Oakdale West Estate

Kemps Creek

Lot 4C & Lot 4D Civil Report

CLIENT/ GOODMAN

DATE/ JANUARY 2023

CODE/ 15-272

Commercial in Confidence

Document Registration

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APPENDIX

Appendix A – Proposed Site Plans, Staging and Catchment Plans

Appendix B – List of Civil Works & Erosion and Sediment Control Drawings

Appendix C – Lot 4C and 4D Stormwater Drainage Catchment Plan

Abbreviations

OWE	Oakdale West Estate
WNSLR	Western North South Link Road
TfNSW	Transport for NSW
OEH	Office of Environment and Heritage
EP	Equivalent Persons
ET	Equivalent Tenancy
IWM	Integrated Water Management
GPS	Goodman Property Services (Aust) Pty Ltd
STP	Sewerage Treatment Plant
SWC	Sydney Water Corporation
WELS	Water Efficiency Labelling
EIS	Environmental Impact Statement
SSDA	State Significant Development Application
RMS	Roads and Maritime Service
EPLR	Erskine Park Link Road

1 Executive Summary

Goodman Property Services (Aust) Pty Ltd is developing the Oakdale West Estate for the purposes of providing a warehouse and distribution complex. The Oakdale West site is a precinct within the wider 'Oakdale' Estate development and forms part of a progressive development designed to make 'Oakdale' a regional distribution park of warehouses, distribution centres and freight logistics facilities.

The Oakdale West project is a staged development including bulk earthworks, civil works, and services infrastructure and stormwater disposal and management. All reports, drawings are approved under a separate application SSD 7348.

For the purpose of this report, it is assumed that the infrastructure stage works are approved and completed. This includes but not limited to; Bulk earthworks, Access Roads, Services, Stormwater Basins, Stormwater system and connection into each lot.

This development application encompasses the planned phase of civil works on the Oakdale West site, specifically on-lot works associated with Lot 4C & Lot 4D.

The on-lot works include:

- Proposed detailed earthworks to accommodate the building and external carpark levels
- Proposed stormwater (piped) system and connection / relocation of the existing drainage system provided in the infrastructure works.
- Proposed overland flow path to relevant basin, outlined in SSD 7348. Lot 4C & Lot 4D drains predominantly to Basin 4.
- Proposed hardstand and carpark pavement.
- Proposed Erosion and Sediment control

This report is prepared to satisfy condition C11 with SSD 7348:

Future DAs shall demonstrate the design of the warehouses, offices and hardstand areas are consistent with (or the latest revision of) the:

(a) Civil, Stormwater and Infrastructure Services Report, prepared by AT&L, dated October 2018; and

(b) Flood Impact Assessment: Oakdale West Estate, prepared by Cardno, dated 27 March 2017.

This report is to be read in conjunction with AT&L's latest civil report prepared for SSD 7348, which is entitled 'REP005-01-15-272-MOD 7 Civil Report'.

The site is located in the Penrith City Council Local Government area. Under SSD 7348, Precinct based bio-retention basins are provided as part of the infrastructure works. The basins are designed to both attenuate stormwater flows and treat the nutrients to Penrith City Council treatment rates. The Precinct based Site Detention is designed to mitigate post development flows to pre-developed flows for peak Average Reoccurrence Interval (ARI) events and has been sized to ensure that for all storm events up to and including the 1% AEP event.

2 Introduction

The aim of the report is to assess the potential impacts of the proposed development with respect to Stormwater and has been prepared in accordance with Penrith City Council current design guidelines and the relevant Australian Standards.

2.1 Scope of Report

This report generally discusses the design philosophy behind the following components of the Stormwater Management design for Oakdale West Estate (OWE):

- Stormwater Management
  - Infrastructure Biodiversity and Bioretention Basin
  - Piped and Overland Flows
  - Water Balance across the site
- Erosion and Sediment Control
- Pavement
- Site Services

The proposed Lot 4C is bound by Future Southern Link Road to the West, Tundra Close (Estate Road 08) To the north, an existing Transgrid easement and Lot 4D to the West, and South Erskine Park Zone Substation to the South.

The proposed Lot 4D is bound by an existing Transgrid easement and Road No.8 (Tundra Close) to the East, Lot 4E to the south, and Lot 4C/Cuprum Close to the West and North.

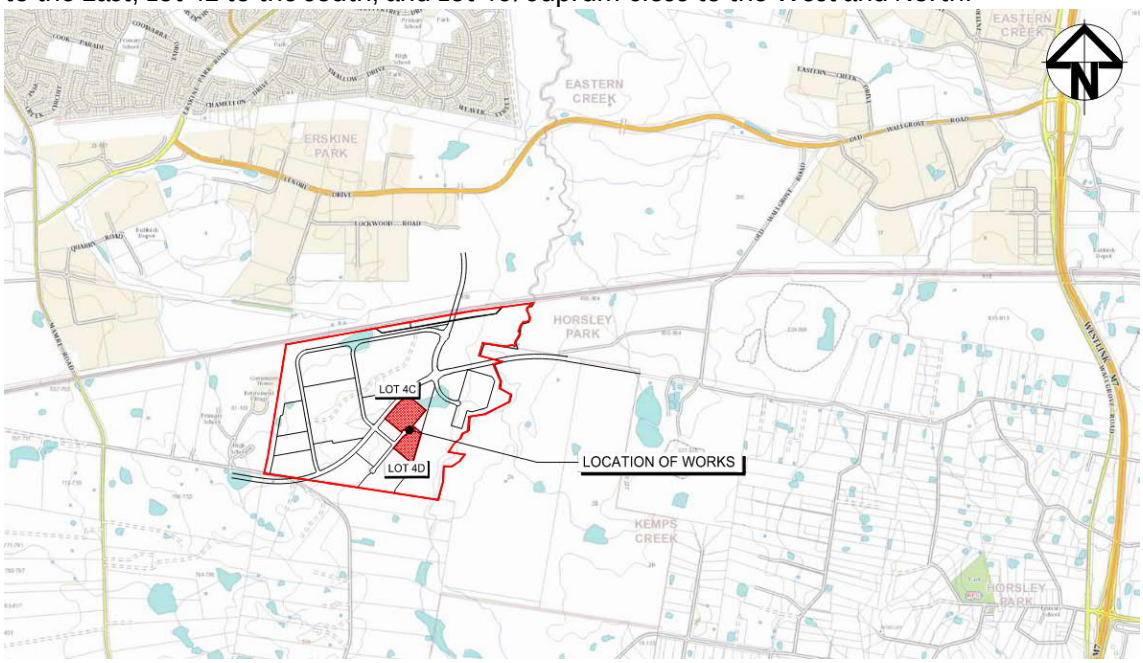

Figure 1 – Locality Plan

3 Stormwater Management

3.1 The Existing Site

For the purpose of this report, it is assumed that the infrastructure stage works are approved and completed. This includes but not limited to; Bulk earthworks, Access Roads, Services, Stormwater Basins, Stormwater system and connections into lots. The works are detailed in Stage 1 consent, SSD 7348.

Refer to Drawings C1086 and C1087 within Appendix A for a pre-development and post-development stormwater catchment plans indicating the location of basins and catchments provided in the infrastructure stage.

3.2 Proposed Site Stormwater Drainage

Lot 4C and Lot 4D are a part of a larger catchment which ultimately discharges into Bio-Retention Basin No.4 as shown in Appendix A. For additional details on Basin 4, refer to 'REP005-01-15-272-MOD 7 Civil Report'.

- Lot 4C has a catchment of approximately 5.8Ha. The main proposed stormwater discharge point is located to the east of Lot 4C by connecting into the existing stormwater line. A GPT will be provided to capture the gross pollutants generated within Lot 4C before discharging into Basin 4. There is a catch drain provided to the north of Lot 4C which collects no hardstand run off and discharges into the Road 8 network.
- Lot 4D has a catchment of approximately 1.3Ha. The proposed stormwater discharge point is to the northeast of Lot 4D by connecting into the existing stormwater line. A GPT will be provided to capture the gross pollutants generated within Lot 4D before discharging into Basin 4.

Refer to the Civil Drawings for layout and details for the proposed stormwater network across the site contained in Appendix B.

Refer to drawing C7950 detailing Lot's 4C and 4D site stormwater drainage catchment plan contained in Appendix C.

3.3 Council Requirements, SSD Consent Conditions & Recommendations

This report is prepared to satisfy condition C11 with SSD 7348, which states:

Future DAs shall demonstrate the design of the warehouses, offices and hardstand areas are consistent with (or the latest revision of) the:

(a) Civil, Stormwater and Infrastructure Services Report, prepared by AT&L, dated October 2018; and
(b) Flood Impact Assessment: Oakdale West Estate, prepared by Cardno, dated 27 March 2017.

All estate level stormwater drainage for the OWE development is designed to comply with the following:

- Penrith City Council Design Guidelines for Engineering Works;
- Penrith City Council Water Sensitive Urban Design (WSUD) Policy December 2013; and
- C3 Water Management DCP.

A summary of the design requirements adopted is listed below:

- All stormwater drainage within the Lot 4C and Lot 4D will be the responsibility of Goodman;
- Finished Floor Levels (FFL) of proposed buildings within the precinct (separate approval) to have minimum 500mm freeboard to 1% AEP overland flows; and
- Gross pollutant traps (GPTs) will be installed within Lot 4C and Lot 4D on the final downstream stormwater pits prior to discharging. As these GPT's will be located on-lot, they will be owned and maintained by Goodman. The GPT will capture 90% of Gross Pollutants from Lot 4C and Lot 4D as per the PCC WSUD guidelines.

Rainwater tanks are desirable for re-use for irrigation, toilet and other non-potable water uses. Rainwater tank size is determined in accordance with the Penrith City Council C3 Water Management DCP to meet 80% of non-potable demand for irrigation and toilet flushing.

3.3.1 Modelling Software

12D modelling software has been used to calculate the Hydraulic Grade Line (HGL) of the estate level stormwater pipes. 12D is a computer program used for designing and analysing urban stormwater drainage systems and catchments.

3.3.2 Hydrology

- Pipe drainage shall be designed to accommodate the 5% AEP storm event;
- The combined piped and overland flow paths shall be designed to accommodate the 1% AEP storm event;
- Where trapped low points are unavoidable and potential for flooding private property is a concern, an overland flow path capable of carrying the total 1% AEP storm event shall be provided. Alternatively, the pipe and inlet system may be upgraded to accommodate the 1% AEP storm event;
- Rainfall intensities shall be as per the Intensity-Frequency-Duration table in accordance with the Australian Rainfall and Runoff (AR&R) volume 2;
- Times of concentration for each sub catchment shall be determined using the kinematic wave equation;
- Runoff coefficients shall be calculated in accordance with AR&R. The fraction impervious shall be determined from analysis of the sub catchments;
- Flow width in kerb and gutter shall not exceed 2.5m for the minor design storm event;
- Velocity depth ratios shall not exceed 0.4 for all storms up to and including the 1% AEP event;
- Inlet pits to be spaced so that flow width shall not exceed 80L/sec;
- Bypass from any pit on grade shall not exceed 15% of the total flow at the pit; and
- Blockage factors of 20% and 50% shall be adopted for pits on grade and at sags respectively, with these blockage factors in-built to each pit within the 12D model.

3.3.3 Hydraulics

- Pipe drainage shall be designed to accommodate the 5% AEP storm event;
- The combined piped and overland flow paths shall be designed to accommodate the 1% AEP storm event;
- Where trapped low points are unavoidable and potential for flooding private property is a concern, an overland flow path capable of carrying the total 1% AEP storm event shall be provided. Alternatively, the pipe and inlet system may be upgraded to accommodate the 1% AEP storm event;
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- Flow width in kerb and gutter shall not exceed 2.5m for the minor design storm event;
- Velocity depth ratios shall not exceed 0.4 for all storms up to and including the 1% AEP event;
- Inlet pits to be spaced so that flow width shall not exceed 80L/sec;
- Bypass from any pit on grade shall not exceed 15% of the total flow at the pit; and
- Blockage factors of 20% and 50% shall be adopted for pits on grade and at sags respectively, with these blockage factors in-built to each pit within the 12D model;
- The pipe friction coefficients to adopted shall be:

Materials	Mannings – n	Colebrook-White – k	Min. Pipe Class
RCP	0.012	0.6	3
FRC	0.01	0.15	3

Table 1 – Pipe Details

- All pipes classes shall be designed for the ultimate service loads and where applicable, construction loads will be designed for;
- Pipes discharging to the overland flow path shall adopt a minimum tailwater level equivalent to respective overland flow level;
- Pit Loss coefficients shall be calculated in accordance with Missouri Charts;
- A minimum 150mm freeboard shall be maintained between pit HGL and pit surface levels for the minor storm event;
- Overland flowpaths shall maintain a minimum of 500mm freeboard to all habitable floor levels; and
- Pits deeper than 1.2m shall contain step irons at 300 mm centres.

3.3.4 Catchments

A Stormwater Catchment Plan for Lot 4C and Lot 4D, and flow paths into the Bio-retention Basins No. 4 are shown in Appendix A.

3.3.5 Overland Flows

Overland flows within the hardstand area and carparks have been designed to be safely conveyed to inground drainage for all storms above the 5% AEP up to 1% AEP.

All flow widths and velocities are design in accordance with the Penrith City Council Design Guidelines for Engineering Works.

3.4 Conclusion

As highlighted in the above section, all stormwater drainage within Lot 4C & Lot 4D development has been designed in accordance with the Penrith City Council Engineering Guidelines. This includes design of the stormwater network (pits and pipes) and GPTs.

Finished Floor Levels (FFL) to have minimum 500mm freeboard to 1% AEP overland flows.

4 Sedimentation and Erosion Control

4.1 Sedimentation and Erosion Control (Construction)

A Soil and Water Management Plan (SWMP) will be prepared in accordance with the NSW Department of Housing Publication titled: Managing Urban Stormwater – Soils and Construction (2004) for Lot 4C and Lot 4D.

The key objective of the SWMP are:

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

4.1.1 Design of Sediment and Erosion Control Measures

Suitable erosion and sediment controls shall be provided by the Contractor and maintained throughout all stages of works, including at completion of the bulk earthworks.

All design, documentation, installation and maintenance of sediment and erosion controls will be in accordance with the requirements of:

- Protection of the Environment Operations Act;
- Penrith City Council's specifications; and
- Office of Environment and Heritage's 'Managing Urban Stormwater: Soils and Construction. Landcom, (4th Edition) (The "Blue Book") Volume 1 and Volume 2.

Temporary sediment basin in Lot 4C and Lot 4D will be provided within the infrastructure stage associated with the SSD 7348 Stage 1 consent works. The basins are to be maintained throughout the construction phase of the on-lot works, until such time that the site has been suitably stabilised and the sediment basin is no longer required to meet the requirements of the Blue Book.

4.2 Site Inspection and Maintenance

The inspection and maintenance requirements outlined in this section must be carried out while either earthworks or quarrying is being conducted, and all areas re-established.

The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:

- Inspect and assess the effectiveness of the SWMP 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 the desired protection is given to downstream lands and waterways;

- Ensure that drains operate properly and to affect any repairs;
- Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas;
- Remove trapped sediment whenever less than design capacity remains within the structure;
- Ensure rehabilitated lands have affectively 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; and
    - 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; and
- Submerged inflow pipes must be inspected and de-silted (as required) after each inflow event.

4.2.1 Sediment Basin Maintenance

Stormwater within the settling zone should be drained or pumped out within 5 days (design time), if the nominated water quality targets can be met, to the satisfaction of the superintendent. Flocculation should be employed where extended settling is likely to fail to meet the objectives within the 5-day time period.

Flocculation is when flocculating agents are applied to the sediment basins causing the colloidal particles to clump into larger units or 'floc' that can either settle in a reasonable time or be filtered.

Refer to Appendix E4 of the Blue Book for flocculation methodologies and manufacturer's instructions for application rates, regarding the proposed sediment basins.

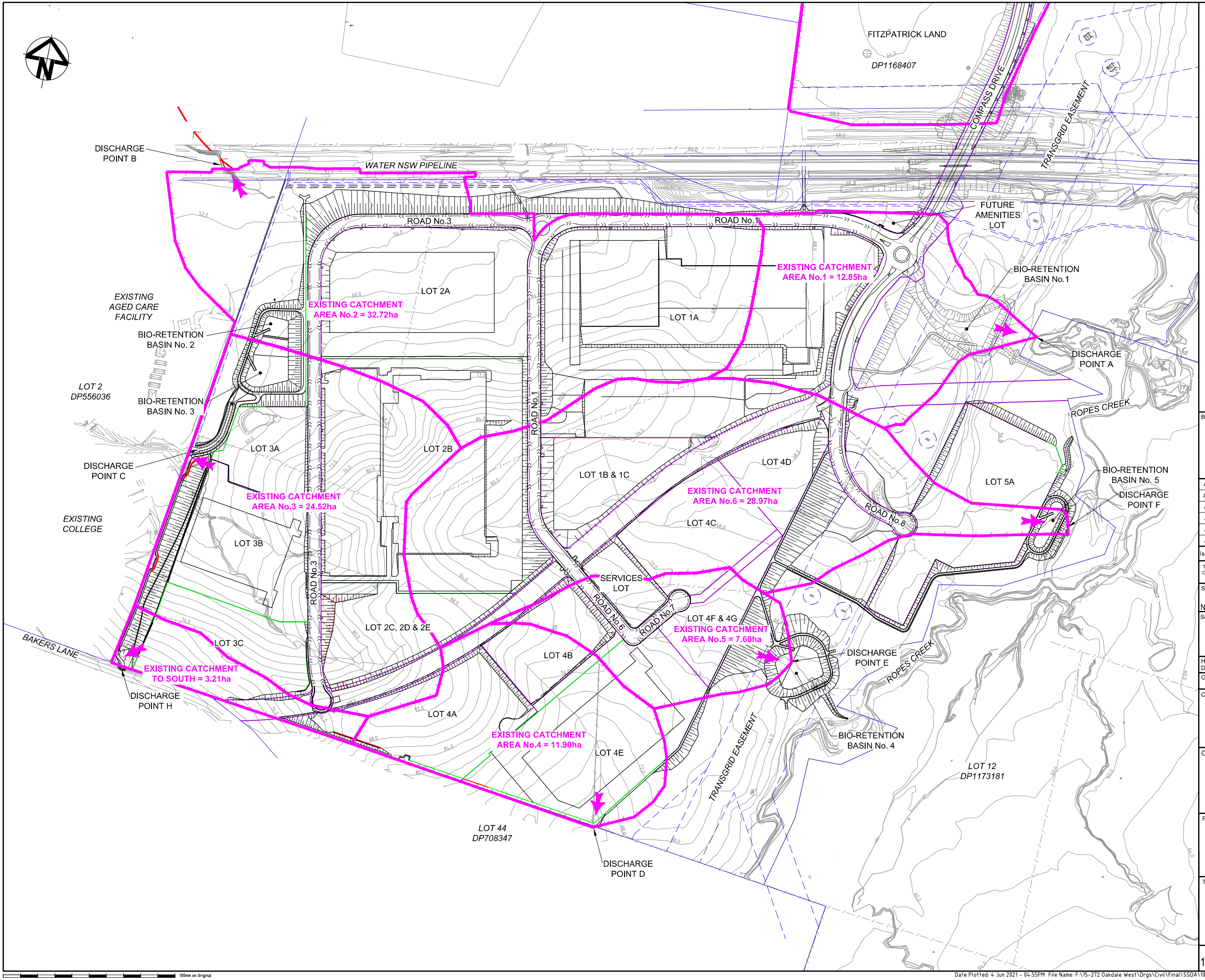
4.3 Conclusion

The erosion control measures proposed for the site will comply with the requirements of Penrith City Council Engineering Guidelines and in accordance with the latest revision AT&L infrastructure report.

A SWMP will ensure that the best management practice is applied to the development site in controlling and minimising the negative impacts of soil erosion.

Appendix A

Pre-Development and Post-Development Site Catchment Plans



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A10	ISSUED FOR INFORMATION MOD 7	18-05-21
A9	ISSUED FOR SSD APPROVAL MOD 6	20-10-20
A8	ISSUED FOR SSD APPROVAL MOD 3	06-12-19
A7	ISSUED FOR INFORMATION MOD 3	19-11-19
A6	ISSUED FOR INFORMATION MOD 3	12-11-19

Status: MOD7 APPROVAL
NOT TO BE USED FOR CONSTRUCTION

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		Designed	GB
Height Datum	AHD	Checked	AM
Grid	MGA	Approved	AM

Client: Goodman

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Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST

Title: STORMWATER DRAINAGE CATCHMENT PLAN (PRE-DEVELOPED)

Drawing No.	Project No.	Issue
15-272-C1086	15-272	A11

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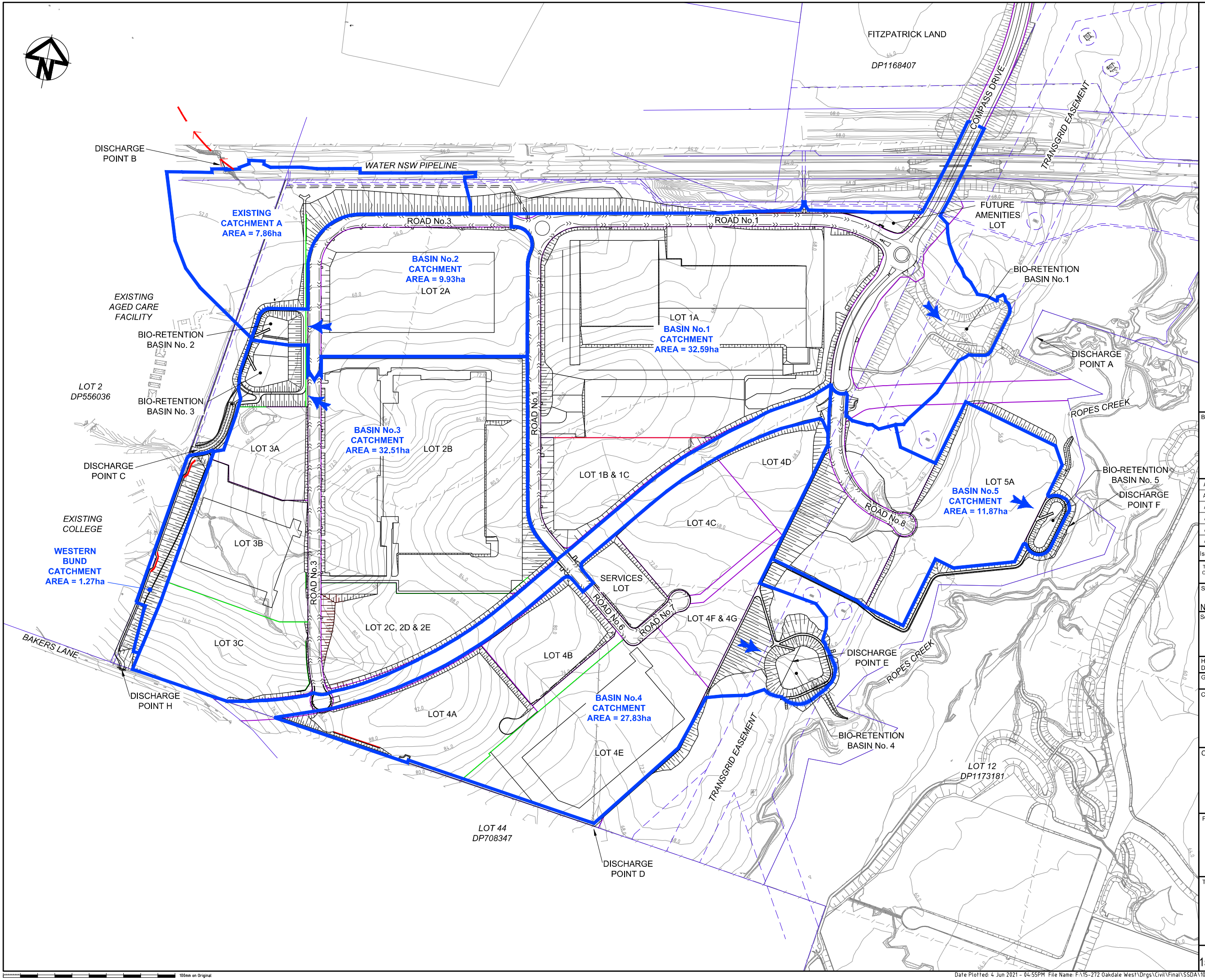
Date Plotted: 4 Jun 2021 - 04:55PM File Name: F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\1000_MOD 7_Infrastructure Package\15-272-C1086.dwg V1



LEGEND

CATCHMENT BOUNDARY

Bar Scales

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Issue	Description	Date
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A10	ISSUED FOR INFORMATION MOD 7	18-05-21
A9	ISSUED FOR SSD APPROVAL MOD 6	20-10-20
A8	ISSUED FOR SSD APPROVAL MOD 3	06-12-19
A7	ISSUED FOR INFORMATION MOD 3	19-11-19
A6	ISSUED FOR INFORMATION MOD 3	12-11-19

Status: MOD7 APPROVAL
NOT TO BE USED FOR CONSTRUCTION

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		Designed	GB
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Grid	MGA	Approved	AM

Client: Goodman

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Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST

Title: STORMWATER DRAINAGE CATCHMENT PLAN (POST-DEVELOPED)

Drawing No.	Project No.	Issue
15-272-C1087	15-272	A11

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Appendix B

List of Civil Works & Erosion and Sediment Control Drawings

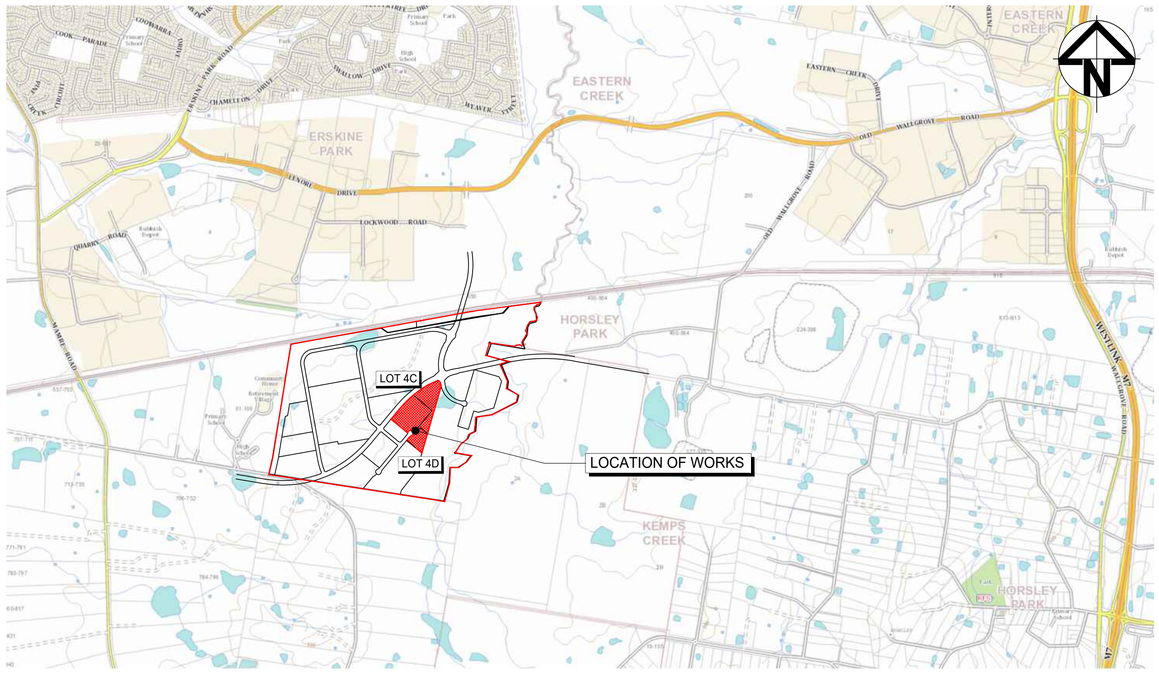
OAKDALE WEST

7900-SERIES LOT 4C & 4D

CIVIL WORKS PACKAGE

DEVELOPMENT APPLICATION

DRAWING LIST	
DRAWING No.	DRAWING TITLE
15-272-C7900	COVER SHEET DRAWING LIST LOCALITY PLAN
15-272-C7901	GENERAL NOTES
15-272-C7905	GENERAL ARRANGEMENT PLAN
15-272-C7910	TYPICAL SECTIONS SHEET 1
15-272-C7911	TYPICAL SECTIONS SHEET 2
15-272-C7912	TYPICAL SECTIONS SHEET 3
15-272-C7913	TYPICAL SECTIONS SHEET 4
15-272-C7914	TYPICAL SECTIONS SHEET 5
15-272-C7915	BULK EARTHWORKS PLAN
15-272-C7920	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 1
15-272-C7921	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 2
15-272-C7922	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 3
15-272-C7923	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4
15-272-C7924	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 5
15-272-C7925	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 6
15-272-C7926	SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 7
15-272-C7930	PAVEMENT PLAN
15-272-C7935	RETAINING WALL GENERAL ARRANGEMENT PLAN
15-272-C7936	RETAINING WALL PROFILES
15-272-C7940	EROSION AND SEDIMENT CONTROL PLAN
15-272-C7941	EROSION AND SEDIMENT DETAILS



LOCALITY PLAN
NTS

Issue	Description	Date
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P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

100mm on Original

Client: Goodman

Scales		Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
COVER SHEET
DRAWING LIST
LOCALITY PLAN

Civil Engineers and Project Managers
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ABN 96 130 882 405
Tel: 02 9439 1777
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www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7900

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7900.dwg

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 AT & L.
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 WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051 (UNBOUND), R.M.S FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF BASECOURSE MATERIAL PLACED.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF SUB-BASE COURSE MATERIAL PLACED.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THE CONTRACTOR IS TO SEEK ACCEPTANCE OF THE PRODUCT FROM AT&L. THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. 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.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO HARD & FORESTER PTY LTD, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

IMPORTANT NOTE:
THIS PLAN IS PREPARED FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS FOR THE PURPOSE OF DESIGNING NEW CONSTRUCTIONS ON THE LAND AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE. THE TITLE BOUNDARIES SHOWN HEREON WERE NOT MARKED BY THE AUTHOR AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSIONS ONLY AND NOT BY FIELD MEASUREMENT.

A SERVICES SEARCH OF THE AREA SURVEYED ABOVE HAS NOT BEEN UNDERTAKEN. VISIBLE SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN.

EXISTING UNDERGROUND SERVICES NOTES

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.

AT & L 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.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

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.

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.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	25	80	20

   - CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
   - 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 AT & L.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm 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 R.M.S SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
   R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
   SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304

   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 1304.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON MIN. 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK 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 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
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.

   EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.

   EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

DIAL 1100 BEFORE YOU DIG

CONTRACTOR SHALL CALL;
DIAL BEFORE YOU DIG 1100
PRIOR TO COMMENCEMENT OF WORK TO OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) AVERAGE RECURRENCE INTERVAL:
   1:100 YEARS MAJOR STORM (OVERLAND FLOW)
   1:20 YEARS MINOR STORM (PIPED NETWORK)
   (B) RAINFALL INTENSITIES:
   TIME OF CONCENTRATION:5 MINUTES
   1:100 YEARS= 219 mm/hr
   1:20 YEARS= 167 mm/hr
   (C) RUNOFF COEFFICIENTS:
   ROOF AREAS: C 100 =1.0
   EXTERNAL PAVEMENTS: C 100 =1.0
2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O. ALL ROAD CROSSINGS TO BE CLASS "4" U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED, SUBJECT TO THE APPROVAL.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
14. 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.

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES
2. REFER PELLS SULLIVAN MEYNINK REPORT PSM1541-126S REV 0 (DATED NOV 2015) FOR BULK EARTHWORKS SPECIFICATIONS.

FINISHED SURFACE LEVELS

1. ALL FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. NSW DEPARTMENT OF HOUSING 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.
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. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
   (A) INSTALL A WIND FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (B) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (C) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   (D) INSTALL SEDIMENT BASIN AS SHOWN ON PLAN
   (E) INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
   (F) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

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. FINAL SITE LANDSCAPING 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. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. 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.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   (B) ENSURING THAT NOTHING IS NAILED TO THEM
   (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
      (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
      (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
      (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

EROSION AND SEDIMENT CONTROL NOTES

STAGING

SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE DESIGNED, PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT ALL STAGES OF WORKS, INCLUDING AT COMPLETION OF THE BULK EARTHWORKS WHERE SHOWN ON AT&L DRAWINGS OR WHERE DIRECTED BY THE SUPERINTENDENT OR PENRITH CITY COUNCIL'S ENGINEERS.
SEDIMENT AND EROSION CONTROLS ARE TO BE DESIGNED AND DOCUMENTED BY A SUITABLY QUALIFIED EXPERT ENGAGED BY THE CONTRACTOR AND APPROVED AS PART OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS IN THE LATEST VERSION OF THE MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION GUIDELINE (LANDCOM).

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

100mm on Original

Client: Goodman

Scales
Grid LOCAL
Height Datum AHD

Drawn KS
Designed AC
Checked SC
Approved

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
GENERAL NOTES

Civil Engineers and Project Managers
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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7901

Issue: P5

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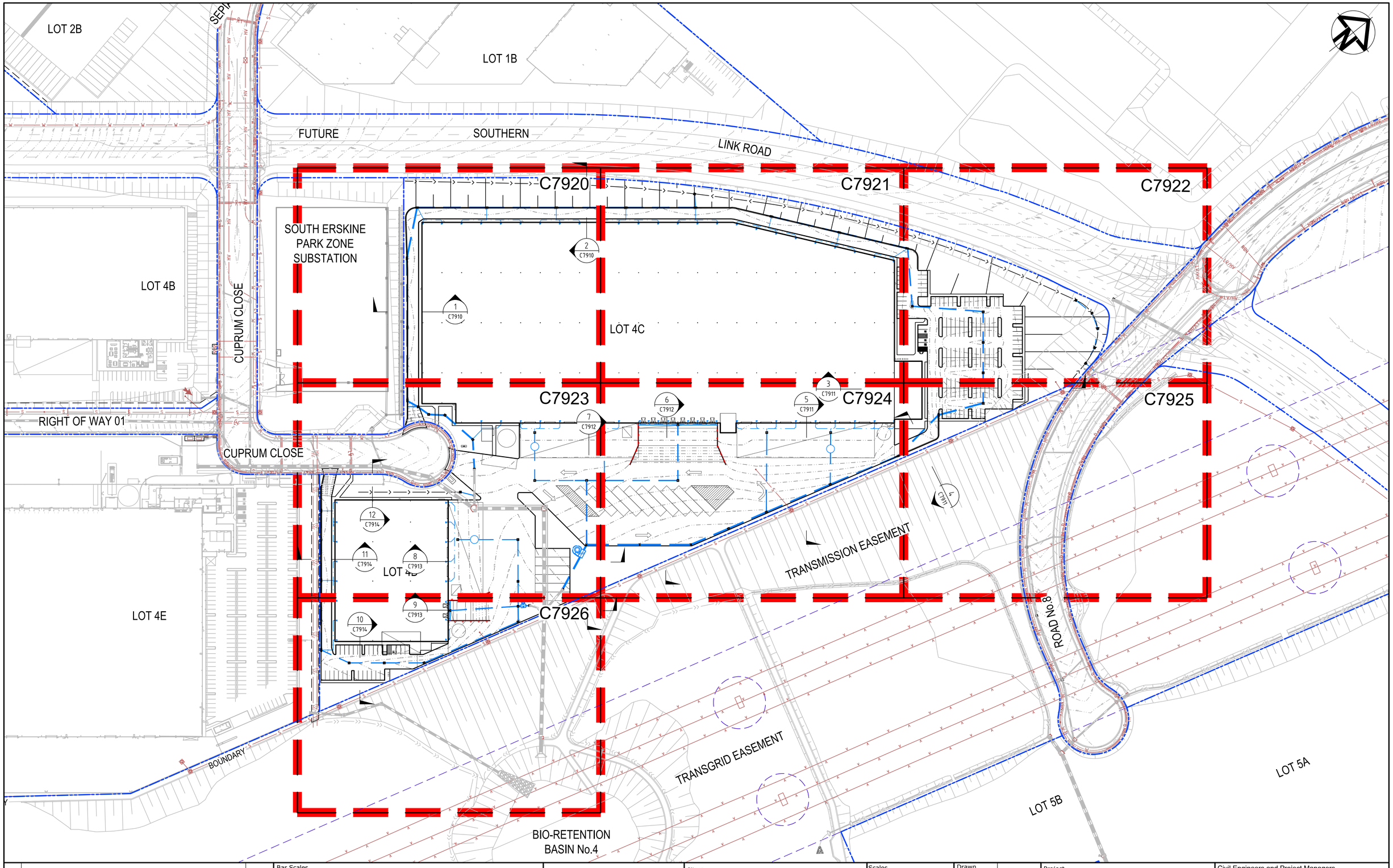

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales	1 : 1000	Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

GENERAL ARRANGEMENT PLAN

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7905

Issue: P5

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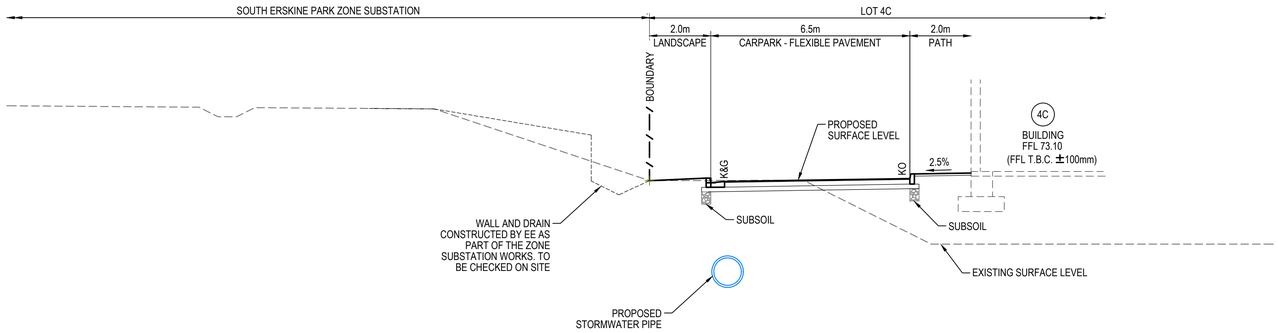

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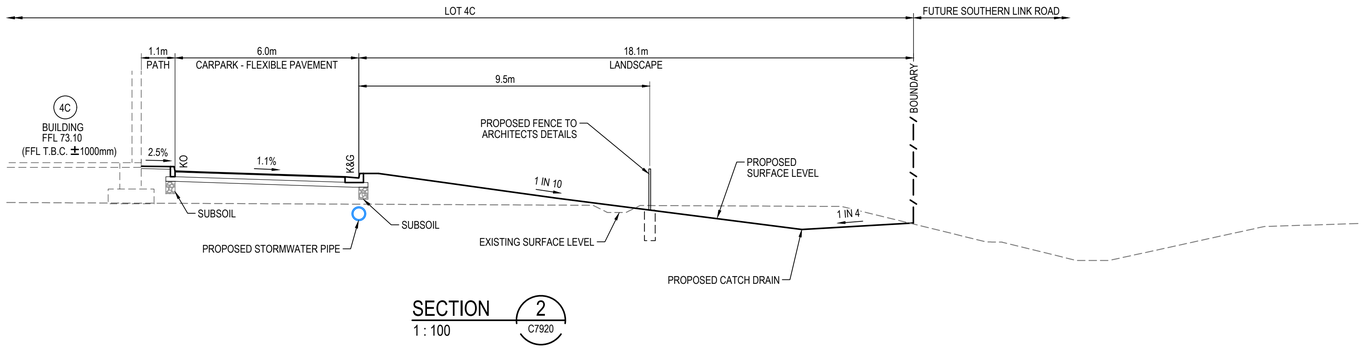

SECTION 2
1 : 100 C7920

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client: Goodman

Scales	1 : 100
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
TYPICAL SECTIONS
SHEET 1

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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
15-272-C7910

Issue
P5

100mm on Original

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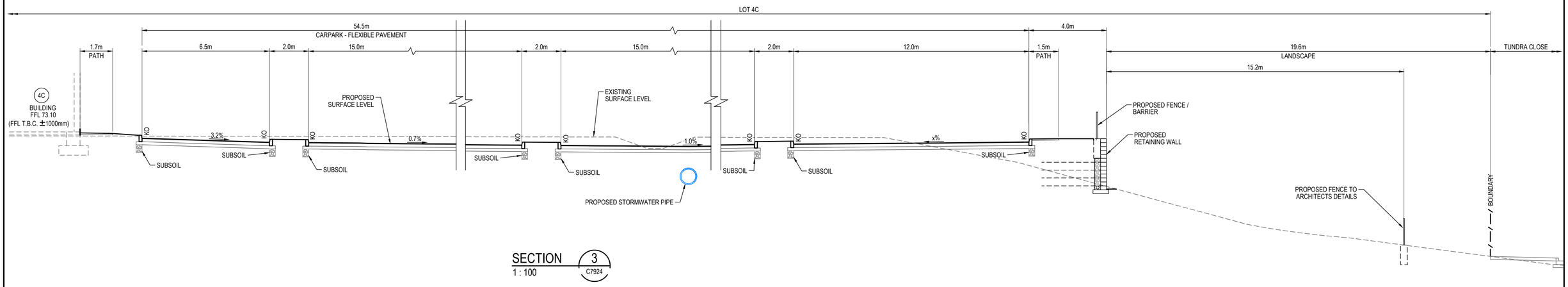

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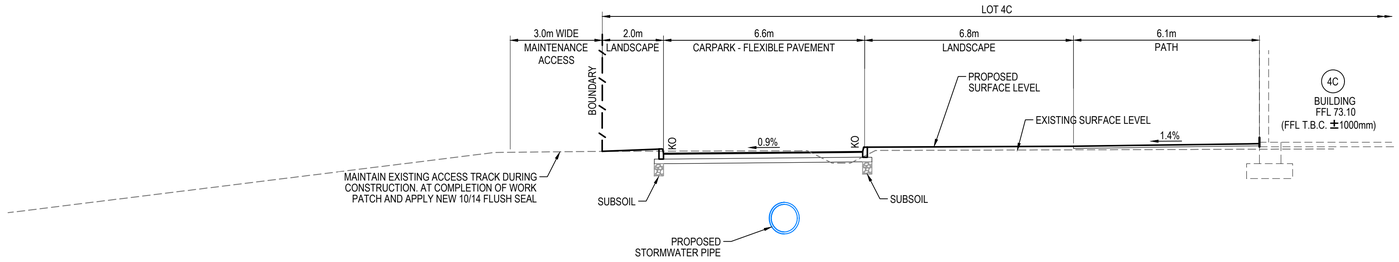

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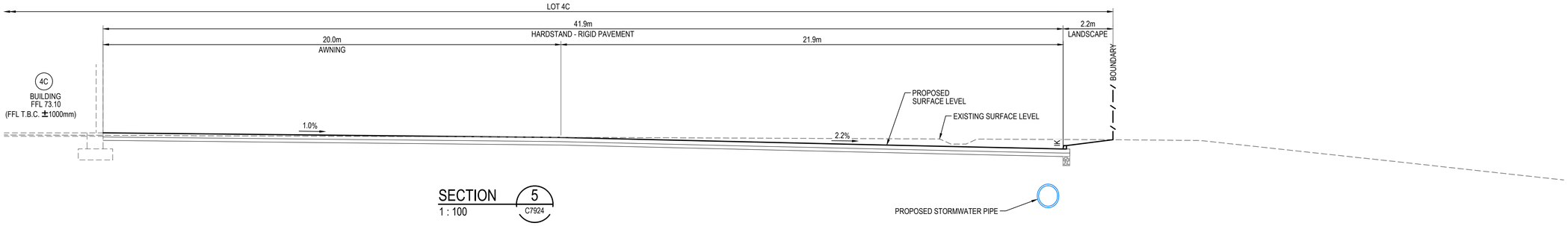

SECTION 5
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Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client: Goodman

Scales		Drawn	KS
1 : 100		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
TYPICAL SECTIONS
SHEET 2

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7911

Issue: P5

100mm on Original

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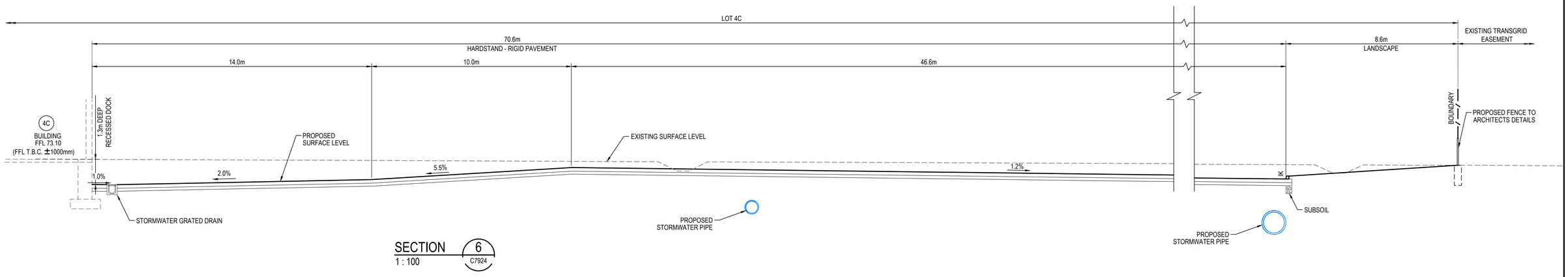

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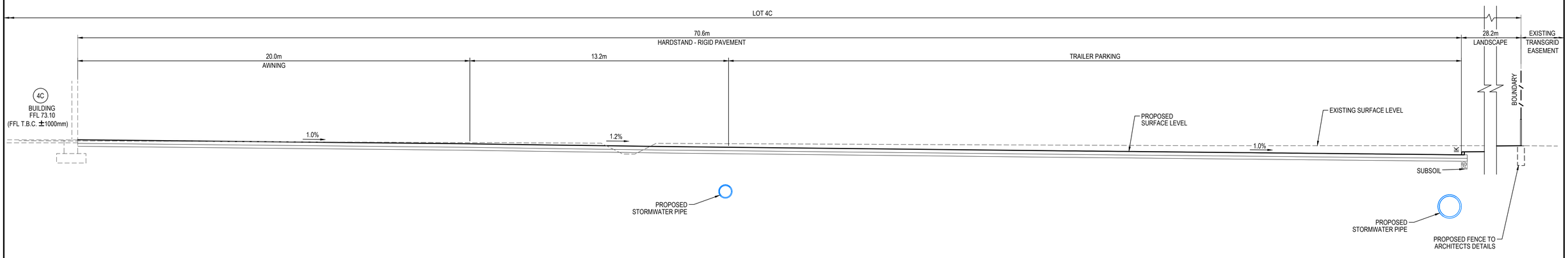

SECTION 7
1 : 100 C7923

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client: Goodman

Scales	1 : 100
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
TYPICAL SECTIONS
SHEET 3

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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
15-272-C7912

Issue
P5

100mm on Original

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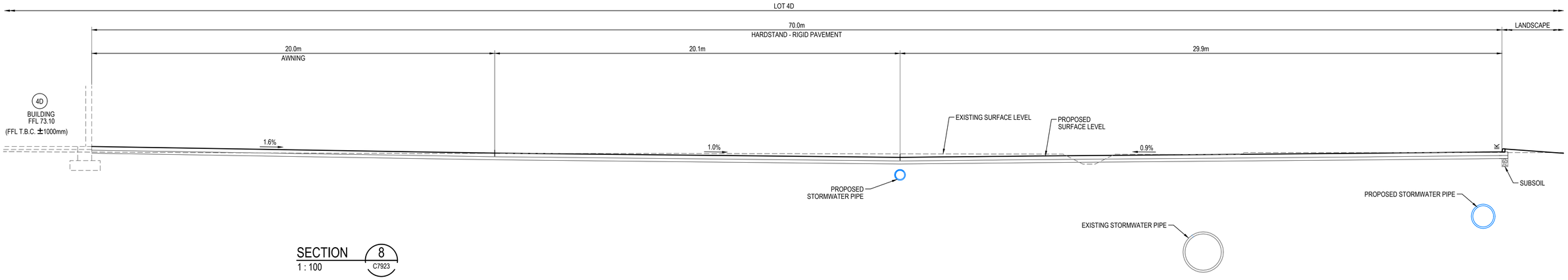

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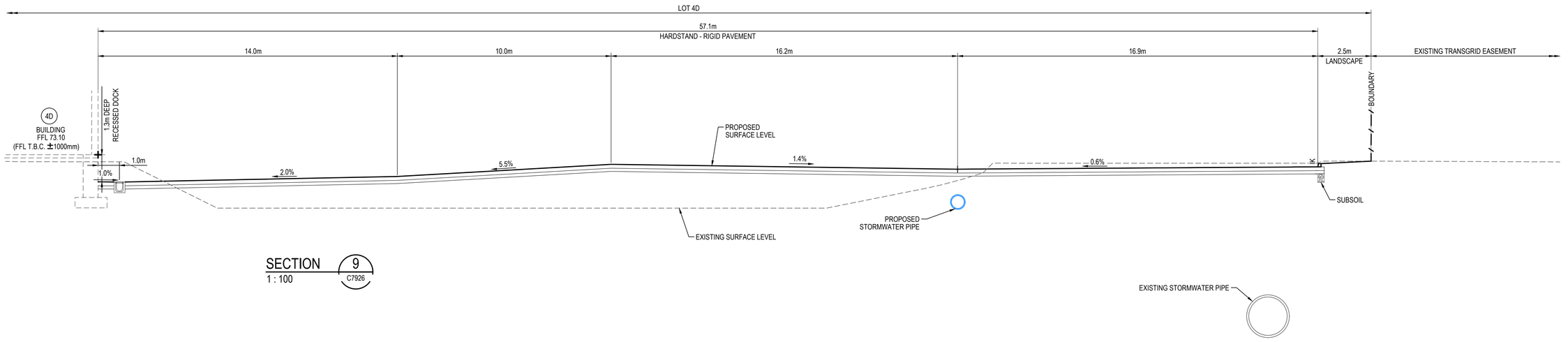

SECTION 9
1 : 100 C7926

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client

Goodman

Scales	1 : 100
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

TYPICAL SECTIONS
SHEET 4

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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
15-272-C7913

Issue
P5

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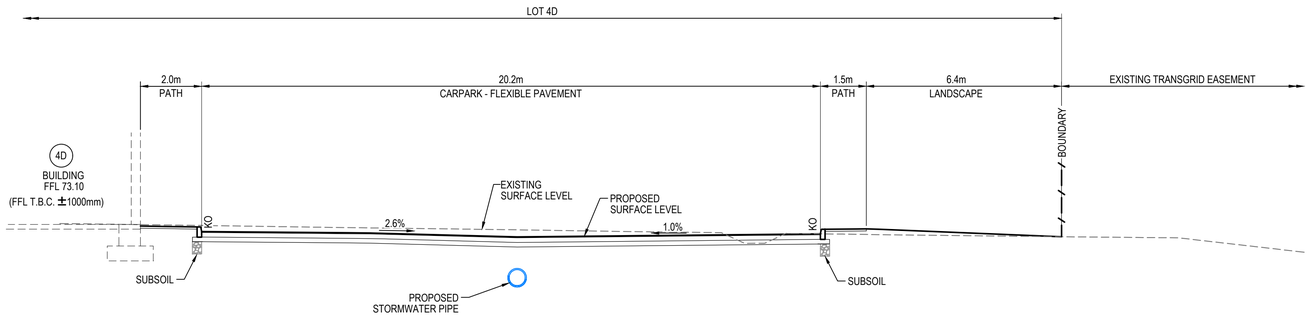

SECTION 10
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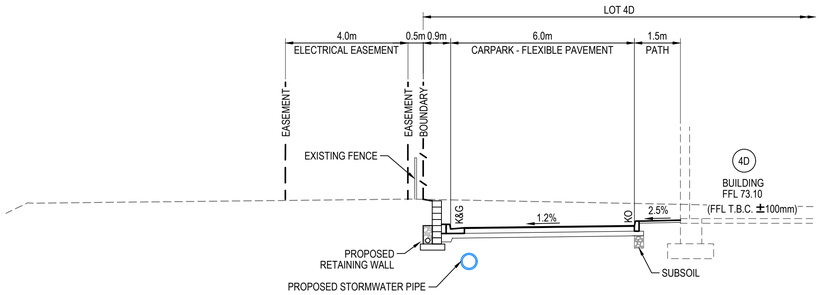
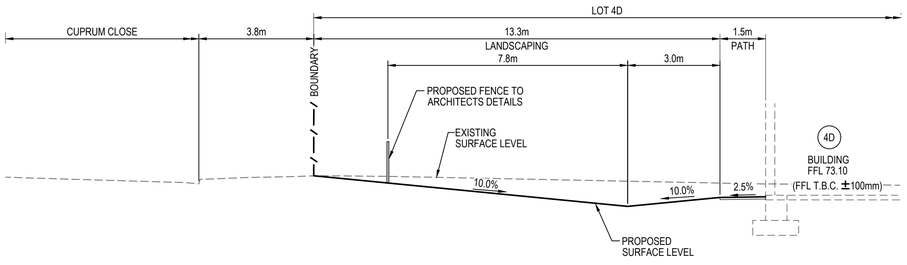


SECTION 11
1 : 100 C7923



SECTION 12
1 : 100 C7923

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client

Goodman

Scales	1 : 100	Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

TYPICAL SECTIONS
SHEET 5

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
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Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

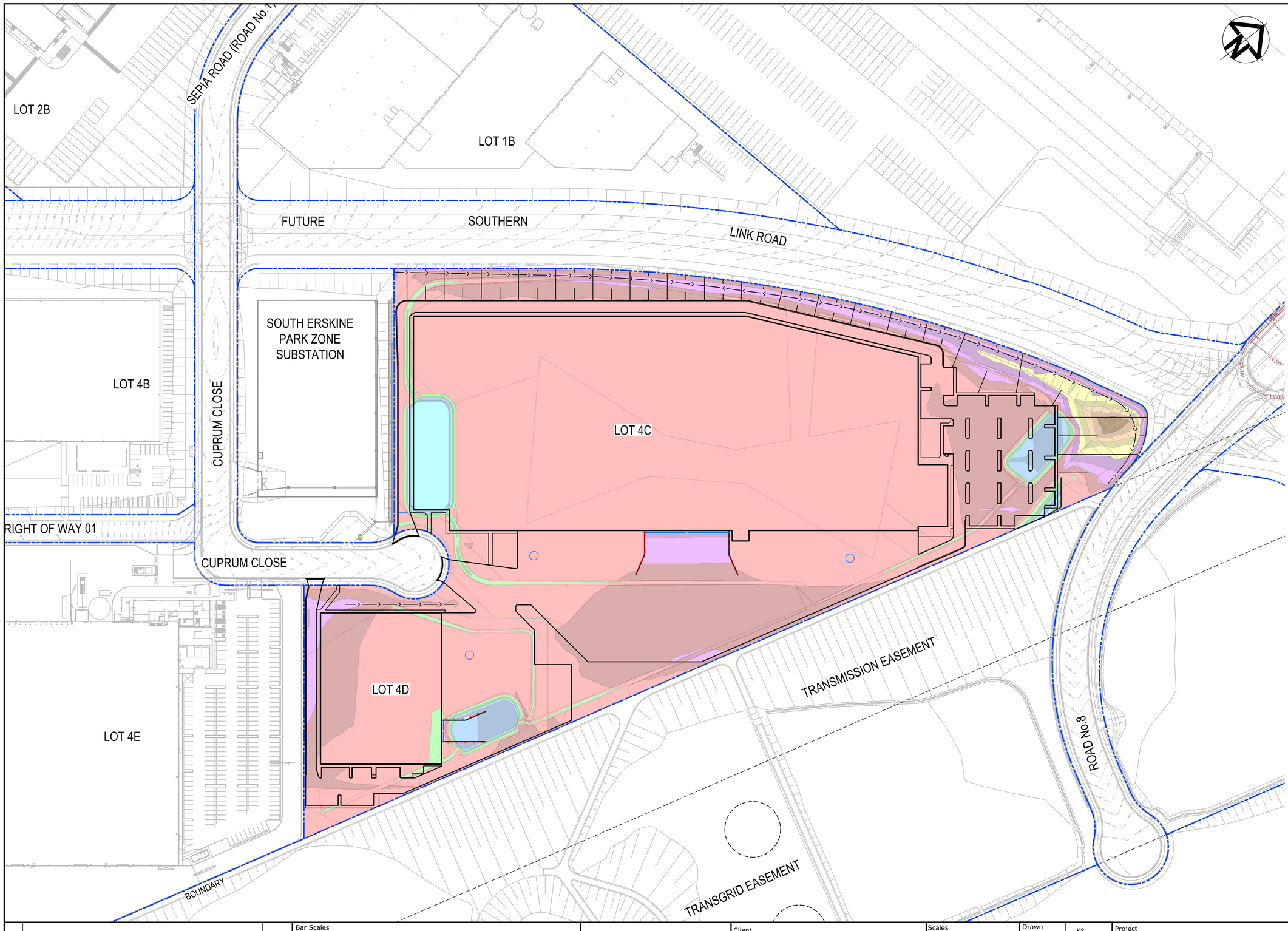
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
15-272-C7914

Issue
P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7914.dwg



LOT 4C & 4D		
NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
-33,523	+5,429	28,093 EXPORT

CUT\FILL DEPTH RANGE LEGEND

Lower_value		Upper_value		Colour
-100	to	-4.0	m	
-4.0	to	-3.5	m	
-3.5	to	-3.0	m	
-3.0	to	-2.5	m	
-2.5	to	-2.0	m	
-2.0	to	-1.5	m	
-1.5	to	-1.0	m	
-1.0	to	-0.5	m	
-0.5	to	0.0	m	
0.0	to	0.5	m	
0.5	to	1.0	m	
1.0	to	1.5	m	
1.5	to	2.0	m	
2.0	to	2.5	m	
2.5	to	3.0	m	
3.0	to	3.5	m	
3.5	to	4.0	m	
4.0	to	100	m	

NOTES

1. THE ABOVE VOLUMES ARE CALCULATED WITH THE ASSUMPTION THAT THE INFRASTRUCTURE WORKS ARE COMPLETED.
2. ASSUMED 300mm SET DOWN FROM PRELIMINARY FINISHED LEVELS.
3. 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
   - NO ALLOWANCE FOR RETAINING WALL BACKFILL MATERIAL

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales		Drawn	KS
1 : 1000		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

BULK EARTHWORKS PLAN

Civil Engineers and Project Managers
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North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7915

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7915.dwg

FUTURE SOUTHERN LINK ROAD

SOUTH ERSKINE
PARK ZONE
SUBSTATION

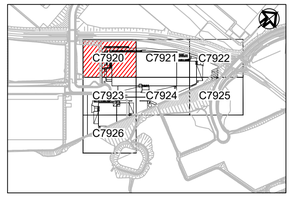
LOT 4C
WAREHOUSE
FFL 73.10

NOTE:
DOWNPIPE LOCATION ARE INDICATIVE ONLY.
T.B.C IN DETAILED DESIGN

CONTINUATION ON DRAWING C7921

CONTINUATION ON DRAWING C7923

KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 — PROPOSED CONTOUR
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- IKO — INTEGRAL KERB ONLY
- DD — DISH DRAIN
- ● 74.00 — FINISHED SURFACE LEVEL
- Ø375 — STORMWATER PIPE WITH SIZE
- GD — STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP — STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRER
- EXISTING GUARD RAIL SAFETY BARRER
- SS — SUBSOIL DRAINAGE (100mm Ø)
- SS — SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T — EXISTING COMMUNICATIONS
- S — EXISTING SEWER MAIN
- W — EXISTING WATER MAIN
- NBN — EXISTING NBN
- LV/HV — EXISTING ELECTRICAL
- G — EXISTING GAS MAIN
- DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales	1 : 250
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
SITEWORKS AND STORMWATER DRAINAGE PLAN
SHEET 1

Civil Engineers and Project Managers
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North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7920

Issue: P5

100mm on Original

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7920.dwg

FUTURE SOUTHERN LINK ROAD

S.L 71.61
I.L 70.53
Ø525

S.L 72.67
I.L 70.28

S.L 72.67
I.L 70.48

S.L 72.67
I.L 71.45

S.L 72.67
I.L 71.25

Ø750
Ø600
Ø675
Ø375

1 IN 4
1 IN 10
1 IN 6

K&G
KO
IKO
DD
DP
SS

F 71.86
F 72.81
F 72.87
F 73.05
F 72.80

2.9%
1.2%
1.0%
1.1%

NOTE:
DOWNPIPE LOCATION ARE INDICATIVE ONLY.
T.B.C IN DETAILED DESIGN

LOT 4C
WAREHOUSE
FFL 73.10

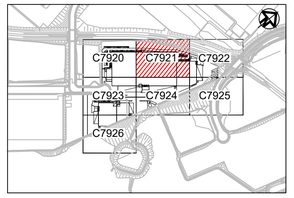
5.5m
1.0
3.1%

CONTINUATION ON DRAWING C7920

CONTINUATION ON DRAWING C7923

CONTINUATION ON DRAWING C7924

KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 PROPOSED CONTOUR
- K&G KERB AND GUTTER
- KO KERB ONLY
- IKO INTEGRAL KERB ONLY
- DD DISH DRAIN
- ● 74.00 FINISHED SURFACE LEVEL
- Ø375 STORMWATER PIPE WITH SIZE
- GD STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRER
- EXISTING GUARD RAIL SAFETY BARRER
- SS SUBSOIL DRAINAGE (100mm Ø)
- SS SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T EXISTING COMMUNICATIONS
- S EXISTING SEWER MAIN
- W EXISTING WATER MAIN
- NBN EXISTING NBN
- LV/HV EXISTING ELECTRICAL
- G EXISTING GAS MAIN
- DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Client: Goodman

Scales	1 : 250
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
SITEWORKS AND STORMWATER DRAINAGE PLAN
SHEET 2

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
15-272-C7921

Issue
P5

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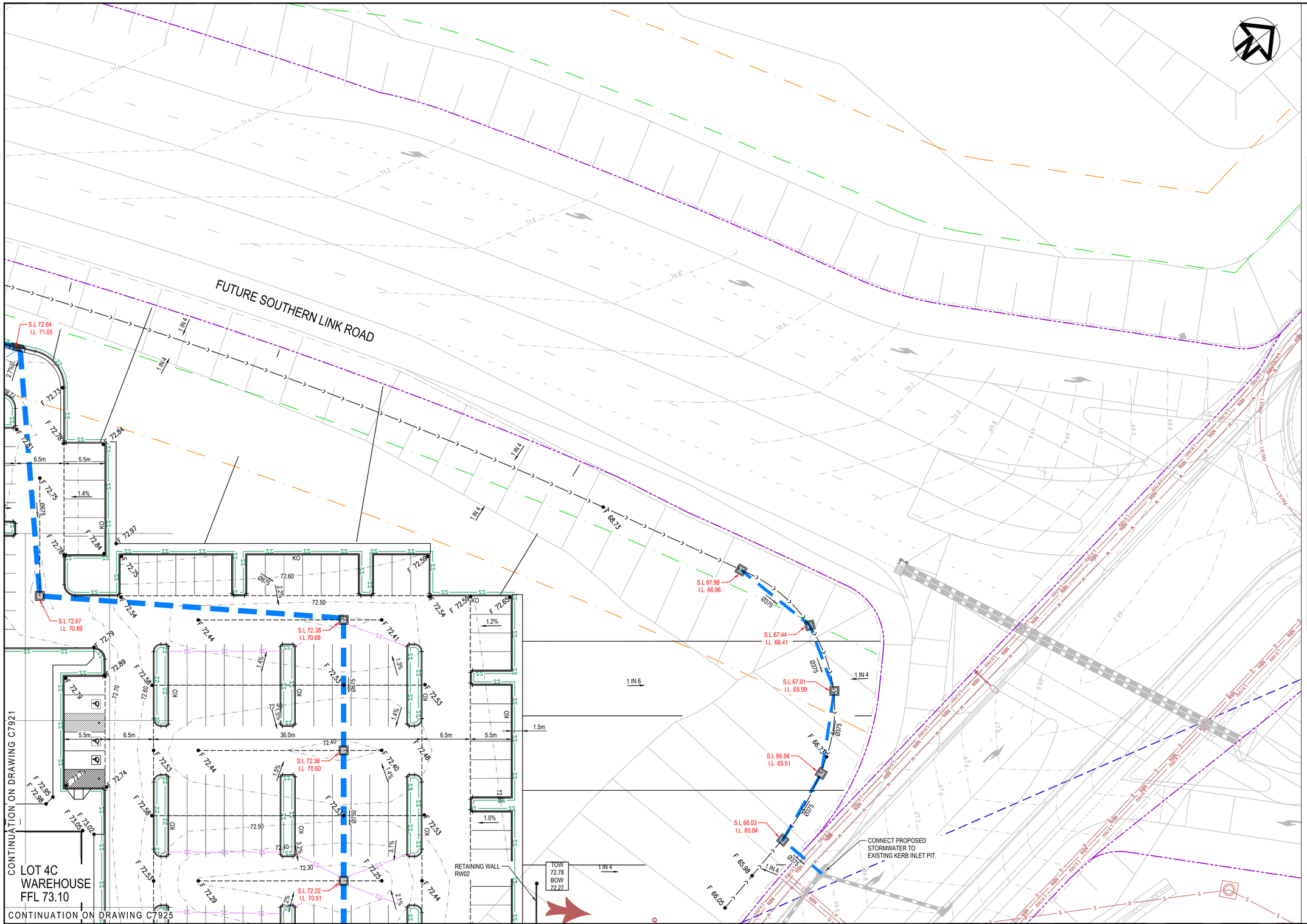

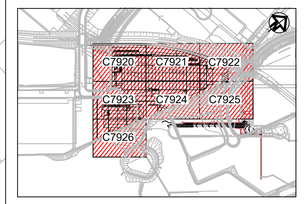

LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 — PROPOSED CONTOUR
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- IKO — INTEGRAL KERB ONLY
- DD — DISH DRAIN
- 74.00 — FINISHED SURFACE LEVEL
- Ø375 — STORMWATER PIPE WITH SIZE
- GD — STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP — STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRER
- EXISTING GUARD RAIL SAFETY BARRER
- SS — SUBSOIL DRAINAGE (100mm Ø)
- SS — SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T — EXISTING COMMUNICATIONS
- S — EXISTING SEWER MAIN
- W — EXISTING WATER MAIN
- NBN — EXISTING NBN
- LV/HV — EXISTING ELECTRICAL
- G — EXISTING GAS MAIN
- x — x — DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales	1 : 250
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
SITEWORKS AND STORMWATER DRAINAGE PLAN
SHEET 3

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7922

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7922.dwg

CONTINUATION ON DRAWING C7920

CONTINUATION ON DRAWING C7924

SOUTH ERSKINE PARK ZONE SUBSTATION

CUPRUM CLOSE

LOT 4C WAREHOUSE FFL 73.10

LOT 4E

LOT 4D WAREHOUSE FFL 73.10

PROPOSED 200mm WIDE GRATED DRAIN (CLASS "D" GRATE)

S.L 72.67 I.L 69.10

S.L 72.87 I.L 69.06

S.L 72.82 I.L 69.01

S.L 72.80 I.L 69.06

S.L 72.65 I.L 68.9

INDUSTRIAL CROSS OVER TO BE CONSTRUCTED TO PCC STANDARDS AND GUIDELINES REFER DRAWING SD1004 FOR DETAILS

NBN PIT TO BE RELOCATED

INDUSTRIAL CROSS OVER TO BE CONSTRUCTED TO PCC STANDARDS AND GUIDELINES REFER DRAWING SD1004 FOR DETAILS

INDUSTRIAL CROSS OVER TO BE CONSTRUCTED TO PCC STANDARDS AND GUIDELINES REFER DRAWING SD1004 FOR DETAILS

SUB STATION

PROPOSED UNDERGROUND RAINWATER TANK
- RWT SIZE = 260kL
- ROOF AREA TO RWT = 7000m2
- % OF RE-USED DEMAND MET = 80.1%

FINAL RWT SIZE AND ROOF CATCHMENT TO BE CONFIRMED DURING DETAILED DESIGN. MINIMUM 80% OF RE-USE DEMAND TO BE MET.

NOTE:
DOWNPIPE LOCATION ARE INDICATIVE ONLY.
T.B.C IN DETAILED DESIGN

S.L 73.07 I.L 72.00

AWNING ABOVE

S.L 72.94 I.L 67.98

CONNECT PROPOSED STORMWATER TO EXISTING Ø900 STUB AT I.L. 67.98 (TO BE CONFIRMED PRIOR TO CONSTRUCTION)

S.L 72.48 I.L 71.50

S.L 72.81 I.L 67.88.

CONNECT PROPOSED STORMWATER TO EXISTING Ø900 PIPE.

S.L 72.86 I.L 71.79

S.L 72.75 I.L 71.64

EXISTING STORMWATER MANHOLE TO BE ADJUSTED TO PROPOSED LEVEL

EXISTING STORMWATER MANHOLE TO BE ADJUSTED TO PROPOSED LEVEL

S.L 72.69 I.L 71.62

S.L 72.69 I.L 71.42

PROPOSED UNDERGROUND RAINWATER TANK
- RWT SIZE = 50KL
- ROOF AREA TO RWT = 2900m2
- % OF RE-USE DEMAND MET = 82.3%

FINAL RWT SIZE AND ROOF CATCHMENT TO BE CONFIRMED DURING DETAILED DESIGN. MINIMUM 80% OF RE-USE DEMAND TO BE MET.

PROPOSED GROSS POLLUTANT TRAP
- ROCLA CDS 1518 GPT OR SIMILAR APPROVED EQUIVALENT.
- 3 MONTH FLOW 372 L/s.
- INSTALL TO MANUFACTURERS DETAILS.

S.L 73.01 I.L 71.91

S.L 72.63 I.L 71.53

S.L 72.34 I.L 69.18

S.L 72.51 I.L 71.41

CONNECT PROPOSED STORMWATER TO EXISTING Ø900 STUB AT I.L. 65.28 (TO BE CONFIRMED PRIOR TO CONSTRUCTION)

S.L 72.68 I.L 65.28

PROPOSED RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS

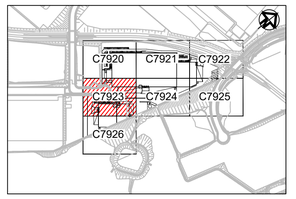
RETAINING WALL RW01

TOW 73.82 BOW 73.52

4.0m CABLE EASEMENT

CONTINUATION ON DRAWING C7926

KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 PROPOSED CONTOUR
- K&G KERB AND GUTTER
- KO KERB ONLY
- IKO INTEGRAL KERB ONLY
- DD DISH DRAIN
- 74.00 FINISHED SURFACE LEVEL
- Ø375 STORMWATER PIPE WITH SIZE
- GD STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRIER
- EXISTING GUARD RAIL SAFETY BARRIER
- SS SUBSOIL DRAINAGE (100mm Ø)
- SS SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T EXISTING COMMUNICATIONS
- S EXISTING SEWER MAIN
- W EXISTING WATER MAIN
- NBN EXISTING NBN
- LV/HV EXISTING ELECTRICAL
- G EXISTING GAS MAIN
- x x DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales	1 : 250
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4

Civil Engineers and Project Managers
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North Sydney NSW 2060
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Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7923

Issue: P5

100mm on Original

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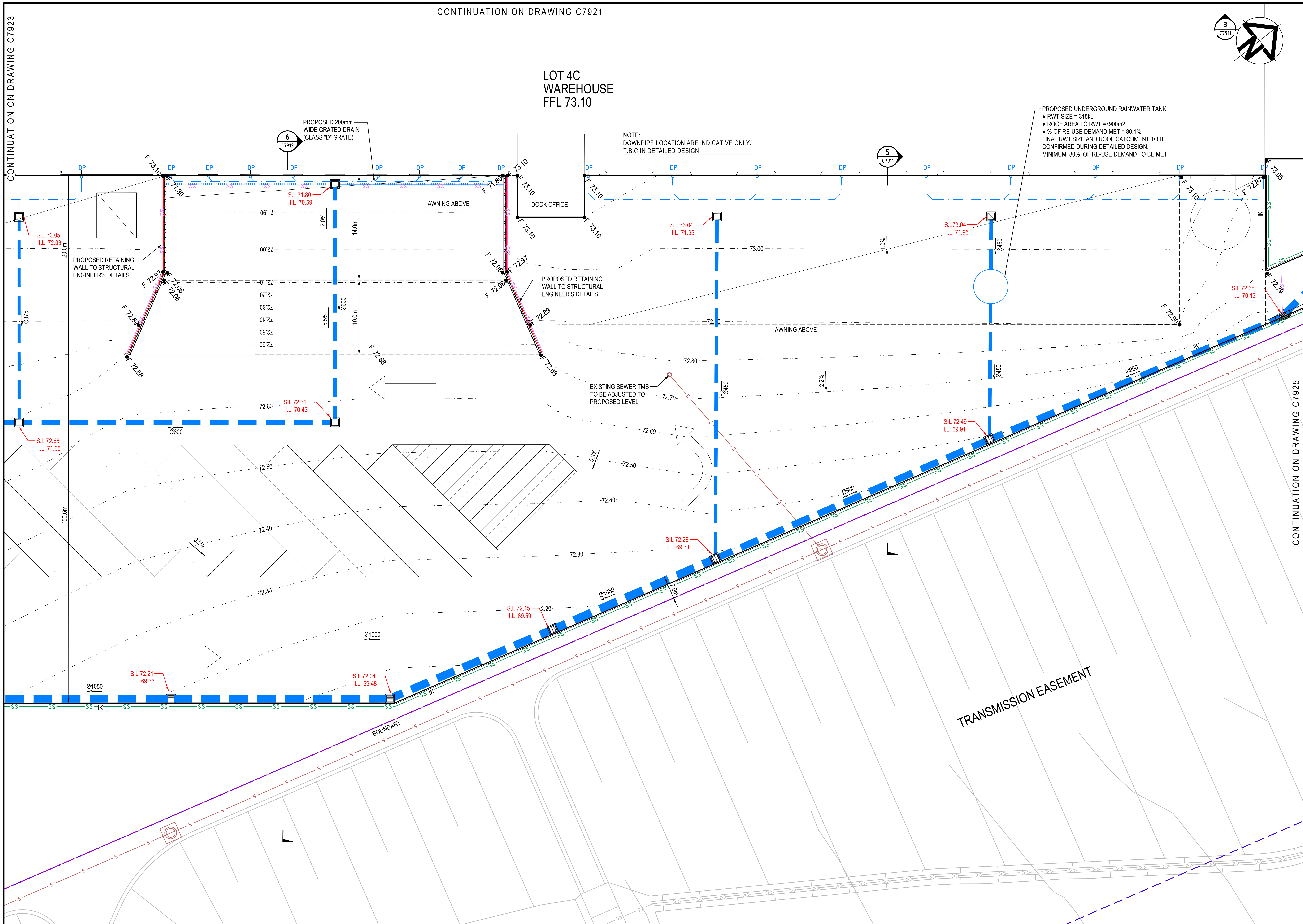
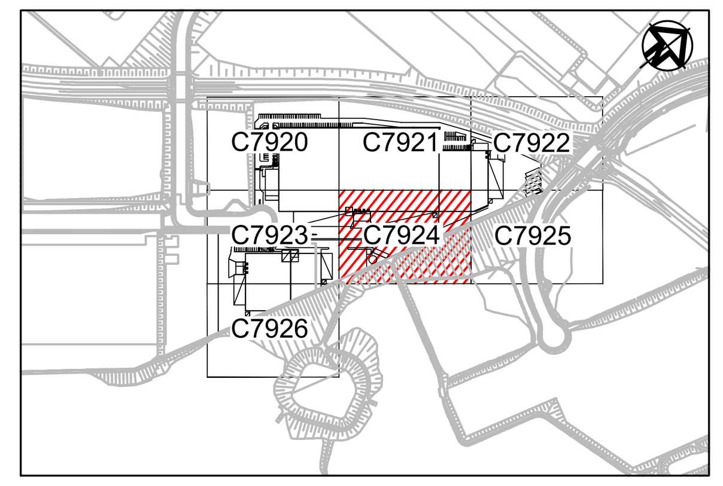
CONTINUATION ON DRAWING C7921
CONTINUATION ON DRAWING C7923
CONTINUATION ON DRAWING C7925



KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 PROPOSED CONTOUR
- K&G KERB AND GUTTER
- KO KERB ONLY
- IKO INTEGRAL KERB ONLY
- DD DISH DRAIN
- • 74.00 FINISHED SURFACE LEVEL
- Ø375 STORMWATER PIPE WITH SIZE
- GD STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRIER
- EXISTING GUARD RAIL SAFETY BARRIER
- SS SUBSOIL DRAINAGE (100mm Ø)
- SS SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T EXISTING COMMUNICATIONS
- S EXISTING SEWER MAIN
- W EXISTING WATER MAIN
- NBN EXISTING NBN
- LV/HV EXISTING ELECTRICAL
- G EXISTING GAS MAIN
- x DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales	1 : 250	Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 5

Civil Engineers and Project Managers
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North Sydney NSW 2060
ABN 96 130 882 405
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Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

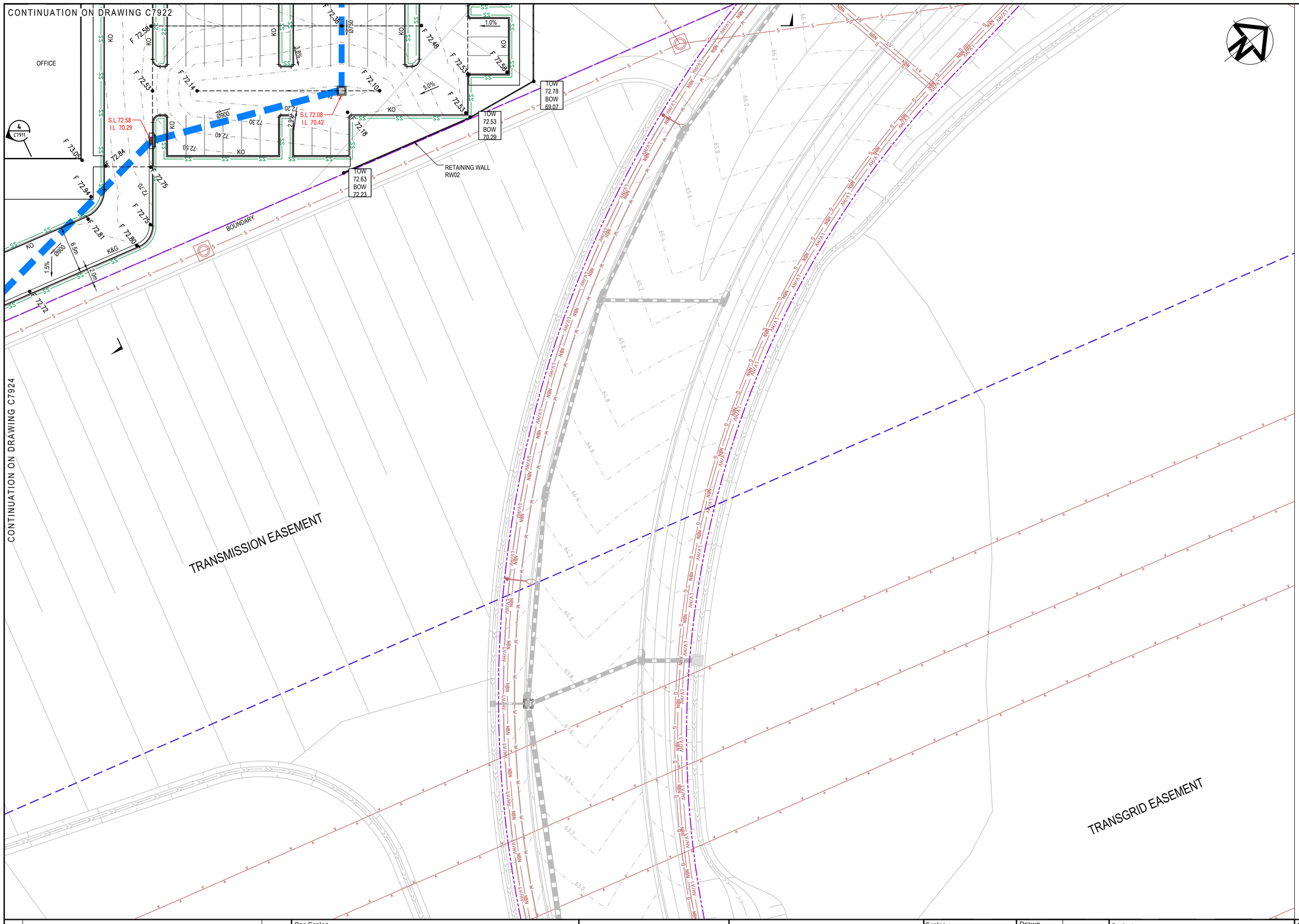
A1

Project - Drawing No. 15-272-C7924

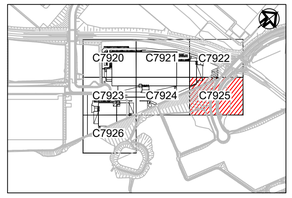
Issue P5

100mm on Original

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7924.dwg



KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 PROPOSED CONTOUR
- K&G KERB AND GUTTER
- KO KERB ONLY
- IKO INTEGRAL KERB ONLY
- DD DISH DRAIN
- ● 74.00 FINISHED SURFACE LEVEL
- Ø375 STORMWATER PIPE WITH SIZE
- GD STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRER
- EXISTING GUARD RAIL SAFETY BARRER
- SS SUBSOIL DRAINAGE (100mm Ø)
- SS SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T EXISTING COMMUNICATIONS
- S EXISTING SEWER MAIN
- W EXISTING WATER MAIN
- NBN EXISTING NBN
- LV/HV EXISTING ELECTRICAL
- G EXISTING GAS MAIN
- x x DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales	1 : 250
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

SITEWORKS AND STORMWATER DRAINAGE PLAN
SHEET 6

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7925

Issue: P5

100mm on Original

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7925.dwg

CONTINUATION ON DRAWING C7923

LOT 4D
WAREHOUSE
FFL 73.10

LOT 4E

OFFICE

RETAINING WALL RW01

TOW 73.04
BOW 72.93

4.0m CABLE EASEMENT

PROPOSED 200mm WIDE GRATED DRAIN (CLASS "D" GRATE)

AWNING ABOVE

S.L 71.80
I.L 70.67
14.0m
2.0%
10.0m
5.5%

PROPOSED RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS

NOTE:
DOWNPIPE LOCATION ARE INDICATIVE ONLY.
T.B.C IN DETAILED DESIGN

EXISTING SEWER TMS TO BE ADJUSTED TO PROPOSED LEVEL

S.L 72.44
I.L 70.44

S.L 72.39
I.L 70.62

S.L 72.48
I.L 66.62

EXISTING STORMWATER MANHOLE TO BE ADJUSTED TO PROPOSED LEVEL

CONNECT PROPOSED STORMWATER TO EXISTING Ø600 STUB AT I.L. 66.54 (TO BE CONFIRMED PRIOR TO CONSTRUCTION)

PROPOSED GROSS POLLUTANT TRAP
- ROCLA CDS 1015 GPT OR SIMILAR APPROVED EQUIVALENT.
- 3 MONTH FLOW 171 L/s.
- INSTALL TO MANUFACTURERS DETAILS.

S.L 72.69
I.L 71.22

S.L 72.50
I.L 70.92

S.L 72.73
I.L 71.13

S.L 72.63
I.L 71.03

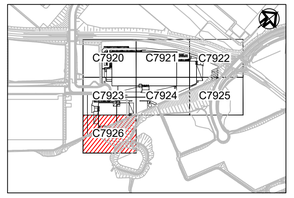
BOUNDARY

TRANSMISSION EASEMENT

TRANSGRID EASEMENT

BIO-RETENTION BASIN No.4

KEYPLAN



LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- 65.0 — PROPOSED CONTOUR
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- IKO — INTEGRAL KERB ONLY
- DD — DISH DRAIN
- ● 74.00 — FINISHED SURFACE LEVEL
- Ø375 — STORMWATER PIPE WITH SIZE
- GD — STORMWATER GRATED DRAIN WITH CLASS "D" COVER
- DP — STORMWATER DOWNPIPE AND PVC PIPE REFER HYDRAULIC ENGINEER FOR DETAILS
- GUARD RAIL SAFETY BARRER
- EXISTING GUARD RAIL SAFETY BARRER
- SS — SUBSOIL DRAINAGE (100mm Ø)
- SS — SUBSOIL DRAINAGE (100mm Ø uPVC) CONNECTION UNDER PAVEMENT
- GRASS LINED SWALE
- KERB INLET PIT
- SURFACE INLET PIT
- JUNCTION PIT
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED NOISE WALL
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL
- T — EXISTING COMMUNICATIONS
- S — EXISTING SEWER MAIN
- W — EXISTING WATER MAIN
- NBN — EXISTING NBN
- LV/HV — EXISTING ELECTRICAL
- G — EXISTING GAS MAIN
- x — x — DISUSED SERVICE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 5 10 15 20m

1 : 250 @ A1 1 : 500 @ A3

Client: Goodman

Scales		Drawn	KS
1 : 250		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project
PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title
SITEWORKS AND STORMWATER DRAINAGE PLAN
SHEET 7

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

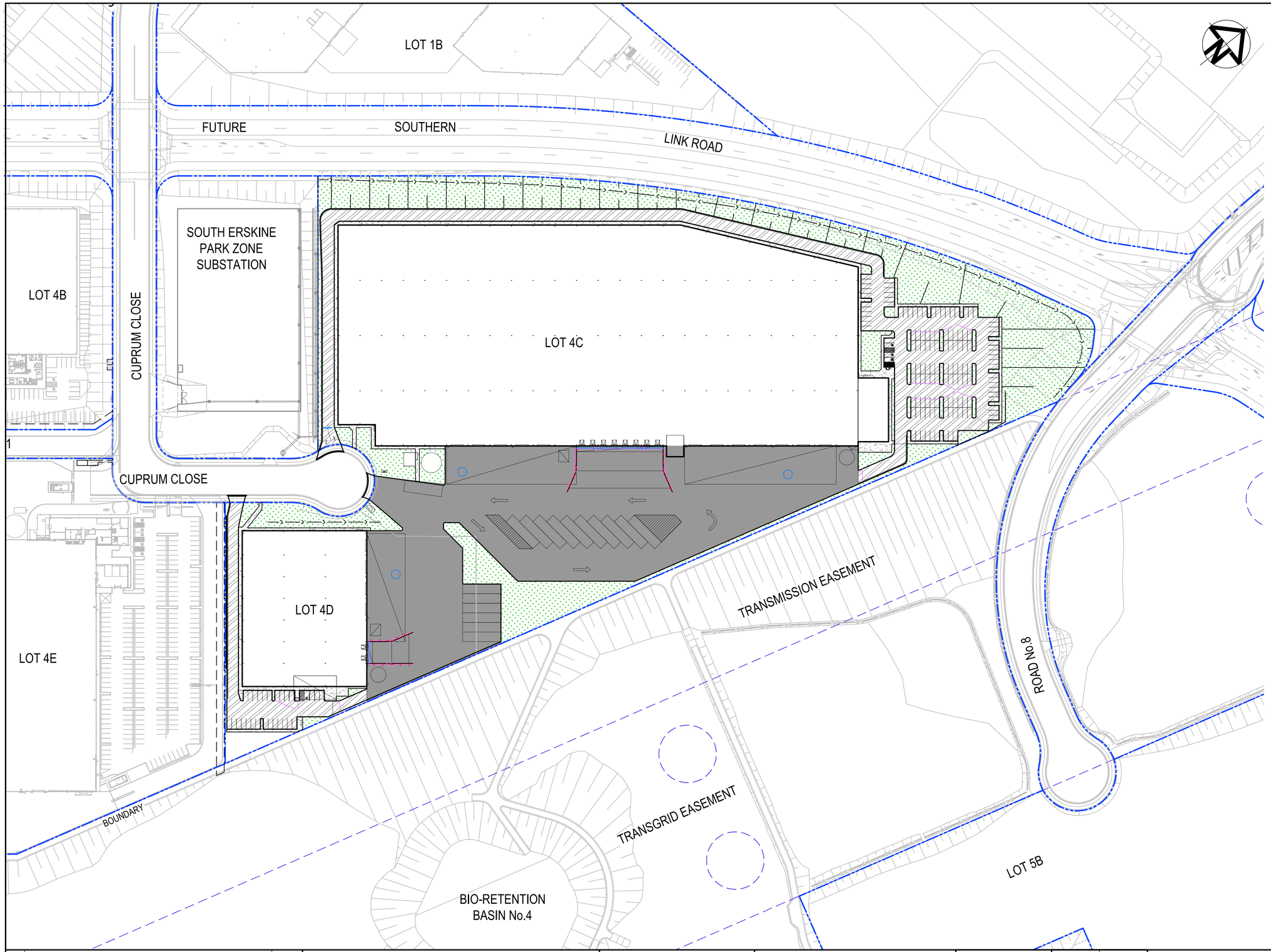
A1

Project - Drawing No.: 15-272-C7926

Issue: P5

100mm on Original

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7926.dwg



Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales	1 : 1000	Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: PAVEMENT PLAN

Civil Engineers and Project Managers
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North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
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info@atl.net.au

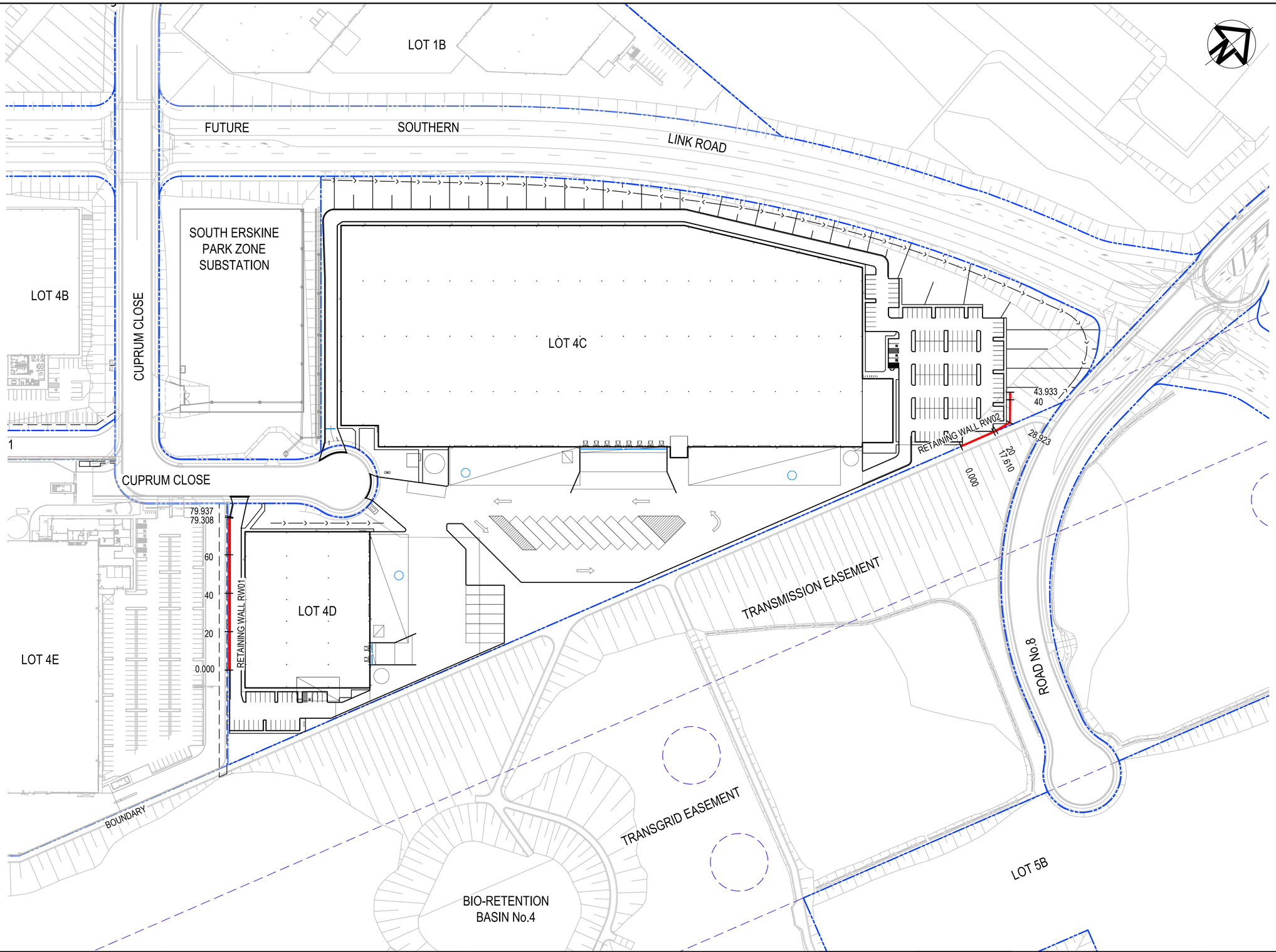
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7930

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7930.dwg



Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales	1 : 1000
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

RETAINING WALL GENERAL ARRANGEMENT PLAN

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

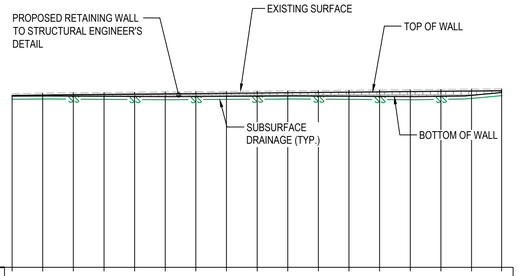
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7935

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7935.dwg

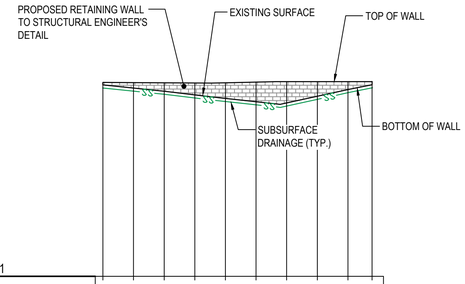


Datum RL45

BOTTOM OF RETAINING WALL	72.93	72.96	72.94	72.91	72.88	72.85	72.87	72.90	72.93	72.96	72.94	72.91	72.88	72.85	72.91	73.07	73.52
TOP OF RETAINING WALL	73.038	73.113	73.171	73.218	73.265	73.312	73.347	73.394	73.441	73.487	73.534	73.58	73.63	73.677	73.723	73.77	73.815
HEIGHT OF RETAINING WALL	0.108	0.153	0.231	0.308	0.385	0.462	0.477	0.494	0.511	0.527	0.594	0.670	0.750	0.827	0.816	0.703	0.295
EXISTING SURFACE LEVEL	73.40	73.41	73.47	73.52	73.56	73.61	73.65	73.69	73.74	73.79	73.83	73.88	73.93	73.98	74.02	74.07	74.11
CHAINAGE	0.000	5.000	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	55.000	60.000	65.000	70.000	75.000	79.916

RETAINING WALL RW1 PROFILE

SCALE 1:500 HORI.
1:500 VERT.



Datum RL41

BOTTOM OF RETAINING WALL	72.23	71.71	71.20	70.60	70.03	69.49	69.30	70.39	71.47	72.27
TOP OF RETAINING WALL	72.631	72.601	72.571	72.541	72.579	72.699	72.776	72.776	72.776	72.776
HEIGHT OF RETAINING WALL	0.404	0.887	1.370	1.942	2.551	3.209	3.474	2.388	1.302	0.511
EXISTING SURFACE LEVEL	72.23	71.71	71.20	70.69	70.03	69.49	69.30	70.39	71.47	72.27
CHAINAGE	0.000	5.000	10.000	15.000	20.000	25.000	30.000	35.000	40.000	43.933

RETAINING WALL RW2 PROFILE

SCALE 1:500 HORI.
1:500 VERT.

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Client: Goodman

Scales: 1 : 500

Grid: LOCAL

Height Datum: AHD

Drawn: KS

Designed: AC

Checked: SC

Approved:

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: RETAINING WALL PROFILES

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

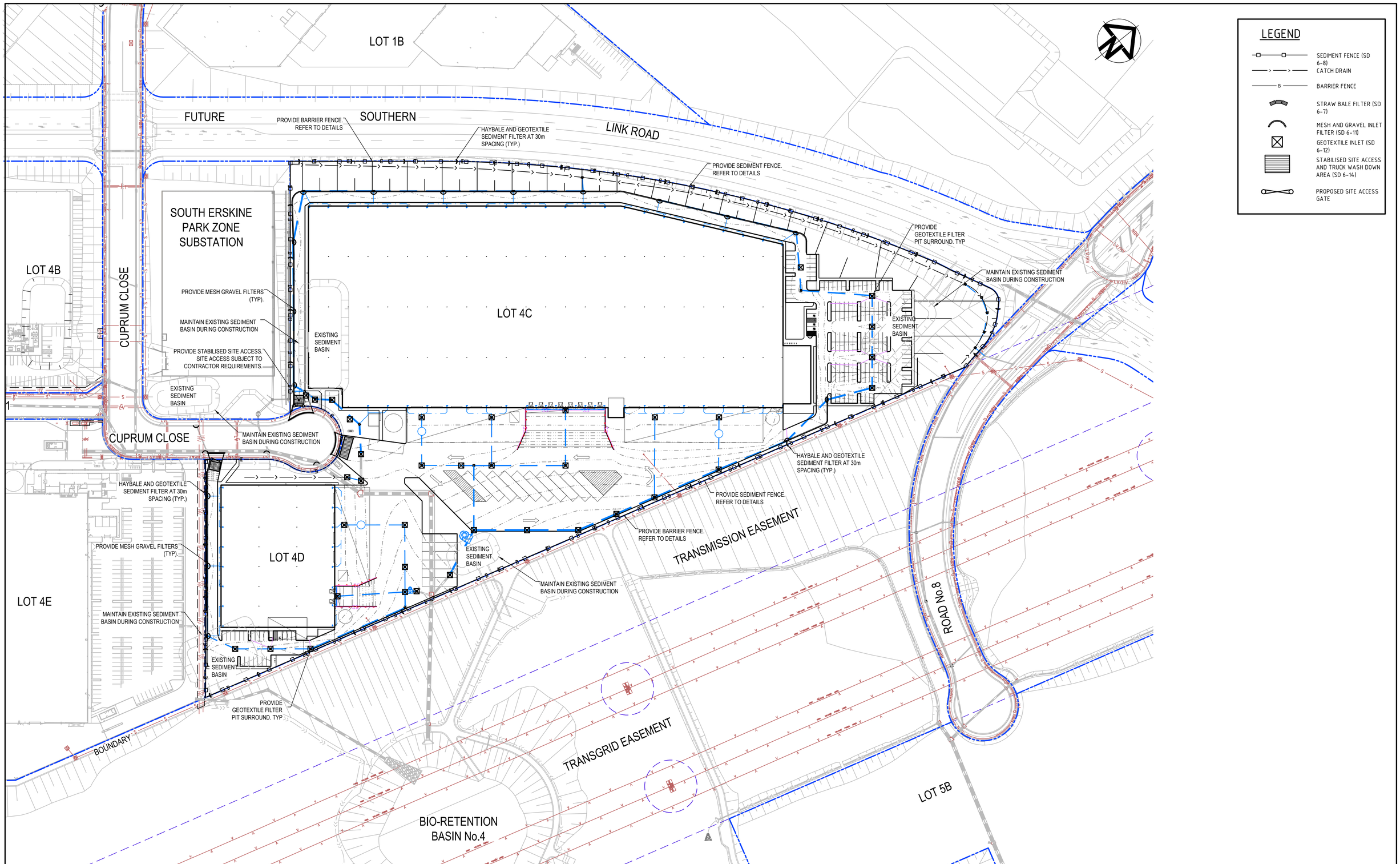
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7936

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7936.dwg



LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales	1 : 1000
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: EROSION AND SEDIMENT CONTROL PLAN

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

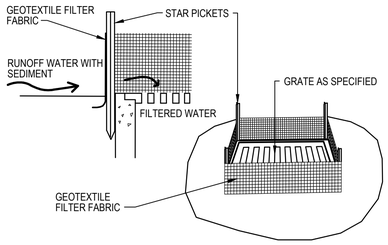
A1

Project - Drawing No.: 15-272-C7940

Issue: P5

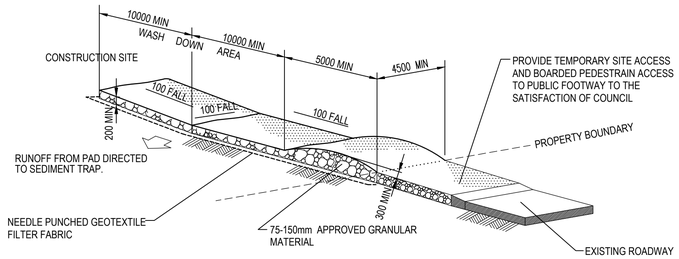
100mm on Original

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7940.dwg



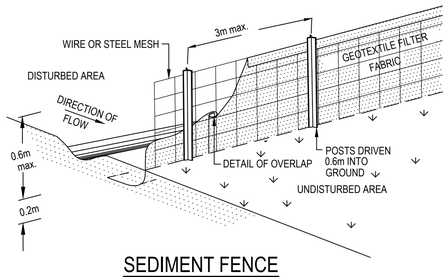
GEOTEXTILE FILTER PIT SURROUND

NTS



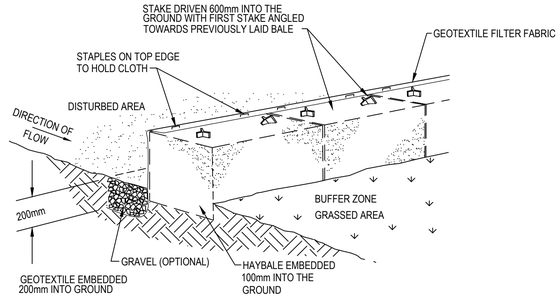
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

NTS



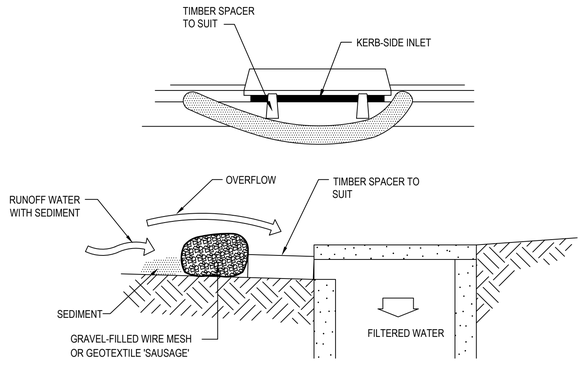
SEDIMENT FENCE

NTS



HAYBALE AND GEOTEXTILE SEDIMENT FILTER

NTS



MESH AND GRAVEL INLET FILTER

NTS

Issue	Description	Date
P5	FINAL FOR DA	18-01-23
P4	REISSUED FOR DA	22-12-22
P3	REISSUED FOR DRAFT	20-12-22
P2	ISSUED FOR DA	18-11-22
P1	ISSUED FOR DRAFT	11-11-22

Bar Scales

100mm on Original

Client

Goodman

Scales	1 : 1000
Grid	LOCAL
Height Datum	AHD
Drawn	KS
Designed	AC
Checked	SC
Approved	

Project

PROPOSED INDUSTRIAL DEVELOPMENT
OAKDALE WEST - LOT 4C & 4D

Title

EROSION AND SEDIMENT DETAILS

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

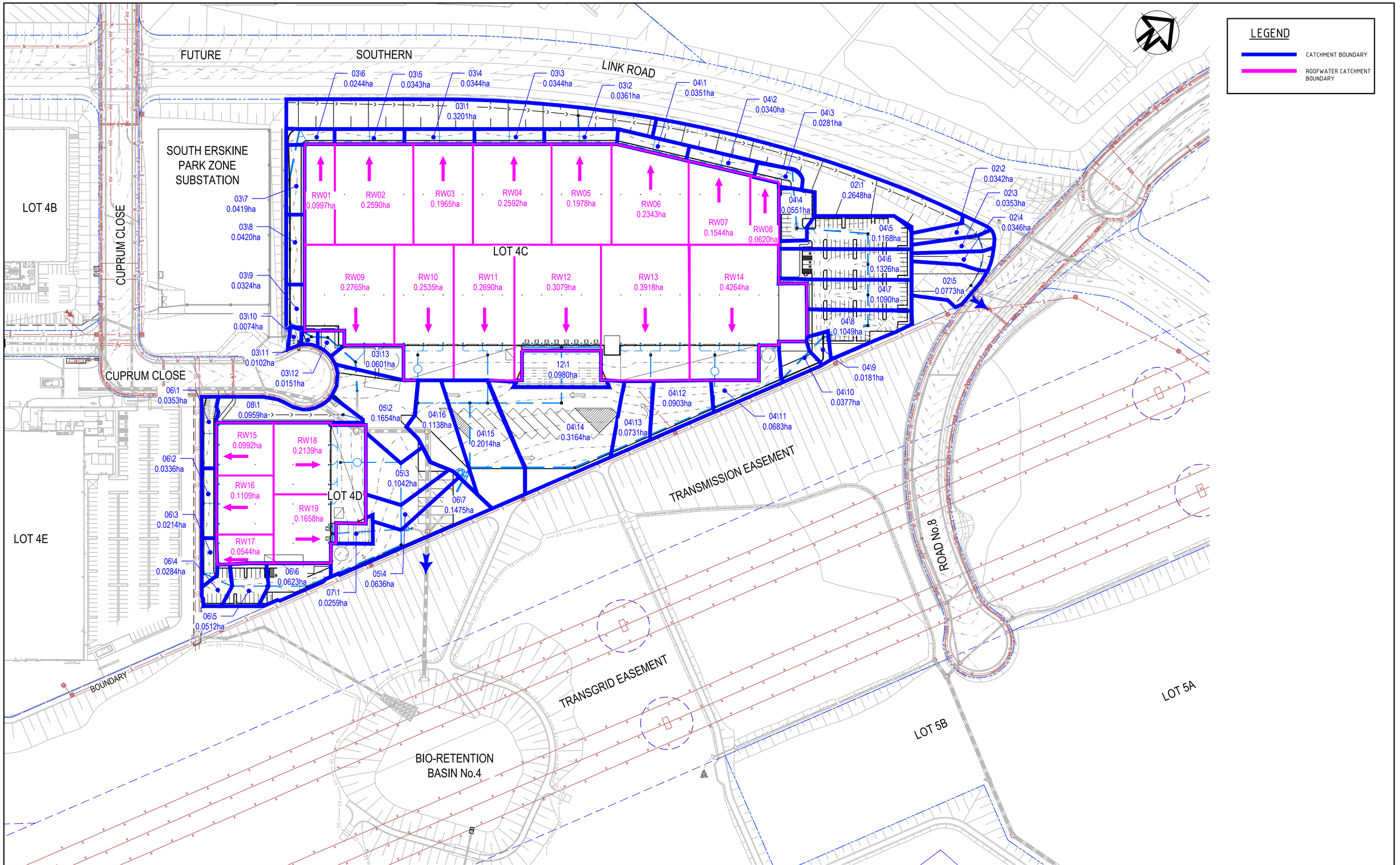
Project - Drawing No.: 15-272-C7941

Issue: P5

F:\15-272 Oakdale West\Drgs\Civil\Final\SSDA\7000_On-Lot Works Packages\7900 LOT 4C 4D\15-272-C7941.dwg

Appendix C

Lot 4C and 4D Stormwater Drainage Catchment Plan



Issue	Description	Date
P3	FINAL FOR DA	18-01-23
P2	REISSUED FOR DRAFT	22-12-22
P1	ISSUED FOR DRAFT	21-11-22

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

Client: Goodman

Scales		Drawn	KS
		Designed	AC
Grid	LOCAL	Checked	SC
Height Datum	AHD	Approved	

Project: PROPOSED INDUSTRIAL DEVELOPMENT OAKDALE WEST - LOT 4C & 4D

Title: STORMWATER DRAINAGE CATCHMENT PLAN

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 15-272-C7950

Issue: P3

100mm on Original

C:\12dsws\data\BYRNE-TMS\SEQ22075 - ATL_Oakdale West_1100\04 CADD\DWG\15-272-catchment plan.dwg