

Aspect Industrial Estate
Lot/Warehouse 9
SSD-46516461
Mamre Road, Kemps Creek
Civil Infrastructure Report

Mirvac

SEPTEMBER 2022

18-596

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1. Introduction

This Civil Infrastructure Report has been prepared by AT&L on behalf of Mirvac Projects Pty Ltd (Mircav) to inform a State Significant Development Application (SSD-46516461) for the development of Lot/Warehouse 9 within the Aspect Industrial Estate (AIE) at 788-882 Mamre Road, Kemps Creek.

Development consent for Stage 1 development of the AIE Site was approved in May 2022 under SSD-10448. The proposed development of Lot/Warehouse 9 is supported by the Modification 3 application to SSD-10448 (MOD3). The MOD3 application proposes amendments to the concept masterplan for the AIE Site to align with the proposed Lot/Warehouse 9 development. This report should be read in conjunction with the Civil Infrastructure Report prepared by AT&L to support the MOD3 application (dated August 2022).

1.1. Site Location

The location of proposed Lot/Warehouse 9 is presented in **Figure 1**. It is bound by Road 4 and future lot/warehouse 7/ to the north, the southern boundary of the AIE Site to the south, lot/warehouse 6 to the east and Mamre Road to the west. Lot/Warehouse 9 is approximately 11.3 hectares, with a combined proposed warehouse and office area of approximately 6.6 hectares.

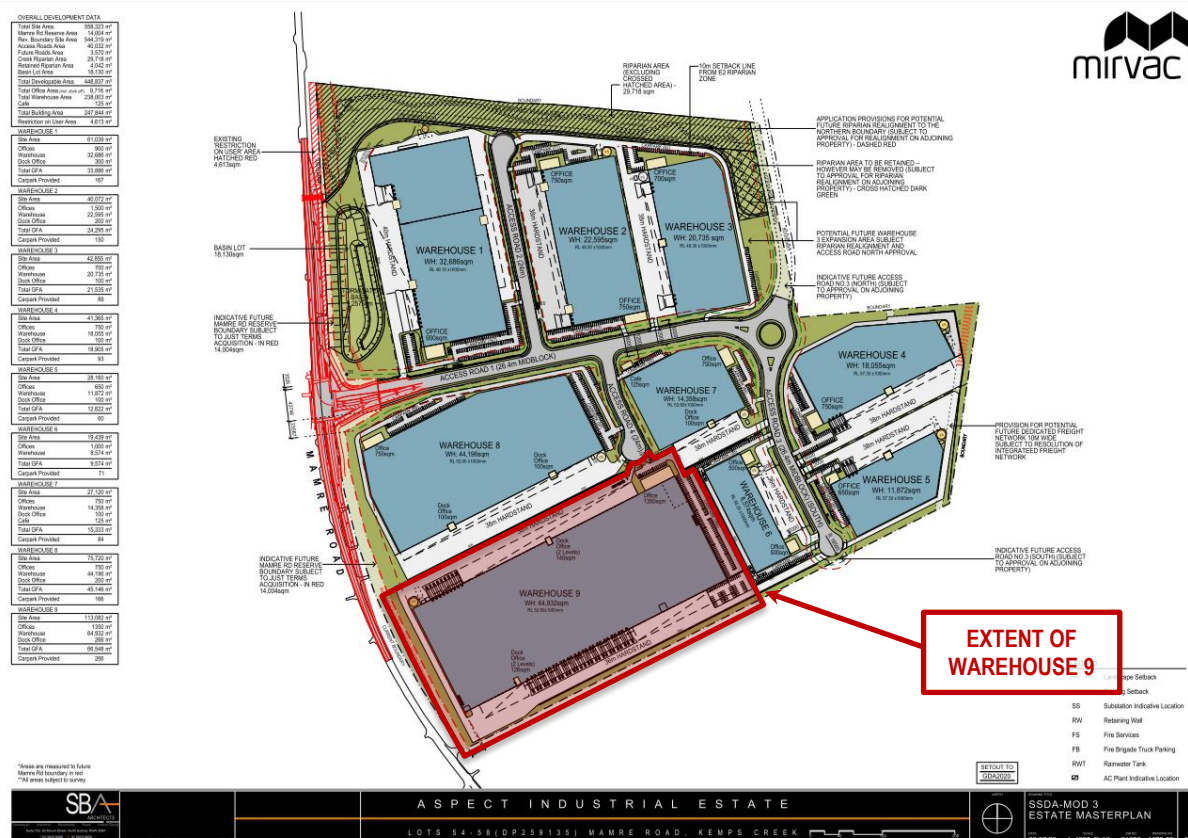


Figure 1: Lot/Warehouse 9 Locality Plan (prepared by SBA Architects, July 2022)

1.2. Scope of Work

The development of Lot/Warehouse 9 will comprise the construction of a warehouse or distribution centre. The main elements of the proposed development are as follows:

- A warehouse with a total gross floor area of 64,725 m², approximately 406 metres long and 160 metres wide. The maximum height of the warehouse building will be 15 metres.

- A 1350 m² main office.
- A 126 m² dock office on the northern side of the warehouse.
- A 126 m² dock office on the southern side of the warehouse.
- Loading dock and hardstand areas on the northern and southern sides of the warehouse.
- Internal access roads with access (entry only) from proposed Access Road 3 to the east and egress (exit only) to Access Road 4 to the north.
- Parking for up to 266 cars at the northern and eastern frontages with driveway access to and from Access Road 4.
- Landscaping adjacent to the boundaries of Warehouse 9 and within the carpark.

1.3. Scope of this Report

This report addresses the civil infrastructure and stormwater drainage design elements for the proposed development of Lot/Warehouse 9. Relevant conditions of consent that relate to future development applications for SSD-10448 and site-specific Secretary's Environmental Assessment Requirements (SEARs) for Lot/Warehouse 9 relating to warehouse and distribution centres have also been addressed in this report.

Specific civil and stormwater elements that are addressed in this report 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. SSD-10448 Conditions of Consent Relating to Future Development Works

The Concept Masterplan and Stage 1 works for the AIE Site was assessed and approved under SSD-10448. The approval of SSD-10448 includes conditions of consent for future development applications, which will apply to the proposed development of Lot/Warehouse 9.

Relevant conditions of consent that are addressed in this report are summarised in **Table 1**.

Table 1: Conditions of consent under SSD-10448 applicable to the proposed development of Warehouse 9

Condition	AT&L Response
Access <i>B3. Future developments on the site must meet the following requirements:</i> <i>(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of Australian Standards AS 1428.1 Design for Access and Mobility - General Requirements for Access - New Building Work, AS 2890.1, AS 2890.2 and AS 2890.6;</i> <i>(b) 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;</i> <i>(g) all vehicles enter and exit the site in a forward direction;</i> <i>(h) all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network; and</i>	Refer to Section 6 for details of internal roads, driveways and parking requirements. Refer to AT&L vehicle turn path plans for turn paths within the Estate Roads included as part of the MOD3 civil drawing set by AT&L (not included within this report). Refer to turn paths plans prepared by the traffic consultant showing manoeuvrability within Lot/Warehouse 9. Refer to Section 6.3 for details of proposed access and egress. Refer to Section 5.2 for details of construction phase erosion and sediment control measures.
Future Freight Network <i>B5. Future DAs must make appropriate provision for the freight network identified in the MRP DCP, including the alignment and width of the corridor and access to the network within the site, to the satisfaction of TfNSW.</i>	Refer to Section 7.4. The MOD3 Masterplan has made appropriate provision for the Future Freight Network. Lot/Warehouse 9 is not impacted by the Future Freight Network.

Condition	AT&L Response
Stormwater Management	
<i>B6. Future development on the site must achieve compliance with the Integrated Water Cycle Management (IWCM) controls in the MRP DCP in accordance with the Draft Technical Guidance for achieving Wianamatta South Creek Stormwater Management Targets (NSW Government, 2022). The Applicant must ensure sufficient land is reserved for stormwater management purposes, unless the Applicant provides evidence that an agreement is in place to demonstrate that the development is integrated into the regional stormwater system.</i>	Refer to Section 4. Further details of the Water Management Strategy for the AIE Site are outlined in the MOD3 Civil Infrastructure Report (dated August 2022). The proposed stormwater management measures for Lot/Warehouse 9 are consistent with the strategy documented in MOD3 for both Stage 1 and Ultimate development scenarios.
<i>B7. Future DAs must include an update to the Stormwater Management Strategy (SMS) required under Condition D29(e). The strategy must:</i> <i>(a) be 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;</i> <i>(b) consider the approved or as modified stormwater management system for preceding stages of the development, including compliance of this system with the IWCM controls of the MRP DCP (refer to Condition D29);</i> <i>(c) demonstrate the relevant stage can comply with the IWCM controls of the MRP DCP;</i> <i>(d) include an assessment of any impacts on salinity and sodic soils from the future development including any proposed WSUD infrastructure; and</i> <i>(e) detail what infrastructure may be required to connect to a precinct-wide stormwater management system for the relevant stage.</i>	Refer to Section 4. AT&L 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, AT&L can provide further details to confirm this requirement. The Water Management Strategy documented in AT&L's MOD3 Civil Infrastructure Report (dated August 2022) demonstrates that the Stage 1 requirements that include Lot/Warehouse 9 satisfy the stormwater quality, quantity and flow controls for the AIE Site. The Water Management Strategy documented in AT&L's MOD3 Civil Infrastructure Report (dated August 2022) demonstrates that the Stage 1 requirements that include Lot/Warehouse 9 satisfy the stormwater quality, quantity and flow controls for the AIE Site. Refer to Geotechnical report addressing salinity and sodic soils. Refer to Section 4.
Endeavour Energy	
<i>B17. The Applicant must obtain relevant approvals from Endeavour Energy, or relevant service provider, prior to the construction of any electricity utility works to service each stage of the development.</i>	Refer to Section 7.3.

Condition	AT&L Response
Sydney Water <i>B18. Before the commencement of operation of any future developments, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the Sydney Water Act 1994 (NSW).</i>	Refer to Section 7.2 .

2.2. Lot/Warehouse 9 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 16 August 2022. **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: Planning Secretary's Environmental Assessment Requirements addressed in this report

Key issue listed in the SEARs	Response
Soil and Water – including: – a detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements – demonstration that the approved stormwater management system for the Aspect Industrial Estate can accommodate the development, including compliance with the Integrated Water Cycle Management (IWCM) controls (section 2.4) of the Mamre Road Precinct Development Control Plan (DPIE, 2021); – details of the infrastructure required for the development to connect to a precinct-wide stormwater management system – an assessment of any impacts on salinity and sodic soils from the future development including any proposed Water Sensitive Urban Design infrastructure – a description of the proposed erosion and sediment controls during construction.	Refer to Section 4.6. The capacity of the proposed water management system across the AIE Site, including on-lot measures for Lot/Warehouse 9, is demonstrated in AT&L's MOD3 Civil Infrastructure Report (dated August 2022) Details of the proposed on-lot measures for Lot/Warehouse 9 are summarised in Section 4.5. Refer to Section 4, which outlines a summary of all stormwater infrastructure required to connect to the precinct-wide stormwater management system. Refer to Geotechnical Assessment for an assessment of salinity and sodic soils. Refer to Section 5.
Infrastructure – including: – details of infrastructure required on the site and identification of any upgrades required to facilitate the development – an assessment of impacts on the integrity and security of the TfNSW freight corridor reserve that may result from the development including consultation with TfNSW and response(s) to any issues raised during the consultation and the proposed measures to be taken to mitigate impacts	Refer to Section 8 for details of infrastructure requirements. Refer to Section 7.4.

Key issue listed in the SEARs	Response
– an assessment of the impacts of the development (construction and operation) on existing infrastructure surrounding the site.	Refer to Section 7 .

3. Bulk Earthworks and Retaining Walls

3.1. Pre-Development Geotechnical Conditions

As part of the SSD-10448 application, a geotechnical investigation was undertaken by Pells Sullivan and Meynick (PSM) and was summarised in their report dated 13 October 2020 (reference PSM3739-004L Rev6).

Based on the results of the geotechnical investigations, PSM prepared a document titled *Bulk Earthwork Specification, Filling, Cutting and Testing (with Blended Topsoil and Compacted Insitu "Topsoil"* (13 October 2020, reference PSM3739-006S Rev6). This Specification document forms the basis of bulk earthworks across the AIE Site, which was approved under SSD-10448.

3.2. Bulk Earthworks

Bulk earthworks within Lot/Warehouse 9 will be undertaken as part of estate-wide infrastructure works that have been approved under SSD-10448, which will require excavation to depths of up to 10 metres below natural ground level. This will result in construction of a benched pad to prepare Lot/Warehouse 9 for works proposed under SSD-46516461. The bulk earthworks under SSD-10448 require cut across the majority of Lot 9, with some fill in the north-western corner of the lot (refer to **Figure 2**).

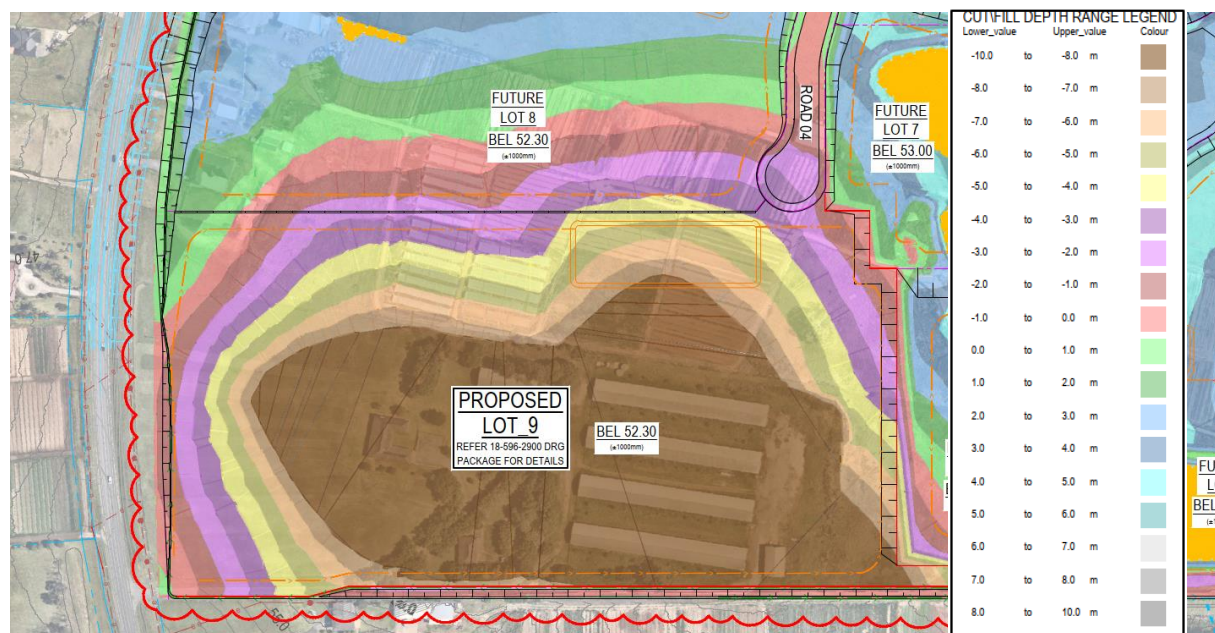


Figure 2: Cut / Fill Plan within Lot 9 for bulk earthworks proposed under SSD-10448 MOD3

The finished floor level (FFL) of the proposed warehouse and office buildings on Lot 9 has been set at RL 52.60, which is 300mm higher than the bulk earthworks level documented in SSD-10448, nominally being RL 52.30. It shall be noted that all proposed levels, both bulk and final, include a tolerance of +/- 1000mm as shown on the AT&L 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 Lot/Warehouse 9 works show a net cut of 3,726m³, a net fill of 20,028 and therefore a net import of 16,302 m³, which will likely be used up in large by spoil generated by the development itself through footings, stormwater excavation, rainwater/stormwater reuse tanks, services, inground services and the like. Refer to the AT&L drawing number C2960, as located within Appendix A.

In calculating the additional earthworks that will be required for Lot/Warehouse 9, the following assumptions have been made:

- Bulk earthworks levels are set down 300mm below FFL

- All state-wide bulk earthworks within Lot 9 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

3.3. Retaining Walls

No retaining walls are proposed as part of the Lot/Warehouse 9 works. Retaining walls are to be constructed under SSD-10448 between Lot/Warehouse 9 and Lots 6 and 7 to the east of Lot 9. Refer to AT&Ls MOD3 civil drawings for further details of these drawings.

4. Water Management

4.1. Existing Site Drainage

For the purpose of this report, it is assumed that the Stage 1 works approved under SSD-10448, and as modified per MOD3 would be completed. This would include:

- Bulk earthworks across the AIE Site.
- Access Roads, specifically Access Roads 1 and 4, including utility services and stormwater drainage within these roads.
- Estate-wide bio-retention basin at Mamre Road / Access Road 1

Refer to drawing C1046 associated with the AIE Stage 1 Modification No. 3 works within Appendix B for a post-development stormwater catchment plan indicating the location of the estate-wide bio-retention basin and catchments provided in the Stage 1 infrastructure works.

4.2. Proposed Site Stormwater Drainage

Lot/Warehouse 9 is part of the catchment that will ultimately discharge to the estate-wide detention basin that will be constructed under SSD-10448. For additional details on the estate bio-retention basin, refer to AT&L's MOD3 Civil Infrastructure Report (dated August 2022).

There will be a single point of discharge from Lot/Warehouse 9 to the proposed estate drainage network in Access Road 4, located at the north-eastern corner of Lot/Warehouse 9.

The northeast discharge point is proposed to be pre-treated by a GPT constructed as part of the Lot/Warehouse 9 works prior to discharge into the Access Road 4.

Refer to AT&L's MOD 3 civil report for more information regarding the bio-retention basin and Stage 1 works, including the overall stormwater management strategy addressing the requirements of the MRP DCP.

The proposed stormwater drainage system within Lot/Warehouse 9 is presented on drawings 18-596-C2940 to C2945 inclusive.

4.3. Design Criteria

The proposed stormwater drainage within Lot/Warehouse 9 has been designed to comply with the following standards and guidelines:

- *AS 3500.3 – Plumbing and drainage – Stormwater drainage*
- Commonwealth of Australia (Geoscience Australia), *Australian Rainfall and Runoff: A guide to flood estimation*, 2019
- *Mamre Road Precinct Development Control Plan 2021*
- Western Sydney Planning Partnership, *Western Sydney Engineering Design Manual*, December 2020

Specific design, construction and operational requirements that apply to the proposed stormwater drainage on Lot/Warehouse 9 are as follows:

- Finished Floor Levels (FFLs) of the proposed warehouse and office buildings on Lot/Warehouse 9 will have a minimum 500mm freeboard to the peak 1% AEP flood levels within the lot. Lot/Warehouse 9 will not be subject to mainstream or overland flow flooding up to and including the 1% AEP. Peak 1% AEP flood levels will be governed by the capacity of major and minor system drainage within Lot/Warehouse 9.
- All stormwater drainage within Lot/Warehouse 9, including pit and pipe drainage and the proposed GPT(s), will be owned and operated by the Proponent.

4.4. Major and Minor System Drainage

4.4.1. General Design

DRAINS modelling software has been used to undertake a hydrologic and hydraulic analysis of the proposed stormwater drainage within Lot 9. DRAINS is a software package used to design and analyse urban stormwater drainage systems and catchments. It is widely accepted across NSW as the basis for stormwater design and has been confirmed by Penrith City Council as the preferred stormwater design and analysis package.

4.4.2. Catchments

Delineation of catchments within the Lot/Warehouse 9 site is based on the proposed grading of the hardstand and carpark pavements, as well as concept building hydraulic design (roof gutters and downpipe locations), which will be subject to some refinement at the detailed design phase.

4.4.3. Hydrology and Hydraulics

The following design criteria have been adopted in the development of the hydrological and hydraulic analysis of the proposed stormwater drainage system that will service Lot/Warehouse 9:

- Minor system (pit and pipe) drainage has been designed to accommodate the 5% AEP storm event.
- The combined pit and pipe drainage and overland flow paths have been 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 flowpath capable of carrying the total 1% AEP storm event has been provided. Alternatively, the pipe and inlet system has been upgraded to accommodate the 1% AEP storm event.
- Rainfall intensities have been adopted using the Bureau of Meteorology Design Rainfall Data System (2016).
- Times of concentration for each sub catchment have been determined using the kinematic wave equation.
- The width of flow in the gutter does not exceed 2.5 metres and pits are spaced no further than 75 metres apart.
- Velocity x depth product shall not exceed $0.4 \text{ m}^2/\text{s}$ for all storms up to and including the 1% AEP event.
- Bypass from any pit on grade shall not exceed 15% of the total flow at the pit.
- Blockage factors of 20% and 50% shall be adopted for on-grade and sag pits respectively.
- A hydraulic grade line HGL design method shall be adopted for all road pipe drainage design.
- A desirable minimum grade of 1% for all pipelines is preferred for self-cleansing under low flow velocities.
- An absolute minimum grade of 0.5% has been adopted.
- The minimum cover over pipes shall be 450mm in grassed areas and 600mm under hardstand and carpark areas.
- Where minimum cover cannot be achieved due to physical constraints the pipe class shall be suitably increased.
- All pipes in trafficable areas will be Reinforced Concrete Pipes (RCP) or Fibre Reinforced Concrete (FRC) equivalent.
- Pit Loss coefficients have been calculated in accordance with the Hare Charts as documented in the Queensland Urban Drainage Manual.
- A minimum 150mm freeboard has been maintained between pit HGL and pit surface levels for the minor design storm event (5% AEP).
- Minimum freeboard of 500mm above the 1% AEP peak water level has been adopted.

4.4.4. Overland Flow

Overland flow within the hardstand and carpark areas have been designed to accommodate peak flows up to the 1% AEP.

4.5. On-lot water management measures

Stormwater quality and flow management measures have been incorporated into the estate-wide infrastructure works approved under SSD-10448. These measures have been designed to satisfy the stormwater quality and flow controls outlined in the Mamre Road Precinct DCP for the AIE Site, including Lot/Warehouse 9.

On-lot measures that will be constructed as part of the Lot/Warehouse 9 development will be limited to:

- Rainwater tank (or tanks) with a total capacity of 200 kL to capture roof runoff for non-potable reuse at Lot/Warehouse 9 (limited to toilet flushing and landscape irrigation). Rainwater tanks may be co-located within the stormwater reuse tank(s) discussed below and will be determined during detailed design.
- Stormwater reuse tank (or tanks) with a total capacity of 3.85 ML for capture and storage of runoff from roof and hardstand areas for evaporative roof irrigation across up to 40% of the warehouse roof area. As noted above, it is noted the rainwater tank volume requirement could be amalgamated with the stormwater reuse volume, pending further evaluation at the detailed design phase.
- Gross pollutant traps (GPTs) at the points of discharge from the internal stormwater drainage network to the stormwater reuse tank.

The proposed on-lot measures described above and presented on drawings 18-596-C2940 to C2945 inclusive are consistent with the measures incorporated into the Water Management Strategy outlined in the MOD3 Civil Infrastructure Report (AT&L, August 2022). As documented in the MOD3 Civil Infrastructure Report, the Water Management Strategy has been developed such that the stormwater quality and flow targets adopted in the *Mamre Road Precinct DCP* will be satisfied for both the modified Stage 1 (including development of Lot 9) and the Concept Masterplan (ultimate development of the AIE Site).

4.6. Water Demands and Sources

Water demands that will be generated by the proposed development of Lot/Warehouse 9 will include:

- Internal potable water (e.g., employee amenities, kitchen and showers)
- Internal non-potable water (e.g., toilet and urinal flushing)
- External non-potable water (e.g., landscape irrigation, evaporative roof irrigation)
- Fire management services (e.g., sprinklers, hydrants)

The AIE Site will be serviced by reticulated potable and recycled water. The provision of these services will form part of the infrastructure works approved under SSD-10448.

5. Construction Phase Erosion and Sediment Control

An Erosion and Sediment Control Plan (ESCP) will be prepared for the construction of Lot/Warehouse 9 in accordance with the following guidelines:

- Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book (Landcom, 2004)
- Draft Technical Guidance for achieving Wianamatta South Creek Stormwater Management Targets (NSW Government, 2022)
- Mamre Road Development Control Plan (NSW Government, 2021)

The ESCP will be prepared prior to construction of Lot/Warehouse 9.

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.

5.1. 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:

- *Engineering Construction Specification for Civil Works* (Penrith City Council, 2017)
- *Managing Urban Stormwater: Soils and Construction* (4th edition), Landcom, 2004
- *Mamre Road Development Control Plan* (NSW Government, 2021)

A temporary on-lot sediment basin and perimeter swale drains will be provided within the Stage 1 works associated with SSDA-10448. 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 Lot/Warehouse 9 is completed are presented on drawing 18-596-C2970, and will include:

- Stabilised site access and wheel wash at the exit point to Access Road 4.
- 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.

5.2. 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

6. Internal Roads, Driveways and Parking

6.1. Compliance with Australian Standards

The design of all internal roads, driveways and parking (including grading, swept paths, sight distance requirements, aisle widths and parking bay dimensions) has been undertaken in accordance with the latest version of the following standards:

- *AS 1428.1 – Design for access and mobility, Part 1: General requirements for access*
- *AS 2890.1 – Parking facilities, Part 1: Off-street car parking*
- *AS 2890.2 – Parking facilities, Part 2: Off-street commercial vehicle facilities*
- *AS 2890.6 – Parking facilities, Part 6: Off-street parking for people with disabilities*

6.2. 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 18-596-C2950.

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 18-596-C2950.

6.3. Driveways and vehicle crossings

Three driveways and vehicle crossings will be constructed as access points to Lot/Warehouse 9:

- Light vehicle crossing off Access Road 4 for access to the proposed carpark (care entry and exit).
- Heavy vehicle crossing off Access Road 4 for vehicles accessing the proposed warehouse (exit only)
- Heavy vehicle crossing off Access Road 3 for vehicles accessing the proposed warehouse (entry only)

Driveway and layback locations have been located to ensure a minimum 1 metre clearance between the outside of the layback and light poles or stormwater pits.

All driveways and laybacks will be constructed in accordance with the Penrith City Council Civil Works Specification.

7. External Infrastructure and Utility Services

7.1. Utility Services

Lead-in utility services required to service Lot/Warehouse 9 will be installed as part of the estate-wide infrastructure works approved under SSD-10448. This will include:

- Potable water
- Recycled water
- Sewerage (connected to an Interim Operating Procedure prior to ultimate connection to the Upper South Creek Advanced Water Recycling Centre)
- Electrical and street lighting
- Telecommunications (NBN)

Details of the lead-in infrastructure works that will service the AIE Site are presented in AT&L's MOD3 Civil Infrastructure Report (dated August 2022).

7.2. Sydney Water Section 73

The completion of potable water, recycled water and sewerage infrastructure approved under SSD-10448 will be sufficient to enable Sydney Water to issue a Section 73 compliance certificate. A Section 73 certificate will need to be obtained for Lot/Warehouse 9 prior to occupation of the Lot/Warehouse 9.

7.3. Endeavour Energy Assets

In accordance with Condition B17 of the approval for SSD-10448, the Proponent must obtain relevant approvals from Endeavour Energy, or relevant service provider, prior to the construction of any electricity utility works to service each stage of the development.

It is understood that approvals have been obtained or are being sought from Endeavour Energy under SSD-10448 for electrical utility works to be constructed to service AIE. Further subsequent approvals from Endeavour Energy may be needed for specific electrical utility infrastructure for Lot/Warehouse 9.

7.4. Future Dedicated Freight Network

The proposed Concept Masterplan that accompanies the MOD3 application includes provision for the future Dedicated Freight Network adjacent to the eastern boundary of the AIE Site. Connectivity between the future freight corridor and the estate roads within the AIE Site will be subject to further design development between Mirvac and TfNSW.

It shall be noted that the future Dedicated Freight Network, while located in part with the AIE site, the future Dedicated Freight Network is not located within Lot/Warehouse 9. Rather, the future Dedicated Freight Network is located along the eastern boundary of Lots 4 and 5 as shown in below in Figure 3.



All construction works are to be carried out in accordance with the NSW WorkCover Work near Overhead Powerlines Code of Practice 2006.

APPENDIX A – CIVIL DRAWINGS

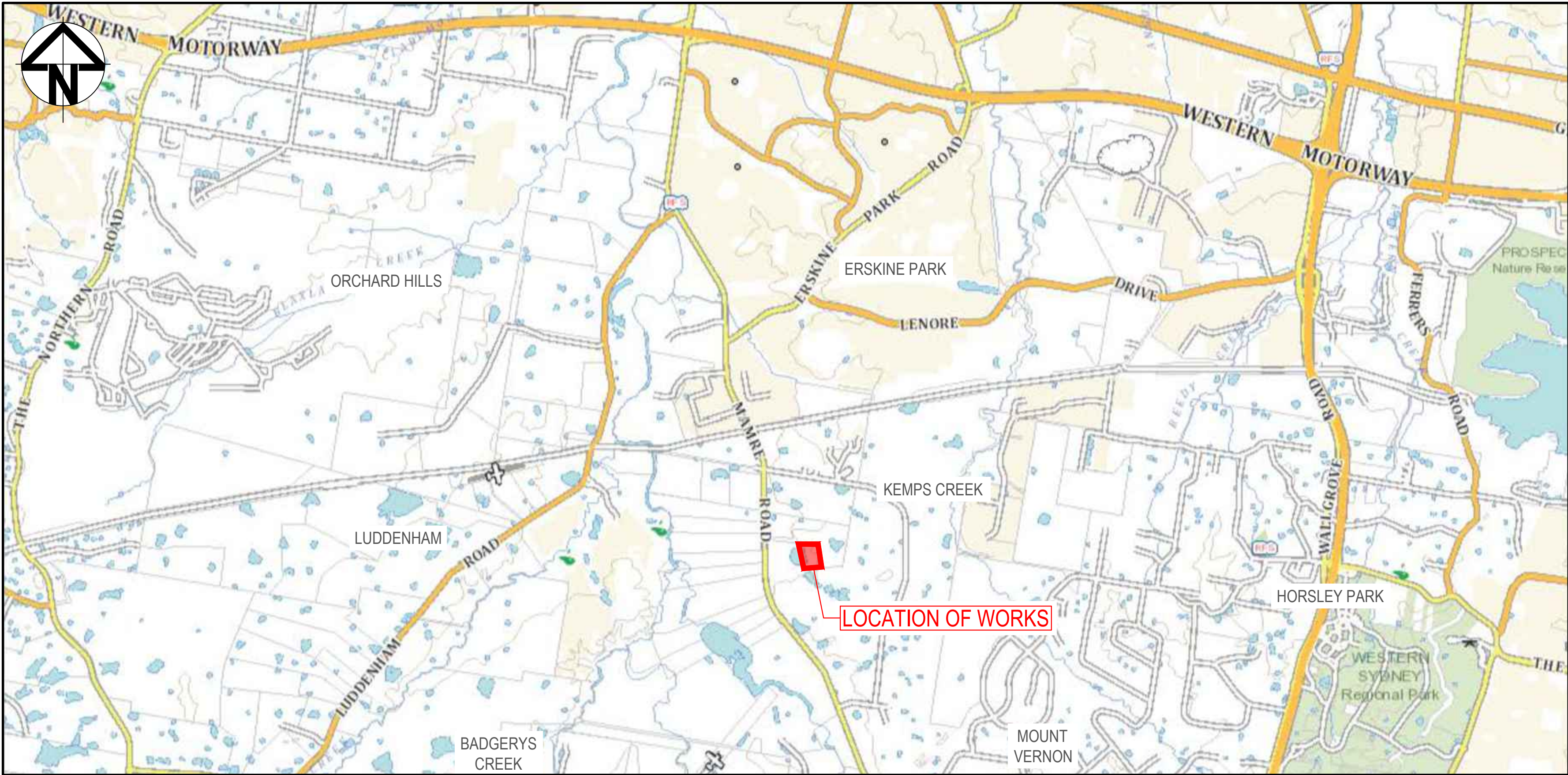
ASPECT INDUSTRIAL ESTATE

LOT 9 CIVIL WORKS PACKAGE

STATE SIGNIFICANT DEVELOPMENT

STAGE 2 APPLICATION

DRAWING LIST	
DRAWING No.	DRAWING TITLE
18-596-C2900	COVER SHEET LOCALITY PLAN AND DRAWING LIST
18-596-C2902	GENERAL NOTES AND LEGENDS
18-596-C2903	GENERAL ARRANGMENT PLAN
18-596-C2910	TYPICAL SECTIONS SHEET 1
18-596-C2911	TYPICAL SECTIONS SHEET 2
18-596-C2940	SITEWORKS AND STORMWATER DRAINAGE SHEET 1
18-596-C2941	SITEWORKS AND STORMWATER DRAINAGE SHEET 2
18-596-C2942	SITEWORKS AND STORMWATER DRAINAGE SHEET 3
18-596-C2943	SITEWORKS AND STORMWATER DRAINAGE SHEET 4
18-596-C2944	SITEWORKS AND STORMWATER DRAINAGE SHEET 5
18-596-C2945	SITEWORKS AND STORMWATER DRAINAGE SHEET 6
18-596-C2950	PAVEMENT PLAN
18-596-C2960	BULK EARTHWORKS CUT/FILL PLAN
18-596-C2970	EROSION AND SEDIMENT CONTROL PLAN
18-596-C2971	EROSION AND SEDIMENT CONTROL DETAILS



LOCALITY PLAN
NOT TO SCALE

		Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales NTS	Drawn	KR	Project ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9	Civil Engineers and Project Managers  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						
						Designed	KR								
						Checked	DS								
						Approved									
E	ISSUED FOR DEVELOPMENT APPLICATION				19-08-22			Grid MGA		Height Datum	AHD	Approved	Title COVER SHEET LOCALITY PLAN AND DRAWING LIST	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
D	ISSUED FOR DEVELOPMENT APPLICATION				28-06-22										
C	ISSUED FOR DEVELOPMENT APPLICATION				28-04-22										
B	ISSUED FOR DEVELOPMENT APPLICATION				14-04-22										
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22							Project - Drawing No. 18-596-C2900	Issue E					
Issue	Description	Date													

1. ORIGINAL 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 PIPE 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 3051 (BOUND) AND COMPLY WITH R.M.S FORM 3051.1 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 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 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 & 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.
13. ALL WORKS CARRIED OUT ADJACENT TO AND WITHIN TRANSGRID'S EASEMENT TO COMPLY WITH TRANSGRID'S GUIDELINES AND REQUIREMENTS.
14. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL'S ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS

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 MUST 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.

PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR IS TO CONFIRM THE ALIGNMENT AND LEVELS OF ALL EXISTING SERVICES AT ALL LOCATIONS WHERE THE PROPOSED SERVICES ARE TO CROSS, CONNECT TO, OR ARE LOCATED IN CLOSE PROXIMITY TO THE EXISTING SERVICES.

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.

- 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 FIBRE 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 REFERENCE NUMBER FOR FABRIC TO AS 1304.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO HARD & FORESTER PTY LTD AND LAND PARTNERS 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. PRIOR TO THE COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL UNDERTAKE A DETAILED BOUNDARY SURVEY AND COMPARE AGAINST THE DESIGN FOR DISCREPANCIES. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA, DESIGN DATA AND ACTUAL FIELD DATA, CONTACT AT & L IMMEDIATELY.

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

THE TITLE BOUNDARIES SHOWN HEREON WERE NOT MARKED AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSIONS ONLY AND NOT BY FIELD SURVEY.

SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY. IF NOT ABLE TO BE SO LOCATED, SERVICES HAVE BEEN PLOTTED FROM THE RECORDS OF RELEVANT AUTHORITIES WHERE AVAILABLE AND HAVE BEEN NOTED ACCORDINGLY ON THE PLAN. WHERE SUCH RECORDS DO NOT EXIST OR ARE INADEQUATE A NOTATION HAS BEEN MADE HEREON.

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.

1. IF REQUIRED ANY DEWATERING WORKS TO BE AS PER THE DEWATERING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa N.O IN REINFORCED CONCRETE NOTES.

11. 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).

EXPANSION JOINTS (E.J.) TO BE FORMED FROM 10cm COMPRESSIBLE CORP FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITTS, ON TANGENT PORTIONS 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.

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.

BROOM FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.

IN THE REPLACEMENT OF KERB AND GUTTER :-
IF REQUIRED EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N 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.

STORMWATER DESIGN CRITERIA:

(A) AVERAGE REQUIREMENT 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: $C = 100$ $\therefore I = 0$
EXTERNAL PAVEMENTS: $C = 100$ $\therefore I = 0$

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 '3' U.N.O.

3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS.

4. EQUIVALENT STRENGTH VCP OR FRP CPES MAY BE USED, SUBJECT TO THE APPROVAL OF PENRITH CITY COUNCIL.

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 H2 SUPPORT IN ACCORDANCE WITH AS 3725 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 3600 3.1 (1998) AND AS/NZS 3600 3.2 (1998).

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, UNLOTTED 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 AND PENRITH CITY COUNCIL CONSTRUCTION SPECIFICATIONS.

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. ALL STORMWATER PITS ARE TO BE CAST IN-SITU IN ACCORDANCE WITH THE STORMWATER DETAILS AND SPECIFICATIONS, UNLESS APPROVED BY THE SUPERINTENDENT/ PENRITH CITY COUNCIL. IF APPROVED AND IN ADDITION TO THE SPECIFICATION:

A. ALL PRE-CAST PITS ARE TO BE STRUCTURALLY CERTIFIED TO MEET RELEVANT AUSTRALIAN STANDARDS (AS3600, AS3996).

B. ALL PRECAST PITS TO BE FOUND ON CONCRETE BLINDING LAYER WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 100KPA UP TO 3.0M DEPTH TO INVERT AND 150KPA FROM 3.0M TO 6.0M DEPTH TO INVERT (MINIMUM 100MM THICK 25MPA OR DEEPER TO ENSURE MINIMUM SPECIFIED BEARING CAPACITY IS ACHIEVED).

C. PRE-CAST STORMWATER PITS ARE TO BE CUSTOM MADE WITH OPENINGS WITHIN +50MM OD OF PIPE. HEIGHTS AND PIPE PENETRATIONS DURING MANUFACTURE. ANY ADDITIONAL PENETRATIONS SHALL BE CORE DRILLED.

D. DEMOLITION SAWS ARE NOT TO BE USED IN ANY CIRCUMSTANCES.

E. SINGLE UNITS PREFERRED BUT IF REQUIRED MINIMUM RISER DEPTH 600MM PIT INSTALLATION AND JOINTING PIPES TO PITS SHALL BE UNDERTAKEN IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

F. ANY DAMAGE TO THE STRUCTURAL INTEGRITY OF THE PRE-CAST PIT WILL BE REPAIRED AND STRUCTURALLY CERTIFIED TO THE SATISFACTION OF THE SUPERINTENDENT / PENRITH CITY COUNCIL.

G. ALL PRE-CAST PIT PENETRATIONS SHALL BE CUT SO THAT IT IS FLUSH WITH THE INTERNAL WALL.

H. PIPE JOINTING/SEALING OF PIPE PENETRATION TO BE WITH A NON-SHRINK MORTAR MIX, E.G. LANKO 702 DURABED OR SIMILAR APPROVED.

1. THE CONTRACTOR IS RESPONSIBLE FOR ENGAGING A SUITABLY QUALIFIED EROSION AND SEDIMENT CONSULTANT FOR THE DURATION OF THE CONTRACT WITH THE EXPERTISE IN DESIGNING AND DOCUMENTING THE CONTROLS TO ALLOW THE INSTALLATION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROLS. SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR REQUIRED TO SUIT THE CONSTRUCTION STAGING
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
 - a. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
 - b. LOCAL AUTHORITY REQUIREMENTS
 - c. EPA REQUIREMENTS
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.

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN / INSTALLED AS DIRECTED BY THE CONTRACTORS EROSION AND SEDIMENT CONTROL CONSULTANT.

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.

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. DURING 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.

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.

SUBTLE EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT ALL STAGES OF WORKS, THROUGHOUT THE FULL TERM OF THE CONTRACT, WHERE SHOWN ON AT&L DRAWINGS OR WHERE DIRECTED BY THE SUPERINTENDENT OR PENRITH CITY COUNCIL'S ENGINEERS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, DOCUMENTING, INSTALLING AND MAINTAINING THE SEDIMENT AND EROSION CONTROLS REQUIRED TO SUIT THE SELECTED CONSTRUCTION STAGING. THIS IS TO BE DOCUMENTED IN THE FORM OF A SOIL AND WATER MANAGEMENT PLAN TO BE DEVELOPED BY THE CONTRACTOR AND THEIR EROSION NO SEDIMENT CONSULTANT AND PROVIDED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCEMENT.

SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT, PENRITH CITY COUNCIL'S SPECIFICATIONS AND THE OFFICE OF ENVIRONMENT AND HERITAGE'S 'MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION. LANDCOM, (4TH EDITION) MARCH 2004 (REPRINTED 2006) (THE "BLUE BOOK"). VOLUME 1 AND VOLUME 2.

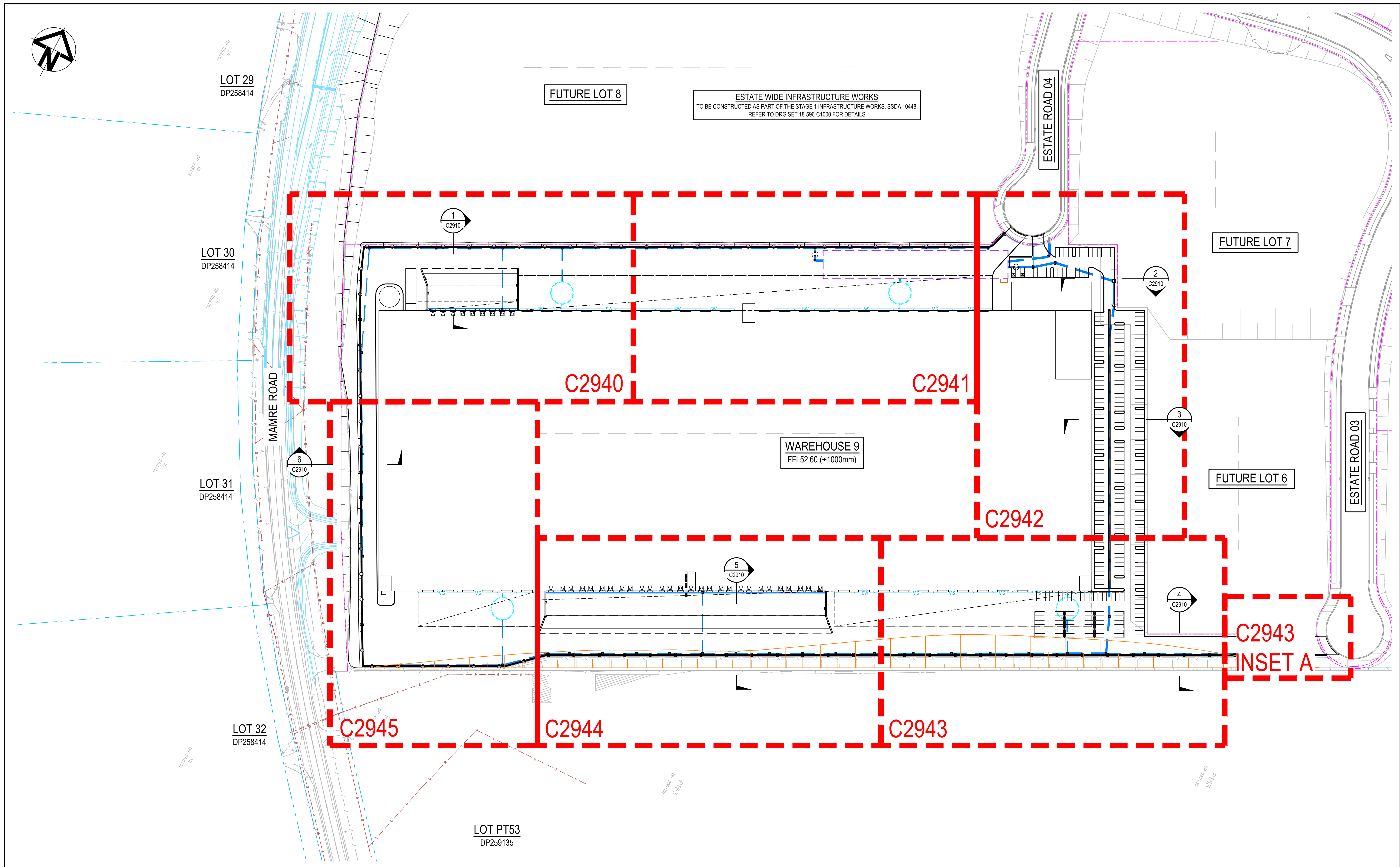
1. ALL FINISHED SURFACE LEVELS ARE $\pm 1000\text{mm}$ U.N.O.

	EXISTING BOUNDARY
	PROPOSED BOUNDARY
	PROPOSED RETAINING WALL
	PROPOSED CONTOUR
	PROPOSED FENCE
	PROPOSED BATTERY
	TEMPORARY BATTERY 1(V)/4(H)
	PERMANENT BATTERY 1(V)/5(H)
	U.N.O
	PROPOSED KERB EDGING TO PCC SPECIFICATION
	PROPOSED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
	PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
	PROPOSED INTEGRAL KERB AND GUTTER TO PCC SPECIFICATION
	PROPOSED 900mm WIDE DISH DRAIN TO PCC SPECIFICATION
	PROPOSED SAFETY BARRIER
	DRIVEWAY CROSSOVER CONSTRUCTED AS PART OF INFRASTRUCTURE
	PROPOSED KERB RAMP
	PROPOSED CATCH DRAIN
	PROPOSED STORMWATER JUNCTION PIT
	PROPOSED STORMWATER JUNCTION PIT
	PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
	PROPOSED STORMWATER LINE
	PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
	PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
	STORMWATER OVERLAND FLOWPATH

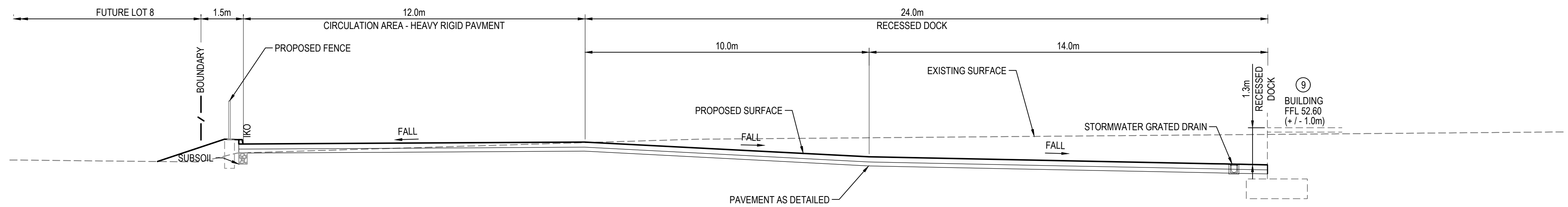
NOTES:

1. ALL LEVELS SHOWN ARE $\pm 1000\text{mm}$
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. VEHICLE TURNING PATHS TO BE CONFIRMED DURING DETAILED DESIGN.

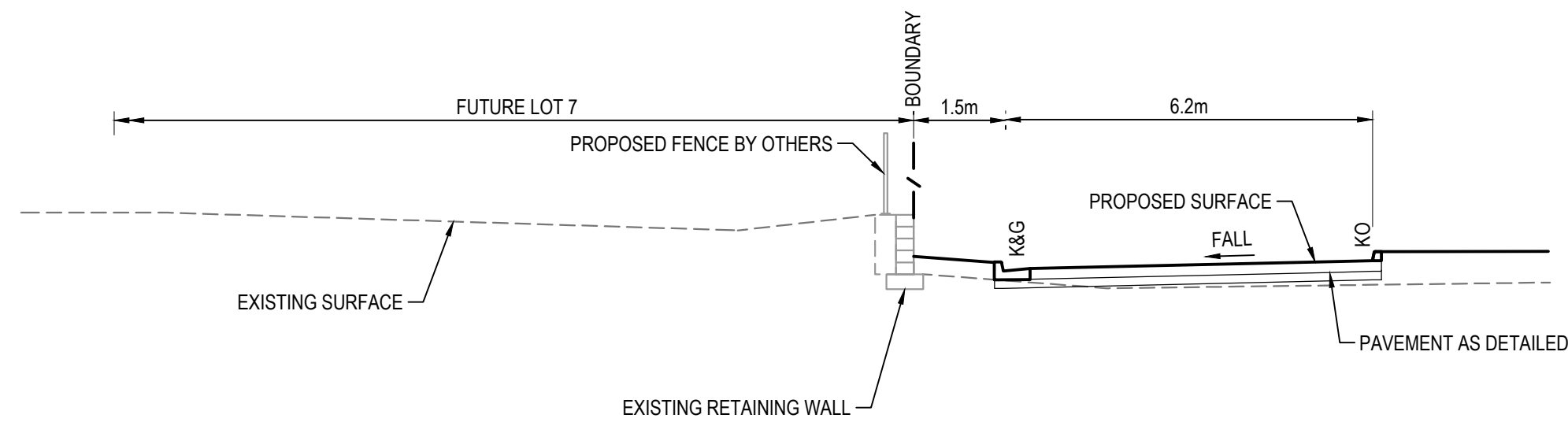
			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	<table><tr><td rowspan="2">Scales</td><td rowspan="2">NTS</td><td>Drawn</td><td>KR</td></tr><tr><td>Designed</td><td>KR</td></tr><tr><td>Grid</td><td>MGA</td><td>Checked</td><td>DS</td></tr><tr><td>Height Datum</td><td>AHD</td><td>Approved</td><td></td></tr></table>	Scales	NTS	Drawn	KR	Designed	KR	Grid	MGA	Checked	DS	Height Datum	AHD	Approved		<table><tr><td rowspan="2">Project</td><td rowspan="2">ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9</td></tr><tr><td></td></tr></table>	Project	ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9		Civil Engineers and Project Managers  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
Scales	NTS	Drawn				KR																			
		Designed				KR																			
Grid	MGA	Checked				DS																			
Height Datum	AHD	Approved																							
Project	ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9																								
E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22							Title GENERAL NOTES AND LEGENDS	<table><tr><td>Status</td><td>FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</td><td>A1</td></tr><tr><td>Project - Drawing No.</td><td>18-596-C2902</td><td>Issue E</td></tr></table>	Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1	Project - Drawing No.	18-596-C2902	Issue E									
Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1																							
Project - Drawing No.	18-596-C2902	Issue E																							
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22																							
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22																							
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22																							
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22																							
Issue	Description	Date																							



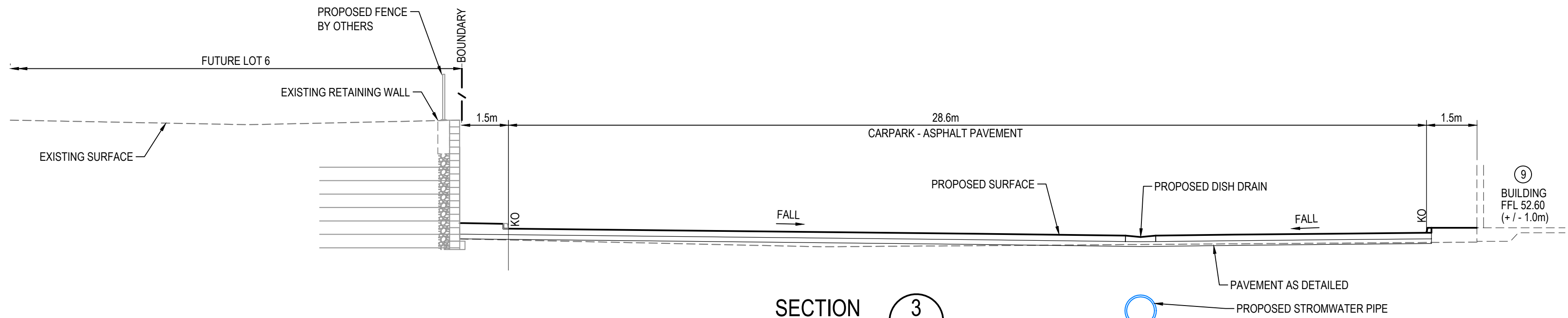
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							1:1000		Designed			KR			Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9923 1055 www.atl.net.au info@atl.net.au				
							Grid MGA		Checked			DS							
							Height Datum AHD		Approved										
									Title GENERAL ARRANGMENT PLAN			Status					FOR APPROVAL		A1
												Project - Drawing No.		NOT TO BE USED FOR CONSTRUCTION		Issue			
												18-596-C2903				E			
E	ISSUED FOR DEVELOPMENT APPLICATION		19-08-22				 1 : 1000 @ A1 1 : 2000 @ A3												
D	ISSUED FOR DEVELOPMENT APPLICATION		28-06-22																
C	ISSUED FOR DEVELOPMENT APPLICATION		28-04-22																
B	ISSUED FOR DEVELOPMENT APPLICATION		14-04-22																
A	ISSUED FOR DEVELOPMENT APPLICATION		28-03-22																
Issue	Description		Date																



SECTION 1
1:100

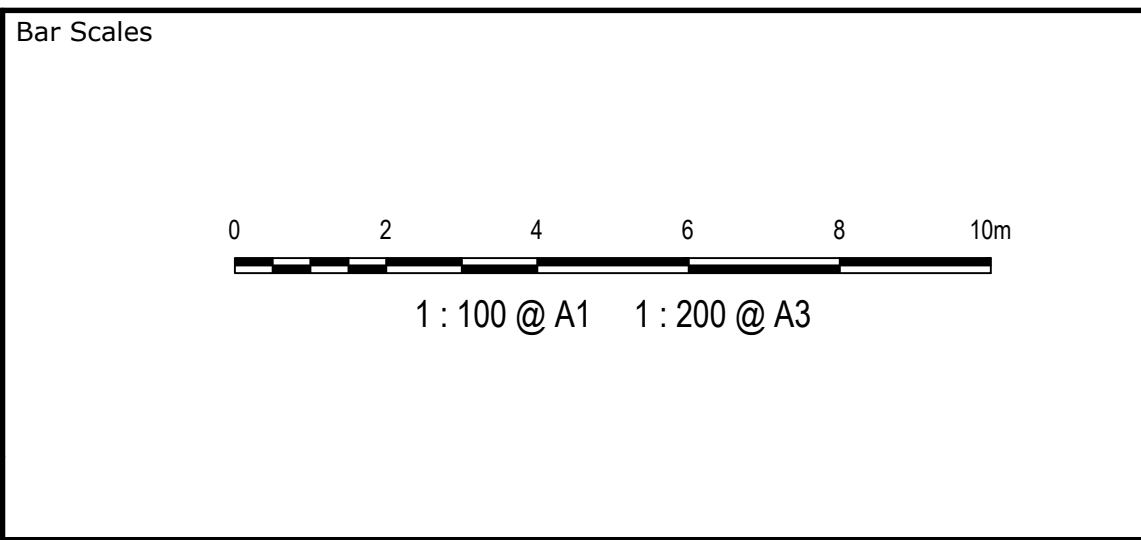


SECTION 2
1:100



SECTION 3
1:100

Issue	Description	Date
E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22



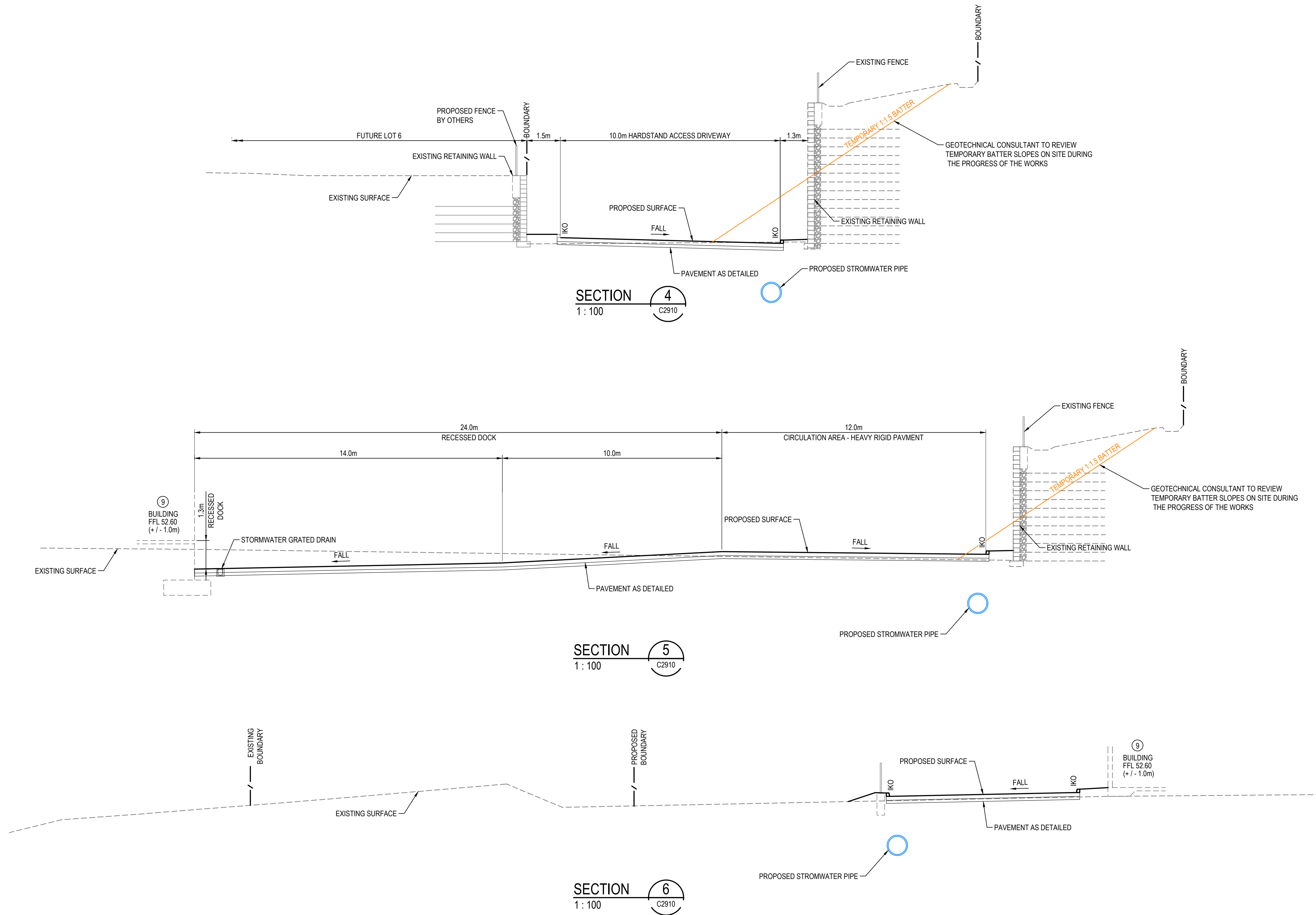
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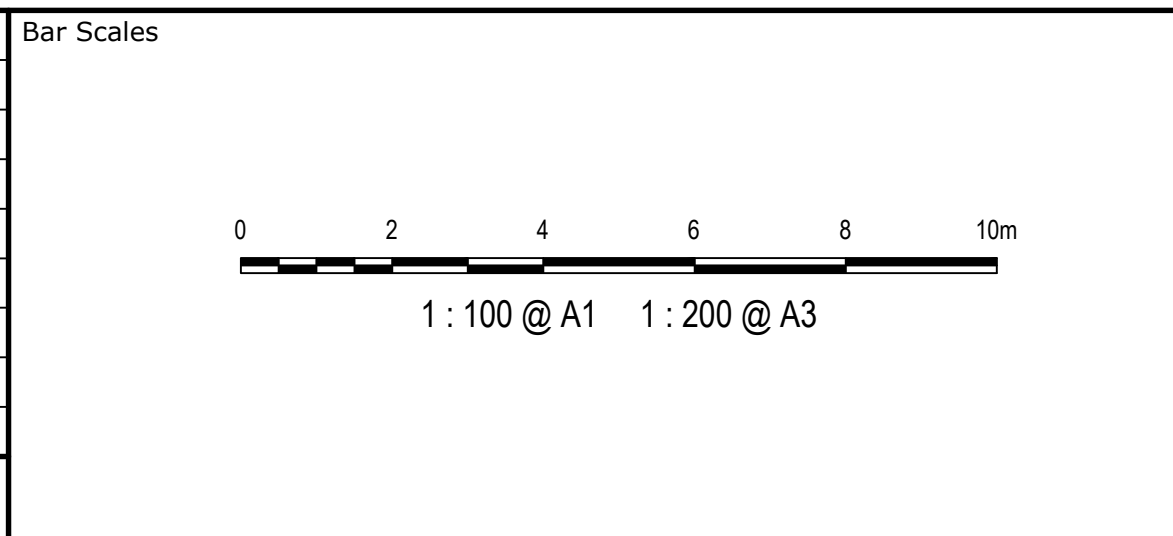
Project
**ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 9**

Title
**TYPICAL SECTIONS
SHEET 1**

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.	18-596-C2910	Issue E



E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22
Issue	Description	Date



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Scales 1:100

Drawn	KR
Designed	KR
Checked	DS
Approved	

Grid MGA

Height Datum AHD

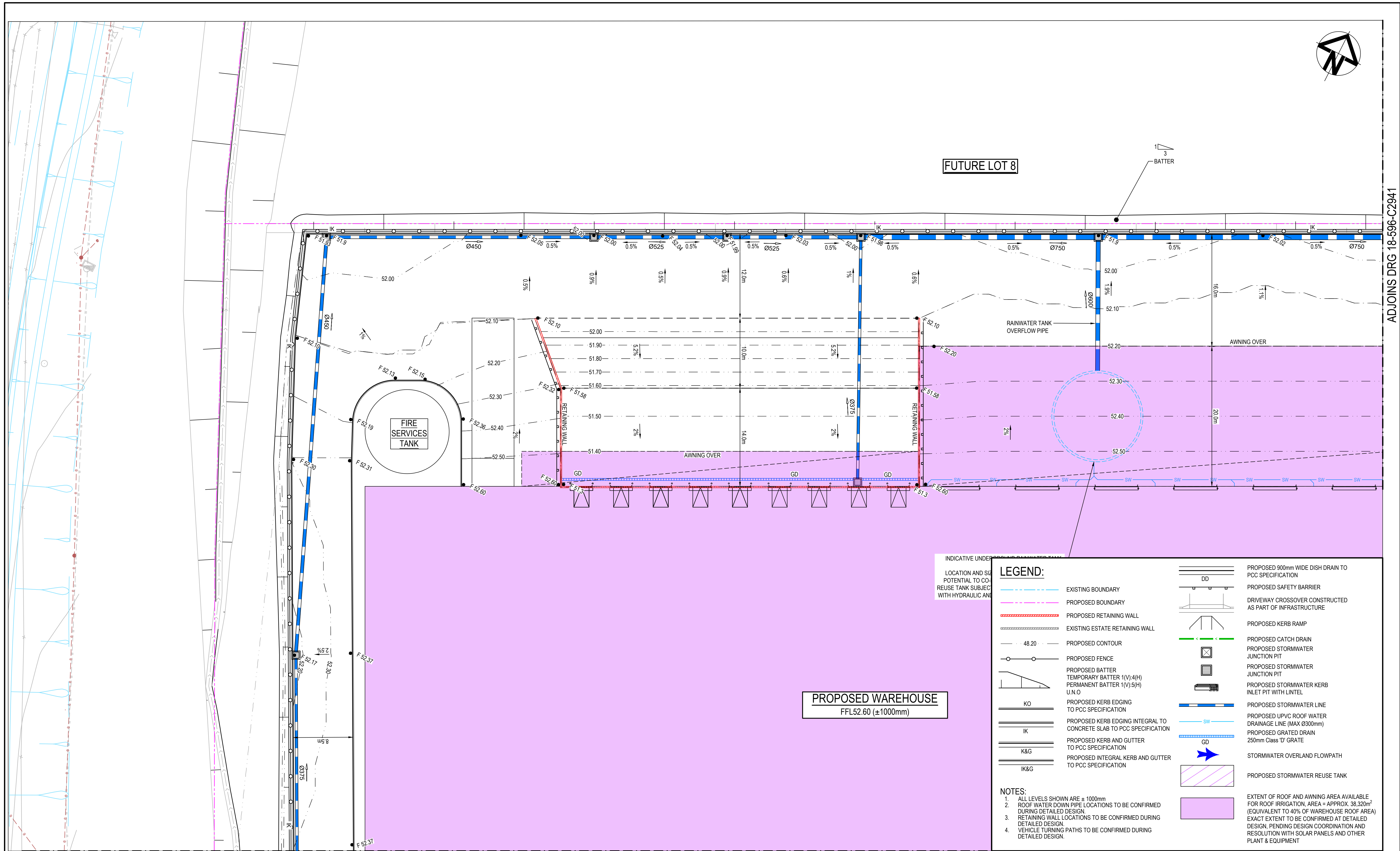
Project
**ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 9**

Title
**TYPICAL SECTIONS
SHEET 2**

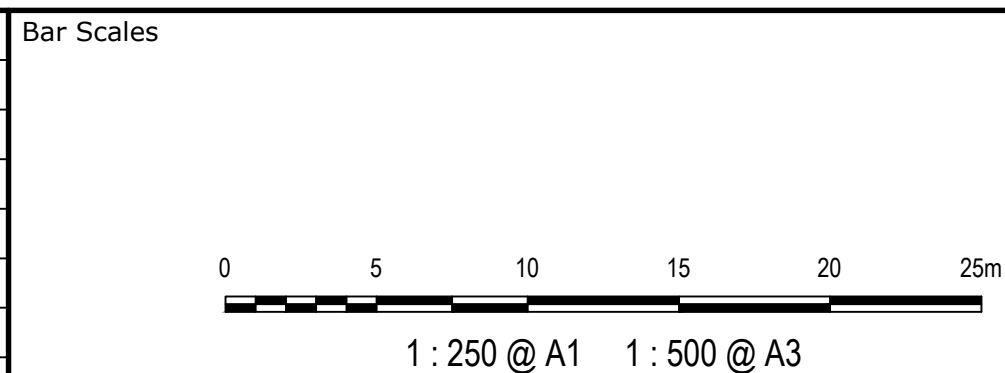
Civil Engineers and Project Managers

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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. 18-596-C2911	Issue E



E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22
Issue	Description	Date

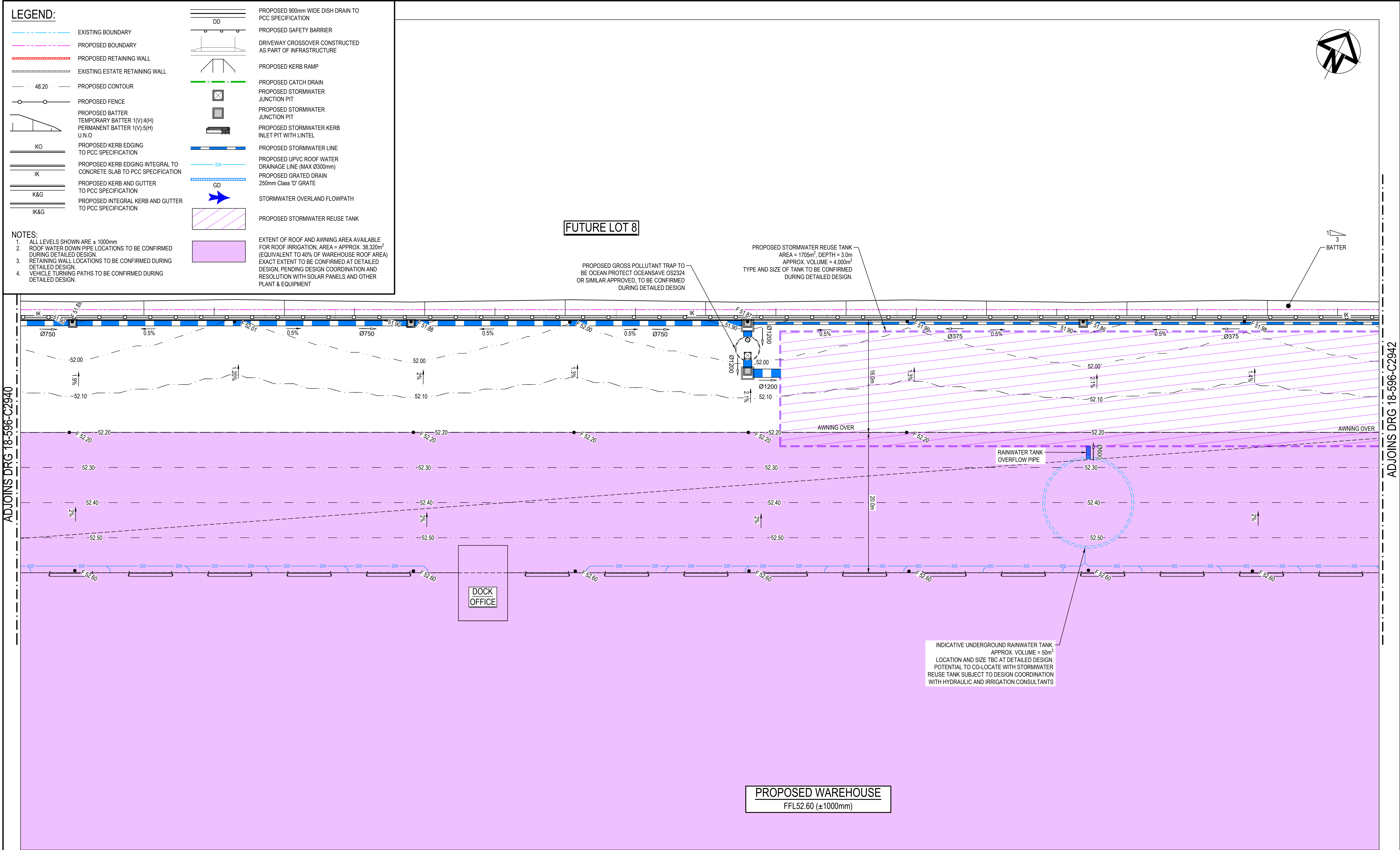


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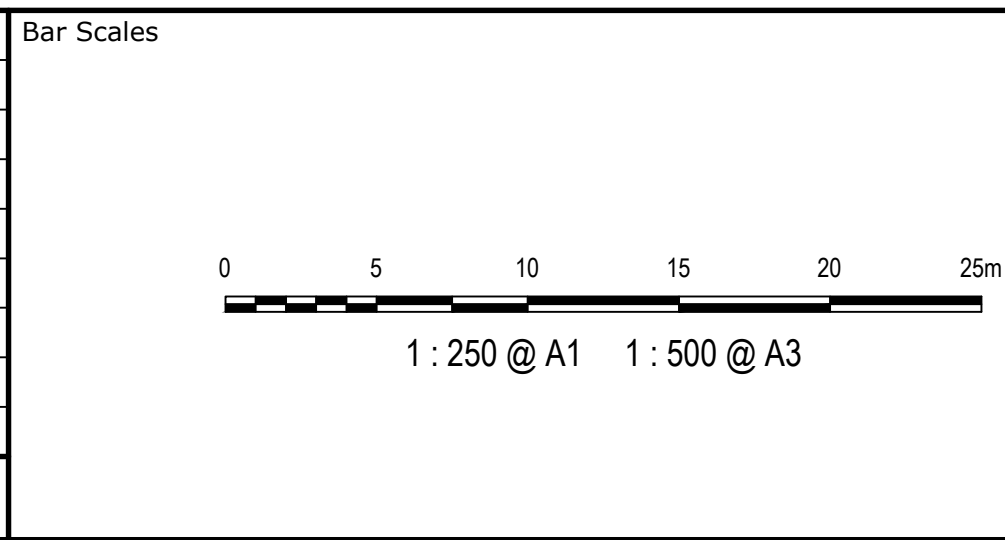


Client
Scales
1:250
Grid
MGA
Height Datum
AHD
Drawn
KR
Designed
KR
Checked
DS
Approved
Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 9
Title
SITEWORKS
AND STORMWATER DRAINAGE
SHEET 1

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
Project - Drawing No.
18-596-C2940
Issue
E



E	ISSUED FOR DEVELOPMENT APPLICATION	17-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22
Issue	Description	Date



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Client

mirvac

Scales

1:250

Grid MGA

Height Datum AHD

Drawn KR

Designed KR

Checked DS

Approved

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 9

Title

SITEWORKS
AND STORMWATER DRAINAGE
SHEET 2

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

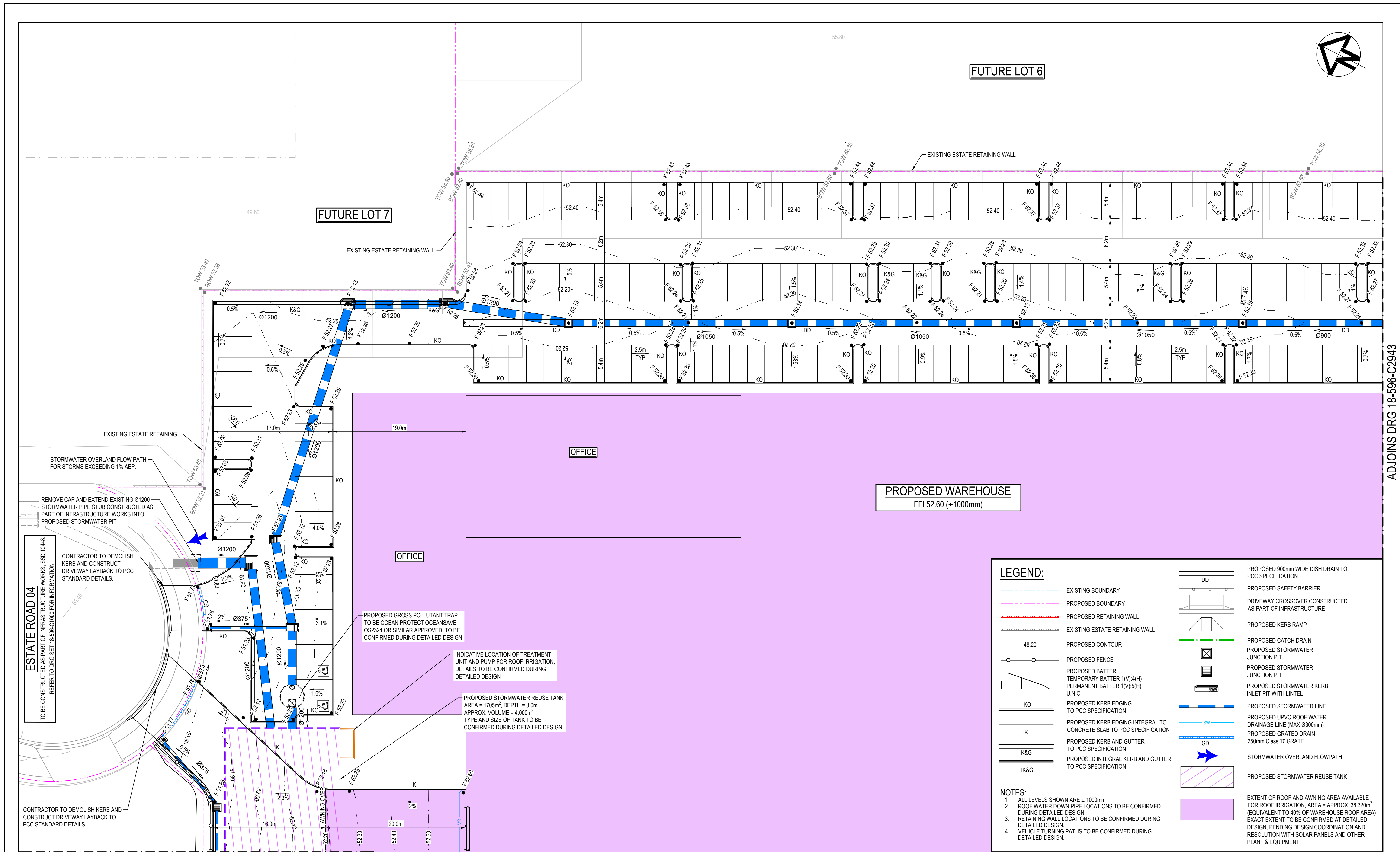
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FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

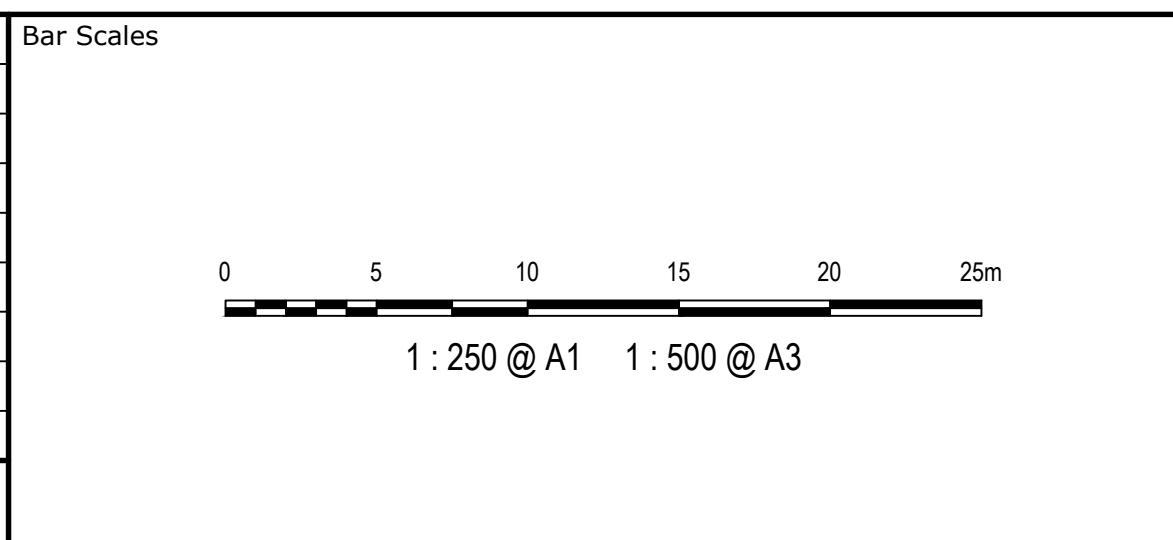
Project - Drawing No.
18-596-C2941

Issue

A1
E



ADJOINS DRG 18-596-C2941		
	Bar Scales	
E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22
Issue	Description	Date



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Client

Scale

1:250

Grid

MGA

Height Datum

AHD

Drawn

Designed

Checked

Approved

KR

DS

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 9

Title

SITWORKS
AND STORMWATER DRAINAGE
SHEET 3

Civil Engineers and Project Managers

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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

Project - Drawing No.

18-596-C2942

Issue

E

	EXISTING BOUNDARY
	PROPOSED BOUNDARY
	PROPOSED RETAINING WALL
	EXISTING ESTATE RETAINING WALL
	PROPOSED CONTOUR
	PROPOSED FENCE
	PROPOSED BATTER TEMPORARY BATTER 1(V):4(H) PERMANENT BATTER 1(V):5(H) U.N.O
	PROPOSED KERB EDGING TO PCC SPECIFICATION
	PROPOSED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
	PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
	PROPOSED INTEGRAL KERB AND GUTTER TO PCC SPECIFICATION

1. ALL LEVELS SHOWN ARE $\pm 1000\text{mm}$
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. VEHICLE TURNING PATHS TO BE CONFIRMED DURING DETAILED DESIGN.

PROPOSED 900mm WIDE DISH DRAIN TO
PCC SPECIFICATION

PROPOSED SAFETY BARRIER

DRIVEWAY CROSSOVER CONSTRUCTED
AS PART OF INFRASTRUCTURE

PROPOSED KERB RAMP

PROPOSED CATCH DRAIN

PROPOSED STORMWATER
JUNCTION PIT

PROPOSED STORMWATER
JUNCTION PIT

PROPOSED STORMWATER KERB
INLET PIT WITH LINTEL

PROPOSED STORMWATER LINE

PROPOSED UPVC ROOF WATER
DRAINAGE LINE (MAX Ø300mm)

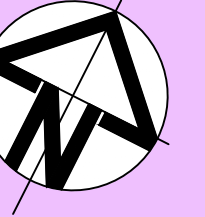
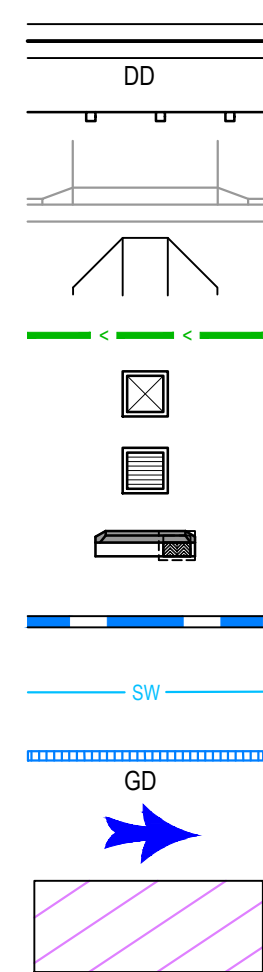
PROPOSED GRATED DRAIN
250mm Class 'D' GRATE

STORMWATER OVERLAND FLOWPATH

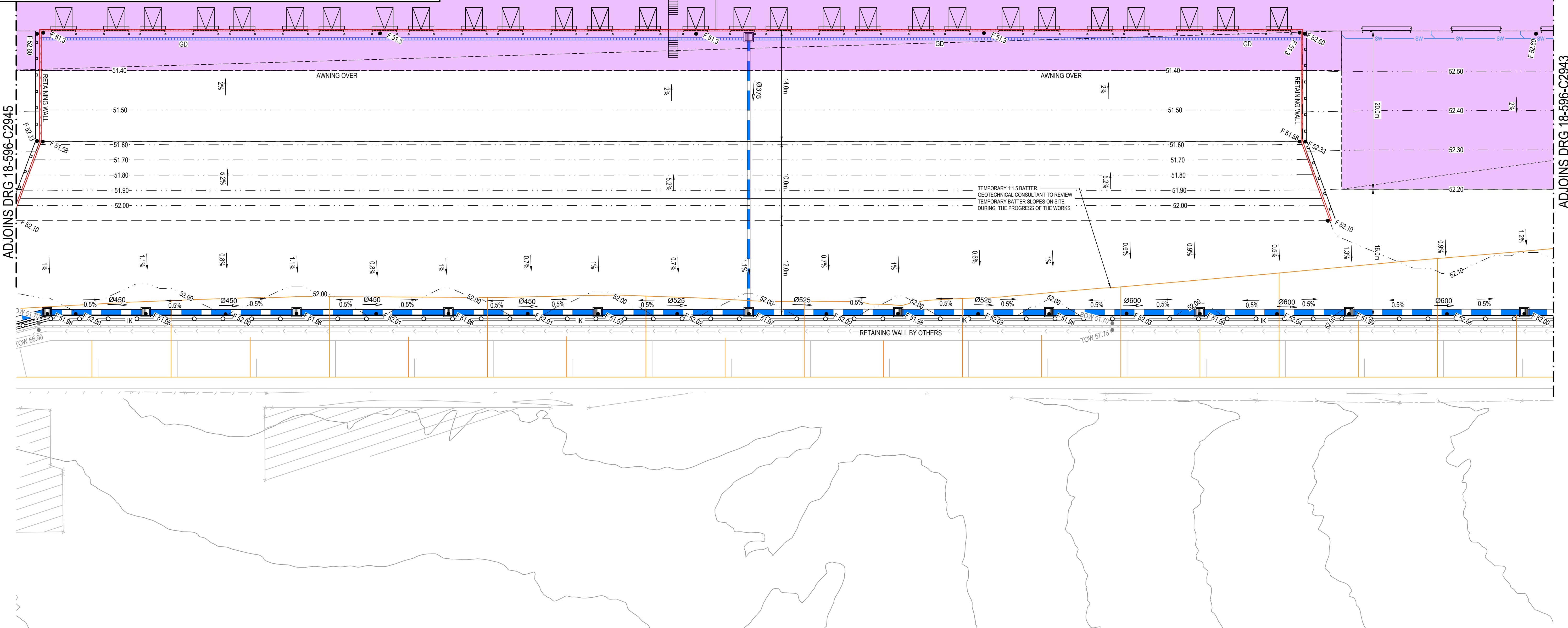
PROPOSED STORMWATER REUSE TANK

EXTENT OF ROOF AND AWNING AREA AVAILABLE
FOR ROOF IRRIGATION, AREA = APPROX. 38,320m²
(EQUIVALENT TO 40% OF WAREHOUSE ROOF AREA)

EXACT EXTENT TO BE CONFIRMED AT DETAILED
DESIGN, PENDING DESIGN COORDINATION AND
RESOLUTION WITH SOLAR PANELS AND OTHER
PLANT & EQUIPMENT



PROPOSED WAREHOUSE
FFL52.60 (±1000mm)



E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22
Issue	Description	Date

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Datum	AHL
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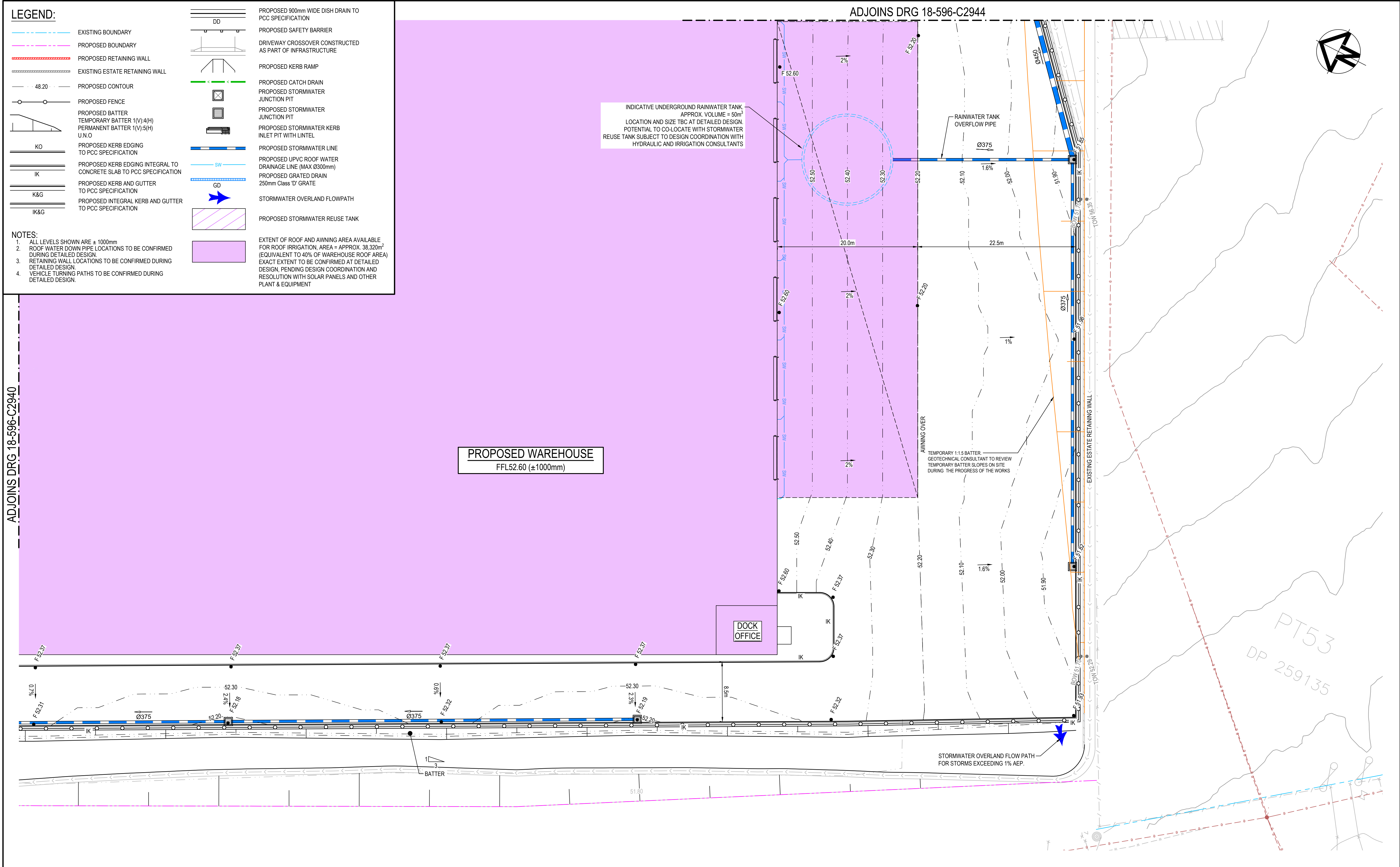
Title	SITEWORKS AND STORMWATER DRAINAGE SHEET 5
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Level 7, 153 Walker Street
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Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION
Project - Drawing No.	

A1	Issue
----	-------



			Bar Scales		Client	Scales	Drawn	Project	Civil Engineers and Project Managers
						1:250	KR	ASPECT INDUSTRIAL ESTATE	Level 7, 153 Walker Street
							Designed	MAMRE ROAD,	North Sydney NSW 2060
								KEMPS CREEK	ABN 96 130 882 405
						Grid	Checked	LOT 9	Tel: 02 9439 1777
						Height	DS		Fax: 02 9923 1055
						Datum	Approved		www.atl.net.au
									info@atl.net.au
								SITWORKS	Status
								AND STORMWATER DRAINAGE	FOR APPROVAL
								SHEET 6	NOT TO BE USED FOR CONSTRUCTION
									Project - Drawing No.
									18-596-C2945
									Issue
									E

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mirvac

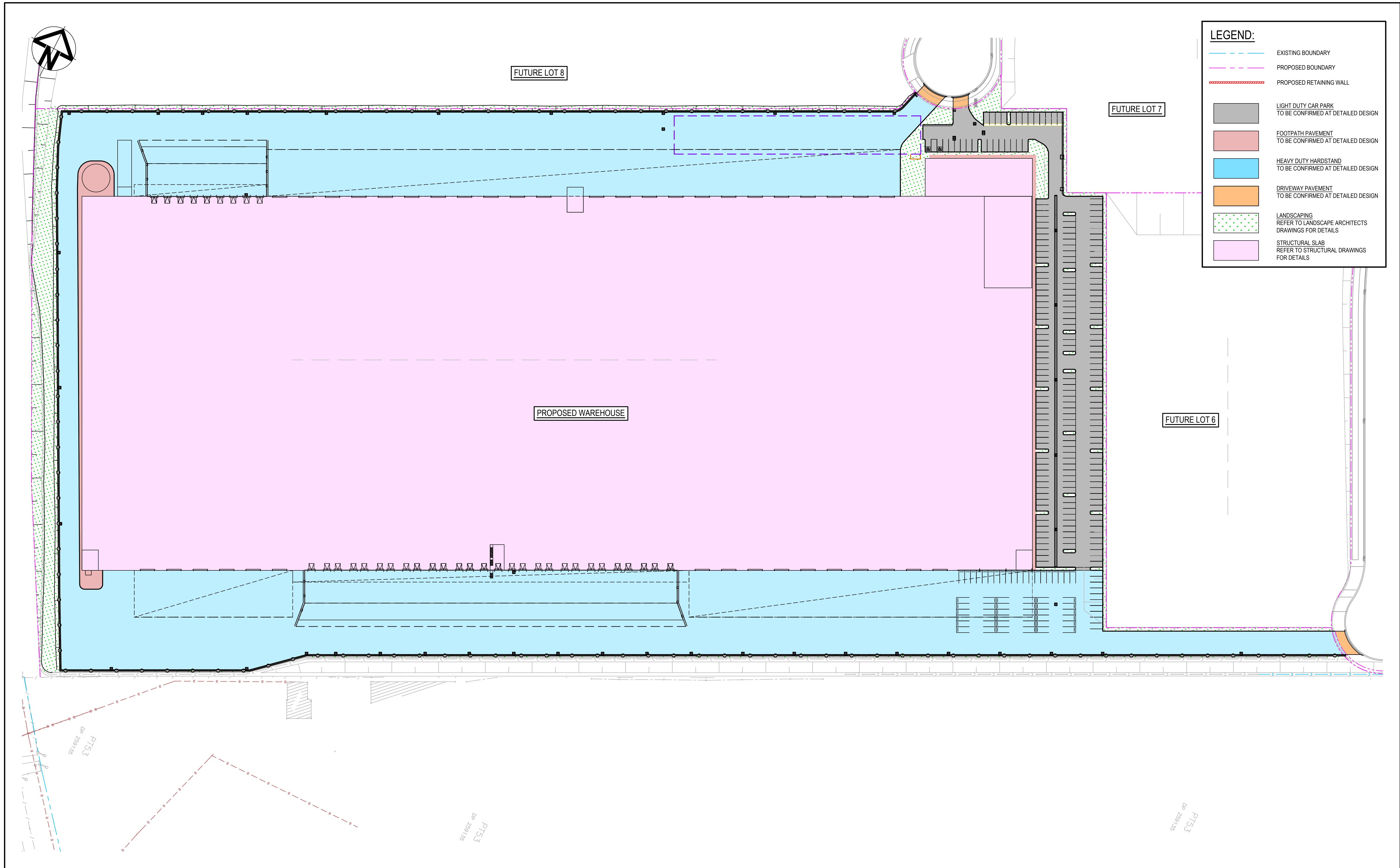
GDA2020

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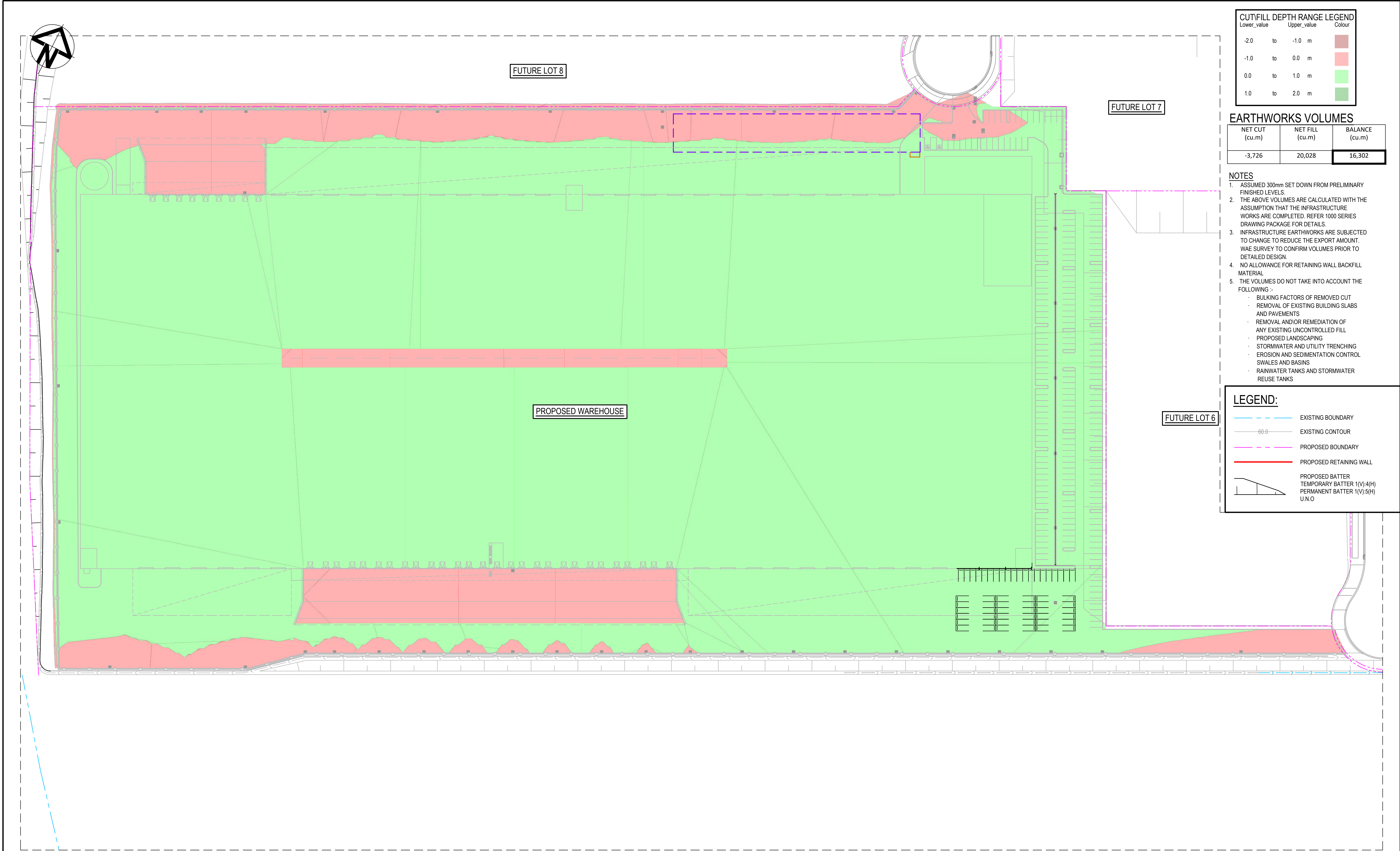
1 : 250 @ A1 1 : 500 @ A3

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\2900_Lot 9 SSD_MOD 218-596-C2945.dwg



			Bar Scales  0 15 30 45 60 75m 1 : 750 @ A1 1 : 1500 @ A3	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales 1:750	Drawn KR	Project ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9	Civil Engineers and Project Managers  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		
	Designed KR										
	Checked DS										
	Approved										
E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22						Title PAVEMENT PLAN	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1
D	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22							Project - Drawing No. 18-596-C2950		Issue E
C	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22									
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22									
A	ISSUED FOR DEVELOPMENT APPLICATION	28-03-22									
Issue	Description	Date									



CUT/FILL DEPTH RANGE LEGEND		
Lower_value	Upper_value	Colour
-2.0	to -1.0 m	
-1.0	to 0.0 m	
0.0	to 1.0 m	
1.0	to 2.0 m	

EARTHWORKS VOLUMES

NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
-3,726	20,028	16,302

- NOTES
1. ASSUMED 300mm SET DOWN FROM PRELIMINARY FINISHED LEVELS.
 2. THE ABOVE VOLUMES ARE CALCULATED WITH THE ASSUMPTION THAT THE INFRASTRUCTURE WORKS ARE COMPLETED. REFER 1000 SERIES DRAWING PACKAGE FOR DETAILS.
 3. INFRASTRUCTURE EARTHWORKS ARE SUBJECT TO CHANGE TO REDUCE THE EXPORT AMOUNT. WAE SURVEY TO CONFIRM VOLUMES PRIOR TO DETAILED DESIGN.
 4. NO ALLOWANCE FOR RETAINING WALL BACKFILL MATERIAL.
 5. 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

LEGEND:

- EXISTING BOUNDARY
- EXISTING CONTOUR
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED BATTER
TEMPORARY BATTER 1(V):4(H)
PERMANENT BATTER 1(V):5(H)
U.N.O

Issue	Description	Date
D	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
C	ISSUED FOR DEVELOPMENT APPLICATION	28-06-22
B	ISSUED FOR DEVELOPMENT APPLICATION	28-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22

Bar Scales
0 15 30 45 60 75m
1 : 750 @ A1 1 : 1500 @ A3

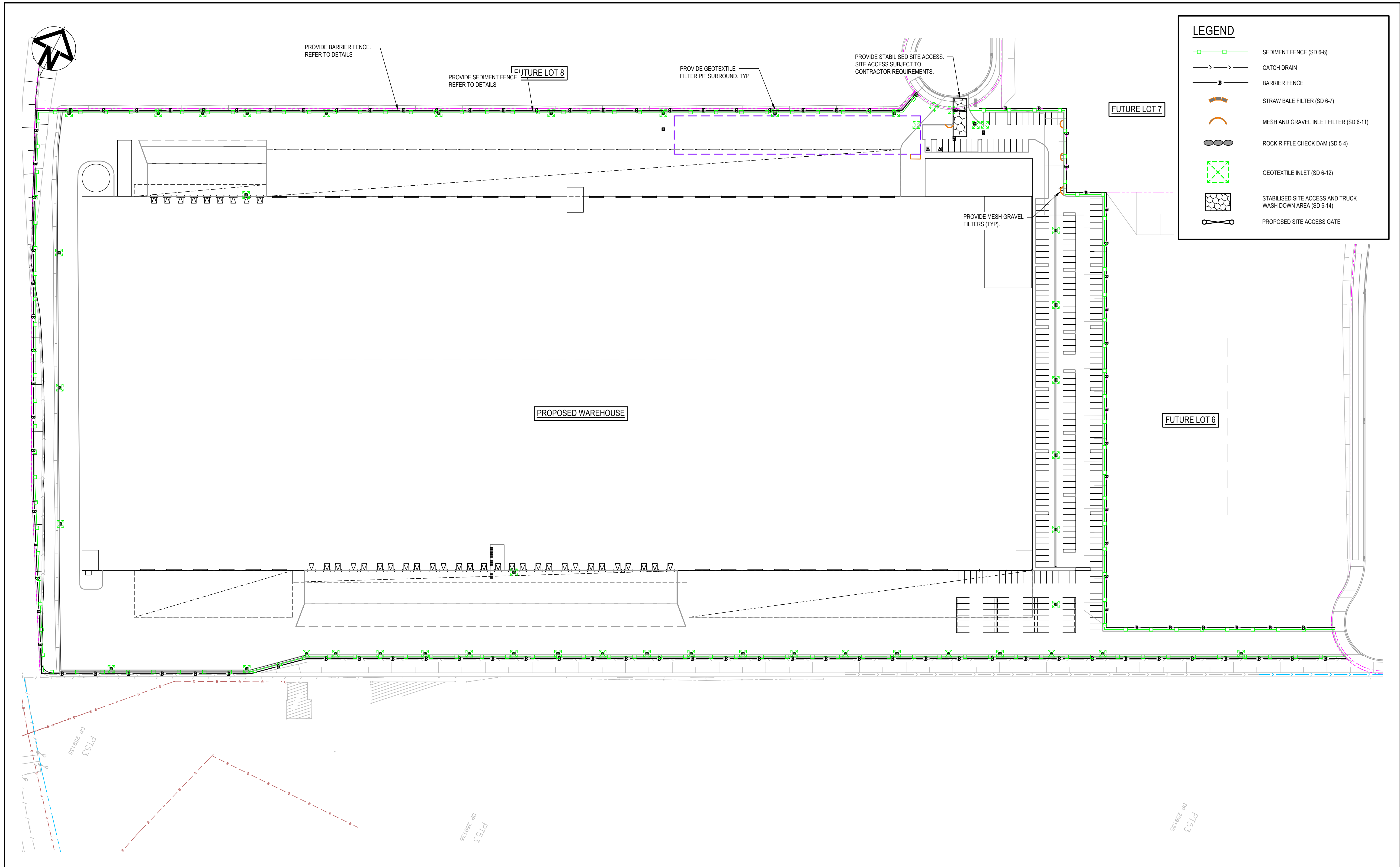
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Scales	1:750
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	

Project	ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK LOT 9
Title	BULK EARTHWORKS CUT/FILL 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.	18-596-C2960	Issue D



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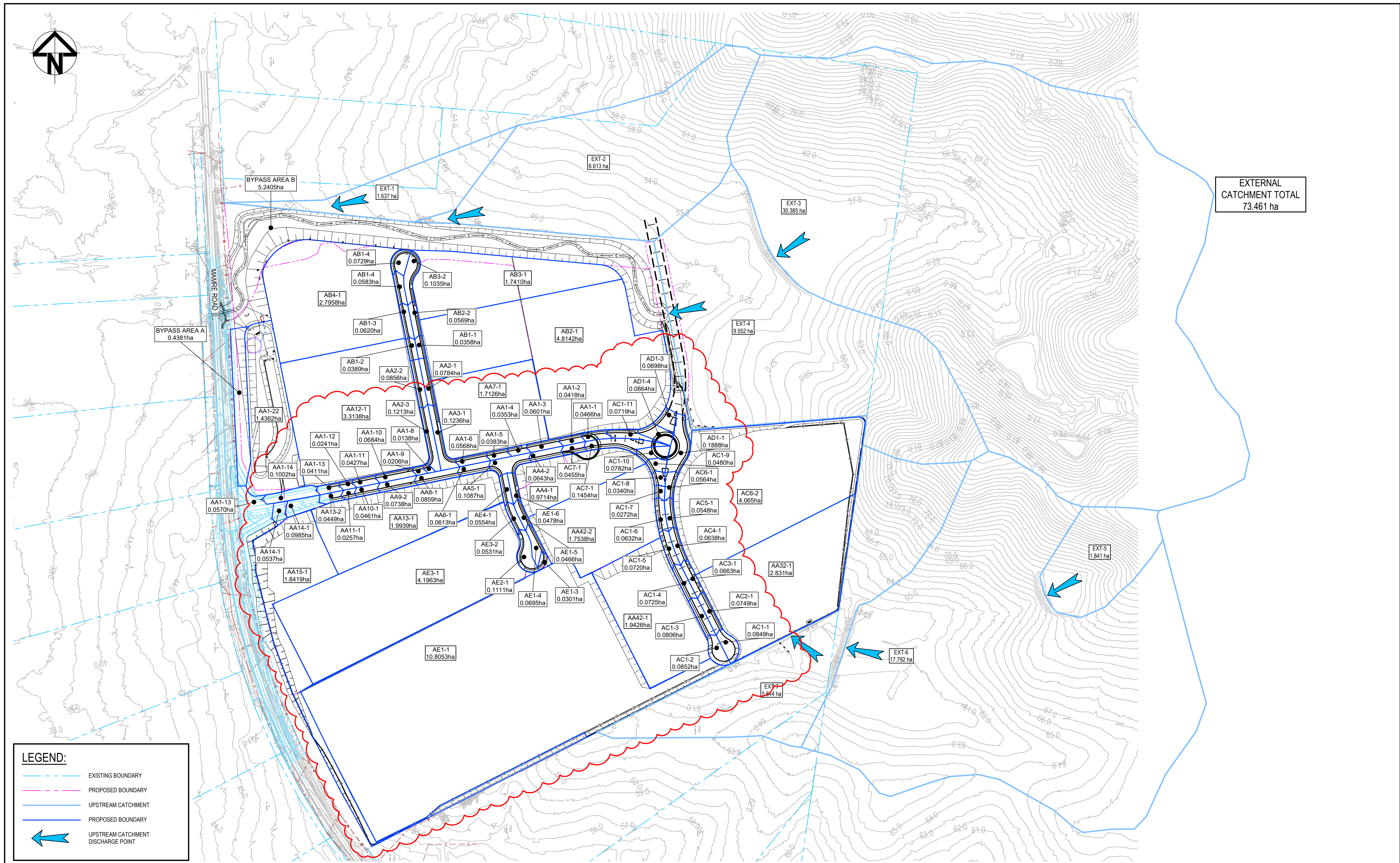
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APPENDIX B – Stage 1 Modification No. 3 Post Development Catchment Plan



O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22	Bar Scales
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NORTH SYDNEY NSW 2060
029439 1777
INFO@ATL.NET.AU

PARRAMATTA

LEVEL 4
17-21 MCQUARIE STREET
PARRAMATTA NSW 2150
INFO@ATL.NET.AU

BRISBANE

SUITE A1 LEVEL 20
127 CREEK STREET
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07 3211 9581
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MELBOURNE

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