light vehicle crossing off Estate Road 01 and 02 for access to the proposed carparks (car entry and exit).
- Four heavy vehicle crossings (Two for Estate Road 01 Two for Estate Road 02) for vehicles accessing the proposed warehouse hardstand area (both entry and exit). Driveway and layback locations have been located to ensure a minimum 1 metre clearance between the outside of the layback and light poles. All driveways and laybacks will be constructed in accordance with the Fairfield City Council Civil Works Specification.

6.3 Light Vehicle Access

Given the relative level difference between the proposed finished floor level for the office to Warehouse 2A-1, compared to the Estate Road 02 levels, careful consideration has been given to the location of the light vehicle access point to ensure that that DDA access can be provided from the designated disability car space to the Warehouse 2A-1 office. The following factors were considered:

• Proximity of the light vehicle access point to the intersection of Access Road 01 and Access Road 02. Advice was provided by the Traffic Consultant (Ason Group) on a minimum offset from the intersection to the light vehicle access point.

• Maximum allowable grading within the driveway and carpark leading from the light vehicle access point toward the Warehouse 2A-1office space, ensuring that DDA access can be provided from the designated disability car space to the Warehouse 2A-1 office.

• Compliance with Australian standards for maximum grading within the driveway and carpark

7 Stormwater Management

7.1 Basis of Design

The design criteria and requirements for the stormwater design are outlined in Appendix C and are derived from the following applicable standards:

- Fairfield City Council Stormwater Management Policy (2017)
- Australian Rainfall and Runoff (AR&R) (2019)
- AS 3500.3 Stormwater Drainage (2021)
- Managing Urban Stormwater: Soils and Construction (2004)

The design has considered the Oakdale East Industrial Estate Stage 2 IFC design by AT&L.

7.2 Existing Site Stormwater Drainage

There is currently only temporary drainage within the Precinct 2 site proposed as part of the Stage 2 works. The temporary drainage will be removed prior to the Precinct 2 works being constructed. The proposed connection points for the Precinct 2 site have been selected to align with the catchments shown on AT&L drawings 20-798-C6351 and 20-798-C6353.

7.3 Proposed Site Stormwater Drainage

The proposed site stormwater pit and pipe network has been designed to provide effective drainage for a large predominately flat site. A series of sag pits have been provided to reduce the overall longitudinal surface grades

The proposed stormwater network connects to the road drainage for Estate Road 02 before discharging to Basin C as part of the overall stormwater management plan. Drainage connections for the site are made in four locations as noted in Table 7-1. The Precinct 2 design proposes to modify the pit and pipe from BT-1 to allow for connection of the drainage for the access track on the eastern side of the 2B Warehouse. While the flowrate exceeds the assumption made in the AT&L design at BT-1, the overall discharge from Precinct 2 is less than the total assumed in the Stage 2 works.

Table 7-1 Drainage Connections and Flowrates

Connection Pit	AT&L 5% AEP Flowrate (m^3/s)	Proposed 5% AEP Flowrate (m^3/s)
BN-1	3.67	3.297
BR-1	2.01	1.198
BT-1	0.03	0.732

7.4 Stormwater Quantity

On-site detention has been provided as part of the Stage 2 works and no on-lot detention basins are required to meet Council's requirements. The proposed Precinct 2 stormwater drainage has been designed to align with the assumptions made in the Stage 2 design. Stormwater discharge from Precinct 2 will be directed to Basin C which has a storage volume of 25,000m^3.

7.5 Stormwater Quality

Water sensitive urban design for the Stage 2 works has adopted a treatment train approach with on-lot controls consisting of rainwater tanks with re-use sufficient to reduce potable water consumption by 40%. Based on the MUSIC modelling provided as part of the Stage 2 SSDA application, rainwater tanks with a total volume of 150kL will be required for Precinct 2. The proposed Precinct 2 design shows a total of 4 x 25kL rainwater tanks for lot 2A and 2 x 40kl tanks for lot 2B. The area of the roof directed to the tanks will be determined during detailed design.

The remainder of the WSUD treatment train consists of a GPT upstream of the bio-retention area (2975m^2) provided as part of Basin C.

8 Construction Phase Erosion and Sediment Control

An Erosion and Sediment Control Plan (ESCP) will be prepared for the construction of Precinct 2 in accordance with the following guidelines:

- Fairfield Citywide Development Control Plan 2013 – Amendment 16
- Fairfield City Council Policy for Erosion and Sediment Control
- Fairfield City Council Specification for Roadworks and Drainage associated with subdivision or other development
- Managing Urban Stormwater: Soils and Construction (4th edition), Landcom, 2004

The ESCP will be prepared prior to construction of Precinct 2.
The key objectives of the ESCP are to:

- Acknowledge the activities on a construction site which may contribute to erosion, sedimentation and water quality impacts.
- Implement industry best management practices to minimise adverse water quality and sedimentation impacts brought about through construction activities on waterbodies surrounding the work.
- Establish processes that effectively manage erosion, sedimentation and water quality practices during the life of the project.

- Outline how compliance with section 120 of the Protection of the Environment Operations Act 1997 will be met, which prohibits the pollution of waters, except as expressly provided in an Environment Protection Licence.

8.1 Design of Erosion and Sediment Control Measures

Suitable erosion and sediment controls shall be provided by the Contractor and maintained throughout all stages of works. All design, documentation, installation and maintenance of sediment and erosion controls will be in accordance with the requirements of:

- Fairfield Citywide Development Control Plan 2013 – Amendment 16
- Fairfield City Council Policy for Erosion and Sediment Control
- Fairfield City Council Specification for Roadworks and Drainage associated with subdivision or other development
- Managing Urban Stormwater: Soils and Construction (4th edition), Landcom, 2004

A temporary on-lot sediment basin and perimeter swale drains will be provided within the Stage 2 works associated with SSD-37486043. The on-lot basin is to be maintained throughout the construction phase of the on-lot works, until such time that the site has been suitably stabilised and/or the sediment basin is no longer required to meet the requirements of the Blue Book. Additional erosion and sediment control measures that will be required as development of Precinct 2 is completed are presented on drawing CI-0171, and will include:

- Stabilised site access and wheel wash at the exit point to Estate Road 02.
- Sediment fence around the perimeter of the site.
- Mesh and gravel inlet filters at all stormwater pits within the site as they are progressively constructed.

8.2 Site Inspection and Maintenance

The inspection and maintenance requirements outlined in this section must be carried out while earthworks are being undertaken and until all areas are established. The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:

- Ensure that measures are in place such that all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network.
- Inspect and assess the effectiveness of the ESCP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology.
- Construct additional erosion and sediment control works as necessary to ensure protection is given to downstream lands and waterways.
- Ensure that drains operate properly and to affect any repairs
- Remove sediment or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas.
- Remove trapped sediment whenever less than design capacity remains within the structure
- Ensure rehabilitated lands have effectively reduced the erosion hazard and to initiate upgrading or repair as appropriate
- Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated
- Remove temporary soil conservation structures as the last activity in the rehabilitation
- Inspect the sediment basin during the following periods:

  - During construction to determine whether machinery, falling trees, or construction activity has damaged and components of the sediment basin. If damage has occurred, repair it
  - After each runoff event, inspect the erosion damage at flow entry and exit points. If damage has occurred, make the necessary repairs
  - At least weekly during the nominated wet season (if any), otherwise at least fortnightly
  - Prior to, and immediately after, periods of 'stop work' or site shutdown
- Clean out accumulated sediment when it reaches the marker board/post and restore the original volume. Place sediment in a disposal area or, if appropriate, mix with dry soil on the site
- Do not dispose of sediment in a manner that will create an erosion or pollution hazard
- Check all visible pipe connections for leaks, and repair as necessary
- Check all embankments for excessive settlement, slumping of the slopes or piping between the conduit and the embankment, make all necessary repairs
- Remove the trash and other debris from the basin and riser
- Submerged inflow pipes must be inspected and de-silted (as required) after each inflow event

9 External Infrastructure and Utility Services

9.1 Utility Services

Lead-in utility services required to service Precinct 2 will be installed as part of the estate-wide infrastructure works approved under SSD-37486043. This will include:

- Potable water
- Recycled water
- Sewerage
- Electrical and street lighting
- Telecommunications (NBN)

Details of the lead-in infrastructure works that will service the OEE Site are presented in AT&L's MOD3 Civil Infrastructure Report (dated October 2024).

9.2 Sydney Water Section 73

The completion of potable water, recycled water and sewerage infrastructure approved under SSD-37486043 will be sufficient to enable Sydney Water to issue a Section 73 compliance certificate. A Section 73 certificate will need to be obtained for Precinct 2 prior to occupation of the Warehouses.

9.3 Substations and Switching stations

Indicative substations and switching station locations have been provided on drawings CI-0201-CI-0203.

9.4 Transgrid Assets

In accordance with Condition C19 of the approval for SSD-37486043, the Proponent must advice Transgrid of any amendment or modified encroachment into the easement. An encroachment of the noise wall at the South-West of the site within the easement has been discussed and approved by Transgrid.

Appendix A

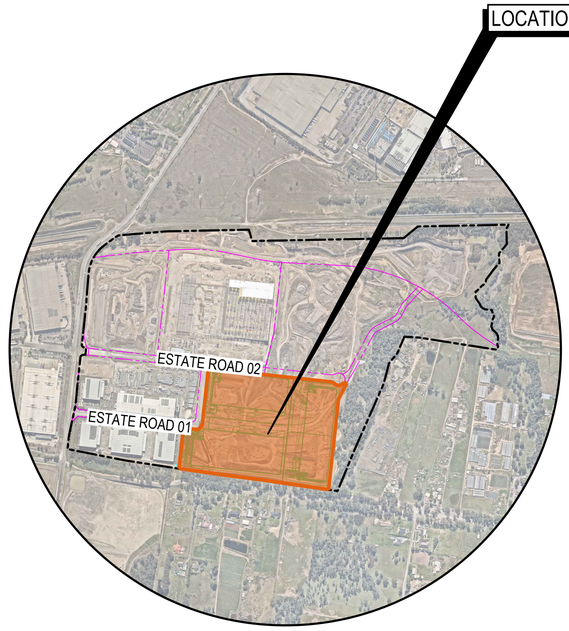
Appendix A- Civil Drawings

OAKDALE EAST PRECINCT 2

STATE SIGNIFICANT DEVELOPMENT APPLICATION - SSD-77020757
FAIRFIELD CITY COUNCIL

DRAWING SCHEDULE

DRAWING NUMBER	DESCRIPTION
GENERAL	
OP2-AAP-DA-DRG-CI-0001	COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE
OP2-AAP-DA-DRG-CI-0021	GENERAL NOTES
OP2-AAP-DA-DRG-CI-0061	GENERAL ARRANGEMENT PLAN
EARTHWORKS	
OP2-AAP-DA-DRG-CI-0101	BULK EARTHWORKS PLAN
OP2-AAP-DA-DRG-CI-0121	BULK EARTHWORKS PLAN SITE SECTIONS SHEET 1
OP2-AAP-DA-DRG-CI-0122	BULK EARTHWORKS PLAN SITE SECTIONS SHEET 2
OP2-AAP-DA-DRG-CI-0141	RETAINING WALL PLAN
OP2-AAP-DA-DRG-CI-0161	RETAINING WALL ELEVATIONS AND DETAILS
OP2-AAP-DA-DRG-CI-0171	EROSION AND SEDIMENT CONTROL PLAN
OP2-AAP-DA-DRG-CI-0191	EROSION AND SEDIMENT CONTROL DETAILS
ROADWORKS AND DRAINAGE	
OP2-AAP-DA-DRG-CI-0201	CIVIL WORKS PLAN SHEET 1
OP2-AAP-DA-DRG-CI-0202	CIVIL WORKS PLAN SHEET 2
OP2-AAP-DA-DRG-CI-0203	CIVIL WORKS PLAN SHEET 3
OP2-AAP-DA-DRG-CI-0204	CIVIL WORKS PLAN SHEET 4
OP2-AAP-DA-DRG-CI-0241	TYPICAL ROAD SECTIONS SHEET 1
OP2-AAP-DA-DRG-CI-0242	TYPICAL ROAD SECTIONS SHEET 2
OP2-AAP-DA-DRG-CI-0243	TYPICAL ROAD SECTIONS SHEET 3
OP2-AAP-DA-DRG-CI-0341	PAVEMENT PLAN
OP2-AAP-DA-DRG-CI-0421	POST-DEVELOPED STORMWATER DRAINAGE CATCHMENT PLAN



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Issue	Description	DR	CH	VE	Date
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01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

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Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289

Tel No: +61 2 8907 9000
www.arcadis.com/au

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GENERAL

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FAIRFIELD CITY COUNCIL SPECIFICATIONS FOR ROADWORKS AND DRAINAGE ASSOCIATED WITH SUBDIVISIONS AND OTHER DEVELOPMENTS AND SUBDIVISION WORKS RELEVANT AUSTRALIAN STANDARDS, OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
2. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
3. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AS AMENDED AND THE APPROPRIATE AND CURRENT AUSTRALIAN STANDARDS.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
6. ALL DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED ON SITE BY THE BUILDER PRIOR TO CONSTRUCTION OR FABRICATION.
7. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL SPECIFICATIONS FOR ROADWORKS AND DRAINAGE ASSOCIATED WITH SUBDIVISIONS AND OTHER DEVELOPMENTS. ENGINEERING CONSTRUCTION CODE AND STANDARD DRAWINGS. WHERE DISCREPANCIES OCCUR THE MORE STRINGENT SPECIFICATION WILL TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST AS REQUIRED. ALL COSTS TO BE BORNE BY THE APPLICANT.
9. THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LAND WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER.
10. THE CONTRACTOR SHALL PROVIDE MINIMUM 48 HOURS NOTICE TO THE PRINCIPAL FOR ALL INSPECTIONS.

FINISHED SURFACE LEVELS

1. ALL FINISHED SURFACE LEVELS ARE +/- 1m U.N.O.

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO THE SUPERINTENDENT.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED IN ACCORDANCE WITH FAIRFIELD CITY ENGINEERING DESIGN FOR DEVELOPMENT GUIDELINES AND HS3 BEDDING OR RELEVANT AUTHORITY STANDARD.
6. ALL BASE COURSE MATERIAL SHALL BE COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1.
7. ALL SUB-BASE COURSE MATERIAL SHALL BE COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A S 1289 5.2.1. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM NON-VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER). SOFT SPOTS ARE TO BE REPLACED WITH SUITABLE SELECT FILL FOR A DEPTH OF AT LEAST 0.5m OR AS ADVISED BY THE GEOTECHNICAL ENGINEER.
8. SELECT MATERIAL FOR BACKFILLING SHALL BE GRANULAR MATERIAL WHICH IS NATURALLY OCCURRING, HAVING A PARTICLE SIZE DISTRIBUTION, DETERMINED IN ACCORDANCE WITH AS 1289. 3.6.1. SELECT MATERIAL CAN BE CRUSHED ROCK, NATURAL SOIL, GRAVEL AND SAND, OR OTHER APPROVED GRANULAR MATERIAL CONSISTING OF CLEAN, SOUND, DURABLE FRAGMENTS, FREE FROM ORGANIC MATTER FROM AN APPROVED SOURCE. GRADING LIMITS FOR SELECT FILL SHALL BE IN ACCORDANCE WITH AS 3725 AND FAIRFIELD CITY COUNCIL ENGINEERING DESIGN FOR DEVELOPMENT GUIDELINES.
9. ALL FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL ENGINEERING OR RELEVANT AUSTRALIAN STANDARDS.
10. FILL MATERIAL SHALL BE SPREAD IN LAYERS MAXIMUM 300mm THICK AND COMPACTED TO SPECIFICATION.
11. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

KERB AND GUTTER NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON MIN. 175mm DGB20 COMPACTED TO MINIMUM 98% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 12mm COMPRESSIBLE JOINT FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 9m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS TO BE 3mm TO 5mm WIDE AND LOCATED AT 900mm CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. LIGHT BROOM FINISH TO ALL FOOTPATHS, PRAM RAMPS AND DRIVEWAYS.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
7. EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

STREET FURNITURE

1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE R.M.S REGULATORY SIGNS MANUAL.
2. ALL LAMP COLUMNS TO BE IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL AND / OR ENDEAVOUR ENERGY ENERGY SPECIFICATIONS.

SURVEY NOTES

1 THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY LTS LOCKLEY. SURVEY IS IN MGA94 COORDINATE SYSTEM AND TO AUSTRALIAN HEIGHT DATUM.
2. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. ARCADIS DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
3. REFER TO LTS LOCKLEY DRAWING 50404 016CON FOR CONTROL MARKS LOCATIONS AND LEVEL

TRAFFIC CONTROL NOTES

1. A TRAFFIC CONTROL PLAN IF REQUIRED IS TO BE PREPARED AND LODGED WITH COUNCIL BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

GEOTECHNICAL NOTES

1. THE CONTRACTOR SHALL REVIEW FORTIFY GEOTECH GEOTECHNICAL INVESTIGATION REPORT DATED OCTOBER - DECEMBER 2023 REFERENCE NUMBER: 86545.14.R.109.Rev0 TO SATISFY THEMSELVES OF THE ANTICIPATED GROUND CONDITIONS DURING EARTHWORKS. THE CONTRACTOR MUST ALLOW FOR ADDITIONAL GEOTECHNICAL INVESTIGATIONS & TESTING DURING CONSTRUCTION TO VERIFY SUBGRADE CONDITIONS AND APPROPRIATE TREATMENTS ON SITE THAT ARE CONSISTENT WITH THE PARAMETERS USED IN THE PAVEMENT DESIGN.

CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS AND FAIRFIELD CITY COUNCIL SPECIFICATIONS FOR ROADWORKS AND DRAINAGE ASSOCIATED WITH SUBDIVISIONS AND OTHER DEVELOPMENTS - CONCRETE PAVEMENT NOTES.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT AUSTRALIAN STANDARD SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS3600 F'c MPA AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS AND PITS	32	80	20
DRAINAGE PITS	32	80	20
RETAINING WALL FOOTING	32	80	20
IN CONTACT WITH SALTWATER	40	80	20
IN CONTACT WITH ACID SULFATE SOIL	50	80	20

- CEMENT TYPE SHALL BE (AS 3600) TYPE SL
- CEMENT TYPE SHALL BE TYPE SR FOR ALL ELEMENTS IN CONTACT WITH ACID SULFATE SOIL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY ARCADIS.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 50mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH RMS SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N - DENOTES GRADE 450 N BARS TO AS 4671 GRADE N
   R - DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 4671
   SL - DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671
   NUMBER OF BARS IN GROUP | | BAR GRADE AND TYPE

   17 N 20 250

   NOMINAL BAR SIZE IN mm SPACING IN mm

   THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERANCE NUMBER FOR FABRIC TO AS 4671.
8. REINFORCEMENT SHOULD HAVE THE FOLLOWING MINIMUM COVER:
   - 40mm MINIMUM (AS PER FAIRFIELD CITY COUNCIL SPECIFICATIONS)
   - 50mm FOR CONCRETE CAST IN CONTACT WITH EARTH OR FRESH WATER
   - 55mm FOR CONCRETE CAST IN CONTACT WITH SALTWATER
   - 65mm FOR CONCRETE CAST IN CONTACT WITH ACID SULFATE SOIL
   - AS NOTED ON DESIGN DRAWINGS AND DETAILS
9. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

   25 MIN — LAP TWO WIRES

JOINTING NOTES

PEDESTRIAN PAVEMENT JOINTS

1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL STANDARD DRAWING S1.
2. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
3. PEDESTRIAN PAVEMENT JOINT LOCATIONS TO BE CONFIRMED BY PAVEMENT DESIGN FOLLOWING IN-SITU MATERIAL TESTING AND FAIRFIELD CITY COUNCIL ENGINEERING DESIGN CODE.
4. REFER TO LANDSCAPE ARCHITECTS PLANS FOR ALL OTHER PEDESTRIAN PAVEMENT JOINT SPECIFICATIONS.

PAVEMENT NOTES:

1. PAVEMENT IS TO BE INSTALLED IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL ENGINEERING DESIGN FOR DEVELOPMENT GUIDELINES SECTION 2.0 PAVEMENT DESIGN.
2. SUBSOIL DRAINAGE TO BE PROVIDED IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL ENGINEERING DESIGN FOR DEVELOPMENT GUIDELINES SECTION 2.2.7 (IX) SUBSOIL DRAINAGE.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE IMPLEMENTED AND MAINTAINED TO SUIT THE CONSTRUCTION STAGING AND METHODOLOGY AND THE SITE AND WEATHER CONDITIONS AT THE TIME.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE
   2.1. WITH LOCAL AUTHORITY REQUIREMENTS
   2.2. EPA REQUIREMENTS
   2.3. LANDCOM MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS OR THE STORMWATER OUTLET PITS AND PIPES HAVE BEEN CONSTRUCTED.
5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. SITE STABILISATION BY APPLICATION OF SEEDED HYDROMULCH WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. CONTRACTOR TO DESIGN AND MANAGE ALL OF THE STOCKPILE REQUIREMENTS.
11. CONTRACTOR TO CONSIDER CONSTRUCTION ENVIRONMENTAL MANAGEMENT REPORT. ANY PROTECTED TREES TO BE REMOVED SHALL BE CONSULTED WITH THE ARBORIST.
12. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
13. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

14. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
15. ALL TREES WITHIN THE EXTENT OF PROPOSED WORKS ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
16. PRIOR TO DISCHARGE OF SITE STORMWATER, GROUNDWATER AND SEEPAGE WATER INTO COUNCIL'S STORMWATER SYSTEM, CONTRACTORS MUST UNDERTAKE WATER QUALITY TESTS IN CONJUNCTION WITH A SUITABLY QUALIFIED ENVIRONMENT CONSULTANT OUTLINING THE FOLLOWING:

- COMPLIANCE WITH THE CRITERIA OF THE AUSTRALIA AND NEW ZEALAND GUIDELINES FOR FRESH AND MARINE WATER QUALITY (2000)
- IF REQUIRED SUBJECT TO THE ENVIRONMENTAL CONSULTANTS ADVICE, PROVIDE REMEDIAL MEASURES TO IMPROVE THE QUALITY OF WATER THAT IS TO BE DISCHARGES INTO COUNCIL'S STORMWATER DRAINAGE SYSTEM. THIS SHOULD INCLUDE COMMENTS FROM A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT CONFIRMING THE SUITABILITY OF THESE REMEDIAL MEASURES FOR MANAGE THE WATER DISCHARGED FROM THE SITE INTO COUNCILS STORM WATER DRAINAGE SYSTEM. OUTLINING THE PROPOSED, ONGOING MONITORING, CONTINGENCY PLANS AND VALIDATION PROGRAM THAT WILL BE IN PLACE TO CONTINUALLY MONITOR THE QUALITY OF WATER DISCHARGED FROM THE SITE. THIS SHOULD OUTLINE THE FREQUENCY OF WATER QUALITY TESTING THAT WILL BE UNDERTAKEN BY A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT.
- ANY ACCUMULATED WATER CONTAMINATED WITH SEDIMENT, FROM A SEDIMENT BASIN OR EXCAVATION PIT, IS TO BE FLOCCULATED OR FILTERED IN ORDER TO LOWER THE SUSPENDED SOLID LOAD TO LESS THAN 50mg PER LITRE GYPSUM GAS OR OTHER APPROVED FLOCCULANT SHOULD BE APPLIED WITHIN 24 HOURS OF THE END OF THE STORM EVENT. THE GYPSUM MUST BE SPREAD EVENLY OVER THE ENTIRE WATER SURFACE. PUMPING IS NOT TO OCCUR FOR AT LEAST 36 HOURS AND PREFERABLY 48 HOURS AFTER APPLICATION. CLEAN WATER IS TO BE DISCHARGED TO THE WATER TABLE VIA A STRAW BALE SEDIMENT FILTER IN A WAY THAT DOES NOT PICK UP SEDIMENT THAT HAS DROPPED TO THE BOTTOM. NOTE: GYPSUM IS A HYDRATED FORM OF CALCIUM SULPHATE AND IS AVAILABLE AT MANY SWIMMING POOL SHOPS AND HARDWARE STORES.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   SITE DRAINAGE
   5% AEP MINOR STORM EVENT
   1% AEP MAJOR STORM EVENT
2. ALL STORMWATER DRAINAGE INFRASTRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH RELEVANT FAIRFIELD CITY COUNCIL STANDARDS.
3. REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS.
4. REINFORCED BOX CULVERTS TO BE EXPOSURE CLASS C2.
5. PIPES UP TO 300mm DIA SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION.
6. ALL STORMWATER TRENCHES AND BEDDING SHALL BE BACKFILLED IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL ENGINEERING DESIGN DEVELOPMENT.
7. ALL INTERNAL STORMWATER DRAINAGE WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 AND AS/NZS 3500 3.2.
8. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
9. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
10. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
11. GRATES AND COVERS SHALL CONFORM TO AS 3996.
12. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
13. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.
14. STEP IRONS ARE TO BE PROVIDED IN ALL PITS DEEPER THAN 1.2m IN ACCORDANCE WITH FAIRFIELD CITY COUNCIL ENGINEERING SPECIFICATIONS.
15. CCTV ALL PIPES AFTER CONSTRUCTION AND PRIOR TO PRACTICAL COMPLETION. THIS INCLUDES ALL EXISTING PIPES THAT ARE TO BE RETAINED.
16. PIPES ARE DESIGNED FOR OPERATIONAL LOADS ONLY. APPROPRIATE MEASURES SHOULD BE TAKEN TO PROTECT PIPES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED PIPE.
17. PREFABRICATED PITS TO COME FROM A QUALITY ASSURED SUPPLIER. CONTRACTOR TO INSPECT PITS WHEN DELIVERED TO SITE PRIOR TO INSTALLATION. ONLY THE DESIGNED KNOCKOUT AREAS TO BE USED FOR PIPE ENTRIES. ANY CRACKS IN PITS OR EVIDENCE THAT CONTRACTOR HAS EXTENDED THE KNOCKOUT AREA SHALL RENDER THE PIT UNACCEPTABLE. IT IS RECOMMENDED TO SAW CUT THE KNOCK OUT AREA WHEN CREATING THE OPENING IN THE PIT FOR THE PIPE TO MINIMISE POTENTIAL DAMAGE TO PIT.
18. CONTRACTOR TO CCTV STORMWATER DRAINAGE NO SOONER THAN AFTER BASE COURSE LAYER IS PLACED. ANY DAMAGE TO PIPES / CULVERTS MUST BE REPORTED TO THE PCA PRIOR TO UNDERTAKING ANY REPAIRS. IT IS TO BE NOTED THAT ANY DAMAGE TO PIPES / CULVERTS IDENTIFIED IN THE CCTV REPORT THAT ARE LOCATED UNDER ROADS SHALL AS A MINIMUM REQUIRE A FULL SLEEVE REPAIR FROM PIT TO PIT. CIRCUMFERENTIAL CRACKS IN OTHER LOCATIONS SHALL AS A MINIMUM REQUIRE A SLEEVE REPAIR. THE REPAIR SHALL BE DONE BY AN APPROVED CONTRACTOR. A CCTV REPORT ON ALL REPAIRS WILL BE REQUIRED BY COUNCIL.
19. PVC PIPES SHOULD BE INSTALLED IN ACCORDANCE WITH AS 2032:2006 INSTALLATION OF PVC PIPE SYSTEMS.

TELSTRA - DUTY OF CARE NOTE

1. TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY.
2. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT. BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY ITS LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO ITS PROPERTY AND LOSSES CAUSED TO TELSTRA AND ITS CUSTOMERS.

EXISTING UNDERGROUND SERVICES NOTES

1. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
   ARCADIS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
2. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
3. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
4. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

BIO RETENTION NOTES

1. FILTER MEDIA LAYER SHALL CONFORM WITH THE SPECIFICATIONS OF FAWB GUIDELINES FOR BIOFILTRATION MEDIA (VERSION 3.01) AND WATER BY DESIGN SPECIFICATIONS "BIO RETENTION TECHNICAL DESIGN GUIDELINES VERSION 1". THE MINIMUM ORGANIC CONTENT OF THE FILTER MEDIA SHALL BE 3%.
2. TRANSITION AND DRAINAGE MEDIA LAYER SHALL CONFORM WITH THE SPECIFICATIONS OF FAWB GUIDELINES FOR BIOFILTRATION MEDIA (VERSION 3.01) AND WATER BY DESIGN SPECIFICATIONS 'BIO RETENTION TECHNICAL DESIGN GUIDELINES VERSION 1".
3. THE CONTRACTOR IS RESPONSIBLE FOR UNDERTAKING DETAILED SURVEY OF EACH LAYER OF THE MEDIA INSTALLED INCLUDING THE SUBGRADE AND FINISHED LEVEL SURVEYS. THE DIGITAL SURVEY DATA FOR EACH LAYER IS TO BE ISSUED TO THE SUPERINTENDENT FOR REVIEW PRIOR TO THE SUBSEQUENT LAYER BEING INSTALLED. THE REQUIRED TOLERANCES FOR CONSTRUCTION OF THE MEDIA LAYERS IS INCLUDED IN THE WATER BY DESIGN CONSTRUCTION AND ESTABLISHMENT SIGN OFF FORMS – BIORETENTION SYSTEMS (VERSION 1.1).
   ALL COSTS ASSOCIATED WITH THE DETAILED SURVEY OF THE BIORETENTION SYSTEMS, THE STAGED CONSTRUCTION APPROACH DUE TO THE SURVEY REVIEW PROCESS, AND ANY REWORKS REQUIRED AS A RESULT OF THE SURVEY REVIEWS ARE DEEMED INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR THE PROJECT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CO-SIGNING THE WATER BY DESIGN CONSTRUCTION AND ESTABLISHMENT SIGN OFF FORMS – BIORETENTION SYSTEMS (VERSION 1.1) AT THE TIME OF CONSTRUCTION OF THE BIORETENTION SYSTEMS AS WELL AS MANAGING AND COMPLYING WITH THE RELEVANT HOLD AND WITNESS POINTS SPECIFIED IN THESE FORMS.
5. THE MINIMUM HYDRAULIC CONDUCTIVITY OF ANY LAYER OF BIO BASIN MEDIA SHALL BE 200mm/hr.

GDA94

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: GENERAL NOTES

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

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Drawing No.: OP2-AAP-DA-DRG-CI-0021

Issue: 02

100mm on Original

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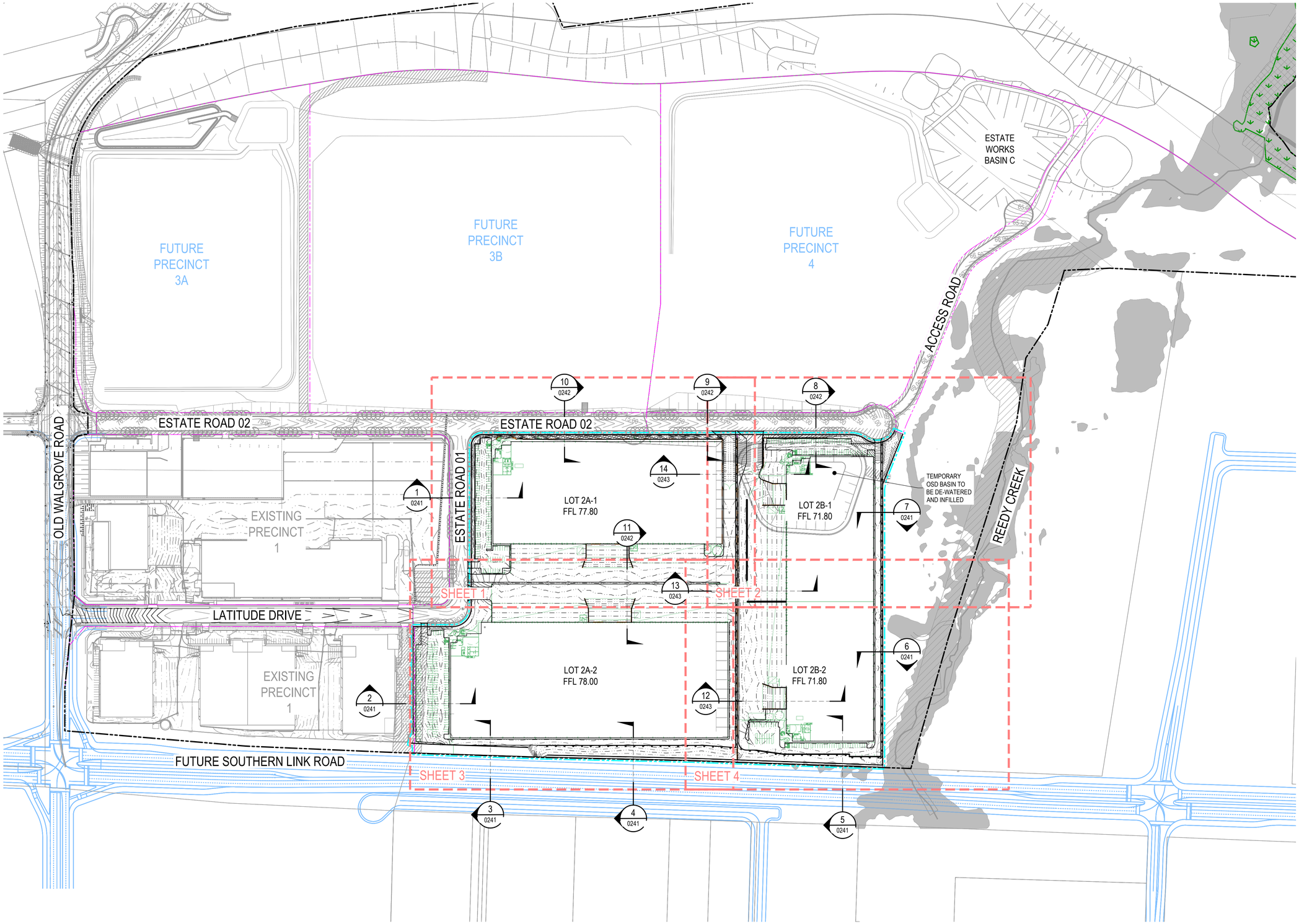

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02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 50 100 150 200m

1 : 2000

Architect

sba

Client

Goodman

Status

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project

OAKDALE ESTATE
PRECINCT 2

Title

GENERAL ARRANGEMENT PLAN

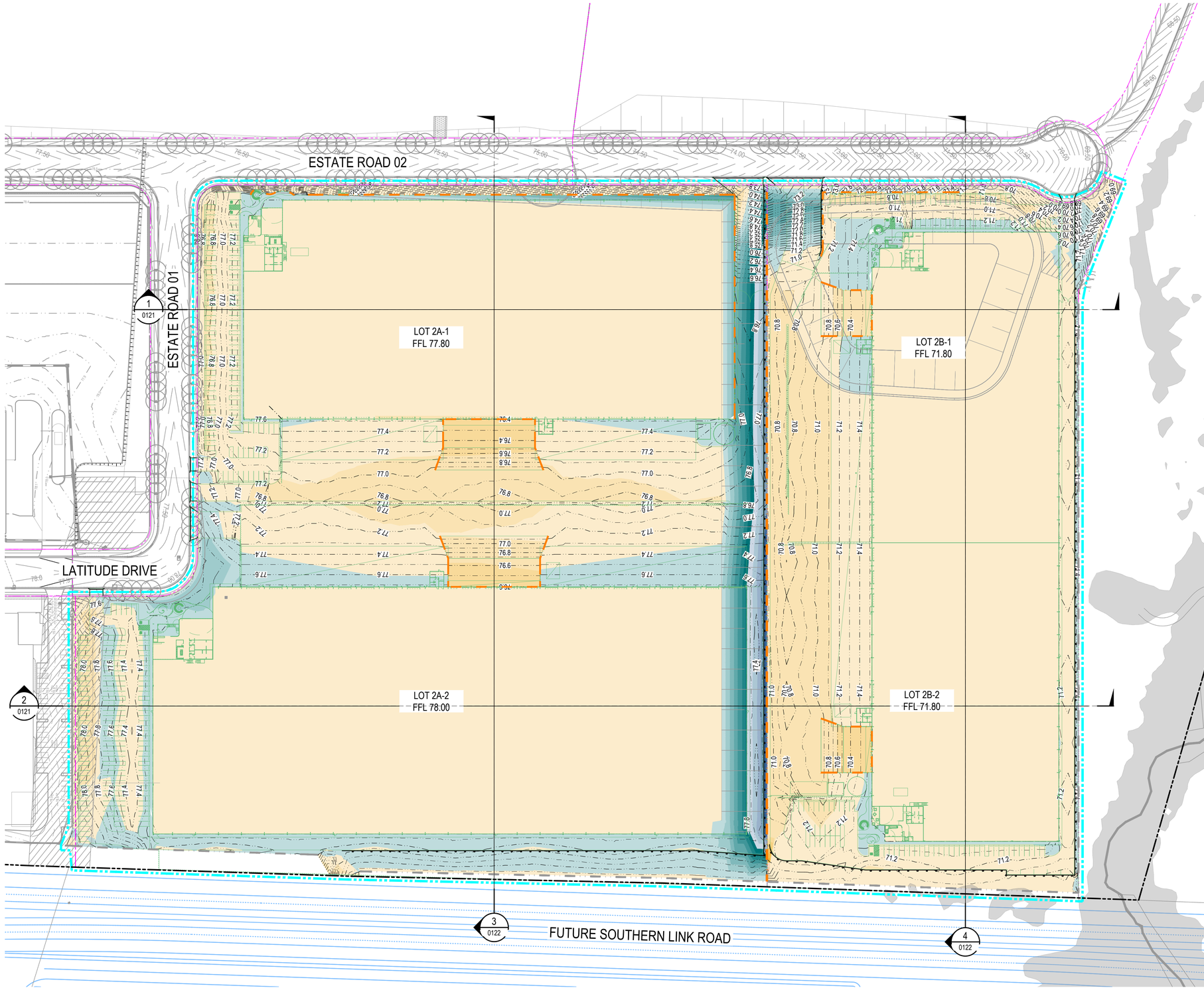
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number 30236891

Drawing No. OP2-AAP-DA-DRG-CI-0061

Issue 02

Date Plotted: 20 Jan 2025 - 10:10am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0061-GeneralArrangementPlan.dwg



CUT FILL DEPTH RANGE

LOWER_VALUE		UPPER_VALUE		COLOUR
-999	TO	-6.5	m	
-6.5	TO	-6	m	
-6	TO	-5.5	m	
-5.5	TO	-5	m	
-5	TO	-4.5	m	
-4.5	TO	-4	m	
-4	TO	-3.5	m	
-3.5	TO	-3	m	
-3	TO	-2.5	m	
-2.5	TO	-2	m	
-2	TO	-1.5	m	
-1.5	TO	-1	m	
-1	TO	-.5	m	
-.5	TO	0.00	m	
0.00	TO	.5	m	
.5	TO	1	m	
1	TO	1.5	m	
1.5	TO	2	m	
2	TO	2.5	m	
2.5	TO	3	m	
3	TO	3.5	m	
3.5	TO	4	m	
4	TO	4.5	m	
4.5	TO	5	m	
5	TO	5.5	m	
5.5	TO	6	m	
6	TO	6.5	m	
6.5	TO	999	m	

LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- POPOSED RETAINING WALL
- EXISTING RETAINING WALL
- PROPOSED BATTER
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL

EARTHWORKS NOTES/ASSUMPTIONS

1. HATCHING SHOWN TYPICALLY REPRESENTS DEPTH RANGE BETWEEN THE EXISTING SURFACE AND THE BULK EARTHWORKS SURFACE.
2. THE EXISTING SURFACE IS MADE OF THE FOLLOWING:
   - AT&L INFRASTRUCTURE SSDA BULK EARTHWORKS SURFACE (DATED 17.09.24)
3. THE BULK EARTHWORKS SURFACE ASSUMES THE BELOW PAVEMENT DEPTHS:
   - LIGHT DUTY CARPARK 257mm
   - HEAVY DUTY HARDSTAND 280mm
   - FOOTPATH PAVEMENT 200mm
   - TURFPAVE PAVEMENT 300mm
   - LANDSCAPING 150mm
   - STRUCTURAL SLAB 700mm
   - MEDIAN INFILL 300mm

   ALL PAVEMENT DEPTHS ARE TO BE CONFIRMED DURING DETAILED DESIGN.
4. THE BELOW VOLUMES ARE CALCULATED WITH THE ASSUMPTION THAT THE INFRASTRUCTURE WORKS ARE COMPLETED. REFER 6000 SERIES (SSD-37486043) DRAWING PACKAGE FOR DETAILS.
5. INFRASTRUCTURE EARTHWORKS ARE SUBJECTED TO CHANGE TO REDUCE THE IMPORT AMOUNT. WAE SURVEY TO CONFIRM VOLUMES PRIOR TO DETAILED DESIGN.
6. NO ALLOWANCE FOR RETAINING WALL BACKFILL MATERIAL
7. THE VOLUMES DO NOT TAKE INTO ACCOUNT THE FOLLOWING:
   - BULKING FACTORS OF REMOVED CUT
   - REMOVAL OF EXISTING BUILDING SLABS AND PAVEMENTS
   - REMOVAL AND/OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL
   - PROPOSED LANDSCAPING
   - STORMWATER AND UTILITY TRENCHING
   - EROSION AND SEDIMENTATION CONTROL SWALES AND BASINS
   - RAINWATER TANKS AND STORMWATER REUSE TANKS

CUT / FILL VOLUMES

CUT	-40,242.522
FILL	22,017.900
BALANCE (EXPORT)	-18,224.622

NOTE: NO COMPACTION OR BULKING FACTORS HAVE BEEN APPLIED.

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

0 10 20 40 60 80 100m

1 : 1000

100mm on Original

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: BULK EARTHWORKS PLAN

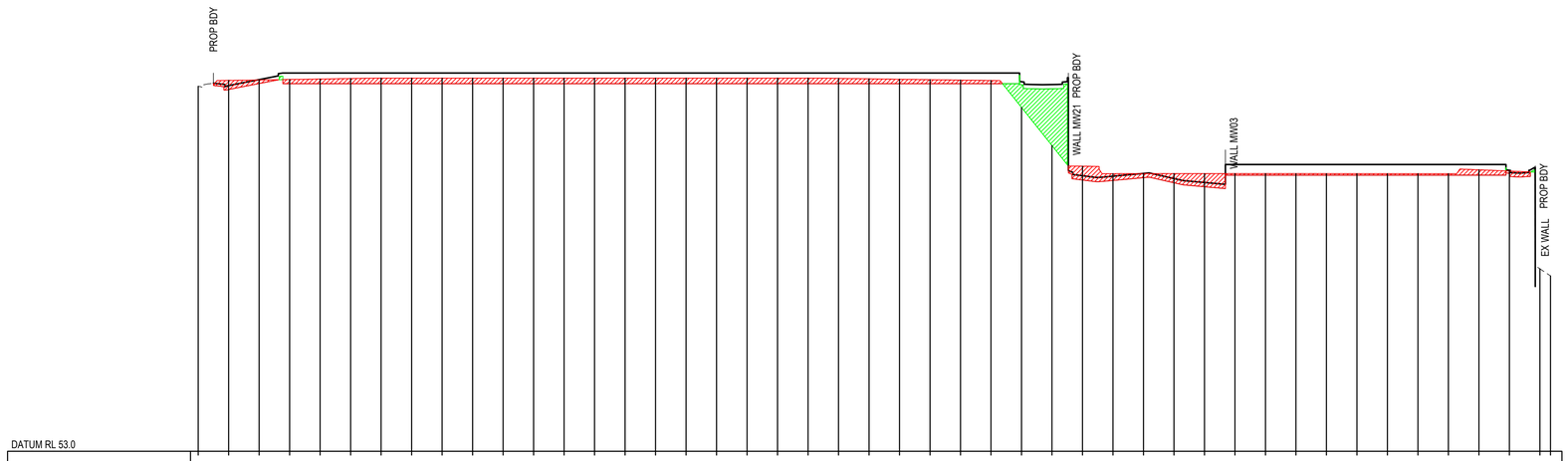
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0101

Issue: 02

Date Plotted: 20 Jan 2025 - 10:00am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0101-EarthworksPlan.dwg



DATUM RL 53.0

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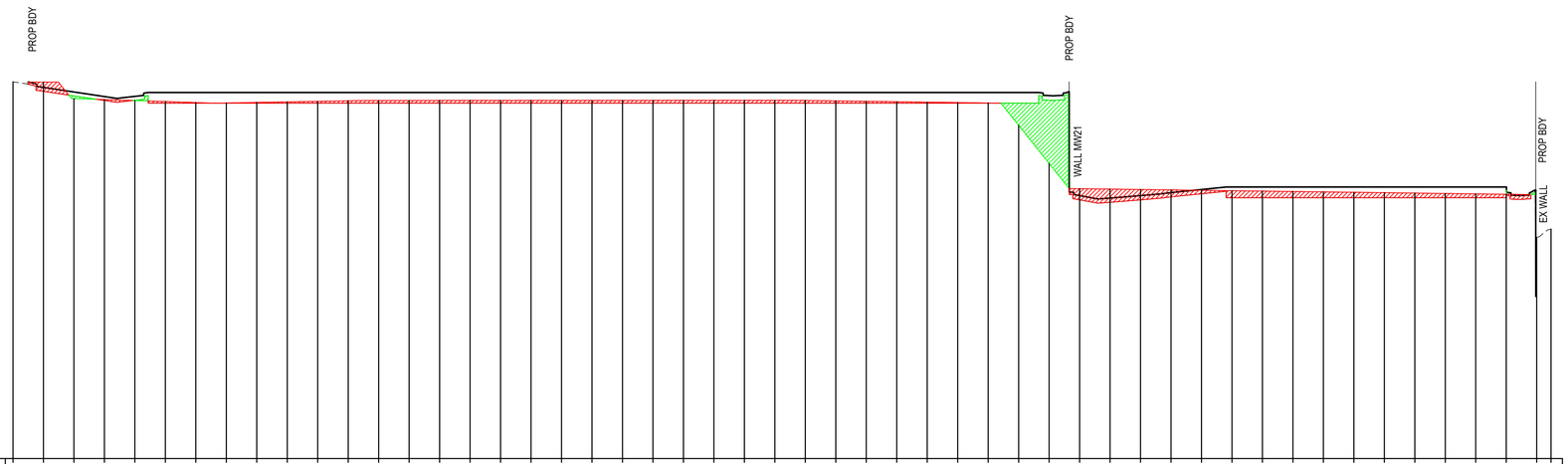
EXISTING LEVEL	76.93	77.31	77.34	77.37	77.41	77.44	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.46	77.45	77.42	77.39	77.36	77.34	77.31	75.54	73.04	71.69	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.45	71.37	64.96 64.50
EARTHWORKS LEVEL		76.716	77.111	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.100	77.029	76.764	70.785	70.754	70.936	70.601	70.343	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.223		

BULK EARTHWORKS LONGITUDINAL SECTION 1

SCALE 1:1000 HORI.
1:200 VERT.



DATUM RL 54.0

CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	230.00	240.00	250.00	260.00	270.00	280.00	290.00	300.00	310.00	320.00	330.00	340.00	350.00	360.00	370.00	380.00	390.00	400.00	410.00	420.00	430.00	440.00	450.00	460.00	470.00	480.00	490.00	500.00	504.69
EXISTING LEVEL	78.70	78.68	77.60	77.54	77.47	77.41	77.34	77.31	77.35	77.38	77.42	77.45	77.47	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.48	77.45	77.42	77.39	77.37	77.34	77.31	75.85	73.35	71.69	71.66	71.64	71.61	71.59	71.56	71.53	71.51	71.48	71.46	71.43	71.40	71.38	71.35	71.33	68.50	69.05
EARTHWORKS LEVEL		78.075	77.775	77.475	77.488	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.300	77.496	70.959	70.799	70.958	71.152	71.356	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.100	71.100		

BULK EARTHWORKS LONGITUDINAL SECTION 2

SCALE 1:1000 HORI.
1:200 VERT.

LEGEND

- FILL AREA
- CUT AREA
- BOX SECTION

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	NB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

HORZ 0 10 20 40 60 80 100m
1:1000
VERT 0 5 10 20 30 40 50m
1 : 500

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE
PRECINCT 2

Title: BULK EARTHWORKS PLAN
SITE SECTIONS
SHEET 1

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

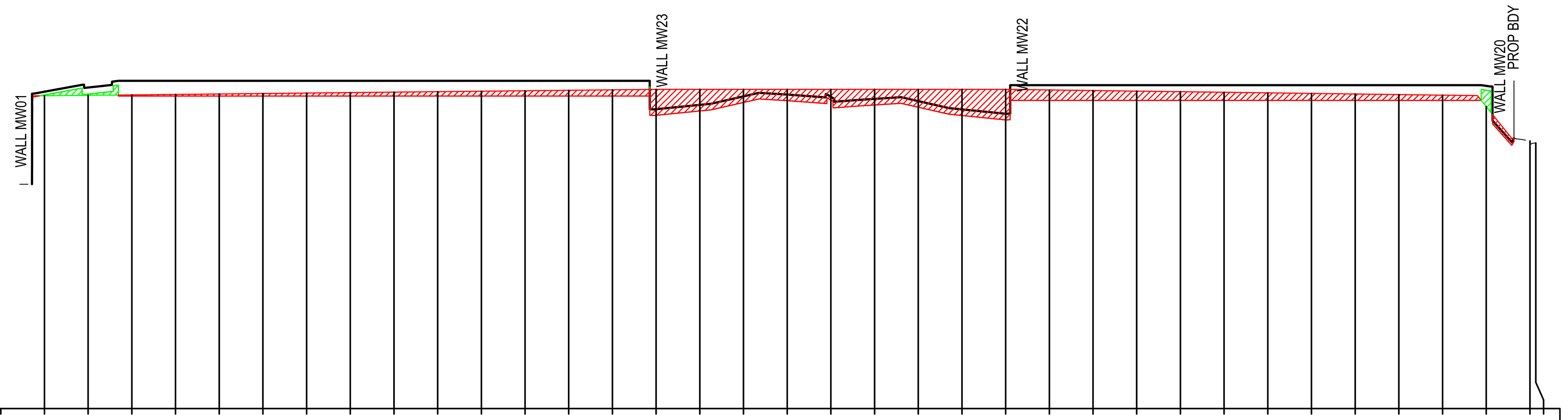
Drawing No.: OP2-AAP-DA-DRG-CI-0121

Issue: 02

Date Plotted: 20 Jan 2025 - 09:59am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0121-EarthworksSiteSectionsSheet1.dwg

LEGEND

- FILL AREA
- CUT AREA
- BOX SECTION

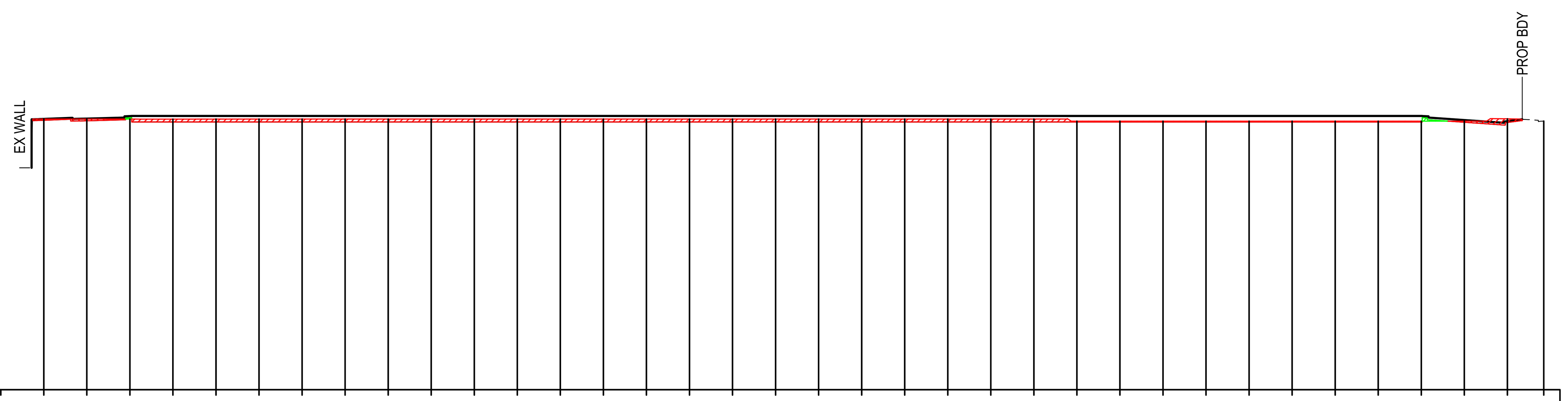


DATUM RL 63.0

CHAINAGE	EARTHWORKS LEVEL	EXISTING LEVEL
0.00		
10.00	77.350	77.32
20.00	77.392	77.33
30.00	77.300	77.35
40.00	77.300	77.37
50.00	77.300	77.40
60.00	77.300	77.42
70.00	77.300	77.44
80.00	77.300	77.46
90.00	77.300	77.48
100.00	77.300	77.50
110.00	77.300	77.52
120.00	77.300	77.54
130.00	77.300	77.56
140.00	77.300	77.59
150.00	76.419	77.61
160.00	76.619	77.61
170.00	77.009	77.61
180.00	77.090	77.61
190.00	77.117	77.61
200.00	76.893	77.61
210.00	76.790	77.61
220.00	76.411	77.61
230.00	76.211	77.61
240.00	77.100	77.58
250.00	77.100	77.55
260.00	77.100	77.53
270.00	77.100	77.50
280.00	77.100	77.48
290.00	77.100	77.45
300.00	77.100	77.42
310.00	77.100	77.40
320.00	77.100	77.37
330.00	77.100	77.34
340.00	77.567	76.82
350.00		75.25
351.34		75.16

BULK EARTHWORKS LONGITUDINAL SECTION 3

SCALE 1:1000 HORI.
1:200 VERT.



DATUM RL 40.0

CHAINAGE	EARTHWORKS LEVEL	EXISTING LEVEL
0.00		
10.00	71.305	71.44
20.00	71.244	71.44
30.00	71.590	71.44
40.00	71.100	71.44
50.00	71.100	71.44
60.00	71.100	71.44
70.00	71.100	71.44
80.00	71.100	71.44
90.00	71.100	71.45
100.00	71.100	71.45
110.00	71.100	71.45
120.00	71.100	71.45
130.00	71.100	71.45
140.00	71.100	71.45
150.00	71.100	71.45
160.00	71.100	71.45
170.00	71.100	71.45
180.00	71.100	71.45
190.00	71.100	71.45
200.00	71.100	71.45
210.00	71.100	71.45
220.00	71.100	71.45
230.00	71.100	71.45
240.00	71.100	71.45
250.00	71.100	71.20
260.00	71.100	71.20
270.00	71.100	71.20
280.00	71.100	71.20
290.00	71.100	71.20
300.00	71.100	71.20
310.00	71.100	71.20
320.00	71.100	71.20
330.00	71.100	71.20
340.00	71.071	71.20
350.00	71.046	71.47
358.47		71.22

BULK EARTHWORKS LONGITUDINAL SECTION 4

SCALE 1:1000 HORI.
1:500 VERT.

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 5 10 20 30 40 50m — 1 : 500

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

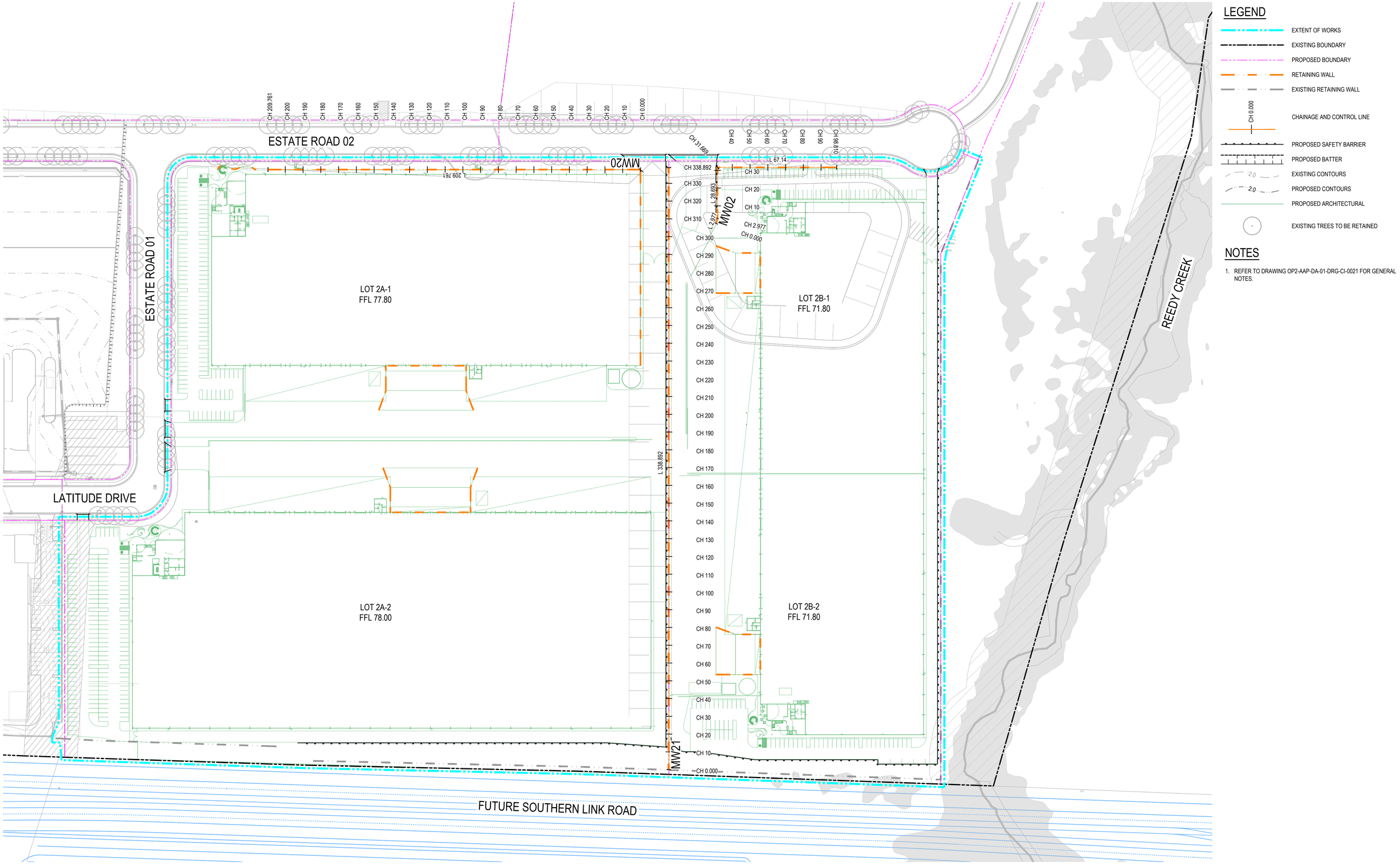
Title: BULK EARTHWORKS PLAN SITE SECTIONS SHEET 2

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No. OP2-AAP-DA-DRG-CI-0122 — Issue 02

Date Plotted: 20 Jan 2025 - 09:59am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0122-EarthworksSiteSectionsSheet2.dwg



LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- RETAINING WALL
- EXISTING RETAINING WALL
- CH 0.000 — CHAINAGE AND CONTROL LINE
- PROPOSED SAFETY BARRIER
- PROPOSED BATTER
- 2.0 — EXISTING CONTOURS
- 2.0 — PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- EXISTING TREES TO BE RETAINED

NOTES

1. REFER TO DRAWING OP2-AAP-DA-01-DRG-CI-0021 FOR GENERAL NOTES.

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 10 20 40 60 80 100m

1 : 1000

Architect

sba

Client

Goodman

Status

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project

OAKDALE ESTATE
PRECINCT 2

Title

RETAINING WALL
PLAN

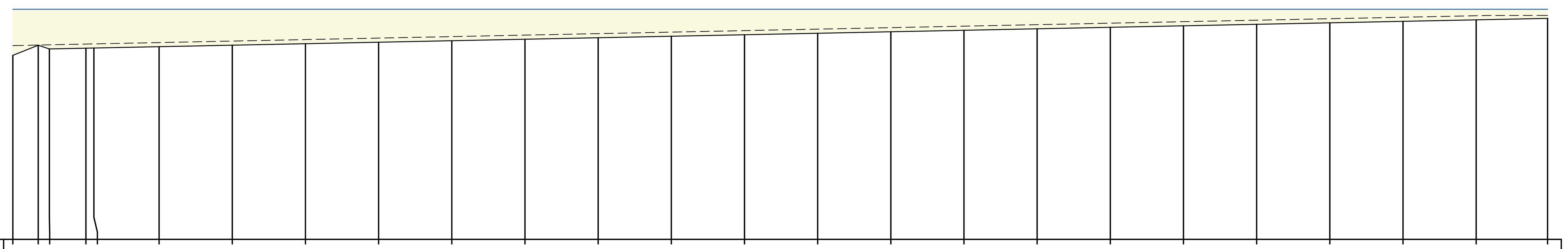
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0141

Issue: 02

Date Plotted: 20 Jan 2025 - 09:59am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0141-RetainingWallPlan.dwg

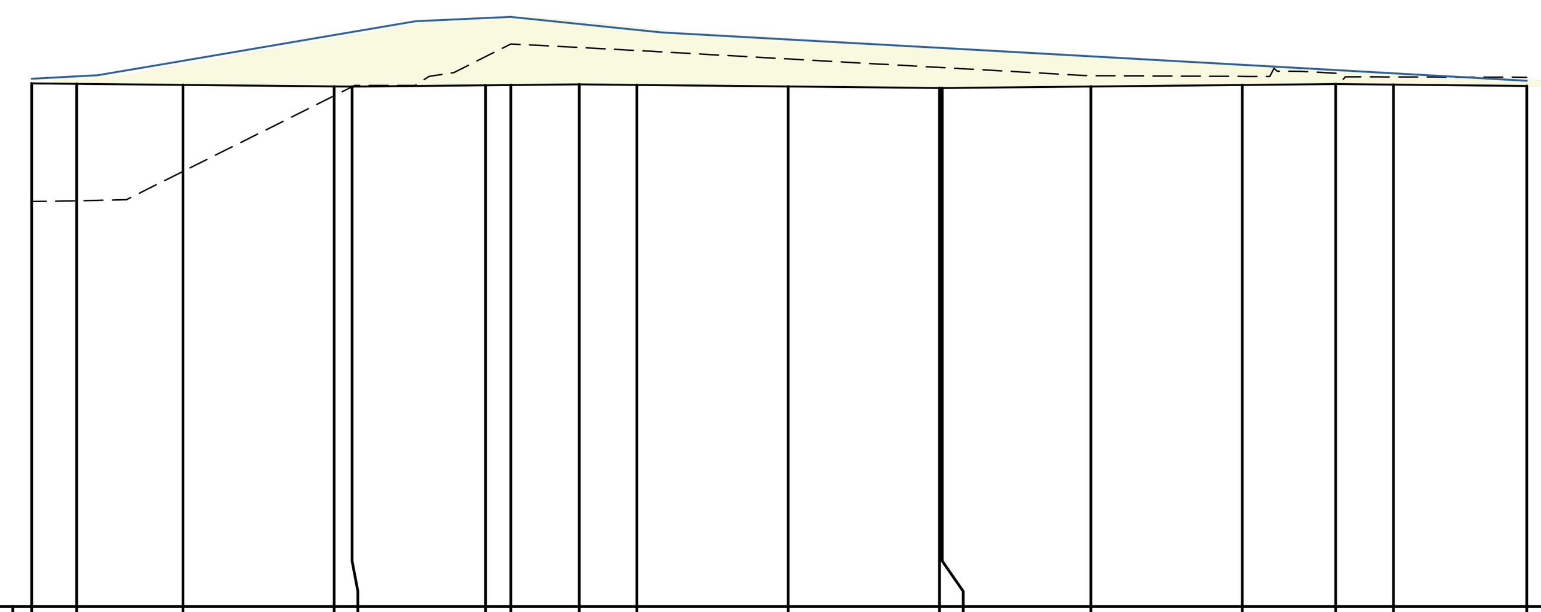


DATUM RL 62.0

BOTTOM OF RETAINING WALL	74.583	75.278	75.021	75.073	75.084	75.175	75.278	75.380	75.482	75.584	75.686	75.788	75.890	75.992	76.095	76.197	76.299	76.401	76.503	76.605	76.707	76.809	76.912	77.014	77.113
TOP OF RETAINING WALL	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735	77.735
HEIGHT OF RETAINING WALL	3.152	2.457	2.714	2.662	2.651	2.56	2.457	2.355	2.253	2.151	2.049	1.947	1.845	1.743	1.64	1.538	1.436	1.334	1.232	1.13	1.028	0.926	0.823	0.721	0.622
EXISTING LEVEL	75.25	75.29	75.30	75.36	75.37	75.46	75.56	75.66	75.76	75.87	75.97	76.07	76.17	76.28	76.38	76.48	76.58	76.68	76.79	76.89	76.99	77.09	77.19	77.29	77.31
CHAINAGE	0.00	3.48	5.00	10.00	11.08	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	209.76

MW20 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:250 VERT.

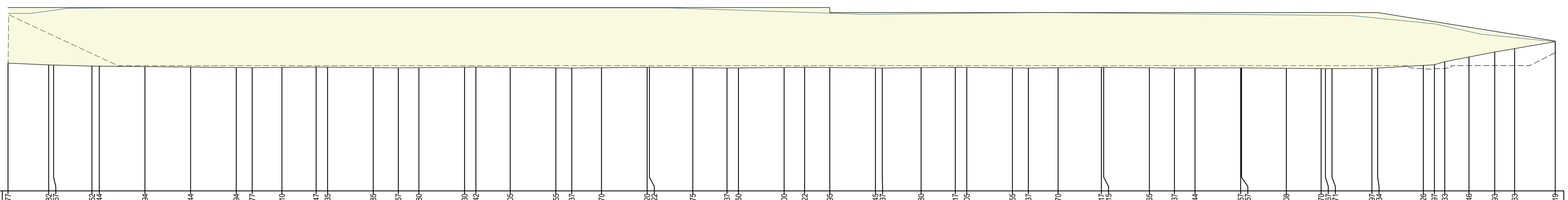


DATUM RL 54.0

BOTTOM OF RETAINING WALL	71.271	71.256	71.221	71.171	71.165	71.209	71.217	71.240	71.221	71.171	71.121	71.120	71.169	71.219	71.250	71.231	71.187
TOP OF RETAINING WALL	71.425	71.505	72.018	72.868	72.968	73.429	73.466	73.234	73.039	72.723	72.444	72.439	72.165	71.885	71.713	71.606	71.358
HEIGHT OF RETAINING WALL	0.154	0.249	0.797	1.697	1.803	2.22	2.248	1.994	1.818	1.552	1.323	1.319	0.996	0.666	0.463	0.375	0.171
EXISTING LEVEL	67.37	67.39	68.36	70.86	71.16	72.15	72.57	72.46	72.36	72.08	71.80	71.79	71.53	71.50	71.61	71.48	71.47
CHAINAGE	0.00	2.98	10.00	20.00	21.18	30.00	31.67	36.18	40.00	50.00	60.00	60.18	70.00	80.00	86.18	90.00	98.81

MW02 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:250 VERT.



DATUM RL 58.0

BOTTOM OF RETAINING WALL	71.977	71.782	71.767	71.652	71.644	71.594	71.544	71.494	71.477	71.510	71.547	71.535	71.485	71.457	71.480
TOP OF RETAINING WALL	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05
HEIGHT OF RETAINING WALL	6.073	6.268	6.283	6.398	6.406	6.456	6.506	6.556	6.573	6.54	6.503	6.515	6.565	6.593	6.57
BACK OF WALL LEVELS	77.41	77.679	77.754	77.991	77.999	78.013	78.013	78.013	78.013	78.013	78.013	78.013	78.013	78.013	78.013
EXISTING LEVEL	71.65	75.22	74.97	73.02	72.65	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70
CHAINAGE	0.00	8.91	10.00	18.39	20.00	30.00	40.00	50.00	53.49	60.00	67.49	70.00	80.00	85.49	90.00

BOTTOM OF RETAINING WALL	71.530	71.542	71.505	71.455	71.437	71.470	71.520	71.522	71.475	71.437	71.450	71.500	71.522	71.495	71.445	71.437
TOP OF RETAINING WALL	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	78.05	77.5	77.5	77.5
HEIGHT OF RETAINING WALL	6.52	6.508	6.545	6.595	6.613	6.58	6.53	6.528	6.575	6.613	6.6	6.55	6.528	6.005	6.055	6.063
BACK OF WALL LEVELS	78.013	78.013	78.013	78.013	78.013	78.013	78.013	78.013	77.928	77.806	77.765	77.601	77.528	77.438	77.318	77.326
EXISTING LEVEL	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70
CHAINAGE	100.00	102.49	110.00	120.00	123.49	130.00	140.00	140.49	150.00	157.49	160.00	170.00	174.49	180.00	190.00	191.49

BOTTOM OF RETAINING WALL	71.480	71.517	71.505	71.455	71.437	71.470	71.517	71.515	71.465	71.437	71.444	71.457	71.457	71.408	71.370	71.367	71.371
TOP OF RETAINING WALL	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5
HEIGHT OF RETAINING WALL	6.02	5.983	5.995	6.045	6.063	6.03	5.983	5.985	6.035	6.063	6.056	6.043	6.043	6.092	6.13	6.133	6.129
BACK OF WALL LEVELS	77.368	77.406	77.418	77.468	77.486	77.492	77.444	77.442	77.392	77.364	77.342	77.292	77.291	77.242	77.204	77.199	77.192
EXISTING LEVEL	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70	71.70
CHAINAGE	200.00	207.49	210.00	220.00	223.49	230.00	239.49	240.00	250.00	255.49	260.00	270.00	270.19	280.00	287.62	288.56	290.00

BOTTOM OF RETAINING WALL	71.397	71.434	71.726	71.797	72.133	72.646	73.193	73.563	74.319
TOP OF RETAINING WALL	77.5	77.5	76.7	76.505	76.324	75.9	75.449	75.1	
HEIGHT OF RETAINING WALL	6.103	6.066	4.974	4.708	4.191	3.254	2.256	1.537	
BACK OF WALL LEVELS	76.952	76.889	76.389	76.268	76.025	75.429	74.982	74.764	74.32
EXISTING LEVEL	71.70	71.70	71.35	71.34	71.39	71.70	71.70	71.70	73.11
CHAINAGE	298.74	300.00	310.00	312.43	314.70	320.00	325.64	330.00	338.89

MW21 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:250 VERT.

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

HORZ 0 5 10 20 30 40 50m
1 : 500

VERT 0 5 10 15 20 25m
1 : 250

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

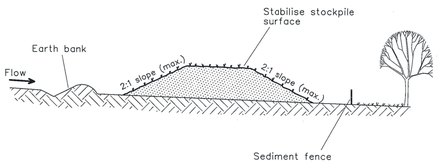
Title: RETAINING WALL ELEVATIONS AND DETAILS

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0161 | Issue: 02

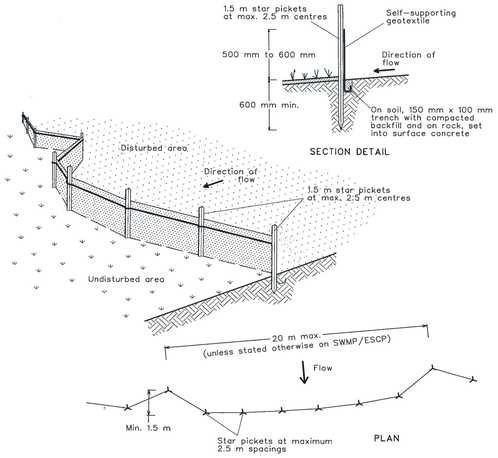
Date Plotted: 20 Jan 2025 - 09:59am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0161-RetainingWallElevations.dwg



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

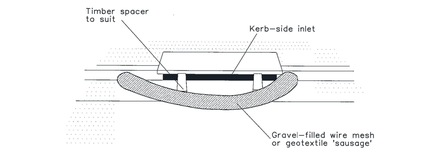
STOCKPILES SD 4-1

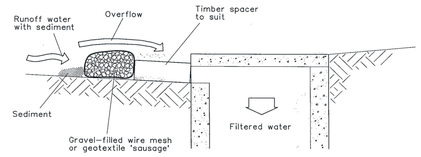


Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE SD 6-8



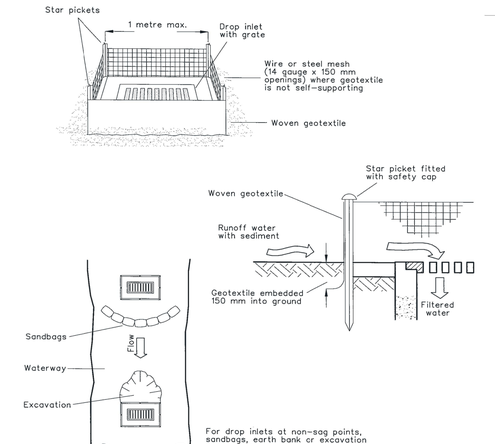


NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER SD 6-11



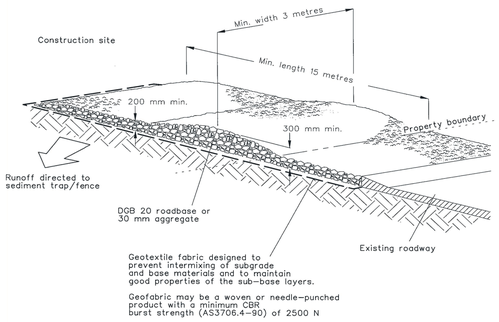
Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER SD 6-12

NOTE

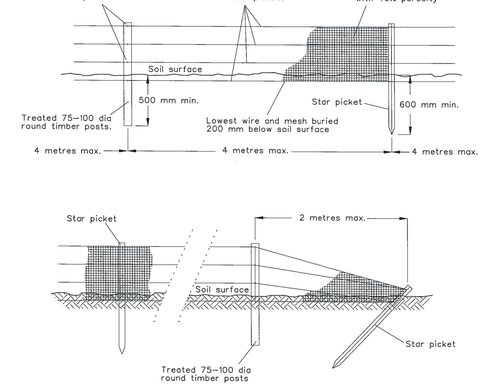
1. EROSION AND SEDIMENT CONTROL DETAILS HAVE BEEN TAKEN DIRECTLY FROM NSW DEPARTMENT OF HOUSING MANUAL, 'MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION' 4TH EDITION, MARCH 2004.



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS SD 6-14



Construction Notes

1. Install the fence to the height specified in the ESCP/SWMP.
2. Cut a channel 200 mm deep along the fence line.
3. Place wire and light resistant, open-weave polymer mesh with 40 percent porosity on the prevailing wind side of fence.
4. Fasten the mesh to all wires using ring fasteners at 100 mm to 150 mm intervals on top wire and 300 mm intervals on other wires.
5. Use one 75-mm to100-mm diameter treated round timber post every 20 metres.
6. Where star pickets are used, ensure they are fitted with safety caps.

CONTROL OF WIND EROSION SD 6-15

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

Architect

sba

Client

Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: EROSION AND SEDIMENT CONTROL DETAILS

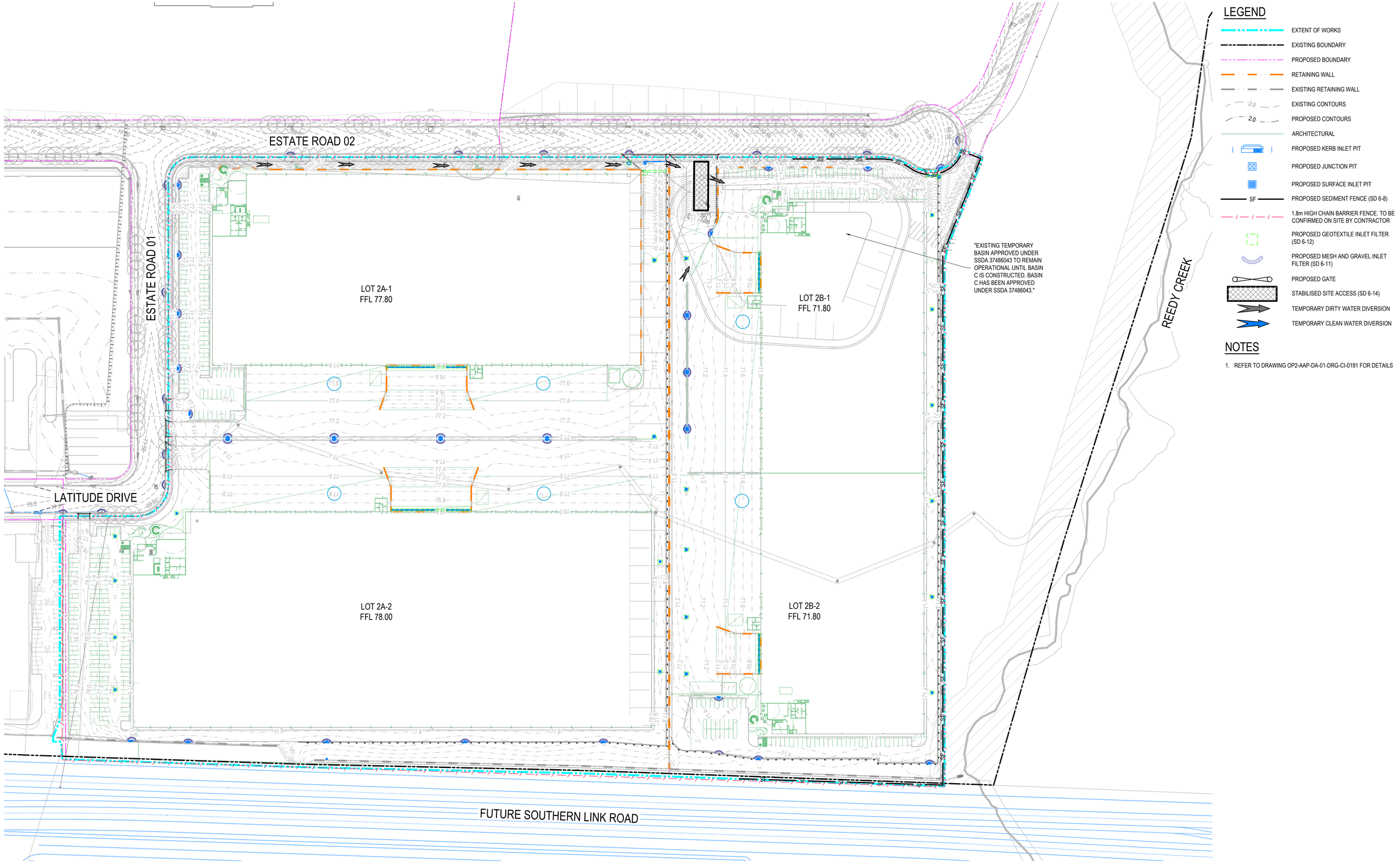
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0191

Issue: 02

Date Plotted: 20 Jan 2025 - 10:00am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0191-ErosionAndSedimentControlDetails.dwg



Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 10 20 40 60 80 100m

1 : 1000

Architect

sba

Client

Goodman

Status

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project

OAKDALE ESTATE
PRECINCT 2

Title

EROSION AND SEDIMENT CONTROL PLAN

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0171

Issue: 02

Date Plotted: 22 Jan 2025 - 01:10PM File Name: C:\Users\kr107872\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0171-ErosionAndSedimentControlPlan.dwg

ESTATE ROAD 02

ESTATE ROAD 01

OFFICE
FFL 77.80

LOT 2A-1
FFL 77.80

AWNING OVER

DOCK OFFICE

FIRE SERVICES TANK

CONTINUATION LINE
REFER TO SHEET OP2-AAP-DA-DRG-CI-0203

CONTINUATION LINE
REFER TO SHEET OP2-AAP-DA-DRG-CI-0202

"EXISTING TEMPORARY STORMWATER PIPE APPROVED TO BE REMOVED UNDER SSD-37486043 UPON COMPLETION OF BASIN C"

EXISTING PIT AND PIPE TO BE ADJUSTED TO SUIT PROPOSED DRIVEWAY LAYBACK

MAKE GOOD CONNECTION TO EXISTING PIPE STUB.

INDICATIVE PROPOSED LOCATION OF SWITCHING STATION AND SUBSTATION. LOCATION SIZE AND TYPE TO BE CONFIRMED AT DETAILED DESIGN

DECOMMISSIONED DRAINAGE LINE AND EASEMENT TO BE EXTINGUISHED AS PART OF SSDA37486043

INDICATIVE UNDER GROUND RAINWATER TANK. APPROX. VOLUME = 25m³ LOCATION AND SIZE TBC AT DETAILED DESIGN.

INDICATIVE UNDER GROUND RAINWATER TANK. APPROX. VOLUME = 25m³ LOCATION AND SIZE TBC AT DETAILED DESIGN.

EXISTING PIT AND PIPE TO BE ADJUSTED TO SUIT PROPOSED DRIVEWAY LAYBACK

LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- EXISTING STORMWATER
- RETAINING WALL
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- PROPOSED SAFETY BARRIER
- EXISTING TREES TO BE RETAINED
- FINISHED SPOT LEVEL
- SURFACE SLOPE
- PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED STORMWATER PIPE
- PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED HEADWALL
- EXISTING STORMWATER PIPE

NOTES

1. REFER TO DRAWING OP2-AAP-DA-01-DRG-CI-0021 FOR GENERAL NOTES.
2. ALL LEVELS SHOWN ARE ± 1000mm
3. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED SURING DETAILED DESIGN.
4. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.

KEY PLAN

SHEET 1 SHEET 2 SHEET 3 SHEET 4

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 5 10 20 30 40 50m

1 : 500

Architect

sba

Client

Goodman

Status
FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project
OAKDALE ESTATE
PRECINCT 2

Title
CIVIL WORKS PLAN
SHEET 1

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0201

Issue: 02

Date Plotted: 21 Jan 2025 - 10:31AM File Name: C:\Users\kr107872\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0201-CivilWorksPlanSheet1.dwg

MAKE GOOD CONNECTION TO EXISTING PIPE STUB.

EXISTING PIT AND PIPE TO BE ADJUSTED TO SUIT PROPOSED DRIVEWAY LAYBACK

INDICATIVE PROPOSED LOCATION OF SWITCHING STATION AND SUBSTATION. LOCATION SIZE AND TYPE TO BE CONFIRMED AT DETAILED DESIGN

OFFICE
FFL 71.80

LOT 2B-1
FFL 71.80

DOCK OFFICE

INDICATIVE UNDER GROUND RAINWATER TANK.
APPROX. VOLUME = 40m³
LOCATION AND SIZE TBC AT DETAILED DESIGN.

AWNING OVER

21.0m

20.0m

CONTINUATION LINE
REFER TO SHEET OP2-AAP-DA-DRG-CI-0204

REEDY CREEK

LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- EXISTING STORMWATER
- RETAINING WALL
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- PROPOSED SAFETY BARRIER
- EXISTING TREES TO BE RETAINED
- FINISHED SPOT LEVEL
- SURFACE SLOPE
- PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED STORMWATER PIPE
- PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED HEADWALL
- EXISTING STORMWATER PIPE

NOTES

1. REFER TO DRAWING OP2-AAP-DA-01-DRG-CI-0021 FOR GENERAL NOTES.
2. ALL LEVELS SHOWN ARE ± 1000mm
3. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED SURING DETAILED DESIGN.
4. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.

KEY PLAN
SHEET 1
SHEET 2
SHEET 3
SHEET 4

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 5 10 20 30 40 50m

1 : 500

Architect

sba

Client

Goodman

Status
FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project
OAKDALE ESTATE
PRECINCT 2

Title
CIVIL WORKS PLAN
SHEET 2

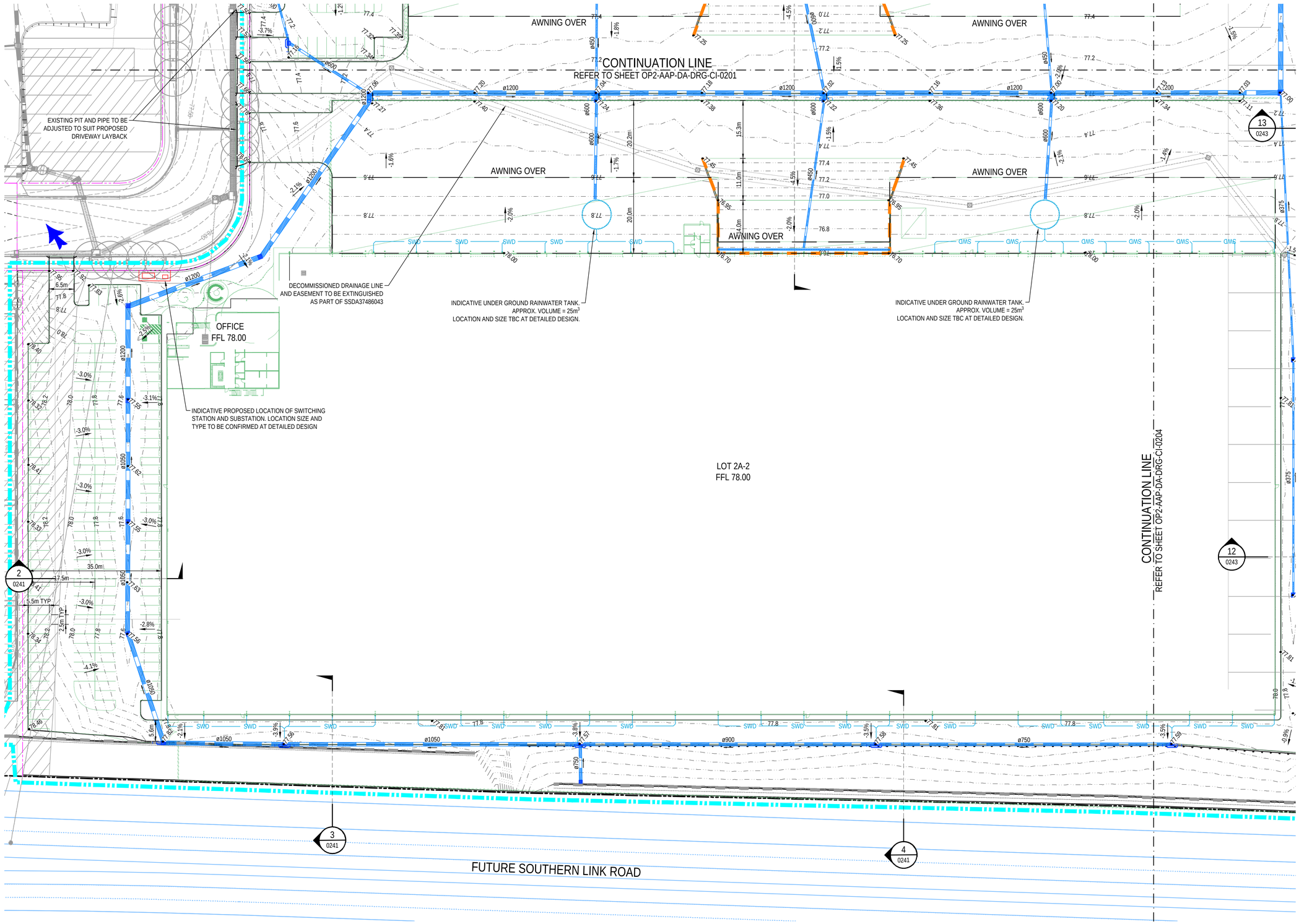
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0202

Issue: 02

Date Plotted: 22 Jan 2025 - 08:51AM File Name: C:\Users\kr107872\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0202-CivilWorksPlanSheet2.dwg

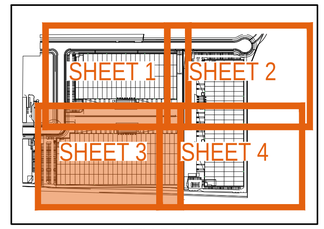


LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- EXISTING STORMWATER
- RETAINING WALL
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- PROPOSED SAFETY BARRIER
- EXISTING TREES TO BE RETAINED
- FINISHED SPOT LEVEL
- SURFACE SLOPE
- PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED STORMWATER PIPE
- PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED HEADWALL
- EXISTING STORMWATER PIPE

NOTES

1. REFER TO DRAWING OP2-AAP-DA-01-DRG-CI-0021 FOR GENERAL NOTES.
2. ALL LEVELS SHOWN ARE ± 1000mm
3. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED SURING DETAILED DESIGN.
4. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.



KEY PLAN

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

0 5 10 20 30 40 50m

1 : 500

100mm on Original

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: CIVIL WORKS PLAN SHEET 3

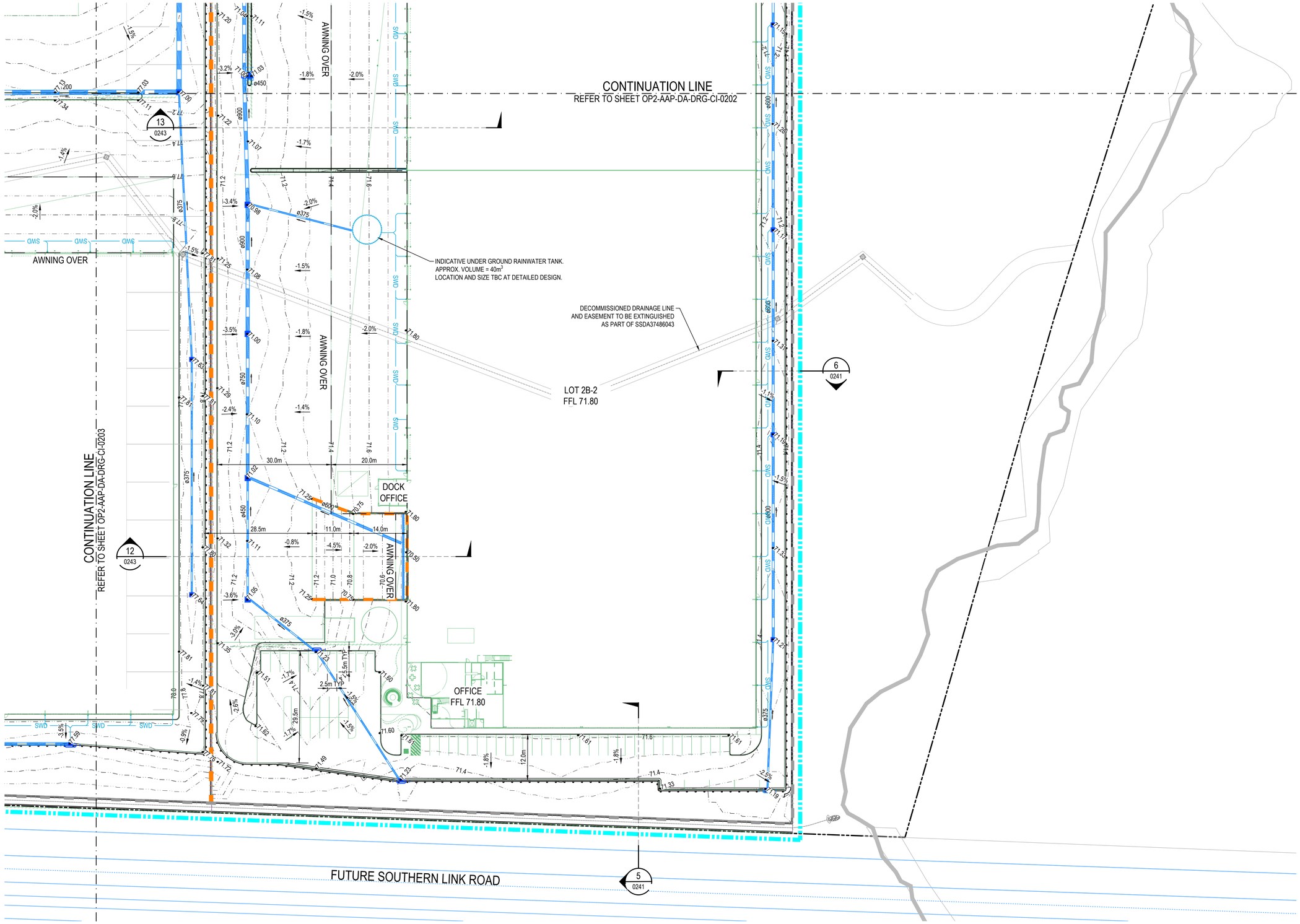
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0203

Issue: 02

Date Plotted: 21 Jan 2025 - 10:32AM File Name: C:\Users\kr107872\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0203-CivilWorksPlanSheet3.dwg

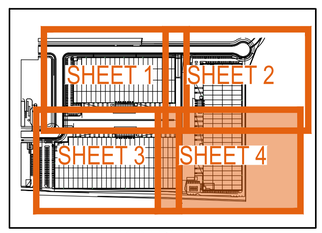


LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- EXISTING STORMWATER
- RETAINING WALL
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- PROPOSED SAFETY BARRIER
- EXISTING TREES TO BE RETAINED
- FINISHED SPOT LEVEL
- SURFACE SLOPE
- PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED STORMWATER PIPE
- PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED HEADWALL
- EXISTING STORMWATER PIPE

NOTES

1. REFER TO DRAWING OP2-AAP-DA-01-DRG-CI-0021 FOR GENERAL NOTES.
2. ALL LEVELS SHOWN ARE ± 1000mm
3. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED SURING DETAILED DESIGN.
4. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.



KEY PLAN

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

0 5 10 20 30 40 50m

1 : 500

100mm on Original

Architect

sba

Client

Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: CIVIL WORKS PLAN SHEET 4

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Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
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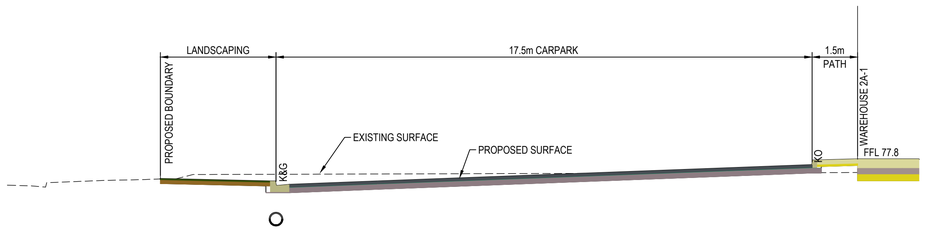
www.arcadis.com/au

Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0204

Issue: 02

Date Plotted: 20 Jan 2025 - 10:00am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0204-CivilWorksPlanSheet4.dwg



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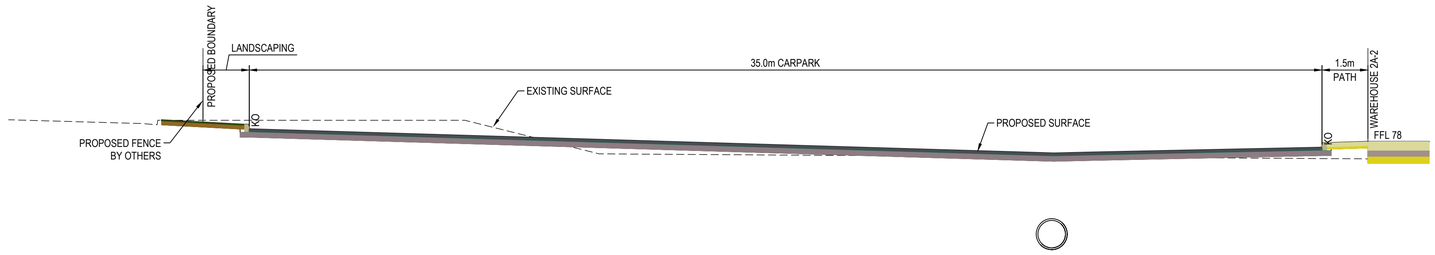
1:100 VERT.



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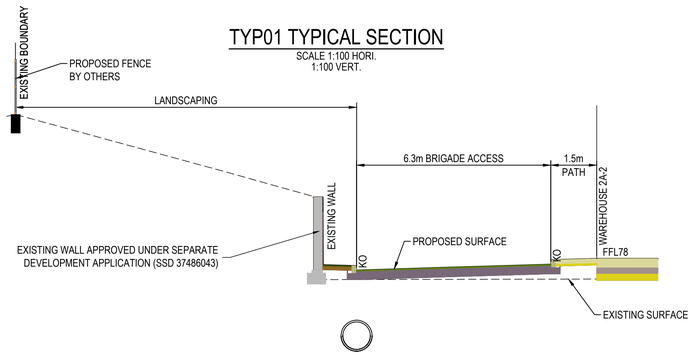

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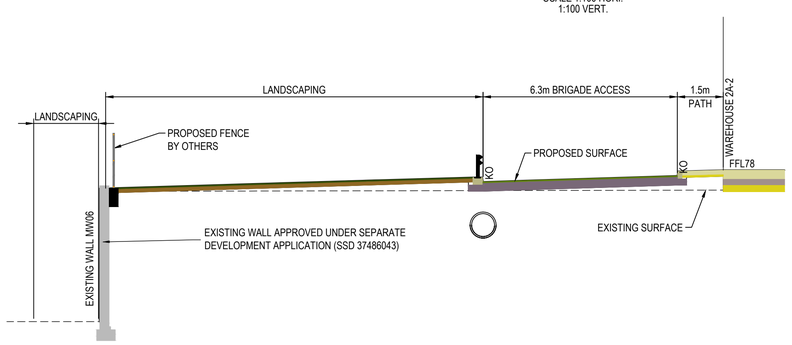

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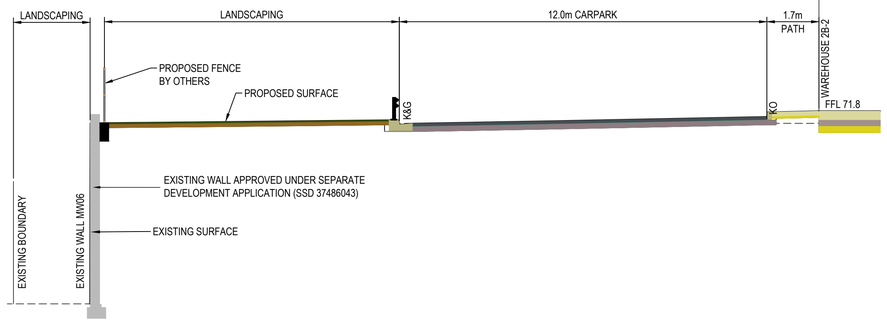

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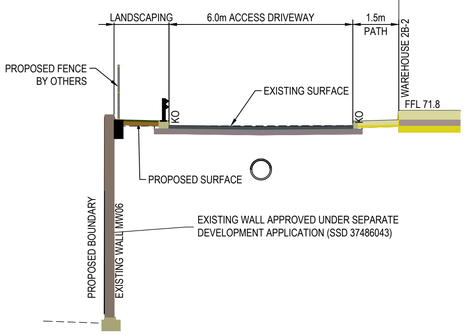

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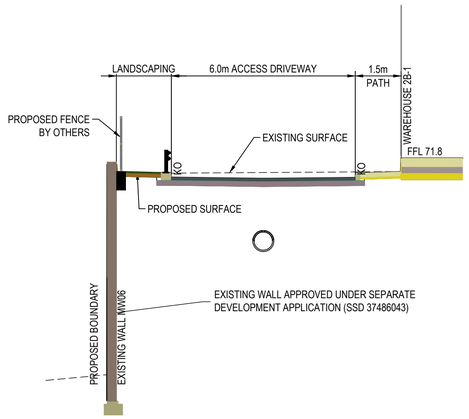

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01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

HORZ 0 1 2 4 6 8 10m
1:100

VERT 0 1 2 4 6 8 10m
1:100

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE
PRECINCT 2

Title: TYPICAL ROAD SECTIONS
SHEET 1

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Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
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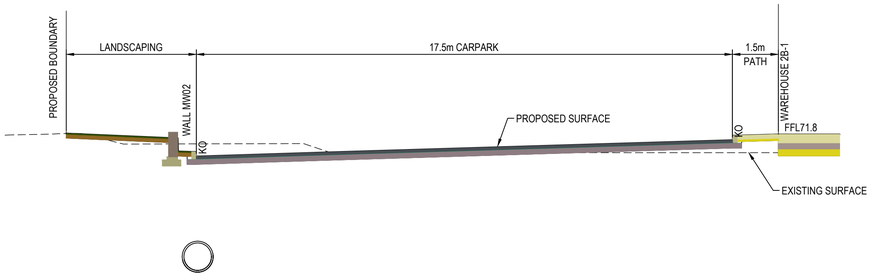
Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0241

Issue: 02

Date Plotted: 20 Jan 2025 - 09:59am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0241-TypicalRoadSectionsSheet1.dwg



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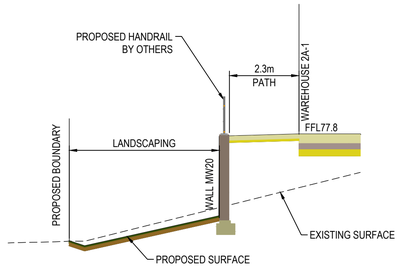

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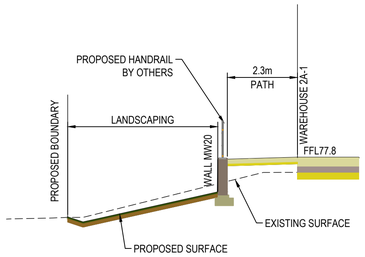

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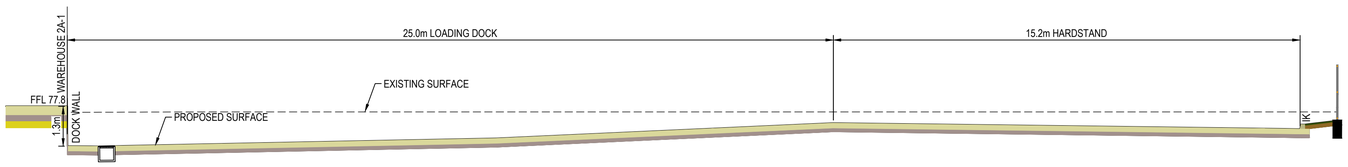

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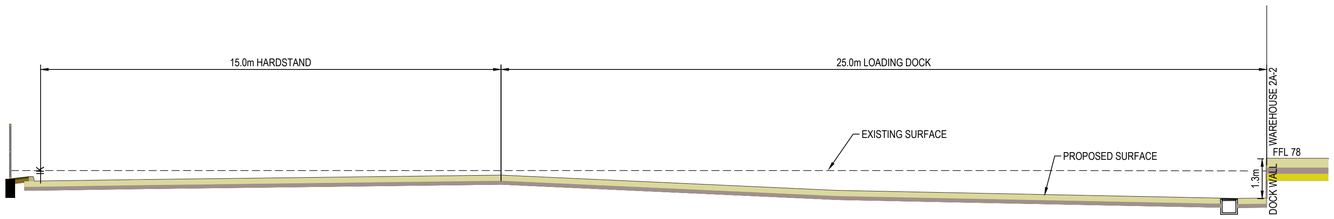

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01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

HORZ 0 1 2 4 6 8 10m
1:100

VERT 0 1 2 4 6 8 10m
1:100

Architect

sba

Client

Goodman

Status
FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project
OAKDALE ESTATE
PRECINCT 2

Title
TYPICAL ROAD SECTIONS
SHEET 2

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Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
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Project Number 30236891

Drawing No. OP2-AAP-DA-DRG-CI-0242

Issue 02

100mm on Original

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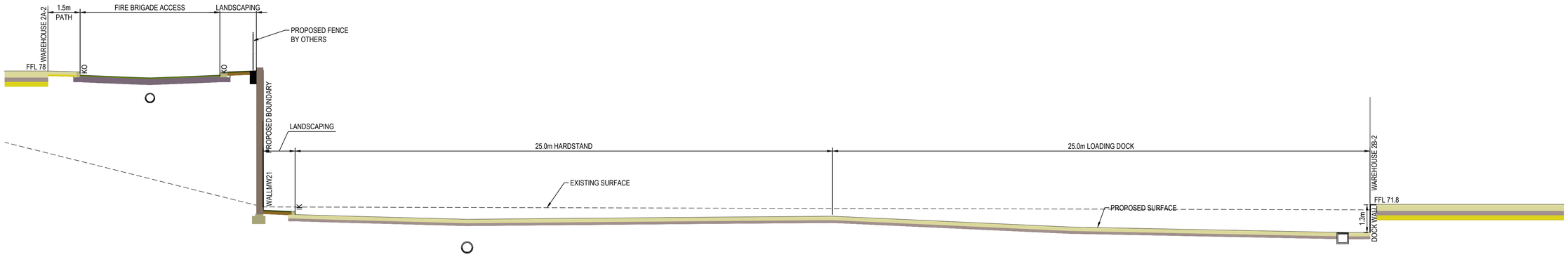

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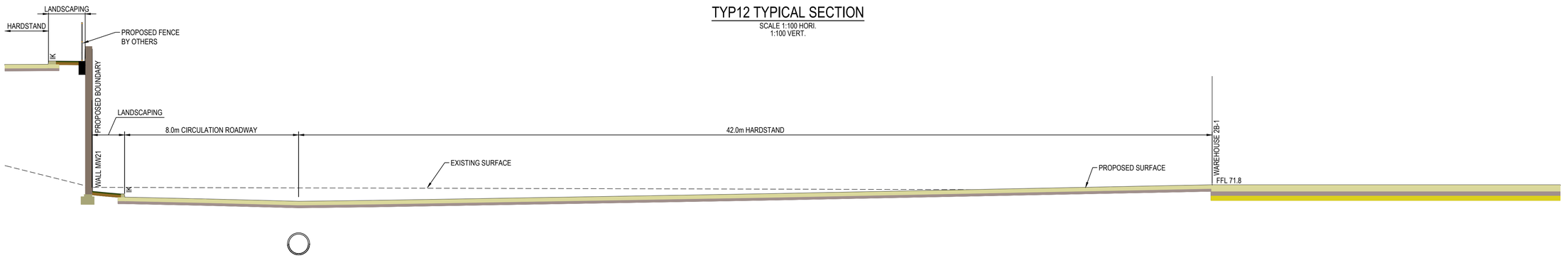

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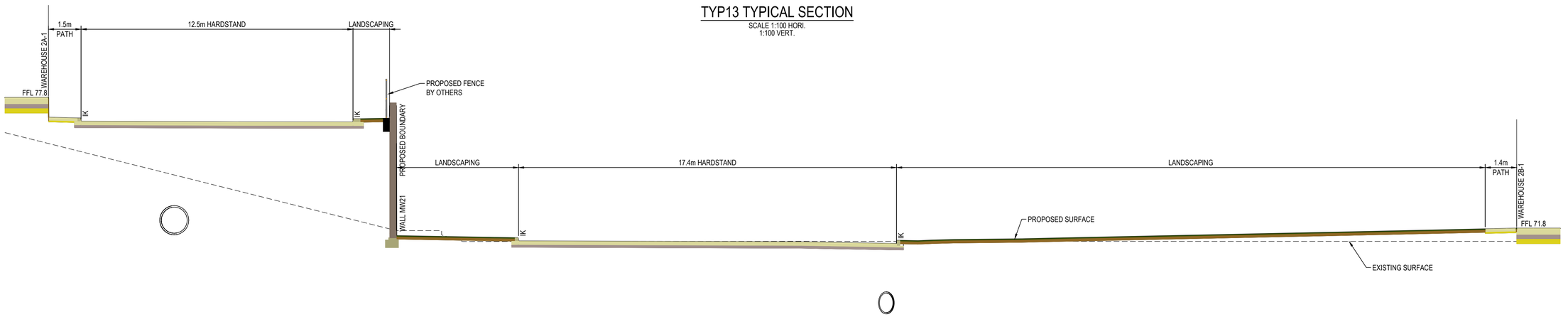

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Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

Scales

HORZ 0 1 2 4 6 8 10m
1:100

VERT 0 1 2 4 6 8 10m
1:100

Architect

sba

Client

Goodman

Status
FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project
OAKDALE ESTATE
PRECINCT 2

Title
TYPICAL ROAD SECTIONS
SHEET 3

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
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Project Number 30236891

Drawing No. OP2-AAP-DA-DRG-CI-0243

Issue 02

100mm on Original

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Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

0 10 20 40 60 80 100m

1 : 1000

Architect

sba

Client

Goodman

Status

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures

Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project

OAKDALE ESTATE
PRECINCT 2

Title

PAVEMENT PLAN

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Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
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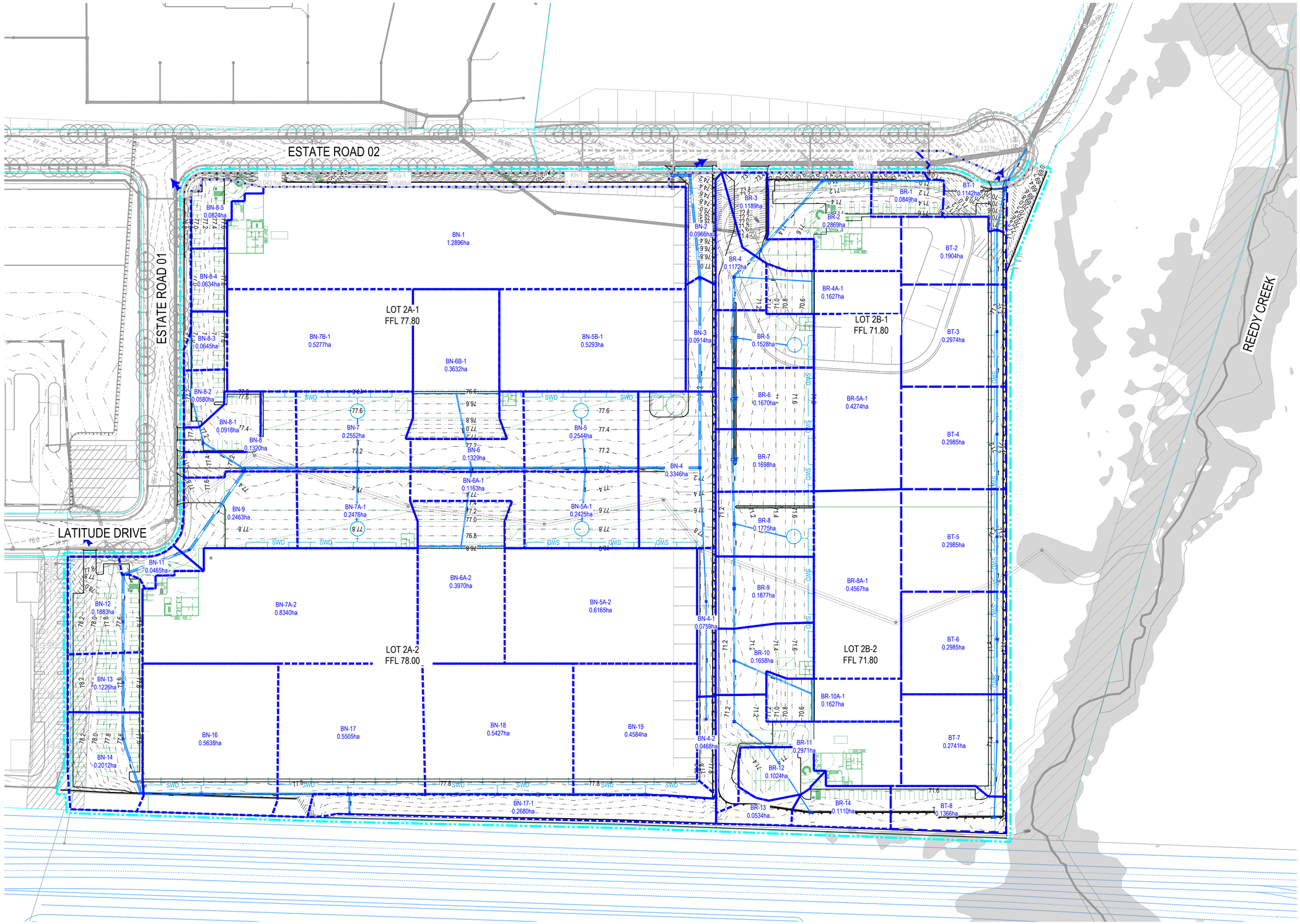
Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0341

Issue: 02

Date Plotted: 22 Jan 2025 - 01:13PM File Name: C:\Users\kr107872\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0341-PavementPlan.dwg



LEGEND

- EXTENT OF WORKS
- EXISTING BOUNDARY
- PROPOSED CATCHMENT BOUNDARY
- EXISTING CATCHMENT BOUNDARY
- AB-1A-1 1.0000ha — PROPOSED CATCHMENT LABEL
- PROPOSED BOUNDARY
- PROPOSED BATTER
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED ARCHITECTURAL
- EXISTING TREES TO BE RETAINED
- PROPOSED STORMWATER PIPE
- PROPOSED KERB INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED HEADWALL

Issue	Description	DR	CH	VE	Date
02	ISSUE FOR DEVELOPMENT APPLICATION	JL	KR	JB	20.01.25
01	FOR CLIENT REVIEW	JL	KR	NB	18.10.24

100mm on Original

Scales

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1 : 1000

Architect: sba

Client: Goodman

Status: FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

Original Issue Signatures			
Drawn	J. LOPEZ	Original Size	A1
Designed	K. ROBINSON	Height Datum	AHD
Project Manager	N. BIASON	Grid	MGA/94-56
Verified	J. BARRETT		

Project: OAKDALE ESTATE PRECINCT 2

Title: POST-DEVELOPED STORMWATER DRAINAGE CATCHMENT PLAN

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Arcadis Australia Pacific Pty Limited
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SYDNEY NSW 2000
ABN 76 104 485 289
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Project Number: 30236891

Drawing No.: OP2-AAP-DA-DRG-CI-0421

Issue: 02

Date Plotted: 20 Jan 2025 - 10:07am File Name: C:\Users\lopezj1319\DC\ACCDocs\Arcadis ACC AU\AAU-30236891-Oakdale East Precinct 2\Project Files\10_WIP\10_Civil\DRG\OP2-AAP-DA-DRG-CI-0421-CatchmentPlan.dwg

Appendix B

Appendix B- Civil Design Criteria

Design Criteria - Civil

30236891 - Oakdale East Estate - Precinct 2

Design Parameters				
Lot Grading				
Description	Adopted Criteria		Reference	Comments
Maximum Grades	12%		AS2890.2:2018, table 3.2	For B-double on Ramps only
Minimum Grades	0.50%			
Batter Slopes Max	20%			
Parking				
Description	Adopted Criteria		Reference	Comments
Off Street				
Class/Description	1		AS2890.1:2004, table 1.1	
Parking Angle (degree)	90		Archictural plans	
Parking Space Dimensions (m)	2.5	5.5	AS2890.1:2004, figure 2.2	
Disabled Parking Space Dimensions (m)	2.5	5.5	AS2890.6:2009, clause 2.2	
Disabled Shared Area Dimensions (m)	2.5	5.5	AS2890.6:2009, clause 2.2	
Parking Aisle Width (m)			AS2890.1:2004, figure 2.2	
Motorcycle Space Dimensions (m)	1.2	2.5	AS2890.4:2004, clause 2.4.7	
Parking Aisle Length (m)	100			
Speed Bumps Required?	Yes		AS2890.1:2004, clause 2.3.3	
Blind Aisles?			AS2890.1:2004, clause 2.4.2	If Yes, extend aisle a minimum 1m beyond last space and the last space widened by at least 300mm if bounded by a wall or fence
Single-sided aisles	No		AS2890.1:2004, clause 2.4.2	If Yes, the aisle width shall be increased by 300mm, measured to the vertical obstruction
Wheel Stop Placement (m)			AS2890.1:2004, clause 2.4.5.4	
Max Grade - Parallel To Angle (%)	5		AS2890.1:2004, clause 2.4.6.1	
Max Grade - Any Direction (%)	6.25		AS2890.1:2004, clause 2.4.6.1	
Disabled Max Grade - Any Direction (%)	2.5		AS2890.6:2009, clause 2.3	If bituminous seal and outdoors 3.03%
Min Grade - Any Direction (%)	1		AS2890.1:2004, clause 2.4.6.2	If covered 0.5%
Off Street Commercial				
Design Vehicle	BD			
Service Bay Width (m)	NA		AS2890.2:2018, table 4.1	
Service Bay Length (m)	14		AS2890.2:2018, table 4.1	
Platform Height (m)	1.3		AS2890.2:2018, table 4.1	
Vertical Clearance (m)			AS2890.2:2018, table 4.1	

Appendix C

Appendix C- Stormwater Design Criteria

Design Criteria - Stormwater

PROJECT DETAILS

Project Name:	Oakdale East Precinct 2	**Date:**	1/07/2022
Project Number:	30236891	**Designer:**	MF
Location:	https://arcadiso365.sharepoint.com/teams/AAP_UrbanDevelopmentandRegeneration/Shared Documents/02. Stormwater and Flood Management/UDR NSW Drainage Database/G-Drainage Spreadsheets/[Design Criteria - Stormwater.xlsx ... version 15.0	**Checker:**	
Project Description:	Industrial precinct within subdivison		

STANDARDS / REFENCES

Reference	Short Ref.
1. Fairfield City Council - Stormwater Management Policy 2017	FCC SMP
2. AS3500.3	ARDG
3. ARR 2019	ARR2019
4. Oakdale East Estate Development Control Plan	DCP OEE

ISSUES	DESIGN CRITERIA	REFERENCE
Design Events		
Minor Storm	5% AEP	Table 8 FCC SMP
Major Storm	1% AEP	Table 8 FCC SMP
Rainfall Runoff		
AR&R Revision	ARR 2019	Best Practice
Rainfall IFD Parrameters	BOM 2016	
ILSAX		
ACM	3	
Il-Cl (Rafts Only)	N/A	
Catchments		
% Impervious	90%	
Times of Concentration	5 min	AS3500.3 Section 5.4.4
Pipe Design		
Minimum Grade (%)	**MINIMUM GRADIENT OF SITE STORMWATER DRAINS** Nominal size / Minimum gradient / Nominal size / Minimum gradient 90 / 1:100 / 225 / 1:200 100 / 1:100 / 300 / 1:250 150 / 1:100 / 375 / 1:300	AS3500.3 Table 6.3.4
Maximum Grade (%)		
Minimum Velocity		
Maximum Velocity (Major & Minor)		
Minimum Size (Longitudinal)	90	Table 13 FCC SMP

ISSUES	DESIGN CRITERIA	REFERENCE
Minimum Cover	For site stormwater drains under buildings (A) the thickness of overlay between the top of the pipe and the underside of a reinforced concrete slab shall be not less than 25mm (B) there shall be protection from mechanical damage	AS3500.3 Table 5.4.9 AS3500.3 Table 5.4.11.2
Pipe Roughness		AS3500.3 Table 5.4.9 AS3500.3 Table 5.4.11.2
Pipe Angle		
Pipe Class		
Pipe Bedding		
Pipe Separation		
Clearances to Services		
Tailwater/Outlet Conditions		
Major Event	Based on AT&L IFC Design	
Minor Event	Based on AT&L IFC Design	
Pit Design		
Pit Losses	Missouri Charts	
Pit Spacing		
Pit Drop	Fall of at least 20 mm	AS3500.3 Section 7.5.3
Pit Blockage (On Grade)	Blockage factos are variable but a value of 0.8 (reducing capacties to 80%) of values given by design aids) shall be used for on-grade pits.	AS3500.3 Section 5.4.10.2
Pit Blockage (Sag)	50%	AS3500.3 Section 5.4.10.1
Freeboard (Minor)	150mm	

Table 6.2.5 — Minimum pipe cover — Finished surface to top of pipe

Location			Ductile iron, galvanized steel	Plastics
			Minimum cover, mm	
1	Not subject to vehicular loading:			
	(a)	Without pavement in Australia —		
		(i) for single dwellings; or	100	100
		(ii) for other than single dwellings.	100	300
	(b)	Without pavement in New Zealand.	100	300
	(c)	With pavement of brick or unreinforced concrete.	100[a]	100
2	Subject to vehicular loading:			
	(a)	Other than roads:		
		(i) Without pavement.	300	450
		(ii) With pavement of —		
		(A) reinforced concrete for heavy vehicular loading; or	Nil[a]	100[a]
		(B) brick or unreinforced concrete for light vehicular loading.	Nil[a]	75[a]
	(b)	Roads —		
		(i) sealed; or	600	600
		(ii) unsealed.	600	750
3	Subject to construction equipment loading or in embankment conditions.		600	750
4	Land zone for agricultural use.		600	600
[a] Below the underside of the pavement.				

COLEBROOK–WHITE ROUGHNESS COEFFICIENT (k)

Pipe material	Typical values for k, mm
Copper, copper alloys, stainless steel	0.015
All plastic pipelines having a smooth (non-profiled) internal bore	0.015
Fibre-reinforced concrete (FRC)	0.15
Cast iron, ductile iron, galvanized steel and malleable cast iron	0.6
Vitrified clay, precast concrete	0.6
Corrugated aluminium and steel	3.0

ISSUES	DESIGN CRITERIA	REFERENCE
Minimum Pit Size	Table 12 - Depth to invert of stormwater pipe outlet	Table 12 FCC SMP

Depth to invert of outlet	Minimum internal dimensions		
	Rectangular		Circular
	Width (mm)	Length (mm)	Diameter (mm)
≤ 600	450	450	600
> 600 ≤ 900	600	600	900
> 900 ≤ 1200	600	900	1000
> 1200*	900	900	1000

* Step irons to be provided for pits in excess of 1.2m deep

Overland Flow Paths		
Maximum vxd (Major and Minor)		
Maximum Ponding Depth (Minor)		
Maximum Ponding Depth (Major)		
Maximum Gutter Bypass Flow		
Maximum Overland Flow Width (Minor)		
Maximum Overland Flow Width (Major)		
Building Floor Level		
Manning's n - roadways		

Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street,
Sydney
NSW
2000
Tel: (02) 8907 9000
Fax (02) 8907 9001

www.arcadis.com