Aspect Industrial Estate

Lot/Warehouse 4

SSD-98407710

99 Berriwerri Drive, Kemps Creek

Civil Infrastructure Report

Mirvac

MARCH 2026

18-596

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1. Introduction

This Civil Infrastructure Report has been prepared in support of a concurrent Concept Proposal modification application to SSD-10448 (MOD 12) and to inform a State Significant Development Application (SSD-98407710) for the development of Lot/Warehouse 4 at 99 Berriwerri Drive, Kemps Creek within the Aspect Industrial Estate (AIE).

Warehouse 4 on AIE Lot 4 (Lot 104 DP1305965), will comprise one (1) warehouse building. It is proposed to be used for warehouse and distribution premises 24 hours a day, 7 days a week. The proposed development will comprise:

- Construction and fitout of a warehouse building, comprising 30,095sqm of Gross Floor Area (GFA)
- Ancillary two-level office space, comprising 700sqm of GFA
- Ancillary dock office space, comprising 200sqm of GFA
- Hardstand comprising of 21,950sqm
- Landscaped Area of 16,890sqm, comprising 24% of site area
- Car parking area, including 128 spaces on the southern side of the proposed warehouse.

Development at AIE is occurring across multiple stages:

- Development consent for the Stage 1 development of the AIE Site was approved in May 2022 under SSD-10448. Stage 1 included the estate wide infrastructure and Lot 1/Warehouse 1 and Lot 3/Warehouse 3 development works. All estate infrastructure works are completed and Lot 1/Warehouse 1 and Lot 3/Warehouse 3 are both completed and operational.
- Development consent for the Stage 2 development of the AIE Site (specifically relates to the Lot/Warehouse 9 development) was approved in March 2023 under SSD-46516461. Lot 9/Warehouse 9 is completed and operational.
- Stages 3 (specifically relates to the Lot 2/Warehouse 2 development) was approved in July 2024 under SSD-58257960. Lot 2/Warehouse 2 is completed and operational.
- Stage 4 (specifically relates to the Lot 8/Warehouse 8 development) was approved in October 2024 under SSD-60513208. An additional SSD-80331959, which related to the fit-out of Lot 8/Warehouse 8, was approved in September 2025. Lot 8/Warehouse 8 is nearing completion and nearing commencement of operation, with completion and operation expected February/March 2026.
- Stage 5 (specifically relates to the Lot 6/Warehouse 6, Lot 7/Warehouse 7 (including adjacent café) development), has been approved in March 2025 through local Penrith City Council DA, under DA 24/0264. Lot 6/Warehouse 6 and Lot 7/Warehouse 7 is nearing completion and nearing commencement of operation, with completion and operation expected February/March 2026.
- Stage 6 (specifically relates to the Lot 4/Warehouse 4), being the subject of this report.

The proposed development of Lot/Warehouse 4 is supported by the following modifications to SSD-10448:

- Modification 4 (MOD4), which proposed amendments to the water management strategy for the AIE Site to support Stages 1-5 development of the AIE Site. Through MOD4, the undeveloped land at Mirvac's Elizabeth Enterprise Precinct at 1669-1732 Elizabeth Drive, Badgerys Creek (EEP) was included within cumulative MUSIC modelling to satisfy the stormwater quality, quantity and flow targets to enable progression of the abovementioned development on AIE in advance of a regional stormwater scheme for the Mamre Road Precinct. MOD4 approval was granted by the delegate of the Minister for Planning on 21 December 2023 for modification of the Concept Proposal and Stage 1 stormwater management strategy (i.e., development of Lots/Warehouses 1 and 3).
- Modification 8 (MOD8), which proposed amendments to the water management strategy for the AIE Site to support Stages 1-5 development of the AIE. MOD8 sought to change the total area of undeveloped land associated with Mirvac's Elizabeth Enterprise Precinct (EEP) Site, with a reduced site area from 132Ha down to 127Ha.

- Modification 11 (MOD11), which has been recently submitted for approval, which proposed approval for an amended cumulative stormwater management strategy, which seeks to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251). The EEP Stage 1A SSDA seeks approval to construct infrastructure works across the EEP Stage 1 lands, and also seeks approval for the development of Lot/Warehouse 2 and Lot/Warehouse 6 at EEP. This development scenario, which includes the development at AIE, including AIE warehouses 1, 2, 3, 6, 7 (incl. Café), 8 and 9, and EEP Stage 1A, including EEP warehouses 2 and 6. Note MOD11, like MOD4 and MOD8, considers AIE Lot 4 as undeveloped.
- Modification 12 (MOD12) which will be submitted concurrent to SSD-98407710 and this report, seeks approval for:
  - A further amendment to the cumulative stormwater management strategy to exclude the catchment areas of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04. The strategy will include AIE Lot 4 proposed warehouse. Mirvac have received the Sydney Water Stormwater Scheme Served Area (SSA) allocation letter dated 23/03/26, which provides sufficient SSA allocation to cover AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 (approximately 36.48ha), therefore no longer requiring AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 to be included within the cumulative stormwater management strategy. Refer to **Appendix I** for the Sydney Water SSA letter and **Figure 1** below for the diagram of the SSA strategy extracted from the letter.
    - Removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 and inclusion of Lot 4 proposed warehouse allows for the continued demonstration of compliance with the waterway health targets. The Sydney Water SSA letters notes that Mirvac has paid their Infrastructure Contribution Charge for the Integrated Stormwater scheme for Lots 1, 2, 3, 6, 7, 8, and 9.

      With the delivery of the Regional Basin 7A by the Gibb Group, Sydney Water will credit Mirvac with SSA with a portion of the liberated Net Developable Area (NDA) as Mirvac have paid their regional stormwater Infrastructure Contribution charges applicable for AIE. As per the SSA letter, AIE will obtain SSA credits for 36.478ha of NDA, which represents the exclusion of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04.

      Per the Sydney Water SSA letter, Regional Basin 7A will ultimately provide a total SSA allocation area of approximately 42.4ha. The regional Basin 7A (approximately 37ha), currently approved (determined 11 December 2025). The construction of Basin 7A has been approved under Gibb Groups SSD-30871587 for 805-817 Mamre Road, Kemps Creek. Basin 7A is required to be delivered prior to first occupancy certificate for that development as per condition B36 of the Gibb Group consent (SSD-30871587). Gibb Group are in the process of completing the detailed design for Basin 7a, which is likely to be built by the end of 2026 calendar year, depending on Gibb completing the design, commercial agreements, and delivery of the basin.

      As defined by Sydney Water; *The SSA is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/quantity infrastructure, excluding those that are required specifically in the DCP (i.e. gross pollution traps, on-site detention and construction phase sediment and erosion controls).* Consequently, the cumulative stormwater strategy for AIE + EEP will be updated to remove AIE Lots, 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 and include AIE Lot 4.
    - Sydney Water has provided SEARs Agency Advice dated 16 January 2026 to DPHI in relation to AIE Lot 4 SEARs and AIE SSD-10448 MOD12. Sydney Water acknowledged that AIE WH4 could be developed through the surplus SSA created from the delivery of Basin 7A by Gibb Group. In addition, Sydney Water have noted that further SSA allocation could be provided with the delivery of Basin 7B by either Gibb Group, Mirvac or another developer, or any other basin within the Wianamatta sub-catchment with sufficient SSA.
  - A change to the warehouse footprint and on-lot configuration of Lot 4 and Lot 5. The modification will seek to consolidate the warehouse-built form from two (2) buildings, as currently approved, into a single building identified as Warehouse 4.
  - An amendment to the alignment of the Automated Guided Vehicle network at the eastern boundary of Lot 4 to be consistent with the approved AGV alignment within the GPT approvals to the north of AIE and Barings approvals to the South of AIE.

Figure 1: Lots within AIE that will receive SSA (Sydney Water SSA Letter, Mar 2026)

Stormwater Management Measures for Lot 4

- The construction phase stormwater targets for Lot 4, as outlined in the Mamre Road DCP, will be achieved through implementation of the Erosion and Sediment Control (ESC) measures within the ESC Plan for Lot 4. A separate set of ESCP drawings have been prepared by AT&L for Lot 4, which describe and detail the applicable erosion and sediment controls to be established within Lot prior to construction commencement. Ultimately, it is expected that the Conditions of Consent will require further detailed ESCP's to be prepared, which will form part of the CEMP for Lot 4. These ESCP's will also detail any staged construction and changes to ESC's required during each stage of construction.
- The operational phase stormwater management targets for AIE Lot 4 will be achieved through the cumulative stormwater management strategy consistent with MOD 12 as discussed above. Gross pollutant traps are provided as part of the Lot 4 stormwater design. On-site detention is provided for Lot 4 at an estate-based level, through the on-site detention basin located to the west of Lot 1 within AIE. Refer to AT&L SSD-10448 MOD12 Water and Stormwater Management Plan for more information on the AIE stormwater management strategy, which includes details regarding on-site detention.
- The existing AIE Stage 5 development (all development lots and infrastructure except for Lot 4) will continue to achieve the operational stormwater provisions of the DCP through the identified interim stormwater measures as approved under AIE SSD-10448 MOD8 (and unchanged per MOD11) and are not reliant on the regional infrastructure. Upon completion of Basin 7A and allocation of SSA to enable the exclusion of AIE Lots 1, 2, 3, , 8, 9, detention basin, Road 02 and Road 04, AIE Lot 4 can then obtain occupation. Refer to MOD 12 WSMP for more information.

This report should be read in conjunction with the following documents:

- Lot 4 Civil Works Package drawings (AT&L, December 2025)
- Lot 4 Concept Erosion & Sediment Control Plan drawings (AT&L, December 2025)
- MOD4 Water and Stormwater Management Plan (AT&L, December 2023).
- MOD8 Water and Stormwater Management Plan (AT&L, October 2024).
- MOD11 Water and Stormwater Management Plan (AT&L, December 2025).
- MOD12 Water and Stormwater Management Plan (AT&L) to be submitted concurrently with SSD-98407710 and this report.
- Lot 4 Services Infrastructure Assessment (AT&L, December 2025).

1.1. Site Location

The location of proposed Lot 4/Warehouse 4 is presented in **Figure 1**. Lot 4 is bound by development works occurring by GPT to the north, future development works by Dexus and Frasers to the east, Berriwerri Drive (Road 03) to the west, and the development works by Barrings to the south. Lot 4 is approximately 6.98 hectares in size, with a proposed warehouse and office area of approximately 3.10 hectares.

Figure 2: Lot 4/Warehouse 4 Locality Plan (prepared by SBA Architects, August 2025)

1.2. Scope of Work

Generally, the proposed development on Lot 4 within AIE includes minor on-lot earthworks, installation of on-lot infrastructure, and the construction of a warehouse, landscaping, hardstand and car parking. The Lot 4 works also includes the construction of three heavy vehicle crossings and one car park crossing to Berriwerri Drive (Road 3). The Lot 4 location and built form configuration will align with that intended to be established under the concept plan within AIE SSD-10448.

Warehouse 4 on AIE Lot 4 will comprise one (1) warehouse building. It is proposed to be used for warehouse and distribution premises 24 hours a day, 7 days a week. The proposed development will comprise:

- Construction and fitout of a warehouse building, comprising 30,095sqm of Gross Floor Area (GFA)
- Ancillary two-level office space, comprising 700sqm of GFA
- Ancillary dock office space, comprising 200sqm of GFA
- Hardstand comprising of 21,950sqm
- Landscaped Area of 16,890sqm, comprising 24% of site area
- Car parking area, including 128 spaces on the southern side of the proposed warehouse.

1.3. Scope of this Report

This report addresses the civil infrastructure and stormwater drainage design elements for the proposed development of Lot/Warehouse 4.

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 4 relating to warehouse and distribution centres have also been addressed in this report.

Specific civil and stormwater elements related to the Lot/Warehouse 4 development that are addressed in this report include:

- Bulk earthworks and retaining walls (if applicable)
- 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 4/Warehouse 4.

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 4

Condition	AT&L Response
Access	
B3. Future developments on the site must meet the following requirements:	
(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;	Refer to **Section 5** for details of internal roads, driveways and parking requirements.
(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;	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 4/Warehouse 4.
(g) all vehicles enter and exit the site in a forward direction;	Refer to **Section 5.3** for details of proposed access and egress. Refer to the Traffic Impact Assessment prepared by Ason for details.
(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	Refer to the Traffic Impact Assessment prepared by Ason for details.

Condition	AT&L Response
Future Freight Network	
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.	Refer to **Section 6.4**. The MOD3 Masterplan has made appropriate provision for the Future Freight Network. The 10m wide corridor for the future Freight Network is shown on the SBA architectural drawings for Lot/Warehouse 4 and has been amended slightly from what was shown on the MOD3 masterplan. MOD 12 will also seek to amend the alignment of the Future Freight Corridor (otherwise known as the Automated Guided Vehicle (AGV) network) at the eastern boundary of Lots 4 to be consistent with the approved AGV alignment within the GPT approvals to the north of AIE and Barings approvals to the South of AIE.
Stormwater Management	
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.*	The IWCM controls for AIE Lot 4 will be achieved through the cumulative stormwater management strategy of AIE and SEED discussed in AIE MOD 12 which will be submitted concurrently with this SSDA. Refer to AT&L MOD12 Water and Stormwater Management Plan for more information on the stormwater management strategy. The other DCP required stormwater management measures include the provision of a gross pollutant trap (refer **Section 4.6 and 4.9**), on-site detention (refer **Section 4.5**), passively irrigated street trees (refer **Section 4.4.1**), and construction phase erosion and sediment controls (refer **Section 4.11**).

Condition	AT&L Response
B7. Development application for each future stage must include a Stormwater Management Strategy (SMS) incorporating the relevant stage and all preceding stages of the AIE. The Strategy must:	Refer to above discussion for B6. AIE Lot 4 will be achieve waterway health compliance through the cumulative SMS discussed in AIE MOD 12. It is noted that Mirvac have received the Sydney Water Stormwater Scheme Serviced Area (SSA) Allocation Letter which covers Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04. As outlined in the Sydney Water SSA letter, AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 will be compliant through the SSA pathway and will be excluded in the Stormwater Management Strategy (SMS) incorporating preceding stages of the AIE. Refer to AT&L MOD12 Water and Stormwater Management Plan for more information on the stormwater management strategy. The AIE site-wide SMS for interim/temporary stormwater quality/quantity targets excluding AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 catchment areas is shown to be compliant and discussed in the Technical Memo in **Appendix H**. Concurrent to the Lot 4 SSDA, AIE SSD-10448 MOD 12 will seek approval for an amendment to the previously approved cumulative stormwater strategy, which removes the AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 catchment areas, consistent with the results and discussion in the Technical Memo in **Appendix H**. Sydney Water has provided SEARs Agency Advice dated 16 January 2026 to DPHI in relation to AIE Lot 4 SEARs and AIE SSD-10448 MOD12. It acknowledged that AIE WH4 could be developed through the surplus SSA created from the delivery of Basin 7A by Gibb Group. In addition, Sydney Water have noted that further SSA allocation could be provided with the delivery of Basin 7B by either Gibb Group, Mirvac or another developer, or any other basin within the Wianamatta sub-catchment with sufficient SSA. Refer to **Appendix I** for the Sydney Water SSA letter
(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;	AT&L confirm that the SMS 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.

Condition	AT&L Response
(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 D30);	Refer to above discussion for B6. The IWCM controls for AIE Lot 4 will be achieved through the cumulative stormwater management strategy of AIE and SEED discussed in AIE MOD 12 which will be submitted concurrently with this SSDA. Refer to AT&L MOD12 Water and Stormwater Management Plan for more information on the stormwater management strategy.
(c) outline any stormwater infrastructure required to be upgraded, installed, or removed consistent with the site-wide stormwater management strategy for the AIE as required by Condition A4B;	Refer to **Section 4**. Further details of the Water Management Strategy for the AIE Site are outlined in the MOD12 Water and Stormwater Management Plan.
(d) demonstrate the relevant stage can comply with the IWCM controls of the MRP DCP;	As above. Refer **Section 4.5** for details.
(e) include an assessment of any impacts on salinity and sodic soils from the future development including any proposed WSUD infrastructure; and	Refer to Geotechnical report addressing salinity and sodic soils.
(f) detail what infrastructure may be required to connect to a precinct-wide stormwater management system for the relevant stage.	Refer to **Section 4**.
Endeavour Energy	
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.	Refer to **Section 6.3**.
Sydney Water	
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)*.*	Refer to **Section 6.2.**

2.2. Lot 4/Warehouse 4 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 1 December 2025. **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
Water Management - An integrated water management strategy, including:	
• *a site water balance detailing the potable and non-potable water demands, minimisation measures, and water supply and licensing requirements for the development*	Refer to **Section 4.8**
• *an assessment of potential surface and groundwater impacts (both quality and quantity) on watercourses, riparian areas, groundwater, and groundwater-dependent communities nearby, and details of mitigation, management and monitoring measures*	Refer to **Section 2.3.4** of the MOD 11 WSMP for assessment of potential impacts on soil resources. Further details are documented in the *Assessment of Potential Impact on Soil Resources and Infrastructure* (PSM, August 2022).
• *details of the proposed stormwater system including the capacity of onsite detention system(s) and measures to treat, reuse or dispose of water*	Refer to **Section 4.5**
• *details of how the proposed stormwater system will connect to Sydney Water's Mamre Road Precinct Integrated Stormwater Scheme Plan (2025), including delivery timeframes for connection to the Scheme*	Stormwater drainage from Lot 4 will discharge into the existing stormwater drainage network at two defined discharge points, located in Berriwerri Drive. All Estate stormwater ultimately drains to Sydney Water's planned regional stormwater scheme infrastructure via an estate detention basin (for stormwater quantity management), which discharges to a set of existing culverts located in the north-west corner of the AIE site. This is unchanged as part of this report. Lot 4 will connect to Sydney Water's potable water and recycled water reticulation system. Note the potable water and recycled water reticulation system within AIE was constructed as part of the estate SSD works (SSD-10448). Refer to the letter provided by Qalchek to support the Lot 4 SSDA application for further details.
• *completion of a Feasibility Assessment with Sydney Water, and evidence of Sydney Water's endorsement of the stormwater strategy*	A Feasibility Application has been lodged with Sydney Water. Refer to Sydney Water Stormwater Infrastructure Servicing Agreement (CN208537) in **Appendix G**.
• *details of interim stormwater management measures necessary to service the development until a Stormwater Scheme Serviced Area allocation is provided for the development*	Refer to **Section 4.2**

• *detailed description and drawings of any interim solution and how it complies with the Department's 'Technical guidance for achieving Wianamatta–South Creek stormwater management targets' (2022), including details of impacts and reliance on the Elizabeth Enterprise Precinct site, and any required modifications to other development consents in the Aspect Industrial Estate*	Refer to **Section 4.4** for details related to provision of SSA, which deals with interim compliance with the stormwater quality and quantity requirements. Refer to **Section 4.3** for details regarding AIE MOD12 which addresses the impact to the cumulative stormwater management strategy across both AIE and EEP. Refer to Sydney Water Stormwater Infrastructure Servicing Agreement (CN208537) in **Appendix G**. Refer to AT&L Technical Memo on cumulative stormwater strategy compliance in **Appendix H**.
• *include a water and stormwater management plan and erosion and sediment control plan prepared in accordance with the Department's 'Technical guidance for achieving Wianamatta–South Creek stormwater management targets' and MUSIC modelling files of the stormwater management design*	Refer to **Section 4.4** for the water and stormwater management measures. The WSMP is the subject of this report. Refer to Sydney Water Stormwater Infrastructure Servicing Agreement (CN208537) in **Appendix G**. Refer to AT&L Technical Memo on cumulative stormwater strategy compliance in **Appendix H**. Refer to AIE Lot 4 ESCP (CV-AIE.B12.DA.2490's) for erosion and sediment control plans.
• *where water and drainage infrastructure works are required that would be handed over to the local Council, or other water authority, provide full hydraulic details, plans and specifications of the works, prepared in consultation with, and complying with the relevant standards, of the local council or other drainage or water authority.*	N/A - All proposed water and drainage works within Lot 4 are to be owned and maintained by the Proponent.
Soils: • *an assessment of potential impacts on soil resources and riparian land on and near the site, including soil erosion, salinity, sodic and acid sulfate soils and details of earthworks.*	Refer to **Section 2.3.4** of the MOD12 WSMP for assessment of potential impacts on soil resources. Further details are documented in the *Assessment of Potential Impact on Soil Resources and Infrastructure* (PSM, August 2022).
Infrastructure Requirements:	
• *an infrastructure plan that assesses impacts on existing utility infrastructure and service provider assets surrounding the site*	Refer **Section 2** and **Section 3** of Lot 4 Services Infrastructure Assessment (AT&L, December 2025).
• *a detailed written and/or graphical description of infrastructure required on the site, including any electrical substation/s and on-site switch yard/s*	Refer **Section 3** of Lot 4 Services Infrastructure Assessment (AT&L, December 2025).
• *details of existing infrastructure capacity to service the development, any proposed augmentation for electricity, drinking water, wastewater and recycled water and details of how upgrades will be funded and delivered*	Refer **Section 2** and **Section 3** of Lot 4 Services Infrastructure Assessment (AT&L, December 2025).
• *identification of any existing infrastructure or easements which may be impacted by the development and details of measures to address any impacts.*	Refer **Section 2** of Lot 4 Services Infrastructure Assessment (AT&L, December 2025).

Flooding:	
• *a flood impact risk assessment (FIRA) in accordance with the Flood risk management guideline LU01 - Flood impact and risk assessment (2023). The FIRA must assess the impacts of the development, including any changes to flood risk on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required*	Refer to Flood Impact Assessment prepared by Stantec.
• *utilise the flood impact assessment prepared for SSD-10448 including approved modifications and developments on-site that are under construction or approved*	Refer to Flood Impact Assessment prepared by Stantec.
• *assess the full range of flood behaviour, constraints and risk incorporating the proposed civil works and stormwater management system for warehouse 4 into the existing flood model*	Refer to Flood Impact Assessment prepared by Stantec.
• *assess the adequacy of management measures for minimising flood risk.*	Refer to Flood Impact Assessment prepared by Stantec.

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 4 have been completed as part of estate-wide infrastructure works that have been approved under SSD-10448. Bulk earthworks as part of the Stage 1 works under SSD-10448 are shown below in **Figure 3** and created both cutting and filling across Lot/Warehouse 4.

The Bulk earthworks as part of the Stage 1 works under SSD-10448 have constructed a benched pad to prepare Lot/Warehouse 4 for works proposed under this SSDA. The pad has been crested to allow stormwater runoff until on-lot development occurs. As such, the level at the crest of the pad (generally in the centre), is higher than the levels at the boundary of the lot. A Type-B sediment basin has been constructed in the north-western corner of Lot 4., along with perimeter diversion swales to divert surface water runoff into the sediment basin.

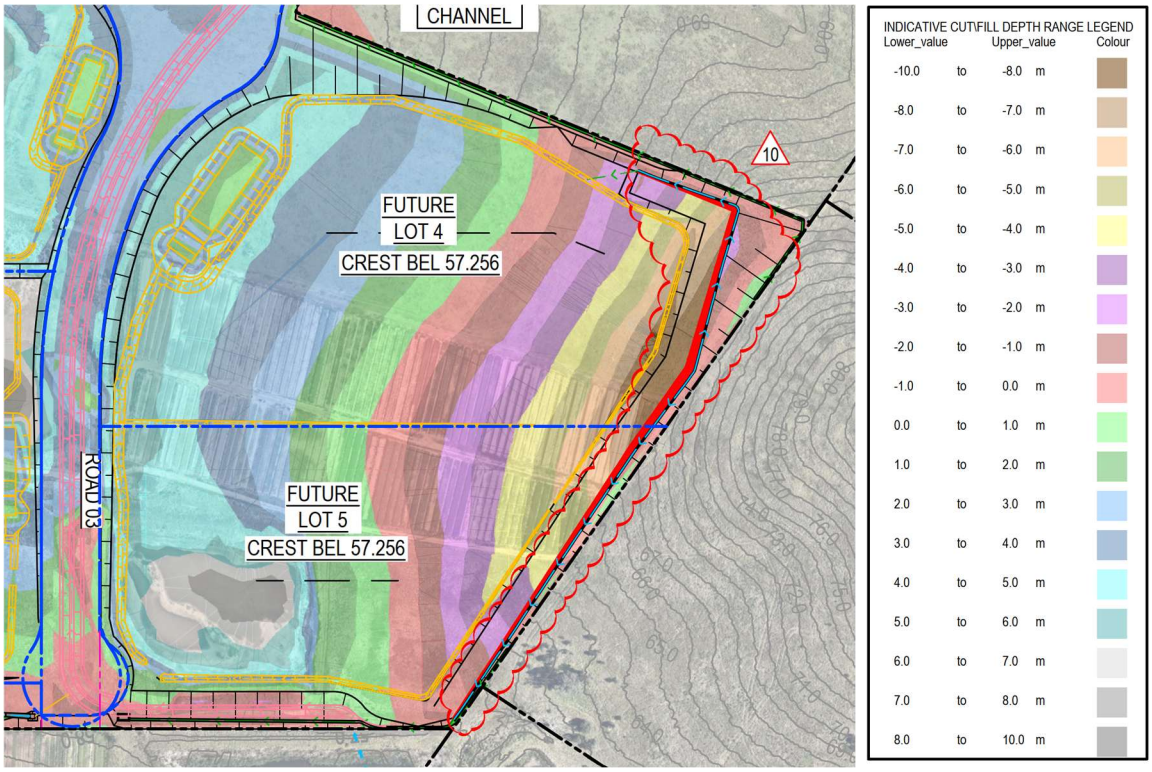


Figure 3: Cut / Fill Plan within Lot 4 for bulk earthworks proposed under SSD-10448 MOD3, as per SWC design.

The finished floor level (FFL) of the proposed warehouse and office buildings on Lot 4 have been proposed at an RL of 57.55. The proposed RL of 57.55 is similar to the nominal BEL as documented in SSD-10448 MOD3 (**Figure 3**, which depicts the SWC approved bulk earthworks across Lot 4). The proposed RL of 57.55 is also within the +/- 1000mm tolerance as approved under the Concept Masterplan approval, forming part of SSD-10448, with the nominated FFL under the concept masterplan being 57.3 +/- 1000mm.

It is proposed that the FFL cannot vary outside of the +/- 1000mm tolerance to the concept masterplan FFL of 57.30, therefore meaning the FFL can only vary between and FFL of 56.30 and 58.30. All other proposed levels,

both bulk and final, include a tolerance of +/- 1000mm as shown on the AT&L drawings located within Appendix B.

The bulk earthworks volumes specific to the Lot/Warehouse 4 works, shown below in **Figure 4** show:

- Net cut of 12,522 m^3
- Net fill of 20,194 m^3
- Resultant balance being a net import of 7,672 m^3

Figure 4: Cut / Fill Plan within Lot 4 for bulk earthworks proposed under SSD-10448 MOD3.

In calculating the additional earthworks that will be required for Lot/Warehouse 4, the following assumptions have been made:

- Existing levels are the bulk earthworks levels resulting from MOD3, including the existing on-lot interim sediment basin and swales
- Lot/Warehouse bulk earthworks levels are set down 300mm below FSLs to account for future pavement and landscaping thicknesses
- All site-wide bulk earthworks within Lot 4 have been completed.
- No allowance for detailed earthworks such as:
  - Footings
  - Proposed below ground services or tanks
  - Bulking factors of removed cut
  - Removal and/or remediation of any existing uncontrolled fill
  - Topsoil removal
  - Proposed landscaping, although levels are set down 300mm to account for possible topsoil placement
  - Retaining wall backfill
  - Variances between design bulk earthworks levels and actual WAE levels

3.3. Retaining Walls

3.3.1. Existing Retaining Walls

There is an existing cut retaining wall located to the east and north-east of Lot/Warehouse 4, constructed as part of the estate works under SSD-10448 (as shown in **Figure 3** above). Nominated as retaining wall RW21, and with a maximum height of 11m, the existing retaining wall retains the neighbouring properties to the east and north-east of Lot/Warehouse 4.

RW21 is located along the eastern and north-eastern boundary of Lot/Warehouse 4 and wraps around the northern boundary as it tapers off to zero height. The visible bottom of the wall has been set at RL 58.00 AHD. The location of RW21 is shown on AT&L drawing 18-596-C1080 [O] and long section is shown on AT&L drawing 18-596-C1081 [N]. Refer to **Appendix B** for the drawings.

The retaining wall structural engineer has provided a few limitations related to the structural stability/global stability of this retaining wall. These include:

- Setting a minimum level above the existing retaining wall footing at an RL of 58.2 including a clay cap over the footing. AT&Ls design assumes a finished level of 58.4 allowing for 200mm of topsoil above the clay cap.
- A 'flat' 1.2m berm is required in front of the retaining wall, where after a maximum 1 in 3 batter, falling away from the wall, is allowable.

The above restrictions have been incorporated to AT&Ls civil design for Lot/Warehouse 4.

3.3.2. Proposed Retaining Walls

There are four retaining walls proposed as part of Lot 4 & 5 on-lot SSDA package. These include:

- RW1 and RW2 are located on the north-western corner of Lot 4 & 5 set back from the warehouse access road. The two retaining walls form a tiered retaining wall system, with a maximum height of 2m per tier, and allows a maximum 1 in 3 batters down to the lot boundary and Berriwerri Drive (Road 3). The tiered retaining wall system is designed in accordance with the MRP DCP requirements. Refer to drawings CV-AIE.B04.DA.2441 to 2442.
- RW3 is located on the western side of Lot 4, between the warehouse access road and the warehouse. The access road provides entry to the northern loading docks. The retaining wall has a maximum height of 1.5m. Refer to drawing CV-AIE.B04.DA.2443.
- RW4 is located on the western side of the Lot and south of RW3, between the warehouse access road and the warehouse office building. The retaining wall has a maximum height of 1.5 m. Refer to drawing CV-AIE.B04.DA.2443.

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 Estate Roads 01 and 04, including utility services and stormwater drainage within these roads.
- Estate-wide bio-retention and detention basin at Mamre Road / Access Road 1 (as modified as part of AIE MOD4)

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 detention basin and catchments provided in the Stage 1 infrastructure works.

4.2. AIE Stage 5 Water Management Strategy (SSD-10448 MOD4, MOD8, MOD11)

As documented in the MOD4, MOD8, MOD11 Water Management Plans, a series of interim measures (in advance of connection to Sydney Water's regional stormwater scheme) are proposed to address the operational stormwater quality and flow targets.

In order to meet the waterway health objectives for the AIE Site under Stage 5 conditions (development of all lots and café, except for Lot 4) the following waterway health measures were be implemented (as described in the MOD11 WSMP with regards to what is required to be implemented at AIE):

- Rainwater tanks on lots 1, 2, 3, 6, 7, 8 and 9 to meet at least 80% of non-potable demand (toilet flushing and landscape irrigation)
- Interim retention pond within the estate detention basin (between Mamre Road and Lot 1) for storage and transfer of stormwater for irrigation of the Riparian Corridor.
- Primary treatment (gross pollutant traps) on lots 1, 2, 3, 6, 7, 8 and 9.
- Bio-retention basin within the estate detention basin.

MOD11 seeks approval for an amended cumulative stormwater management strategy, which seeks to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251). The EEP Stage 1 SSDA seeks approval to construct infrastructure works across the EEP Stage 1 lands, and also seeks approval for the development of Warehouse 2 and Warehouse 6 at EEP. The cumulative development scenario includes the development at AIE, including warehouses 1, 2, 3, 6, 7 (incl. Café), 8 & 9, and EEP Stage 1A, including warehouses 2 and 6.

The interim stormwater management measures at EEP Stage 1A (under SSD-19618251) include:

- Street trees – either passively or actively irrigated
- Evaporation Basin – with the potential for evaporative losses proposed within EEP Stage 2 land
- On-site stormwater detention (Basin A)
- Residual undeveloped land at the Elizabeth Enterprise Precinct (EEP)
- On-lot GPTs

4.3. AIE Stage 5 Water Management Strategy (SSD-10448 MOD12)

As noted above, Modification 12 (MOD12) will be submitted concurrent to SSD-98407710 and this report, seeks approval for a further amendment to the cumulative stormwater management strategy, submitted last as part of MOD11.

Specifically, the amendment per MOD12 will be to exclude the catchment areas of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04, noting that Sydney Water have issued their Scheme Services Area (SSA) Letter, confirming offsets for the AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 catchment area. The SSA is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/quantity infrastructure, excluding those that are required specifically in the DCP (i.e. gross pollution traps, on-site detention and construction phase sediment and erosion controls). Consequently, AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 will be removed from the cumulative stormwater strategy for AIE + SEED. AIE Lots 4, 6 and 7 remain, along with other residual catchment areas within the cumulative model.

The cumulative Stormwater Management Strategy will support the development of AIE warehouses 4, 6 and 7 and EEP Stage 1A infrastructure works across EEP Stage 1 lands, including the development of EEP Lot/Warehouse 2 and Lot/Warehouse 6. Note MOD 12 considers Lot/Warehouse 4 as developed per this SSD.

There are no other changes made to interim stormwater management measures to be implemented at either AIE or EEP as a result of MOD12.

4.4. Proposed Stormwater Management Strategy

As discussed above, Mirvac have requested Sydney Water Stormwater Scheme Served Area (SSA) offsets for the AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 (approximately 36.48ha). Mirvac have received the Sydney Water SSA letter on 23/03/26, which means AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 catchment areas can be excluded in the proposed cumulative stormwater management strategy. Refer to **Appendix I** for the Sydney Water SSA letter.

As defined by Sydney Water; *the SSA is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/quantity infrastructure, excluding those that are required specifically in the DCP (i.e. gross pollution traps, on-site detention and construction phase sediment and erosion controls).* Consequently, the cumulative stormwater strategy for AIE + EEP has been updated to exclude AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 and include AIE Lot 4 proposed warehouse.

Sydney Water has provided SEARs Agency Advice dated 16 January 2026 to DPHI in relation to AIE Lot 4 SEARs and AIE SSD-10448 MOD12. The Sydney Water Agency Advice acknowledged that AIE WH4 could be developed through the surplus SSA created from the delivery of Basin 7A by Gibb Group. In addition, Sydney Water have noted that further SSA allocation could be provided with the delivery of Basin 7B by either Gibb Group, Mirvac or another developer, or any other basin within the Wianamatta sub-catchment with sufficient SSA.

To satisfy Sydney Water SSA requirements, there are other required water management measures, which include:

- Provision of a GPT (refer to **Section 4.6 and 4.9**)
- Provision of OSD (**Section 4.5,** addressed at an estate-based level by the estate bio-retention basin, refer to AIE SSD-10448 MOD 12 WSMP)
- Provision of Passively irrigated Street Trees (refer to **Section 4.4.1**)
- Construction phase implementation of applicable erosion and sediment controls (refer to **Section 4.11**)

It is understood that:

- Construction Certificate for Lot 4 *cannot* be obtained until construction has formally commenced on the regional basin infrastructure (to which SSA is being allocated from – likely regional basin 7A by Gibb Group), to Sydney Water's satisfaction, prior to issuance of Construction Certificate (building works) for Warehouse 4. This is to ensure that the SSA capacity will be available before completion of the dependent Warehouse 4 NDA works.

- Occupation Certificate for Lot 4 *cannot* be obtained until the regional basin 7A to which SSA is being allocated to AIE has been completed to Sydney Water's written satisfaction.

For clarity, it is understood that the Lot 4 works *can* occur concurrently with the regional basin construction works, noting that suitable Construction Phase erosion and sediment controls are in place to meet the Construction Phase targets for water quality/quantity outlined in the DCP. As such, it may be necessary to

maintain the use of the onlot sediment basin(s) until such time that the respective Regional Stormwater basin infrastructure outlined in the SSA letter is completed.

AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 have predominately completed construction and are currently operational, however, with the SSA allocation letter, AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 will not require interim on-lot stormwater quality and quantity measures for WWH targets going forward from practical completion of the agreed regional infrastructure. The on-lot Stormwater Management Strategy for DCP compliance for AIE Lot 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 remains unchanged. Refer to MOD 11 WSMP for more information.

4.4.1. Passively Irrigated Street Trees

It is noted that the DCP requires the implementation of Passively Irrigated Street Trees as part of the estate infrastructure works. Whilst the SSD for Lot 4 does not include any estate infrastructure works, Mirvac and Sydney Water separately reached an agreement (included in **Appendix G**), to provide a financial contribution to offset Mirvac's requirement for the implementation of Passively Irrigated Street Trees within the AIE.

4.5. Stormwater Quantity and On-Site Detention

The assessment of the performance of stormwater quantity (peak flow rates) management for the AIE Site to ensure post development peak flow rates do not exceed pre-development peak flow rates (for the AIE site) has been undertaken for two post-development scenarios:

a) AIE Site under Stage 5 development conditions, with a modified detention basin outlet arrangement to accommodate the interim retention pond that is required to satisfy stormwater quality and flow volume targets (MARV and flow duration).

b) AIE Site under Ultimate development conditions (entire AIE concept masterplan), with the detention basin outlet in its ultimate arrangement.

In shall be noted that the assessment of the performance of stormwater quantity (peak flow rates) is unchanged for the AIE Site, and the below results are unchanged from previous WSMP's approved for AIE. Refer to AT&L's MOD3 Civil Infrastructure Report (AT&L, August 2022) and the MOD4 Water and Stormwater Management Plan (December 2023) for further information regarding the estate basin (incorporating both bio-retention and OSD) and Staged works, including the overall stormwater management strategy addressing the requirements of the MRP DCP.

Table 3 indicates the pre-development and post-development peak flow rates on AIE for a range of design storm events between and including the 1-year ARI and 100-year ARI at the Mamre Road culverts. Note the modelling of the basin tailwater levels within the Mamre Road culverts have been incorporated based on flood modelling undertaken by Cardno and included as part of the SSD-10448 MOD3 consent.

Table 3: Pre-development and post-development flows at discharge point to Mamre Road culvert

Design Storm Event	Pre-Development Peak Flow Rate (m^3/s)	Post-Development Peak Flow Rate– Stage 5 (m^3/s)	Post Development Peak Flow Rate – Ultimate AIE Concept Masterplan (m^3/s)
1-Year ARI (63.2% AEP)	1.40	1.03	1.40
2-Year ARI (39.4% AEP)	4.34	2.20	2.97
5-Year ARI (18.1% AEP)	8.54	4.07	4.69
10-Year ARI (≈ 10% AEP)	10.1	5.17	5.98
20-Year ARI (≈ 5% AEP)	12.1	6.77	7.59
100-Year ARI (1% AEP)	15.7	9.37	10.1

The above DRAINS model results for AIE demonstrates that the post-development peak flow rates for both the ultimate AIE concept Masterplan and all interim stages up to and including Stage 5 would be less than or equal to pre-development peak flow rates for a range of storm events between (and including) the 1-year ARI and 100-year ARI design events. Therefore, the stormwater drainage system and detention basins as proposed would satisfy the development controls relating to stormwater quantity management.

4.6. Proposed Site Stormwater Drainage

Lot/Warehouse 4 is part of the catchment that will ultimately discharge to the estate-wide detention basin that has been constructed under SSD-10448. Refer to AT&L's MOD3 Civil Infrastructure Report (AT&L, August 2022) and the MOD4 Water and Stormwater Management Plan (December 2023) for further information regarding the estate basin (incorporating both bio-retention and OSD) and Staged works, including the overall stormwater management strategy addressing the requirements of the MRP DCP.

Two points of stormwater discharge from the Lot/Warehouse 4 has been provided as part of the estate works which all drain into the estate stormwater network within Estate Road 03, constructed under SSD-10448. These include:

1. 1.5m x 0.9m culvert stub located at the northwest corner of Lot/Warehouse 4

2. Stubs for a twin DN600 stormwater pipes located south-western side of Lot 4

All stormwater discharging via the nominated drainage stubs (1.5mx0.9m stub and twin DN600 pipe stubs) are proposed to be pre-treated by a GPT constructed as part of the Lot/Warehouse 4 works prior to discharge into Estate Road 03.

In addition, there is a small surface inlet pit located on the western side of Lot 4 between the two industrial driveways. This pit currently picks up minor stormwater flows from Lot 4, within temporary batters which fall from the main building pad, down towards Berriwerri Drive (Road 03). This pit, and corresponding swale, is to be maintained in part as part of the Lot 4 works.

The proposed stormwater drainage system within the Lot/Warehouse 4 is presented on drawings DA.2441-DA.2446.

Ultimately, all stormwater from Lot 4 drains through the AIE stormwater pit and pipe network, discharging to the AIE estate bio-retention basin. Stormwater discharge from the AIE estate bio-retention basin drains towards the NW, via a culvert under Mamre Road, towards South Creek. The stormwater from AIE will ultimately be re-directed by others into the Sydney Water regional stormwater basins, upstream of South Creek.

4.7. Design Criteria

The proposed stormwater drainage within Lot/Warehouse 4 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 4 are as follows:

- Finished Floor Levels (FFLs) of the proposed warehouse and office buildings on Lot/Warehouse 4 will have a minimum 500mm freeboard to the peak 1% AEP flood levels within the lot. The lot 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 4.
- All stormwater drainage within Lot/Warehouse 4, including pit and pipe drainage and the proposed GPT(s), will be owned and operated by the Proponent.

4.8. Major and Minor System Drainage.

4.8.1. General Design

Stormwater modelling software (DRAINS or equivalent) will be used undertake a hydrologic and hydraulic analysis of the proposed stormwater drainage within Lot/Warehouse 4 during detailed design. DRAINS is confirmed by Penrith City Council as the preferred stormwater design and analysis package.

4.8.2. Catchments

Delineation of catchments within the Lot/Warehouse 4 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.

4.8.3. Hydrology and Hydraulics

The following design criteria is to be adopted in the development of the hydrological and hydraulic analysis of the proposed stormwater drainage system that will service Lot/Warehouse 4:

- 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 m^2/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.

4.9. On-lot water management measures

The required on-lot water management measures are generally unchanged from AIE MOD 2, and are consistent with AIE MOD4, AIE MOD8, AIE MOD11 and AIE MOD12.

Regarding operational phase stormwater management targets, subject to Mirvac obtaining Sydney Water Stormwater Scheme Served Area (SSA) offsets for the AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04, these catchments are no longer required to be included within the cumulative stormwater management strategy. As defined by Sydney Water; *the SSA is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/quantity infrastructure, excluding those that are required specifically in the DCP (i.e. gross pollution traps, on-site detention and construction phase sediment and erosion controls).* Consequently, the cumulative stormwater strategy for AIE + EEP has been updated to remove AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 & Road 04 and include AIE Lot 4 proposed warehouse (refer to AIE SSD-10448 MOD12).

On-lot measures that will be constructed as part of the Lot 4/Warehouse 4 development will be limited to provision of Gross pollutant traps (GPTs) (2 of). A GPT will be provided at the north-west point of discharge from the internal stormwater drainage network to the existing 1.5m x 0.9m culvert under Estate Road 3. Another GPT will be provided at the south-west point of discharge at the twin DN600 pipe stubs.

On-site detention is provided for Lot 4 at an estate-based level, through the on-site detention basin located to the west of Lot 1 within AIE.

The proposed on-lot measures described above are presented on drawings DA.C2441 to DA.C2446 inclusive.

4.10. Water Demands and Sources

Water demands that will be generated by the proposed development of Lot 4/Warehouse 4 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)
- Fire management services (e.g., sprinklers, hydrants)

The AIE Site is serviced by reticulated potable and recycled water, noting that the recycled watermains within the AIE Site are cross connected to potable water until such time that the regional recycled water network is operational by Sydney Water. Lot/Warehouse 4 will connect to both the potable water and recycled water network within Berriwerri Drive, connecting Lot/Warehouse 4 to the future reticulated recycled water network in the Mamre Road Precinct.

4.11. Construction Phase Erosion and Sediment Controls

The Mamre Road DCP includes the requirement to meet a series of Construction Phase stormwater flow targets. Generally, these construction phase stormwater flow targets are met through the implementation of appropriate erosion and sediment controls. For catchments in excess of 2,500m2, the construction phase stormwater flow targets are met through the use of sedimentation basins. These sediment basins can take the form of a Type A, Type B, or oversized Type D sediment basin.

As noted above, a Type B sediment basin and perimeter diversion sediment swales have already been constructed within Lot 4. It is proposed to utilise the existing sediment basin and swales for the construction of the Lot/Warehouse 4 works. That said, subject to the preference of the Contractor, the existing Type B sediment basin could be augmented to take the form of an oversized Type B sediment basin, consistent with separate advice from CPHR.

AT&L has prepared a separate set of Erosion and Sediment Control Plans for Lot 4, which provide further details and sizing of the proposed erosion and sediment controls to be implemented on Lot 4 prior to the commencement of works. These plans include sizing of both a Type B and oversized Type D sediment basin, to provide flexibility in preferred means of addressing sediment control.

Ultimately, it is expected that the Conditions of Consent will require further detailed ESCP's to be prepared, which will form part of the CEMP for Lot 4. These ESCP's will also detail any staged construction and changes to ESC's required during each stage of construction.

5. Internal Roads, Driveways and Parking

5.1. 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

5.2. 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 drawings DA.C2450 and DA.C2451.

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 DA.C2451.

It is expected that the fire trail pavement will consist of a sealed pavement on compacted road base. Final pavement design will be confirmed at the detailed design stage. The proposed extent of fire trail pavement pavements is presented on drawings DA.C2450 and DA.C2451.

5.3. Driveways and vehicle crossings

Four driveways/vehicle crossings will be constructed as access points to Lot/Warehouse 4:

- One light vehicle crossing off Berriwerri Drive (Road 03) for access to the proposed carpark (car entry and exit).
- Three heavy vehicle crossings off Berriwerri Drive (Road 03) for vehicles accessing the proposed warehouse hardstand areas.

Where possible, driveway and layback locations have been located to ensure a minimum 1 metre clearance between the outside of the layback to light poles and stormwater pits, to minimise any service adjustments and to minimise the need for butterfly inlet grates.

All driveways and laybacks will be constructed in accordance with the following:

- Penrith City Council Civil Works Specification
- Australian standards for maximum grading within the driveway and carpark.

6. External Infrastructure and Utility Services

6.1. Utility Services

Lead-in utility services required to service Lot/Warehouse 4 has been installed as part of the estate-wide infrastructure works approved under SSD-10448. This has included:

- 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 existing utility infrastructure that will provide service to Lot 4 are presented in AT&L's Lot 4 Services Infrastructure Assessment (AT&L, December 2025).

Refer to letter from Qalchek confirming plans for potable water, recycled water and wastewater have been approved by Sydney Water.

Lot/Warehouse 4 will connect to Sydney Water's potable water and recycled water reticulation system.

6.2. 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 4 prior to occupation of the Lot/Warehouse 4.

6.3. 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 4.

6.4. Future Dedicated Freight Network

The proposed Concept Masterplan that accompanies the MOD3 application includes provision for the future Dedicated Freight Network (otherwise referred to as the Automated Guided Vehicle network, or AGV) adjacent to the eastern boundary of the AIE Site. Connectivity between the future freight corridor and the AIE Site will be subject to further design development between Mirvac and TfNSW.

MOD 12 will also seek to amend the alignment of the Automated Guided Vehicle network at the eastern boundary of Lot 4 to be consistent with the approved AGV alignment within the GPT approvals to the north and Barings approvals to the South. The revised alignment of the AGV alignment is included within the MOD12 updated Concept Masterplan.

Mirvac met with Transport for New South Wales (TfNSW) in August 2025, wherein Mirvac presented a series of drawings to show and depict the revised AGV alignment within AIE, and how this alignment was consistent with the approved AGV alignment within the GPT approvals to the north and Barings approvals to the South. TfNSW provided general endorsement of the revised approach by email on 5 August 2025.

It shall be noted that the future Dedicated Freight Network is located within Lot 4 along the eastern boundary as shown in below in **Figure 5**.

Figure 5: Future Dedicated Freight Network Locality Plan (prepared by SBA Architects, August 2025)

With specific reference to Lot/Warehouse 4, the 10m wide corridor for the future Freight Network is shown on the SBA architectural drawings for Lot/Warehouse 4 and has been amended slightly from what was shown on the MOD3 masterplan.

6.5. Working Around Existing Services

Prior to the commencement of construction, the Contractor must obtain advice from Before You Dig Australia (BYDA) in accordance with the requirements of the Electricity Supply Act 1995 (NSW) and associated regulations to identify the location of any underground electrical or other utility infrastructure on the site as well potential hazards associated with existing utilities on the site.

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

7. Inspection and Maintenance Plan

Inspection and maintenance of the stormwater management measures will be implemented at the minimum frequency as outlined in Table 4. The majority of these requirements have been derived from the Penrith City Council guideline titled *Water sensitive urban design (WSUD) inspection and maintenance guidelines* (Version 1.0, 2022).

Regarding the stormwater measures to be constructed as part of Lot 4 specifically, Inspection and Maintenance for each of the stormwater management elements that will be owned, operated and maintained by the Property Owner (or representatives) which includes the two GPTs.

Table 4: Inspection and monitoring requirements

Inspection / Monitoring Requirement	Responsibility	Timing / Frequency	References / Notes
1. Gross pollutant traps			
GPT components (lids and surrounds, inlet, outlet, sump, screens, oil baffles)	Property Owner	At least once every six months	*Refer to the Oceansave GPT Operation and Maintenance Manual provided by Ocean Protect (**Appendix D**).

* GPTs are proprietary products with the report and DA documentation specifying Oceansave. Should an alternative equivalent SQIDEP GPT be nominated and installed, the installed product operation and maintenance manual is to be utilised.

APPENDIX A – Civil Drawings

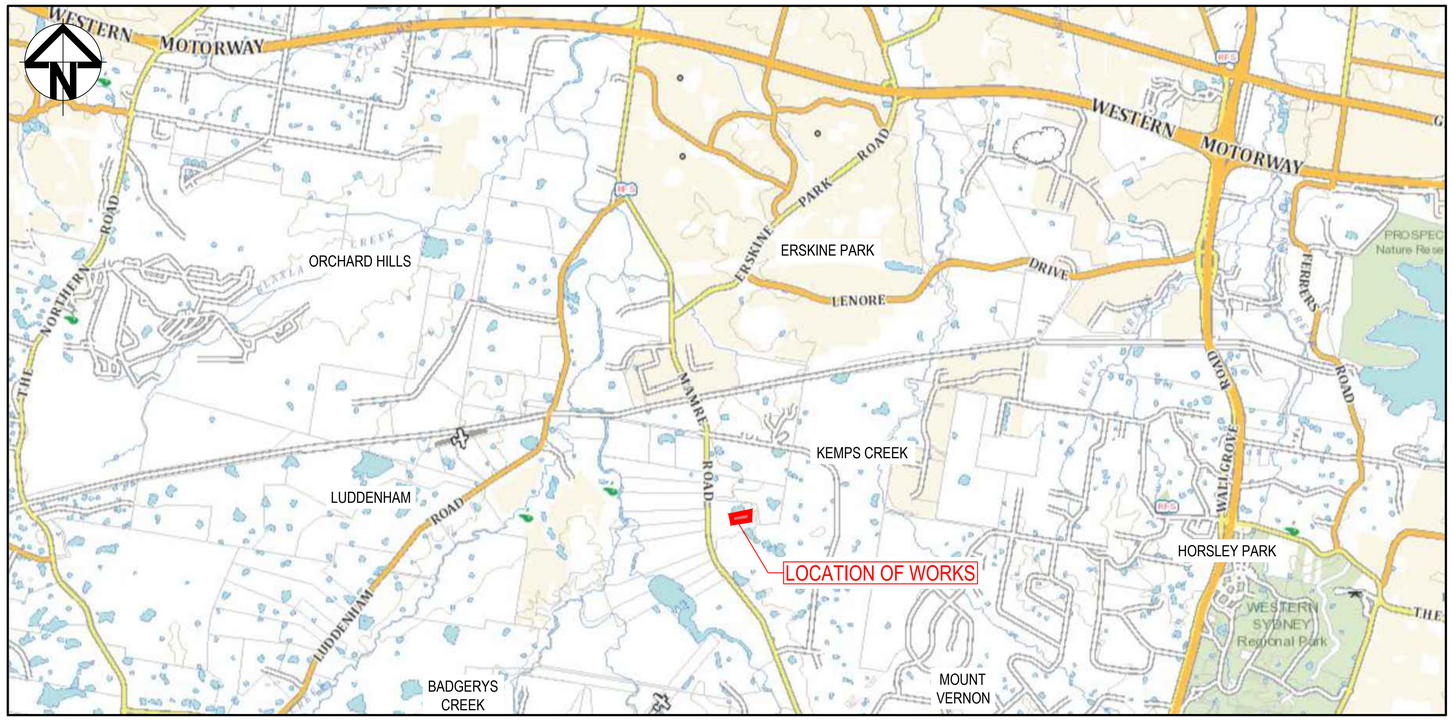
ASPECT INDUSTRIAL ESTATE

LOT 4 CIVIL WORKS PACKAGE

DEVELOPMENT APPLICATION

DRAWING LIST

DRAWING No.	DRAWING TITLE
CV-AIE.B04.DA.2400-AT&L	COVER SHEET LOCALITY PLAN AND DRAWING LIST
CV-AIE.B04.DA.2402-AT&L	GENERAL NOTES AND LEGENDS
CV-AIE.B04.DA.2403-AT&L	GENERAL ARRANGEMENT PLAN
CV-AIE.B04.DA.2411-AT&L	TYPICAL SITE SECTIONS SHEET 1
CV-AIE.B04.DA.2412-AT&L	TYPICAL SITE SECTIONS SHEET 2
CV-AIE.B04.DA.2441-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 1
CV-AIE.B04.DA.2442-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 2
CV-AIE.B04.DA.2443-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 3
CV-AIE.B04.DA.2444-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 4
CV-AIE.B04.DA.2445-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 5
CV-AIE.B04.DA.2446-AT&L	SITEWORKS AND STORMWATER DRAINAGE SHEET 6
CV-AIE.B04.DA.2450-AT&L	PAVEMENT PLAN SHEET 1
CV-AIE.B04.DA.2451-AT&L	PAVEMENT PLAN SHEET 2
CV-AIE.B04.DA.2460-AT&L	BULK EARTHWORKS CUT AND FILL PLAN
CV-AIE.B04.DA.2470-AT&L	EROSION AND SEDIMENT CONTROL PLAN SHEET 1
CV-AIE.B04.DA.2471-AT&L	EROSION AND SEDIMENT CONTROL PLAN SHEET 2
CV-AIE.B04.DA.2472-AT&L	EROSION AND SEDIMENT CONTROL DETAILS



LOCALITY PLAN

NOT TO SCALE

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

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

mirvac

Scales	NTS
Grid	MGA
Height Datum	AHD

GDA2020

Drawn	JB
Designed	JB
Checked	NT
Approved	DS

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title

COVER SHEET
LOCALITY PLAN
AND DRAWING LIST

Civil Engineers and Project Managers

at&l

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Status

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.

CV-AIE.B04.DA.2400-AT&L

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 COMAPACTED 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^3 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.
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.

SURVEY NOTES

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.

DEWATERING

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

EXISTING UNDERGROUND SERVICES

1. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
2. 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.
3. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
4. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
5. 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.
6. 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.

CONCRETE NOTES

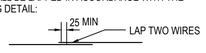
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS 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. BROOM 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 :-
   IF REQUIRED 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.

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 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 HS2 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 3500 3.1 (1998) AND AS/NZS 3500 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, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
10. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
11. GRATES AND COVERS SHALL CONFORM TO AS 3996 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 FOUNDED 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.

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 55.80 — PROPOSED CONTOUR
- PROPOSED PEDESTRIAN HANDRAIL/ BALUSTRADE
- PROPOSED BATTER
- KO — PROPOSED KERB EDGING
- IK — PROPOSED KERB EDGING INTEGRAL
- K&G — PROPOSED KERB AND GUTTER
- DD — PROPOSED DISHDRAIN
- PROPOSED SAFETY BARRIER
- VC — VEHICULAR CROSSING DRIVEWAY CROSSOVER IN ACCORDANCE WITH PCC SPECIFICATION
- SS — PROPOSED SUBSOIL
- PROPOSED CATCH DRAIN
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER DRAINAGE LINE REFER HYDRAULIC ENGINEER
- GD — PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH

FINISHED SURFACE LEVELS

1. PROPOSED FINISHED FLOOR LEVELS ARE ±1000mm FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448)
2. ALL OTHER FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

NOTES:
1. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
2. RETAINING WALL LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. VEHICLE TURNING PATHS TO BE CONFIRMED DURING DETAILED DESIGN.

BEFORE YOU DIG www.byda.com.au

CONTRACTOR SHALL OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS PRIOR TO COMMENCEMENT OF WORK

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

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Client: mirvac

Scales	NTS	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: GENERAL NOTES AND LEGENDS

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: CV-AIE.B04.DA.2402-AT&L

100mm on Original

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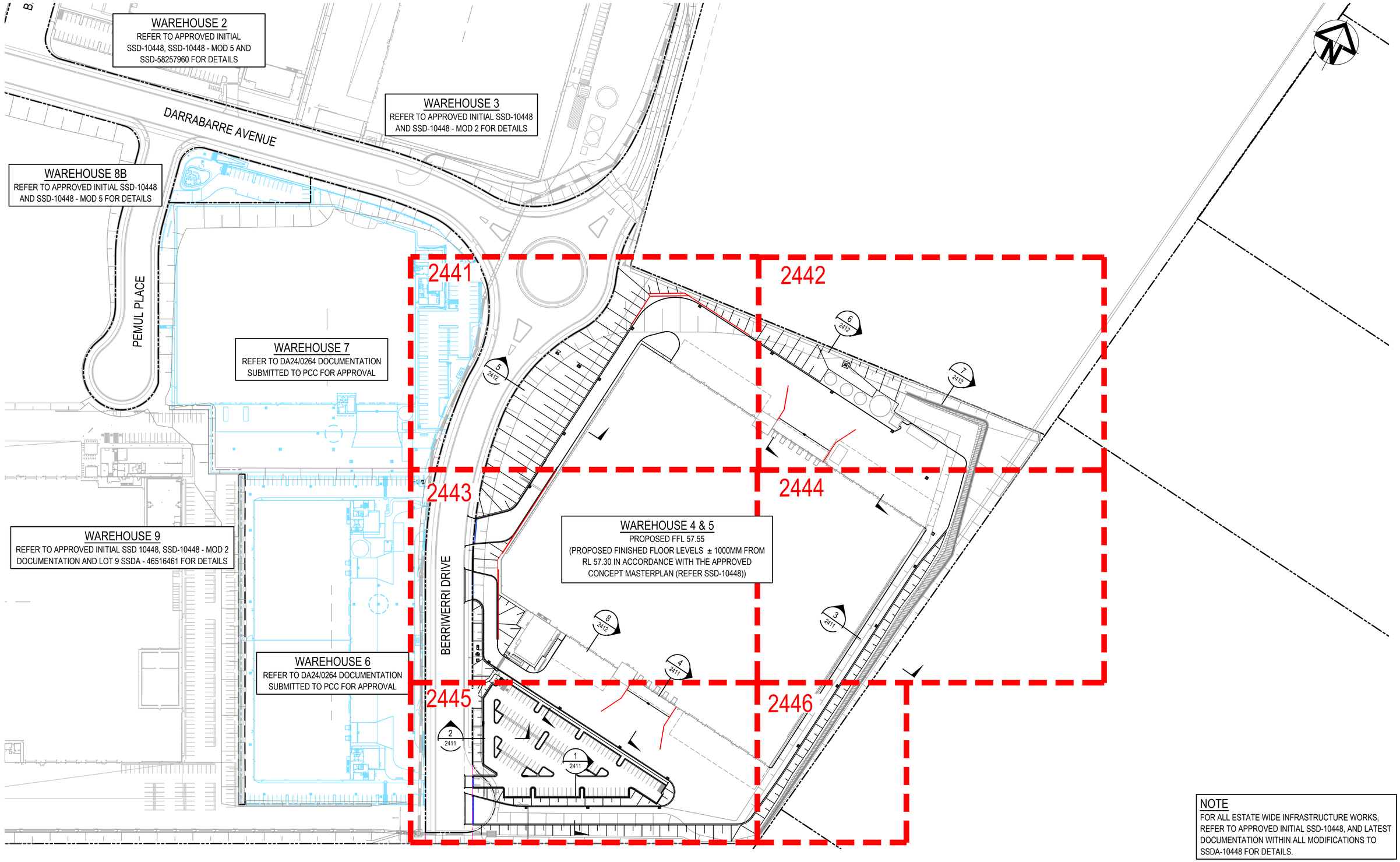

NOTE
FOR ALL ESTATE WIDE INFRASTRUCTURE WORKS, REFER TO APPROVED INITIAL SSD-10448, AND LATEST DOCUMENTATION WITHIN ALL MODIFICATIONS TO SSDA-10448 FOR DETAILS.

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales
0 20 40 60 80 100m
1 : 1000 @ A1 1 : 2000 @ A3

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Client: mirvac

Scales	1:1000
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
GENERAL ARRANGEMENT PLAN

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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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.
CV-AIE.B04.DA.2403-AT&L

100mm on Original

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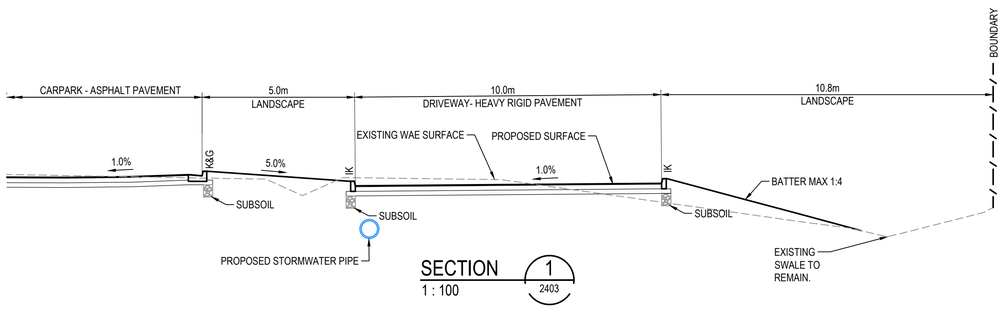

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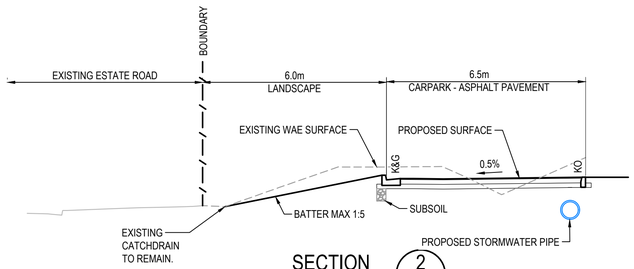
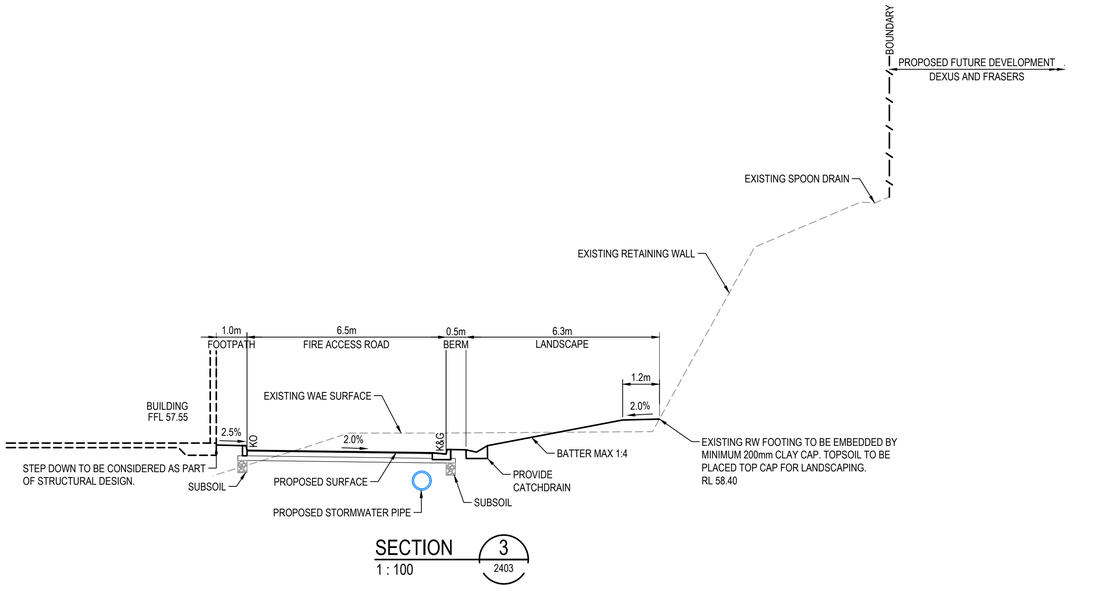
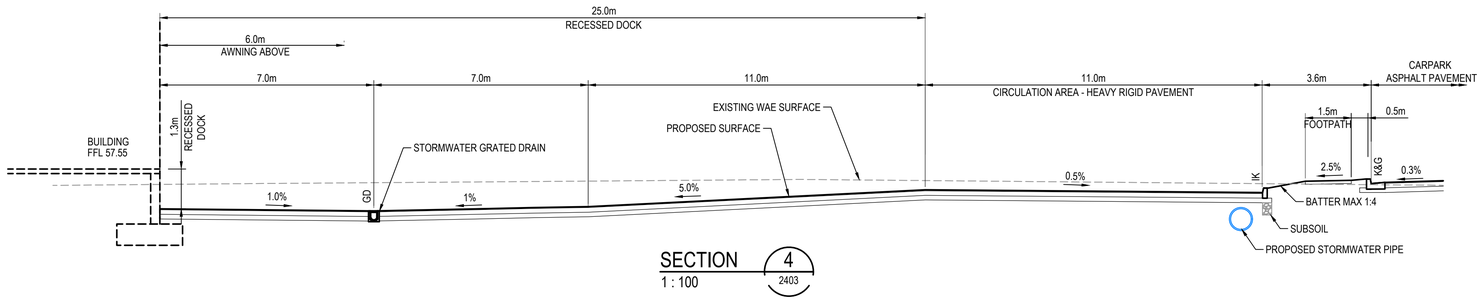


SECTION 2
1 : 100 2403



SECTION 3
1 : 100 2403



SECTION 4
1 : 100 2403

NOTES

1. PROPOSED WAREHOUSE FINISHED FLOOR LEVELS ARE ±1000mm FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448)
2. ALL OTHER FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client

mirvac

Scales	1:100	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
TYPICAL SITE 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

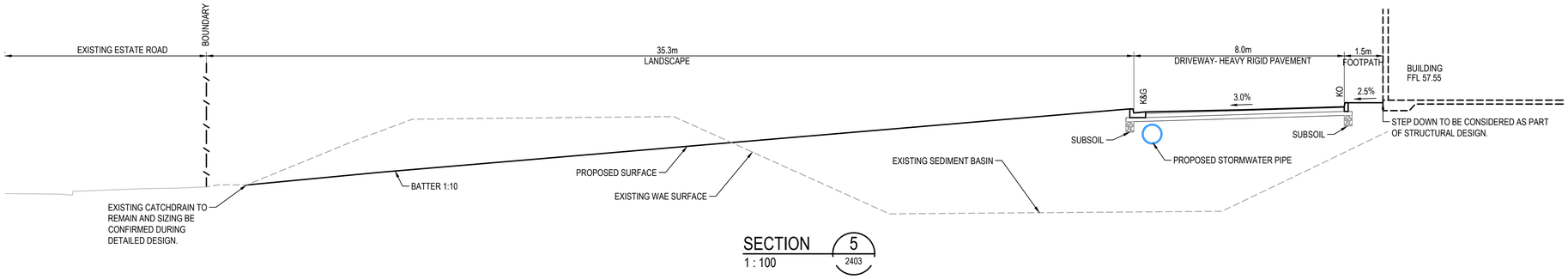
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

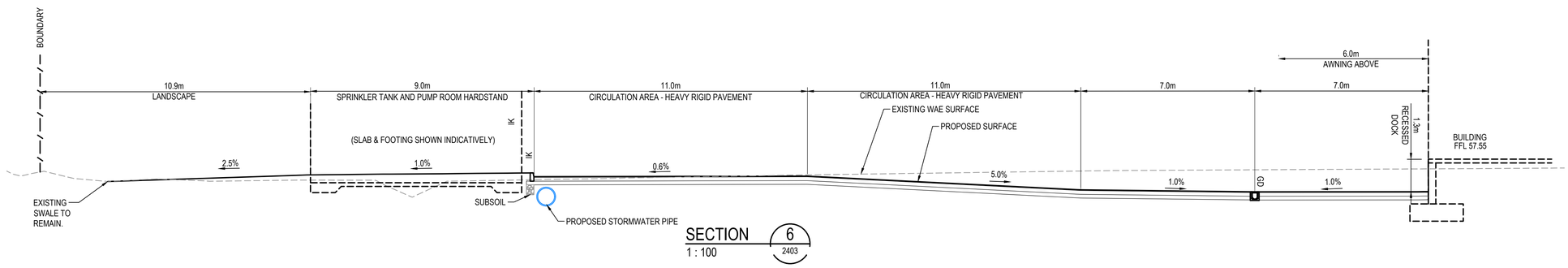
Project - Drawing No.
CV-AIE.B04.DA.2411-AT&L

100mm on Original

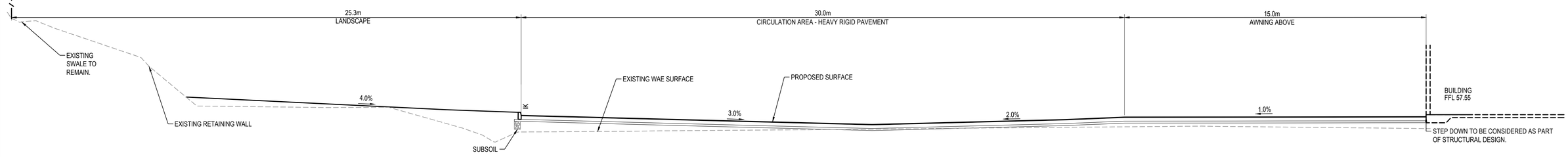
F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\2400_Lot 4 5 DA\CV-AIE.B04.DA.2411-AT&L.dwg



SECTION 5
1 : 100 2403



SECTION 6
1 : 100 2403



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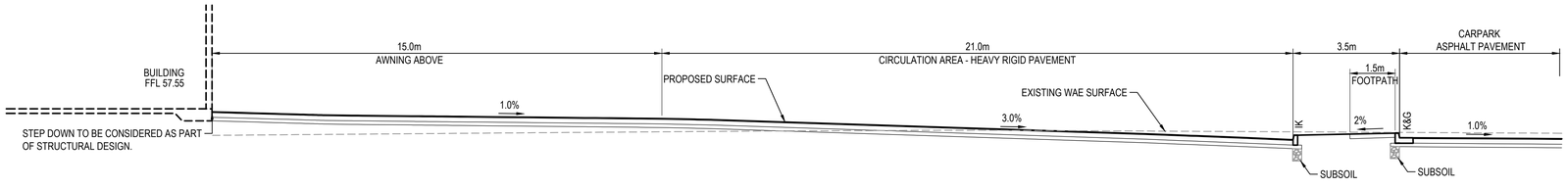
1 : 100 2403



SECTION 8
1 : 100 2403

NOTES

1. PROPOSED WAREHOUSE FINISHED FLOOR LEVELS ARE ±1000mm FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448)
2. ALL OTHER FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client: mirvac

Scales: 1:100
Grid: MGA
Height Datum: AHD

Drawn: JB
Designed: JB
Checked: NT
Approved: DS

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: TYPICAL SITE SECTIONS
SHEET 2

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Status: FOR APPROVAL
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A1

Project - Drawing No.
CV-AIE.B04.DA.2412-AT&L

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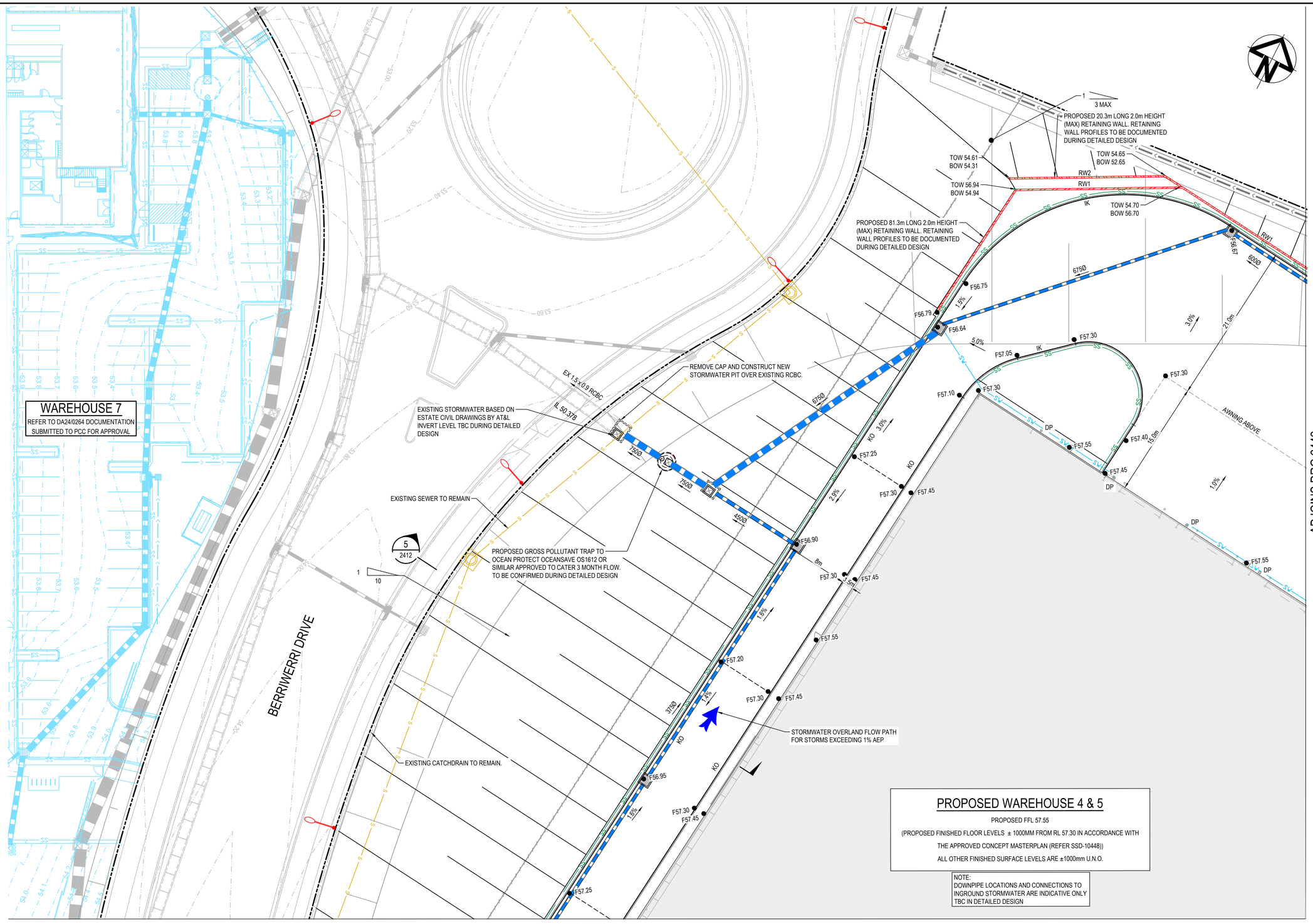

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales		Drawn	JB
	1:250	Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
SITEWORKS
AND STORMWATER DRAINAGE
SHEET 1

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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Status: FOR APPROVAL
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A1

Project - Drawing No.
CV-AIE.B04.DA.2441-AT&L

100mm on Original

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ADJOINS DRG 2441

STORMWATER OVERLAND FLOW PATH
FOR STORMS EXCEEDING 1% AEP

TOW 56.98
BOW 57.08

RAISED GRATE SURFACE INLET PIT
WITH CONCRETE APRON TO PCC
SPECIFICATIONS

RETAINING WALLS TO
STRUCTURAL
ENGINEERS DETAILS

EXISTING CATCHDRAIN TO BE
REDIRECTED AT 1.0% MIN.

TRANSITION 150mm TO 300mm HIGH
INTEGRAL KERB OVER 2m.

TANK

TANK

TANK

SPRINKLER TANK

PUMP
ROOM
F57.30

DOCK
OFFICE
FFL 57.55

AWNING ABOVE

PROPOSED WAREHOUSE 4 & 5

PROPOSED FFL 57.55

(PROPOSED FINISHED FLOOR LEVELS ± 1000MM FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448))

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

NOTE:
DOWNPIPE LOCATIONS AND CONNECTIONS TO INGROUND STORMWATER ARE INDICATIVE ONLY TBC IN DETAILED DESIGN

ADJOINS DRG 2444

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
SITEWORKS
AND STORMWATER DRAINAGE
SHEET 2

Civil Engineers and Project Managers
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Tel: 02 9439 1777
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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
CV-AIE.B04.DA.2442-AT&L

100mm on Original

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ADJOINS DRG 2441

ADJOINS DRG 2444

ADJOINS DRG 2445

EXISTING SEWER TO REMAIN

PROVIDE FOOTPATH RESTORATION 1m BEYOND VEHICULAR CROSSING. (TYP)

EXISTING CATCHDRAIN TO REMAIN.

BERRIWERRI DRIVE

250mm WIDE GRATED DRAIN

PROPOSED DRIVEWAY LAYBACK CONSTRUCTED IN ACCORDANCE WITH PCC SPECIFICATIONS

EXISTING FOOTPATH TO BE DEMOLISHED FOR DRIVEWAY CONSTRUCTION. CONTRACTOR MAY BE REQUIRED TO DEMOLISH AND RECONSTRUCT LENGTHS OF FOOTPATH ADJACENT TO DRIVEWAY TO ADJUST VERGE GRADES. CONTRACTOR TO DETERMINE EXTENT OF FOOTPATH WORKS ONSITE WITH PENRITH CITY COUNCIL.

EXISTING LIGHTPOLE TO REMAIN

TOW 57.40
BOW 57.10

CONNECT PROPOSED DRAINAGE INTO EXISTING SURFACE INLET PIT

TOW 57.40
BOW 55.90

TOW 57.40
BOW 55.88

TOW 57.40
BOW 57.35

TOW 56.75
BOW 56.60

EXISTING STORMWATER BASED ON ESTATE CIVIL DRAWINGS BY AT&L INVERT LEVEL TBC DURING DETAILED DESIGN

REMOVE CAP AND CONNECT TO EXISTING TWIN 600Ø STORMWATER PIPES. CONSTRUCT NEW STORMWATER PIT OVER EXISTING STORMWATER PITS. ACTUAL IL TO BE CONFIRMED DURING DETAILED DESIGN.

EX 2x600Ø RCP
IL 53.444

PROPOSED GROSS POLLUTANT TRAP TO OCEAN PROTECT OCEANSAVE OS1612 OR SIMILAR APPROVED TO CATER 3 MONTH FLOW. TO BE CONFIRMED DURING DETAILED DESIGN

1 5 MAX

1 8 MAX

1 3 MAX

1 4 MAX

WAREHOUSE 6

REFER TO DA24/0264 DOCUMENTATION SUBMITTED TO PCC FOR APPROVAL

OFFICE

FFL 57.55

DOCK OFFICE

FFL 57.55

8
2412

PROPOSED WAREHOUSE 4 & 5

PROPOSED FFL 57.55

(PROPOSED FINISHED FLOOR LEVELS ± 1000MM FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448))

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

NOTE:
DOWNPIPE LOCATIONS AND CONNECTIONS TO INGROUND STORMWATER ARE INDICATIVE ONLY TBC IN DETAILED DESIGN

AWNING ABOVE

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
SITEWORKS
AND STORMWATER DRAINAGE
SHEET 3

Civil Engineers and Project Managers
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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.
CV-AIE.B04.DA.2443-AT&L

100mm on Original

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ADJOINS DRG 2442

ADJOINS DRG 2443

PROPOSED WAREHOUSE 4 & 5

PROPOSED FFL 57.55

(PROPOSED FINISHED FLOOR LEVELS ± 1000MM FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448))

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

NOTE:
DOWNPIPE LOCATIONS AND CONNECTIONS TO INGROUND STORMWATER ARE INDICATIVE ONLY TBC IN DETAILED DESIGN

AWNING ABOVE

PROPOSED 300mm HIGH INTEGRAL KERB

EXISTING RW FOOTING TO BE EMBEDDED BY MINIMUM 200mm CLAY CAP. TOPSOIL TO BE PLACED TOP CAP FOR LANDSCAPING. RL 58.20

EXISTING RETAINING WALL.

TRANSITION 150mm K&G TO 300mm HIGH INTEGRAL KERB OVER 2m.

STORMWATER OVERLAND FLOW PATH FOR STORMS EXCEEDING 1% AEP

EXISTING RW FOOTING TO BE EMBEDDED BY MINIMUM 200mm CLAY CAP. TOPSOIL TO BE PLACED TOP CAP FOR LANDSCAPING. RL 58.40

ADJOINS DRG 2446

Issue	Description	Date
C	ISSUE FOR SSDA	23.01.26
B	ISSUE FOR CLIENT REVIEW	19.11.25
A	ISSUE FOR CLIENT REVIEW	30.10.25

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

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Client: mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: SITEWORKS
AND STORMWATER DRAINAGE
SHEET 4

Civil Engineers and Project Managers
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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.
CV-AIE.B04.DA.2444-AT&L

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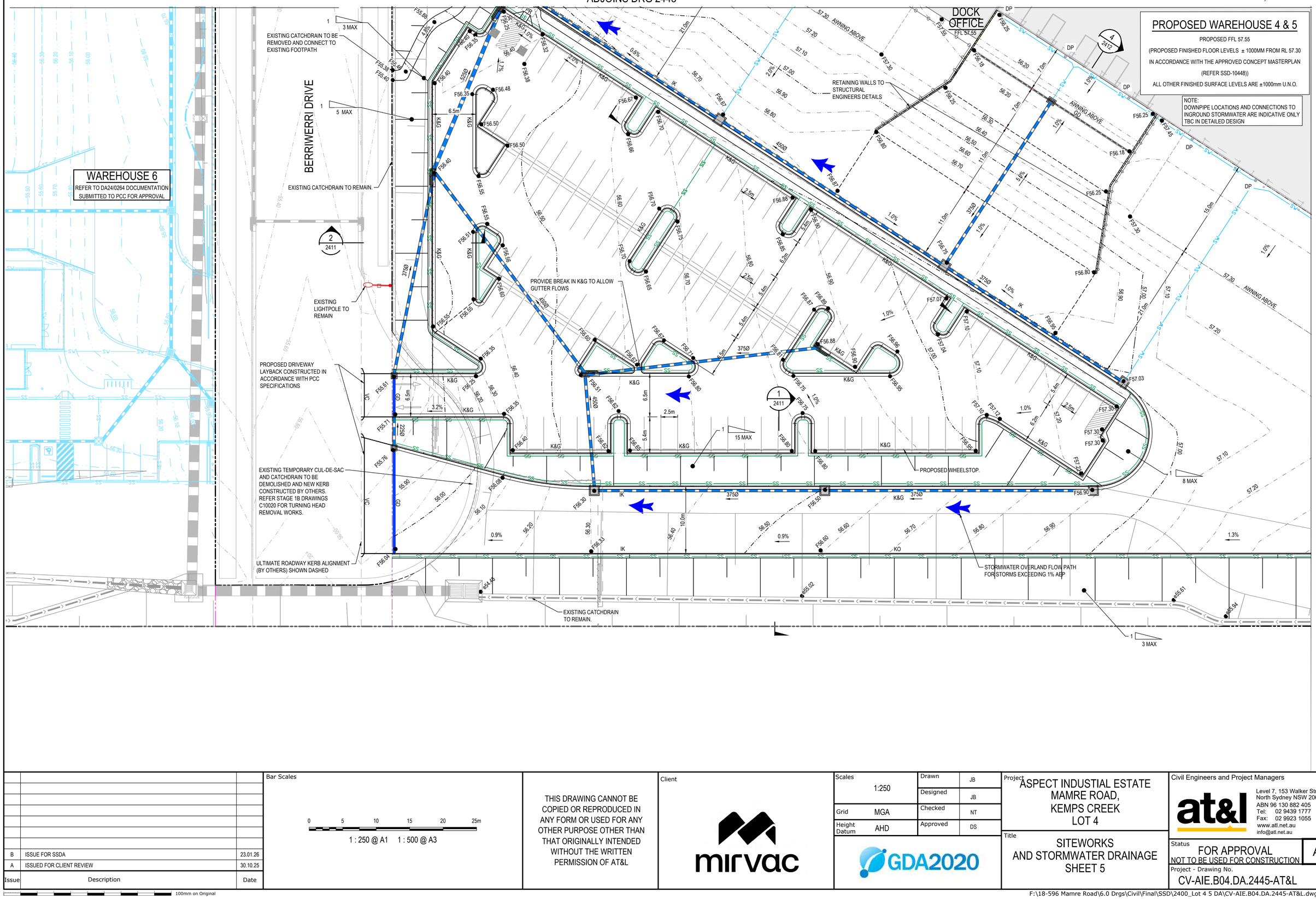
ADJOINS DRG 2443

ADJOINS DRG 2446



Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: SITEWORKS AND STORMWATER DRAINAGE SHEET 5

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
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Status: FOR APPROVAL
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A1

Project - Drawing No.
CV-AIE.B04.DA.2445-AT&L

100mm on Original

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ADJOINS DRG 2444

ADJOINS DRG 2445

PROPOSED WAREHOUSE 4 & 5

PROPOSED FFL 57.55

(PROPOSED FINISHED FLOOR LEVELS ± 1000MM FROM RL 57.30 IN ACCORDANCE WITH THE APPROVED CONCEPT MASTERPLAN (REFER SSD-10448))

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

NOTE:
DOWNPIPE LOCATIONS AND CONNECTIONS TO INGROUND STORMWATER ARE INDICATIVE ONLY TBC IN DETAILED DESIGN

EXISTING RETAINING WALL.

EXISTING RW FOOTING TO BE EMBEDDED BY MINIMUM 200mm CLAY CAP. TOPSOIL TO BE PLACED TOP CAP FOR LANDSCAPING. RL 58.40

EXISTING CATCHDRAIN TO REMAIN.

Issue	Description	Date
C	ISSUE FOR SSDA	23.01.26
B	ISSUED FOR CLIENT REVIEW	19.11.25
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: SITEWORKS
AND STORMWATER DRAINAGE
SHEET 6

Civil Engineers and Project Managers
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Status: FOR APPROVAL
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A1

Project - Drawing No.
CV-AIE.B04.DA.2446-AT&L

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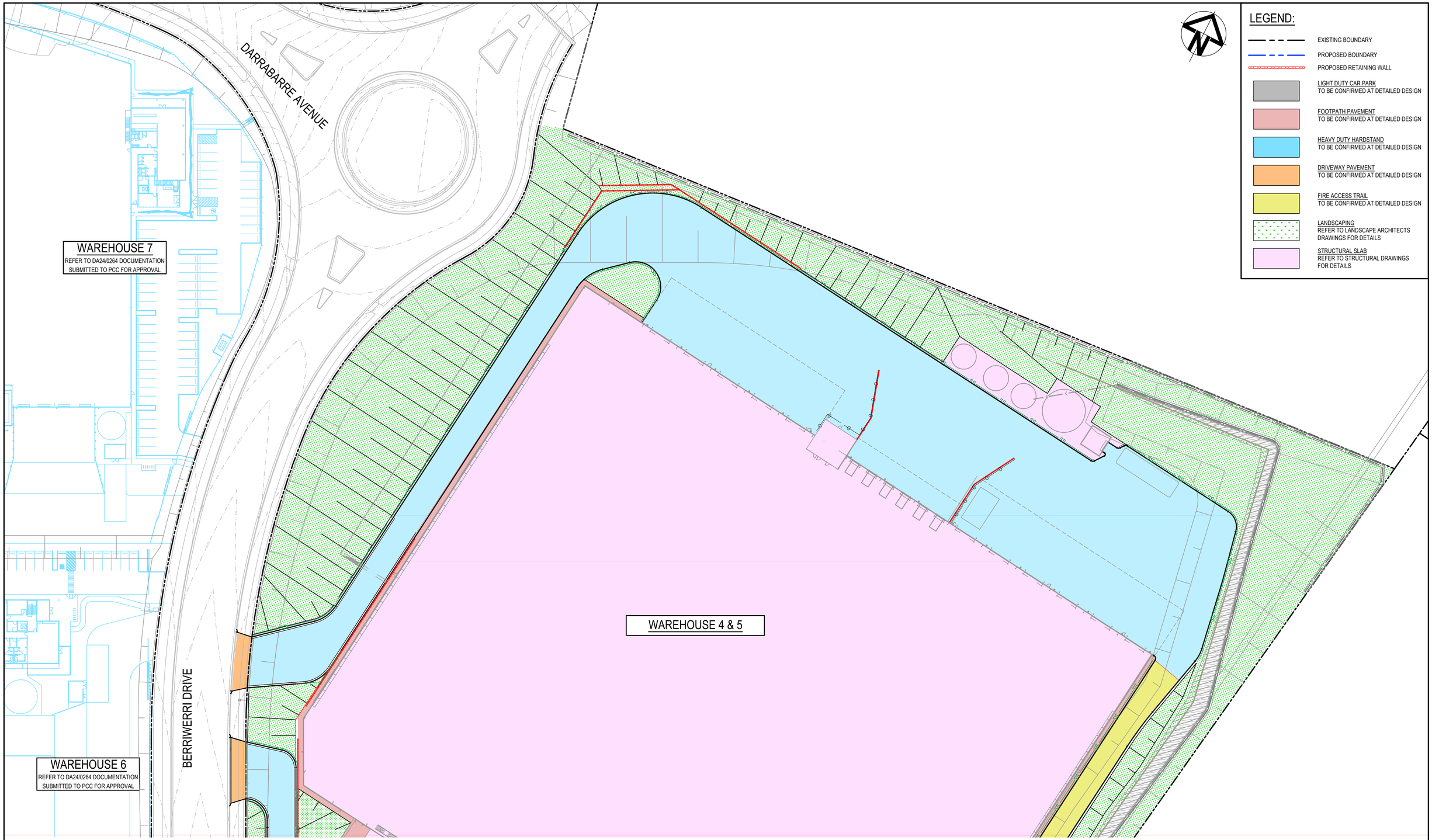

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client

mirvac

Scales	1:500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title

PAVEMENT
PLAN
SHEET 1

Civil Engineers and Project Managers

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Status

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A1

Project - Drawing No.

CV-AIE.B04.DA.2450-AT&L

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ADJOINS DRG 2450

WAREHOUSE 6
REFER TO DA24/0264 DOCUMENTATION SUBMITTED TO PCC FOR APPROVAL

BERRIWERRI DRIVE

WAREHOUSE 4 & 5

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- LIGHT DUTY CAR PARK — TO BE CONFIRMED AT DETAILED DESIGN
- FOOTPATH PAVEMENT — TO BE CONFIRMED AT DETAILED DESIGN
- HEAVY DUTY HARDSTAND — TO BE CONFIRMED AT DETAILED DESIGN
- DRIVEWAY PAVEMENT — TO BE CONFIRMED AT DETAILED DESIGN
- FIRE ACCESS TRAIL — TO BE CONFIRMED AT DETAILED DESIGN
- LANDSCAPING — REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR DETAILS
- STRUCTURAL SLAB — REFER TO STRUCTURAL DRAWINGS FOR DETAILS

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client: mirvac

Scales	1:500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title
PAVEMENT
PLAN
SHEET 2

Civil Engineers and Project Managers
at&l
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Tel: 02 9439 1777
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www.atl.net.au
info@atl.net.au

Status
FOR APPROVAL
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A1

Project - Drawing No.
CV-AIE.B04.DA.2451-AT&L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\2400_Lot 4 5 DA\CV-AIE.B04.DA.2451-AT&L.dwg

CUT\FILL DEPTH RANGE LEGEND

Lower_value		Upper_value		Colour
-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	

EARTHWORKS VOLUMES

NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
13,005	19,617	6,612 IMPORT

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.
3. INFRASTRUCTURE EARTHWORKS ARE SUBJECTED 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 AND\OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL
   - PROPOSED LANDSCAPING
   - STORMWATER AND UTILITY TRENCHING
   - TOPSOIL
   - VARIANCES BETWEEN DESIGN AND WAE LEVELS

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

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Client

mirvac

Scales	1:500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title

BULK EARTHWORKS
CUT AND 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.

CV-AIE.B04.DA.2460-AT&L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\2400_Lot 4 5 DA\CV-AIE.B04.DA.2460-AT&L.dwg

ADJOINS DRG 2471

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client

mirvac

Scales	1:500
Grid	MGA
Height Datum	AHD
Drawn	JB
Designed	JB
Checked	NT
Approved	DS

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title

EROSION AND SEDIMENT CONTROL PLAN SHEET 1

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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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

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Project - Drawing No.

CV-AIE.B04.DA.2470-AT&L

100mm on Original

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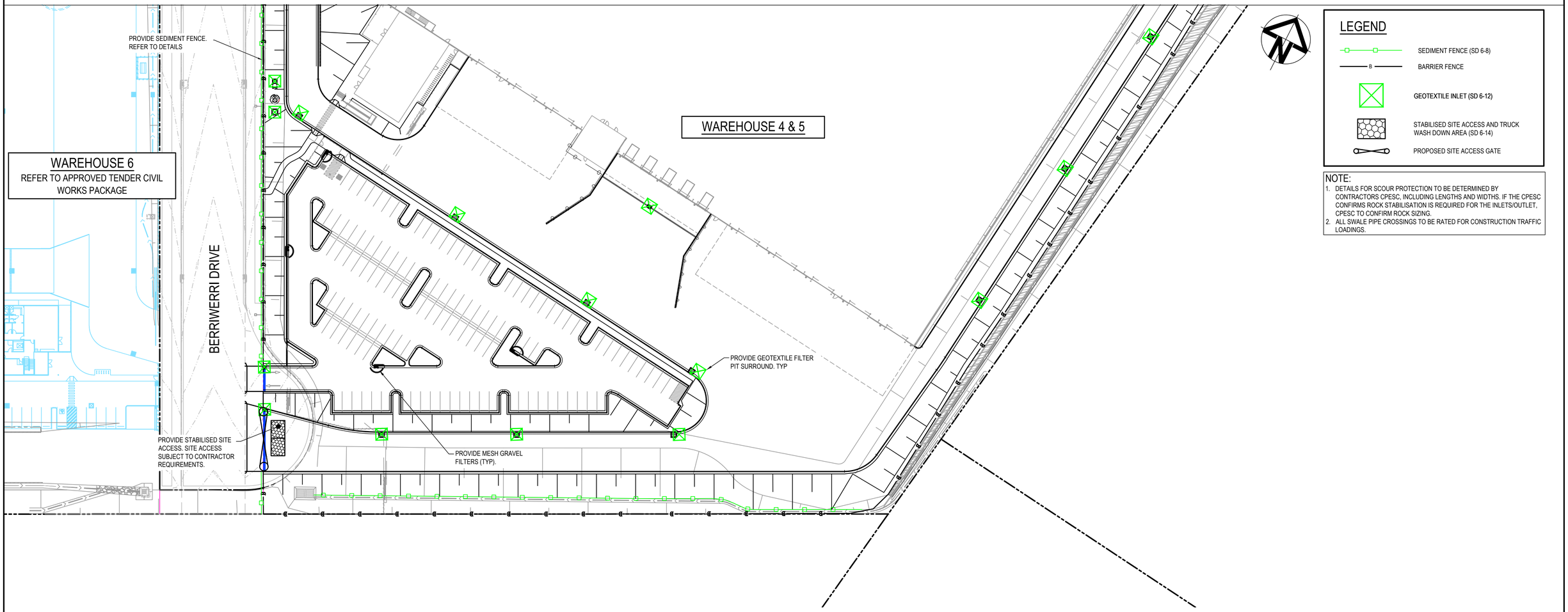
ADJOINS DRG 2470



NOTE:
1. DETAILS FOR SCOUR PROTECTION TO BE DETERMINED BY CONTRACTORS CPESC, INCLUDING LENGTHS AND WIDTHS. IF THE CPESC CONFIRMS ROCK STABILISATION IS REQUIRED FOR THE INLETS/OUTLET, CPESC TO CONFIRM ROCK SIZING.
2. ALL SWALE PIPE CROSSINGS TO BE RATED FOR CONSTRUCTION TRAFFIC LOADINGS.

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client: mirvac

Scales	1:500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: EROSION AND SEDIMENT CONTROL PLAN
SHEET 2

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

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Project - Drawing No.
CV-AIE.B04.DA.2471-AT&L

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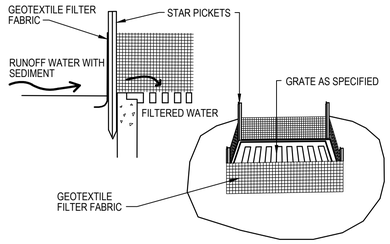
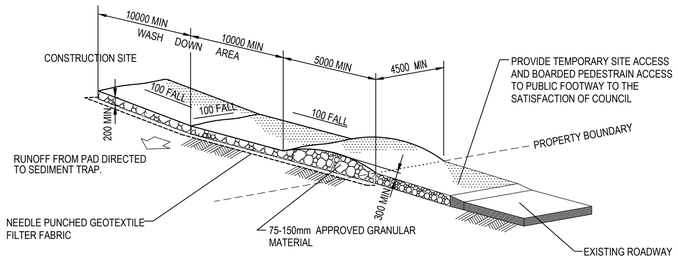


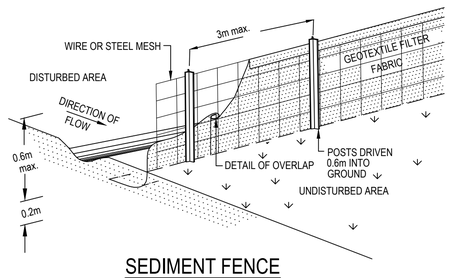
GEOTEXTILE FILTER PIT SURROUND

NTS



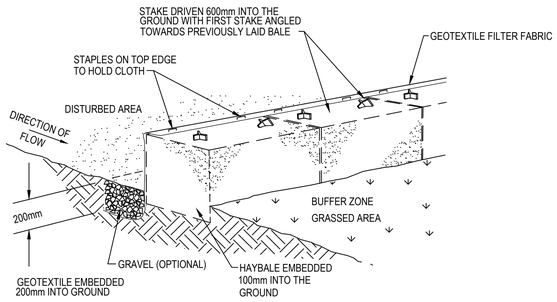
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

NTS



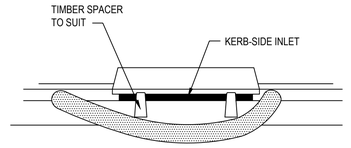
SEDIMENT FENCE

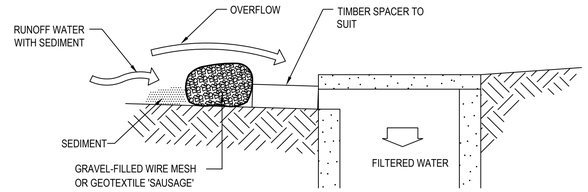
NTS



HAYBALE AND GEOTEXTILE SEDIMENT FILTER

NTS





MESH AND GRAVEL INLET FILTER

NTS

Issue	Description	Date
B	ISSUE FOR SSDA	23.01.26
A	ISSUED FOR CLIENT REVIEW	30.10.25

100mm on Original

Bar Scales

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Client: mirvac

Scales	NTS	Drawn	JB
		Designed	JB
Grid	MGA	Checked	NT
Height Datum	AHD	Approved	DS

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
LOT 4

Title: EROSION AND SEDIMENT CONTROL DETAILS

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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ABN 96 130 882 405
Tel: 02 9439 1777
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
CV-AIE.B04.DA.2472-AT&L

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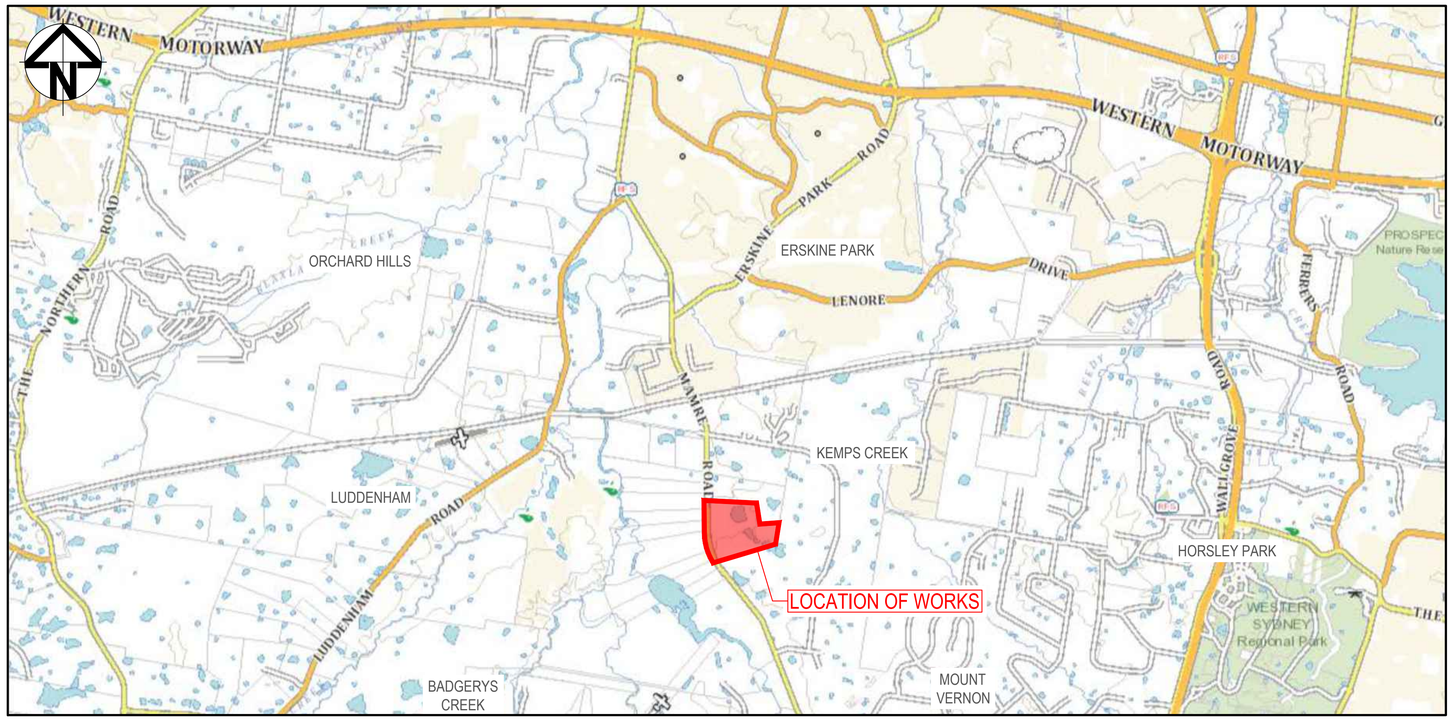
APPENDIX B – Stage 1 Modification No. 3 SSDA Drawings

ASPECT INDUSTRIAL ESTATE

STAGE 1 CIVIL WORKS PACKAGE

STATE SIGNIFICANT DEVELOPMENT

MOD 3 APPLICATION



LOCALITY PLAN

NOT TO SCALE

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

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Client

mirvac

Scales

Grid MGA

Height Datum AHD

GDA2020

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

COVER SHEET AND
LOCALITY PLAN

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
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info@atl.net.au

Status

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.

18-596-C1000

Issue

M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1000.dwg

DRAWINGS INDICATED WITH RED TEXT ARE UNCHANGED FROM SSD
DRAWINGS INDICATED WITH BLUE TEXT ARE UNCHANGED FROM MOD 2
DRAWINGS INDICATED WITH GREEN ARE NO LONGER APPLICABLE AS PART OF MOD 3. THESE NO LONGER FORM PART OF THE CONSOLIDATED SSD,MOD 2 AND MOD 3 PACKAGE

DRAWING LIST MOD 3 APPROVAL ONLY

DRAWING No.	DRAWING TITLE	DRAWING ISSUE
18-596-C1000	COVER SHEET AND LOCALITY PLAN	M
18-596-C1001	DRAWING LIST	N
18-596-C1003	GENERAL ARRANGEMENT PLAN	J
18-596-C1005	TYPICAL ROAD SECTIONS SHEET 1	M
18-596-C1006	TYPICAL ROAD SECTIONS SHEET 2	M
18-596-C1007	TYPICAL ROAD SECTIONS SHEET 3	C
18-596-C1010	TYPICAL SECTIONS SHEET 1	O
18-596-C1011	TYPICAL SECTIONS SHEET 2	N
18-596-C1012	TYPICAL SECTIONS SHEET 3	O
18-596-C1013	TYPICAL SECTIONS SHEET 4	E
18-596-C1020	BULK EARTHWORKS CONTOUR PLAN	O
18-596-C1021	BULK EARTHWORKS SECTIONS SHEET 1	R
18-596-C1022	BULK EARTHWORKS SECTIONS SHEET 2	R
18-596-C1025	BULK EARTHWORKS CUT/FILL PLAN	O
18-596-C1032	BULK EARTHWORKS PLAN SHEET 3	M
18-596-C1033	BULK EARTHWORKS PLAN SHEET 4	M
18-596-C1034	BULK EARTHWORKS PLAN SHEET 5	L
18-596-C1035	BULK EARTHWORKS PLAN SHEET 6	M
18-596-C1036	BULK EARTHWORKS PLAN SHEET 7	L
18-596-C1037	BULK EARTHWORKS PLAN SHEET 8	L
18-596-C1038	BULK EARTHWORKS PLAN SHEET 9	M
18-596-C1039	BULK EARTHWORKS PLAN SHEET 10	M
18-596-C1040	STORMWATER DRAINAGE OVERALL PLAN	N
18-596-C1046	STORMWATER DRAINAGE CATCHMENT PLAN (POST-DEVELOPED)	O
18-596-C1050	ROADWORKS AND STORMWATER DRAINAGE SHEET 1	L
18-596-C1051	ROADWORKS AND STORMWATER DRAINAGE SHEET 2	M
18-596-C1052	ROADWORKS AND STORMWATER DRAINAGE SHEET 3	N
18-596-C1053	ROADWORKS AND STORMWATER DRAINAGE SHEET 4	L
18-596-C1054	ROADWORKS AND STORMWATER DRAINAGE SHEET 5	L
18-596-C1055	ROADWORKS AND STORMWATER DRAINAGE SHEET 6	M
18-596-C1056	ROADWORKS AND STORMWATER DRAINAGE SHEET 7	L
18-596-C1057	ROADWORKS AND STORMWATER DRAINAGE SHEET 8	M
18-596-C1058	ROADWORKS AND STORMWATER DRAINAGE SHEET 9	F
18-596-C1059	ROADWORKS AND STORMWATER DRAINAGE SHEET 10	I
18-596-C1060	ROADWORKS AND STORMWATER DRAINAGE SHEET 11	I
18-596-C1061	ROADWORKS AND STORMWATER DRAINAGE SHEET 12	K
18-596-C1062	ROADWORKS AND STORMWATER DRAINAGE SHEET 13	D
18-596-C1073	ROAD 04 LONGITUDINAL SECTION SHEET 1	D
18-596-C1080	RETAINING WALL GENERAL ARRANGEMENT PLAN	N
18-596-C1082	RETAINING WALL PROFILES SHEET 2	M
18-596-C1084	ALTERNATE RETAINING WALL 22 PROFILE SHEET 1	B
18-596-C1085	ALTERNATE RETAINING WALL 22 SECTIONS SHEET 1	B
18-596-C1090	SERVICES AND UTILITIES COORDINATION OVERALL PLAN	N
18-596-C1091	SERVICES AND UTILITIES COORDINATION PLAN SHEET 1	M
18-596-C1092	SERVICES AND UTILITIES COORDINATION PLAN SHEET 2	M
18-596-C1093	SERVICES AND UTILITIES COORDINATION PLAN SHEET 3	M
18-596-C1094	SERVICES AND UTILITIES COORDINATION PLAN SHEET 4	G
18-596-C1112	EROSION AND SEDIMENT CONTROL PLAN SHEET 3	M
18-596-C1113	EROSION AND SEDIMENT CONTROL PLAN SHEET 4	M
18-596-C1114	EROSION AND SEDIMENT CONTROL PLAN SHEET 5	L
18-596-C1115	EROSION AND SEDIMENT CONTROL PLAN SHEET 6	M
18-596-C1116	EROSION AND SEDIMENT CONTROL PLAN SHEET 7	L
18-596-C1117	EROSION AND SEDIMENT CONTROL PLAN SHEET 8	L
18-596-C1118	EROSION AND SEDIMENT CONTROL PLAN SHEET 9	M
18-596-C1119	EROSION AND SEDIMENT CONTROL PLAN SHEET 10	M
18-596-C1150	VEHICLE TURN PATHS PLAN SHEET 1	L
18-596-C1151	VEHICLE TURN PATHS PLAN SHEET 2	L
18-596-C1154	VEHICLE TURN PATHS PLAN SHEET 5	F
18-596-C1155	VEHICLE TURN PATHS PLAN SHEET 6	F
18-596-C1156	VEHICLE TURN PATHS PLAN SHEET 7	F
18-596-C1203	TEMPORARY WORKS GENERAL ARRANGEMENT PLAN	H
18-596-C1210	TEMPORARY WORKS TYPICAL SECTIONS SHEET 1	G
18-596-C1220	TEMPORARY WORKS BULK EARTHWORKS CONTOUR PLAN	H
18-596-C1221	TEMPORARY WORKS BULK EARTHWORKS SECTIONS SHEET 1	G
18-596-C1230	TEMPORARY WORKS BULK EARTHWORKS PLAN SHEET 1	H
18-596-C1231	TEMPORARY WORKS BULK EARTHWORKS PLAN SHEET 2	G
18-596-C1250	TEMPORARY WORKS ROADWORKS AND STORMWATER DRAINAGE SHEET 1	H
18-596-C1310	TEMPORARY WORKS EROSION AND SEDIMENT CONTROL PLAN SHEET 1	H
18-596-C1311	TEMPORARY WORKS EROSION AND SEDIMENT CONTROL PLAN SHEET 2	G

DRAWING LIST CONSOLIDATED SSD, MOD 2 AND MOD 3

DRAWING No.	DRAWING TITLE	DRAWING ISSUE
18-596-C1000	COVER SHEET AND LOCALITY PLAN	M
18-596-C1001	DRAWING LIST	O
18-596-C1002	NOTES AND LEGENDS SHEET	F
18-596-C1003	GENERAL ARRANGEMENT PLAN	J
18-596-C1005	TYPICAL ROAD SECTIONS SHEET 1	M
18-596-C1006	TYPICAL ROAD SECTIONS SHEET 2	M
18-596-C1007	TYPICAL ROAD SECTIONS SHEET 3	C
18-596-C1010	TYPICAL SECTIONS SHEET 1	O
18-596-C1011	TYPICAL SECTIONS SHEET 2	N
18-596-C1012	TYPICAL SECTIONS SHEET 3	O
18-596-C1013	TYPICAL SECTIONS SHEET 4	E
18-596-C1014	TYPICAL SECTIONS SHEET 5	A
18-596-C1020	BULK EARTHWORKS CONTOUR PLAN	O
18-596-C1021	BULK EARTHWORKS SECTIONS SHEET 1	R
18-596-C1022	BULK EARTHWORKS SECTIONS SHEET 2	R
18-596-C1025	BULK EARTHWORKS CUT/FILL PLAN	O
18-596-C1030	BULK EARTHWORKS PLAN SHEET 1	L
18-596-C1031	BULK EARTHWORKS PLAN SHEET 2	L
18-596-C1032	BULK EARTHWORKS PLAN SHEET 3	M
18-596-C1033	BULK EARTHWORKS PLAN SHEET 4	M
18-596-C1034	BULK EARTHWORKS PLAN SHEET 5	L
18-596-C1035	BULK EARTHWORKS PLAN SHEET 6	M
18-596-C1036	BULK EARTHWORKS PLAN SHEET 7	L
18-596-C1037	BULK EARTHWORKS PLAN SHEET 8	L
18-596-C1038	BULK EARTHWORKS PLAN SHEET 9	M
18-596-C1039	BULK EARTHWORKS PLAN SHEET 10	M
18-596-C1040	STORMWATER DRAINAGE OVERALL PLAN	N
18-596-C1045	STORMWATER DRAINAGE CATCHMENT PLAN (PRE-DEVELOPED)	F
18-596-C1046	STORMWATER DRAINAGE CATCHMENT PLAN (POST-DEVELOPED)	O
18-596-C1047	STORMWATER MANAGEMENT PLAN STAGE 1	A
18-596-C1048	STORMWATER MANAGEMENT PLAN MOD 4 MASTER PLAN	A
18-596-C1050	ROADWORKS AND STORMWATER DRAINAGE SHEET 1	L
18-596-C1051	ROADWORKS AND STORMWATER DRAINAGE SHEET 2	M
18-596-C1052	ROADWORKS AND STORMWATER DRAINAGE SHEET 3	N
18-596-C1053	ROADWORKS AND STORMWATER DRAINAGE SHEET 4	L
18-596-C1054	ROADWORKS AND STORMWATER DRAINAGE SHEET 5	L
18-596-C1055	ROADWORKS AND STORMWATER DRAINAGE SHEET 6	M
18-596-C1056	ROADWORKS AND STORMWATER DRAINAGE SHEET 7	L
18-596-C1057	ROADWORKS AND STORMWATER DRAINAGE SHEET 8	M
18-596-C1058	ROADWORKS AND STORMWATER DRAINAGE SHEET 9	F
18-596-C1059	ROADWORKS AND STORMWATER DRAINAGE SHEET 10	I
18-596-C1060	ROADWORKS AND STORMWATER DRAINAGE SHEET 11	I
18-596-C1061	ROADWORKS AND STORMWATER DRAINAGE SHEET 12	K
18-596-C1062	ROADWORKS AND STORMWATER DRAINAGE SHEET 13	B
18-596-C1070	ROAD 01 LONGITUDINAL SECTION SHEET 1	F
18-596-C1071	ROAD 02 LONGITUDINAL SECTION SHEET 1	L
18-596-C1072	ROAD 03 LONGITUDINAL SECTION SHEET 1	F
18-596-C1073	ROAD 04 LONGITUDINAL SECTION SHEET 1	D
18-596-C1080	RETAINING WALL GENERAL ARRANGEMENT PLAN	N
18-596-C1081	RETAINING WALL PROFILES SHEET 1	L
18-596-C1082	RETAINING WALL PROFILES SHEET 2	M
18-596-C1083	ALTERNATE RETAINING WALL 22 PROFILE SHEET 1	B
18-596-C1084	ALTERNATE RETAINING WALL 22 SECTIONS SHEET 1	B
18-596-C1085	RETAINING WALL PROFILES SHEET 3	B
18-596-C1090	SERVICES AND UTILITIES COORDINATION OVERALL PLAN	N
18-596-C1091	SERVICES AND UTILITIES COORDINATION PLAN SHEET 1	M
18-596-C1092	SERVICES AND UTILITIES COORDINATION PLAN SHEET 2	M
18-596-C1093	SERVICES AND UTILITIES COORDINATION PLAN SHEET 3	M
18-596-C1094	SERVICES AND UTILITIES COORDINATION PLAN SHEET 4	G
18-596-C1110	EROSION AND SEDIMENT CONTROL PLAN SHEET 1	L
18-596-C1111	EROSION AND SEDIMENT CONTROL PLAN SHEET 2	L
18-596-C1112	EROSION AND SEDIMENT CONTROL PLAN SHEET 3	M
18-596-C1113	EROSION AND SEDIMENT CONTROL PLAN SHEET 4	M
18-596-C1114	EROSION AND SEDIMENT CONTROL PLAN SHEET 5	L
18-596-C1115	EROSION AND SEDIMENT CONTROL PLAN SHEET 6	M
18-596-C1116	EROSION AND SEDIMENT CONTROL PLAN SHEET 7	L
18-596-C1117	EROSION AND SEDIMENT CONTROL PLAN SHEET 8	L
18-596-C1118	EROSION AND SEDIMENT CONTROL PLAN SHEET 9	M
18-596-C1119	EROSION AND SEDIMENT CONTROL PLAN SHEET 10	M
18-596-C1120	EROSION AND SEDIMENT CONTROL DETAILS	F
18-596-C1150	VEHICLE TURN PATHS PLAN SHEET 1	L
18-596-C1151	VEHICLE TURN PATHS PLAN SHEET 2	E
18-596-C1152	VEHICLE TURN PATHS PLAN SHEET 3	E
18-596-C1153	VEHICLE TURN PATHS PLAN SHEET 4	E
18-596-C1154	VEHICLE TURN PATHS PLAN SHEET 5	F
18-596-C1155	VEHICLE TURN PATHS PLAN SHEET 6	F
18-596-C1156	VEHICLE TURN PATHS PLAN SHEET 7	F
18-596-C1203	TEMPORARY WORKS GENERAL ARRANGEMENT PLAN	H
18-596-C1210	TEMPORARY WORKS TYPICAL SECTIONS SHEET 1	G
18-596-C1220	TEMPORARY WORKS BULK EARTHWORKS CONTOUR PLAN	H
18-596-C1221	TEMPORARY WORKS BULK EARTHWORKS SECTIONS SHEET 1	G
18-596-C1230	TEMPORARY WORKS BULK EARTHWORKS PLAN SHEET 1	H
18-596-C1231	TEMPORARY WORKS BULK EARTHWORKS PLAN SHEET 2	G
18-596-C1250	TEMPORARY WORKS ROADWORKS AND STORMWATER DRAINAGE SHEET 1	H
18-596-C1310	TEMPORARY WORKS EROSION AND SEDIMENT CONTROL PLAN SHEET 1	H
18-596-C1311	TEMPORARY WORKS EROSION AND SEDIMENT CONTROL PLAN SHEET 2	G

Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	24-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

Bar Scales

100mm on Original

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Client: mirvac

Scales

Grid	MGA	Drawn	KR
Height Datum	AHD	Designed	KR
		Checked	AT
		Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
DRAWING LIST

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at&l
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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1001

Issue
O

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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 COMAPACTED 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^3 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.
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

SURVEY NOTES

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.

DEWATERING

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

EXISTING UNDERGROUND SERVICES

1. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
2. 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.
3. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
4. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
5. 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.
6. 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.

CONCRETE NOTES

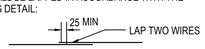
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS 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:



DECOMMISSIONING / DEMOLITION

1. DEMOLITION OF EXISTING DWELLING TO BE CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF AS2601-2001 - DEMOLITION OF STRUCTURES BY CONTRACTORS EXPERIENCED IN THIS CLASS OF WORK AND HOLDING REQUIRED CURRENT PERMITS AND LICENSES AS REQUIRED.
2. EXISTING INTERNALS FENCING, CATTLE YARDS, UTILITIES AND OTHER REDUNDANT STRUCTURES TO BE DEMOLISHED AND REMOVED TO AN APPROVED WASTE MANAGEMENT FACILITY.
3. DAM DECOMMISSIONING TO BE COMPLETED AS PER THE DAM DECOMMISSIONING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).
4. ALL EXISTING SERVICES (INCLUDING SEPTIC TANKS) SHALL BE REMOVED FROM SITE.
5. ALL UNDERGROUND CABLES AND PIPES SHALL BE GRUBBED OUT AND CAPPED AT THE BOUNDARY OF THE SITE.

CONTINUED ABOVE

DECOMMISSIONING / DEMOLITION

CONTINUED FROM BELOW

6. ALL OVERHEAD SERVICES SHALL BE REMOVED FROM WITHIN THE SITE BOUNDARY AND MADE SAFE AT THE TERMINATION LOCATION. ANY POLES SHALL BE REMOVED FROM THE SITE.
7. ALL EXISTING SERVICES TO BE CONSIDERED AS LIVE UNTIL THE CONTRACTOR HAS TESTED AND CONFIRMED TO THE SUPERINTENDENT THAT THE SERVICES ARE DEAD / REDUNDANT.

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. BROOM 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 :-
   IF REQUIRED 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.

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 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 HS2 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 3500 3.1 (1998) AND AS/NZS 3500 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, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
10. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
11. GRATES AND COVERS SHALL CONFORM TO AS 3996 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 FOUNDED 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.

CONTINUED ABOVE

CONTINUED FROM BELOW

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.

EMBANKMENT CONSTRUCTION SEQUENCE

1. STRIP VEGETATION AND TOPSOIL FROM EMBANKMENT AREA AND STOCKPILE TOPSOIL FOR LATER USE. CUT BACK AREA TO FIRM GROUND.
2. CONSTRUCT EMBANKMENT IN PRESENCE OF QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IF NOT ROCK.
3. IN THE CASE WHERE THE EMBANKMENT AREAS SHOW ANY FAILURE, THE CONTRACTOR IS TO ENGAGE A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER TO DETERMINE THE CAUSE AND METHOD OF RECTIFICATION
4. COMPACT CLAY STABILISED WITH GYPSUM (3% BY DRY MASS, MINIMUM) AS APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER INTO THE CUT-OFF TRENCH OF LAYERS NOT EXCEEDING 150mm LOOSE THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT.
5. GYPSUM STABILISED NATURAL SOILS EXPOSED IN EMBANKMENT AREA WITH MINIMUM 3% GYPSUM BY DRY MASS AND COMPACT AS FOR #4. ALL TO THE APPROVAL OF A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
6. CONSTRUCT BODY OF EMBANKMENT WITH CLAYEY MATERIAL WON FROM SITE. COMPACT THE CLAYEY MATERIAL APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IN LAYERS NOT EXCEEDING 150mm THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT. MOST IMPORTANTLY, IF SHRINKAGE CRACKS OCCUR, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
7. OVERFILL THE EMBANKMENT AND TRIM OFF, SO THAT THE ENTIRE BODY OF THE EMBANKMENT IS COMPACTED.
8. TRIM THE EMBANKMENTS BATTERS TO THE OVERFILLED MATERIAL, STABILISE THE UPSTREAM CLAY BATTERS WITH WELL MIXED GYPSUM (3% BY DRY MASS, MINIMUM) AND COMPACT TO MIN. 98% STD -2% TO +2% OMC.
9. PLACE ROCK RIP-RAP AS SHOWN.
10. RECOVER TOPSOIL FROM STOCKPILE AND SPREAD OVER EMBANKMENT AND CUT BATTERS (A THIN COVER OF TOPSOIL ONLY HAS BEEN NOMINATED). ONLY LIGHTLY TRACK-ROLL THE TOPSOIL AND THEN LANDSCAPE IN ACCORDANCE WITH THE LANDSCAPE AREA DRAWINGS.
11. WATER AND FERTILISE LANDSCAPE AS REQUIRED BY CLIMACTIC CONDITIONS TO ENSURE THE LANDSCAPE IS SUCCESSFUL.
12. AT THE COMPLETION OF WORK WRITTEN CONFIRMATION AND CERTIFICATION IS TO BE PROVIDED FROM A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER THAT THE EMBANKMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

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.

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 / INSTALLED AS DIRECTED BY THE CONTRACTORS EROSION AND SEDIMENT CONTROL CONSULTANT.

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.

EROSION AND SEDIMENT CONTROL NOTES

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.

STAGING

SUITABLE 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 ND 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.

FINISHED SURFACE LEVELS

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

SITEWORKS LEGEND:

- EXISTING BOUNDARY
- EXISTING ELECTRICITY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED RETAINING WALL
- 48.00 PROPOSED MAJOR CONTOUR
- 48.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER TEMPORARY BATTER 1(V):4(H) PERMANENT BATTER 1(V):5(H) U.N.O
- K&G PROPOSED KERB AND GUTTER
- PROPOSED DRIVEWAY LAYBACK
- PROPOSED KERB RAMP
- LIMIT OF WORKS
- PROPOSED CATCH DRAIN
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED CAPPED STORMWATER PIPE
- PROPOSED STORMWATER LINE

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

Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20
B	ISSUED FOR DEVELOPMENT APPLICATION	12-10-20

Bar Scales

100mm on Original

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: mirvac

Scales
Grid MGA
Height Datum AHD
GDA2020

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
NOTES AND LEGENDS SHEET

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www.atl.net.au
info@atl.net.au

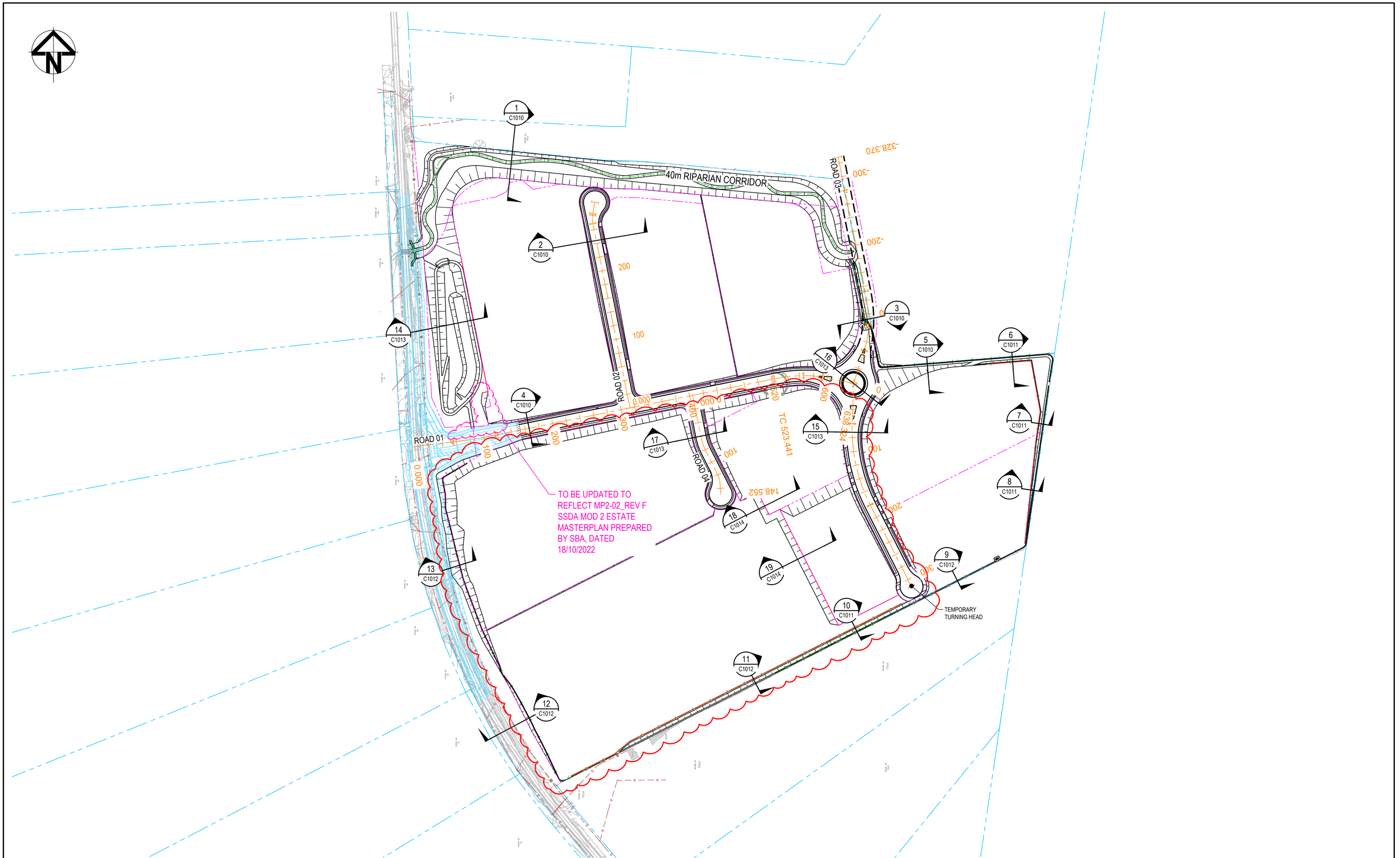
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1002

Issue: K

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1002.dwg



Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
J	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
T	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
S	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
R	ISSUED FOR DEVELOPMENT APPLICATION	05-07-22
Q	ISSUED FOR DEVELOPMENT APPLICATION	05-07-22
P	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
N	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
M	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

100mm on Original

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

mirvac

Scales	1:2500
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	AT
Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

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
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info@atl.net.au

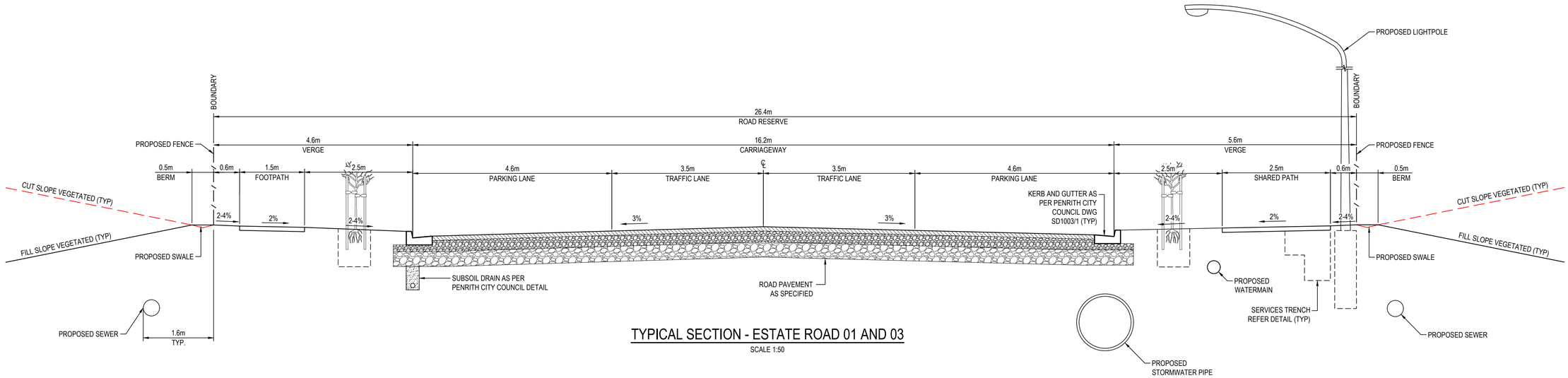
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1003

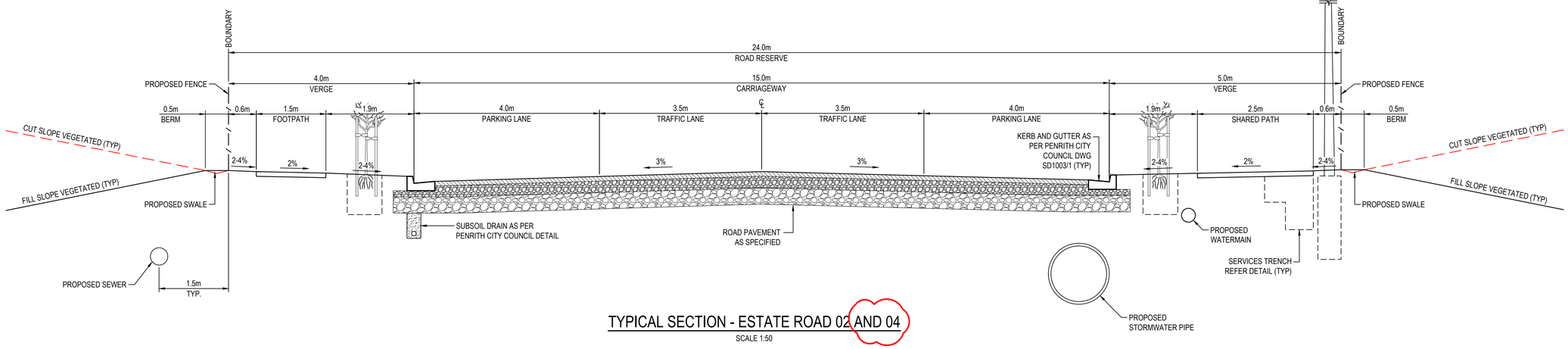
Issue: K

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1003.dwg



TYPICAL SECTION - ESTATE ROAD 01 AND 03

SCALE 1:50



TYPICAL SECTION - ESTATE ROAD 02 AND 04

SCALE 1:50

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
F	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	16-12-21
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 1 2 3 4 5m

1 : 50 @ A1 1 : 100 @ A3

100mm on Original

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: mirvac

Scales	1:50	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TYPICAL ROAD SECTIONS
SHEET 1

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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info@atl.net.au

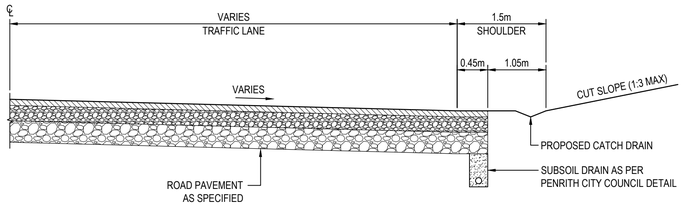
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1005

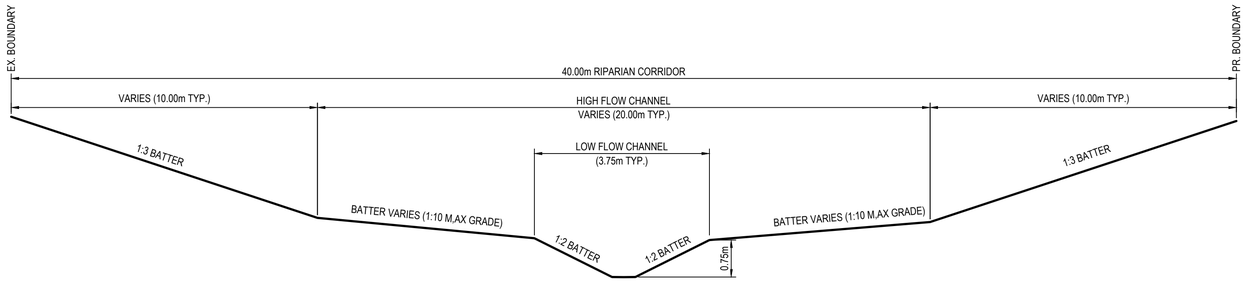
Issue: M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1005.dwg

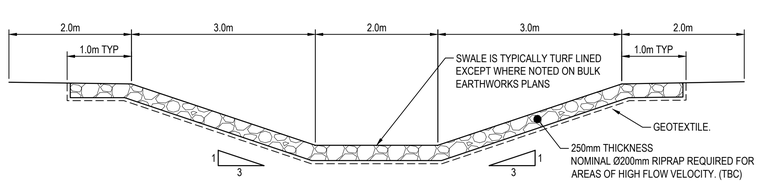


TYPICAL SECTION - TEMPORARY TURNING HEAD

SCALE 1:50

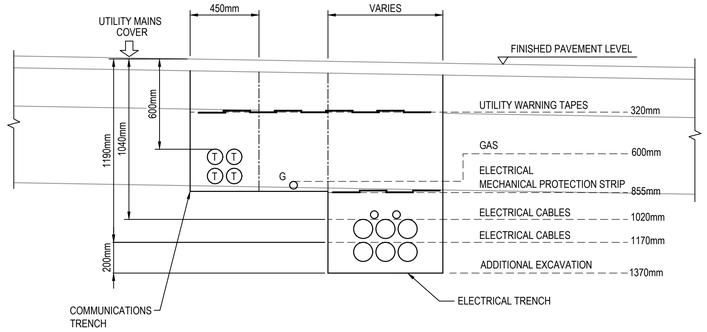


TYPICAL RIPARIAN CORRIDOR SECTION



TYPICAL STORMWATER DIVERSION CATCH DRAIN

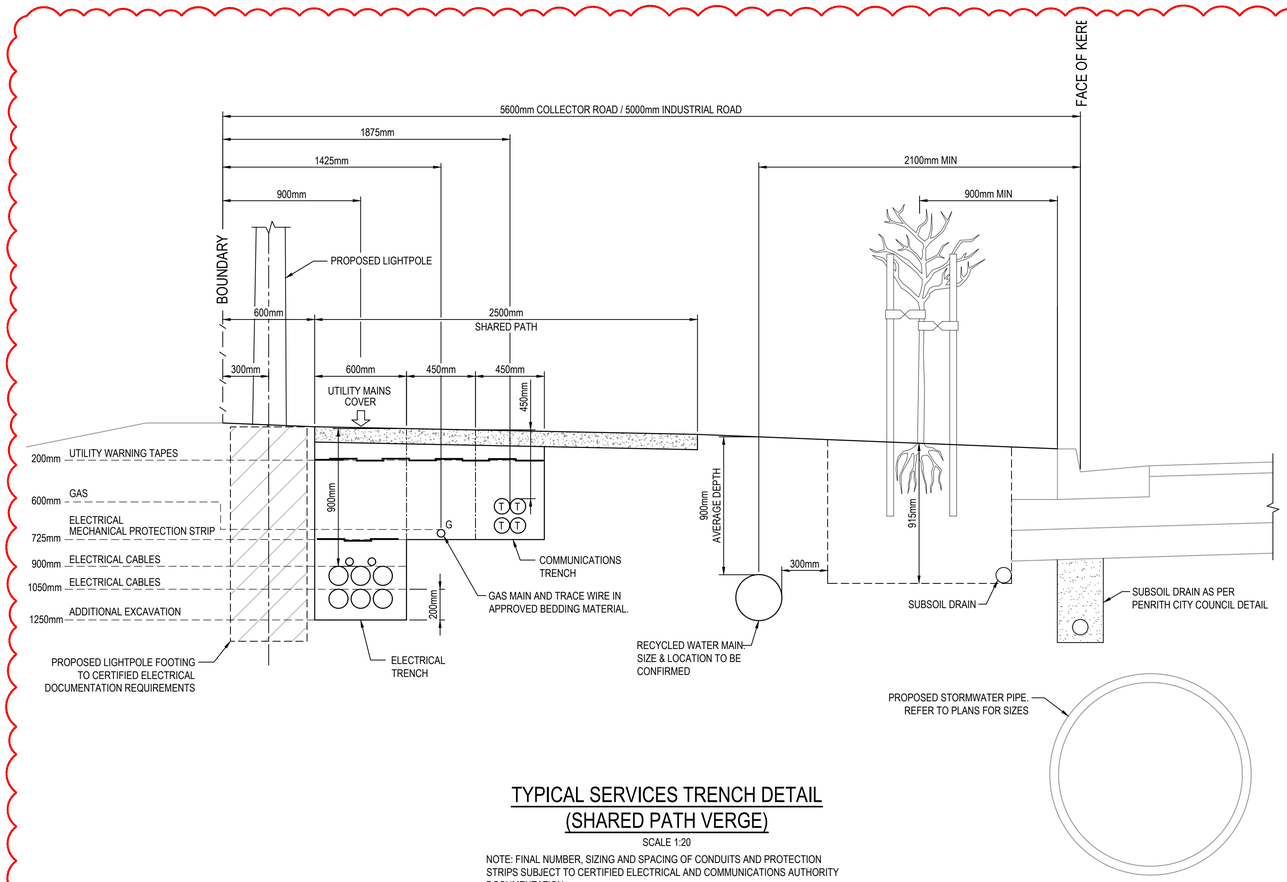
SCALE 1:50



TYPICAL SERVICES TRENCH DETAIL (ROAD CROSSING)

SCALE 1:20

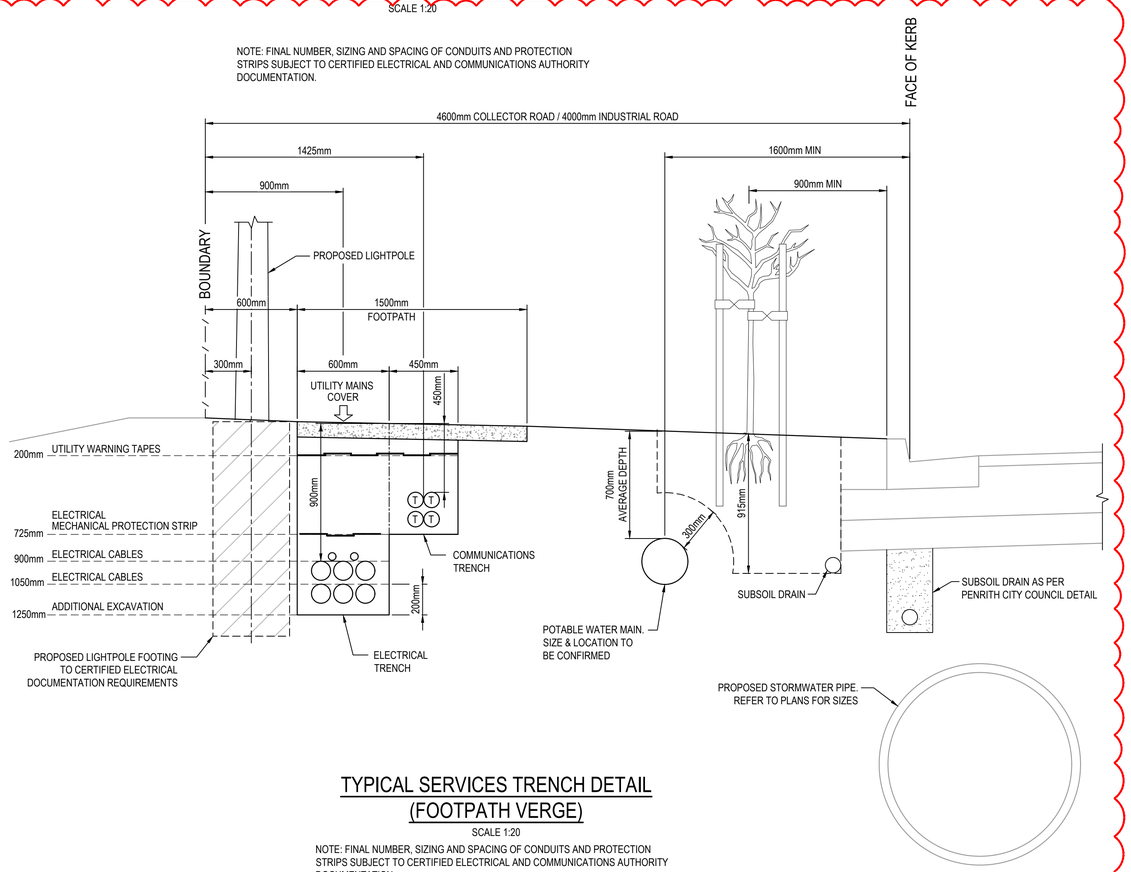
NOTE: FINAL NUMBER, SIZING AND SPACING OF CONDUITS AND PROTECTION STRIPS SUBJECT TO CERTIFIED ELECTRICAL AND COMMUNICATIONS AUTHORITY DOCUMENTATION.



TYPICAL SERVICES TRENCH DETAIL (SHARED PATH VERGE)

SCALE 1:20

NOTE: FINAL NUMBER, SIZING AND SPACING OF CONDUITS AND PROTECTION STRIPS SUBJECT TO CERTIFIED ELECTRICAL AND COMMUNICATIONS AUTHORITY DOCUMENTATION.



TYPICAL SERVICES TRENCH DETAIL (FOOTPATH VERGE)

SCALE 1:20

NOTE: FINAL NUMBER, SIZING AND SPACING OF CONDUITS AND PROTECTION STRIPS SUBJECT TO CERTIFIED ELECTRICAL AND COMMUNICATIONS AUTHORITY DOCUMENTATION.

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
F	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	16-12-21
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

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Client: mirvac

Scales	1:100 1:50 1:20	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TYPICAL ROAD SECTIONS
SHEET 2

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

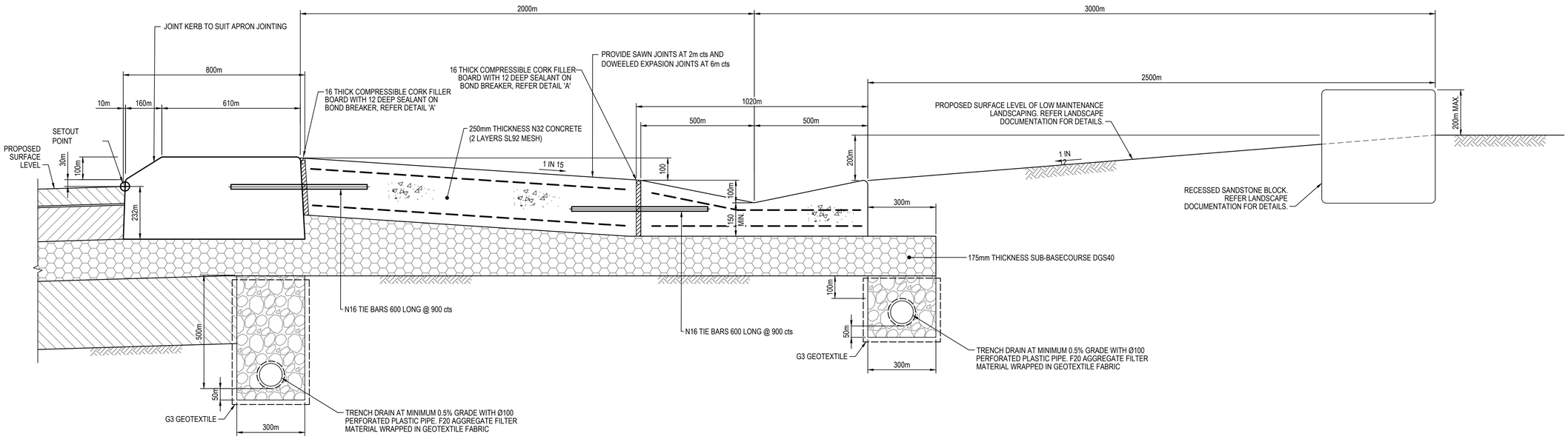
A1

Project - Drawing No.: 18-596-C1006

Issue: M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1006.dwg



SECTION 1 (C1013)
1 : 10

Issue	Description	Date
C	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
B	ISSUED FOR DEVELOPMENT APPLICATION	'29-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	'14-04-22

100mm on Original

Bar Scales

0 100 200 400 600 800 1000mm

1 : 10 @ A1 1 : 20 @ A3

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Client: mirvac

Scales	1:10	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TYPICAL ROAD SECTIONS
SHEET 3

Civil Engineers and Project Managers
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www.atl.net.au
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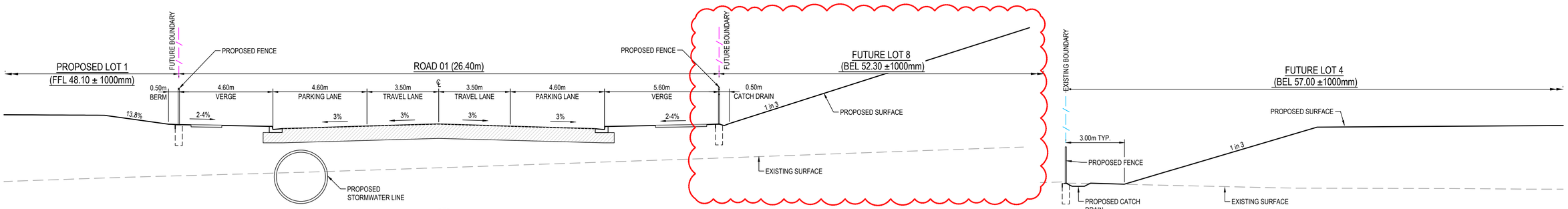
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1007

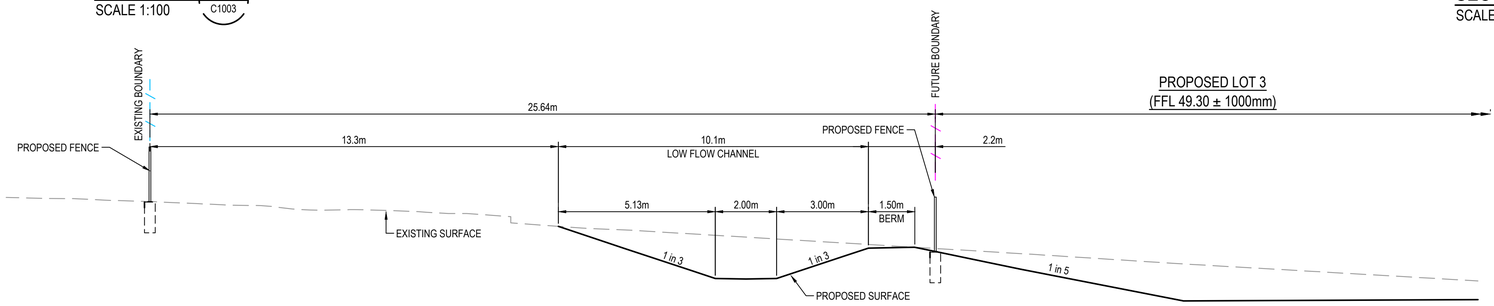
Issue: C

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1007.dwg

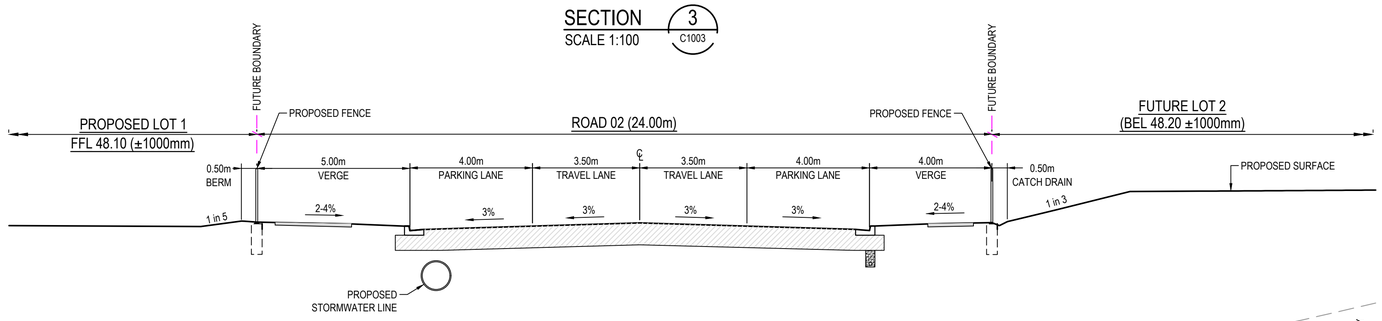


SECTION 4 (C1003) SCALE 1:100

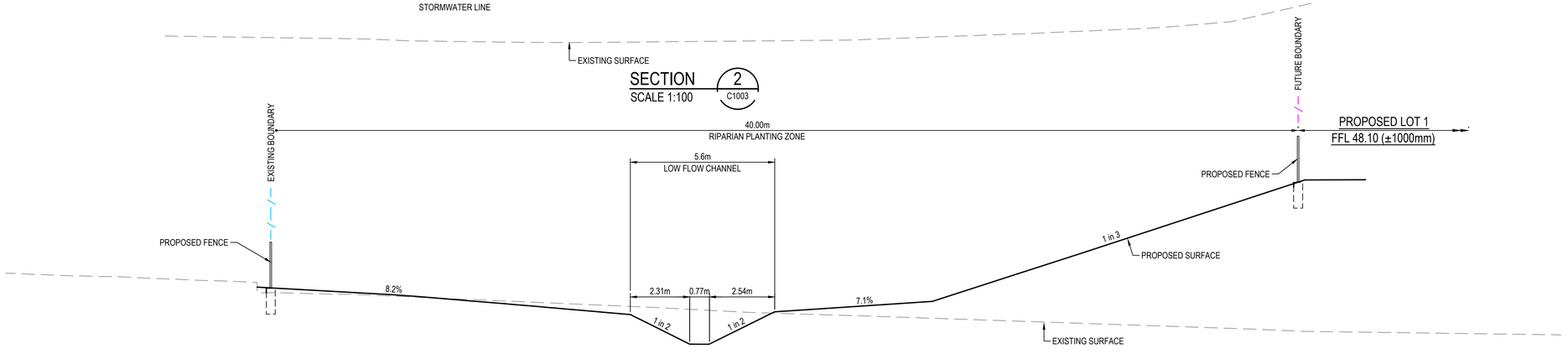
SECTION 5 (C1003) SCALE 1:100



SECTION 3 (C1003) SCALE 1:100



SECTION 2 (C1003) SCALE 1:100



SECTION 1 (C1003) SCALE 1:100

Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
F	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client: mirvac

Scales: 1:100 | Drawn: KR | Designed: KR | Checked: AT | Approved: AM

Grid: MGA | Height Datum: AHD

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TYPICAL SECTIONS
SHEET 1

Civil Engineers and Project Managers
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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.: 18-596-C1010

Issue: O

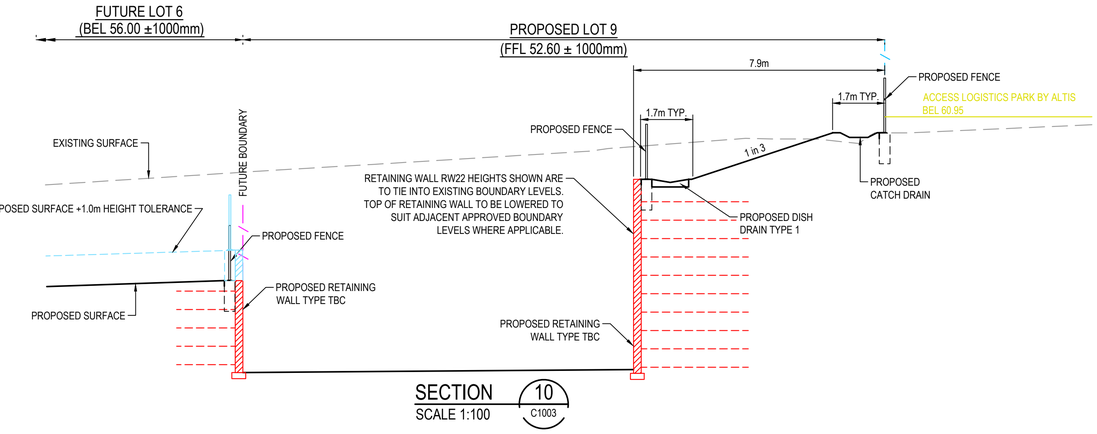
100mm on Original

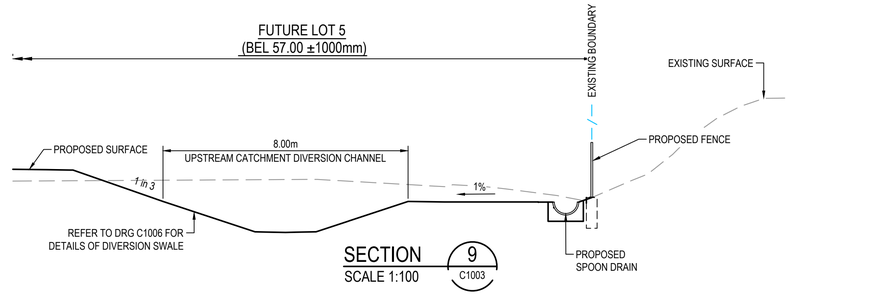
\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1010.dwg

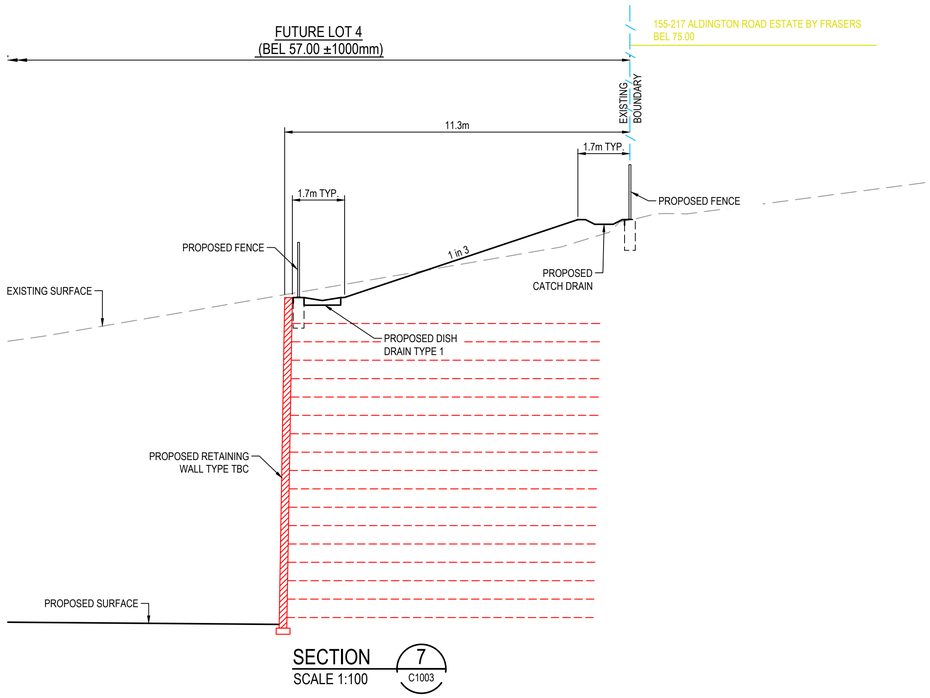
LEGEND

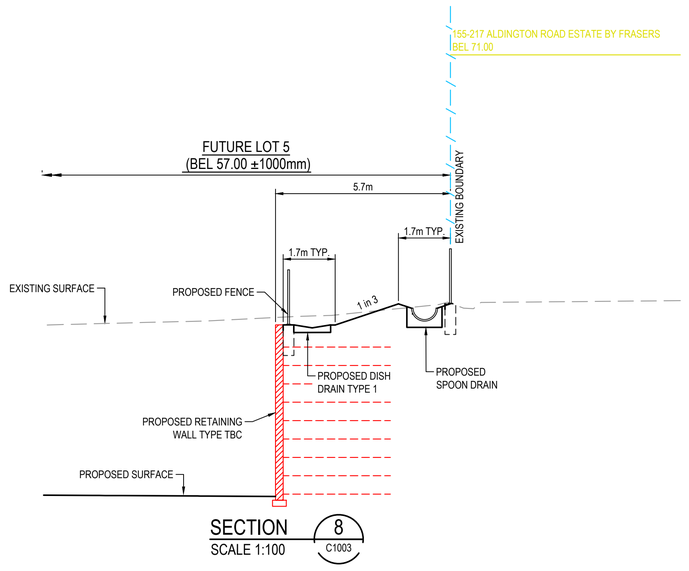
NEIGHBOURING SITE BULK EARTHWORKS LEVELS

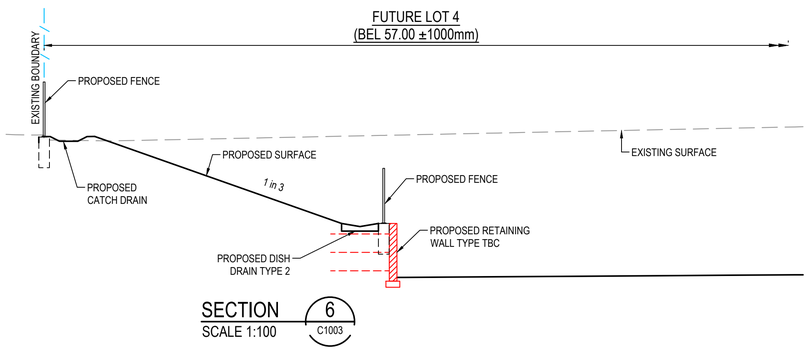
PROPOSED LEVEL +1.0m HEIGHT TOLERANCE











Issue	Description	Date
N	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	23-06-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
F	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client: mirvac

Scales	1:100	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TYPICAL SECTIONS
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
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www.atl.net.au
info@atl.net.au

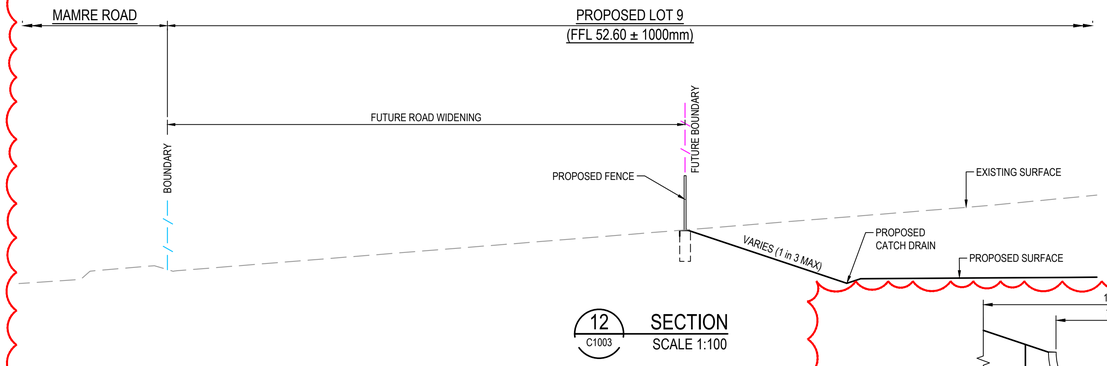
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

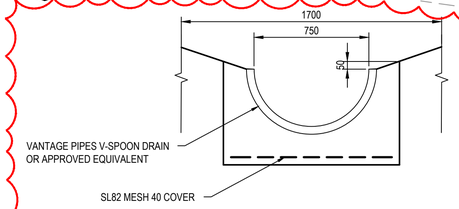
Project - Drawing No.: 18-596-C1011

Issue: N

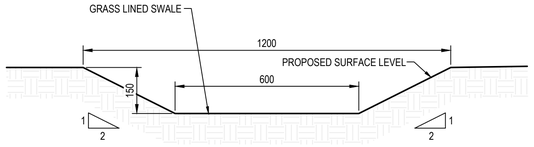
\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1011.dwg



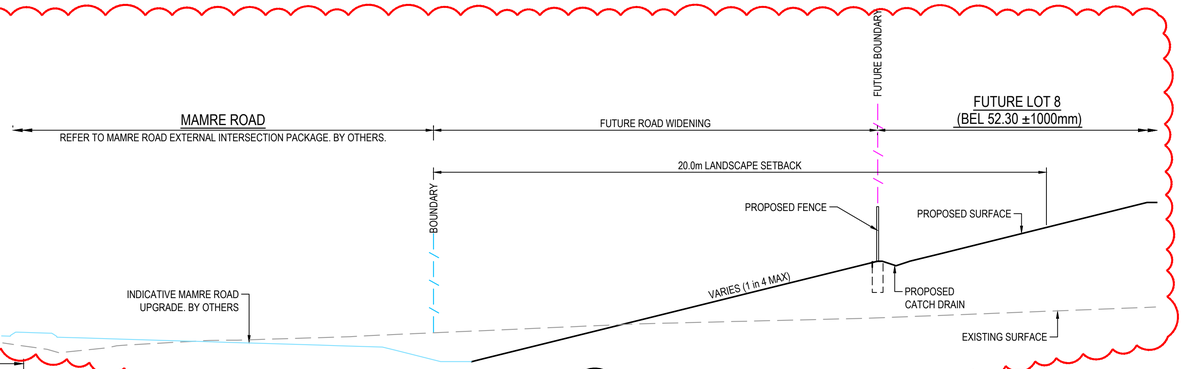
12 C1003 SECTION
SCALE 1:100



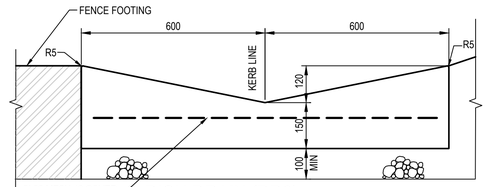
SPOON DRAIN (SD)
SCALE 1:10



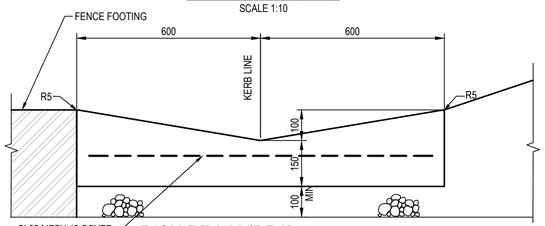
CATCH DRAIN (CD)
SCALE 1:10



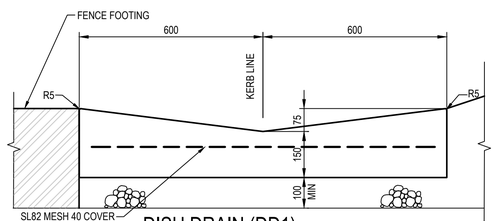
SECTION 13 C1003
SCALE 1:100



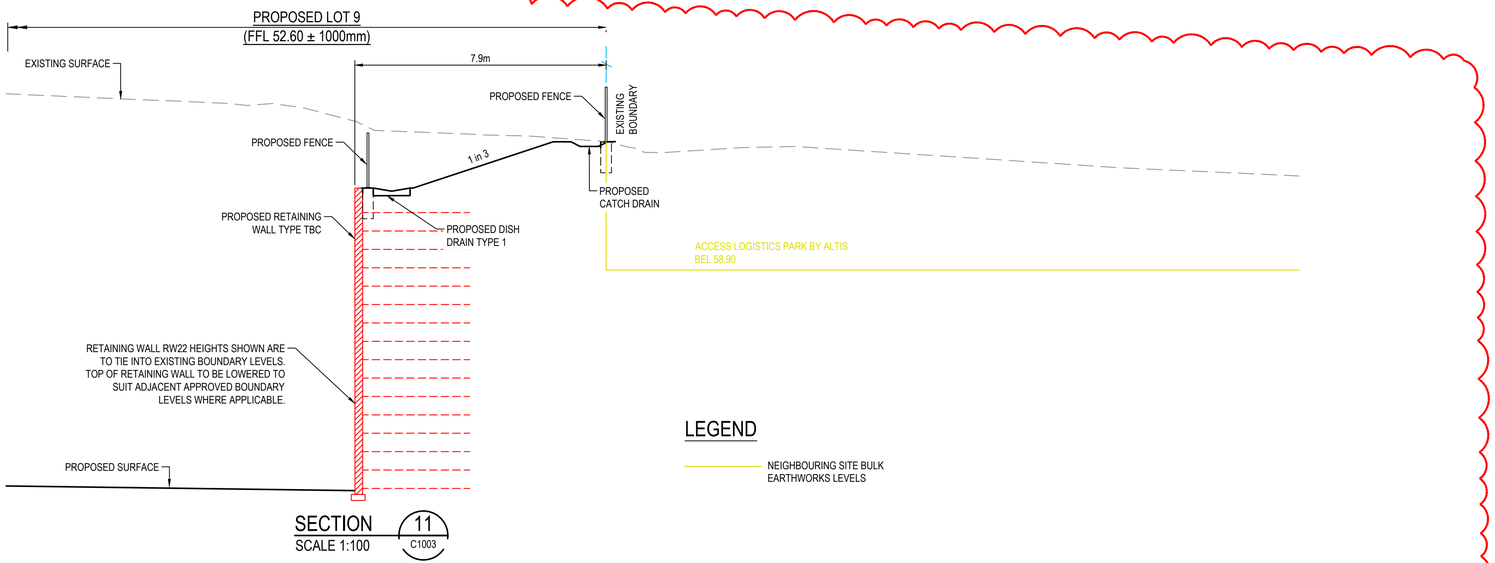
DISH DRAIN (DD3)
SCALE 1:10



DISH DRAIN (DD2)
SCALE 1:10



DISH DRAIN (DD1)
SCALE 1:10



SECTION 11 C1003
SCALE 1:100

LEGEND

NEIGHBOURING SITE BULK EARTHWORKS LEVELS

Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	23-06-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
F	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client: mirvac

Scales	1:100	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TYPICAL SECTIONS
SHEET 3

Civil Engineers and Project Managers
at&l
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

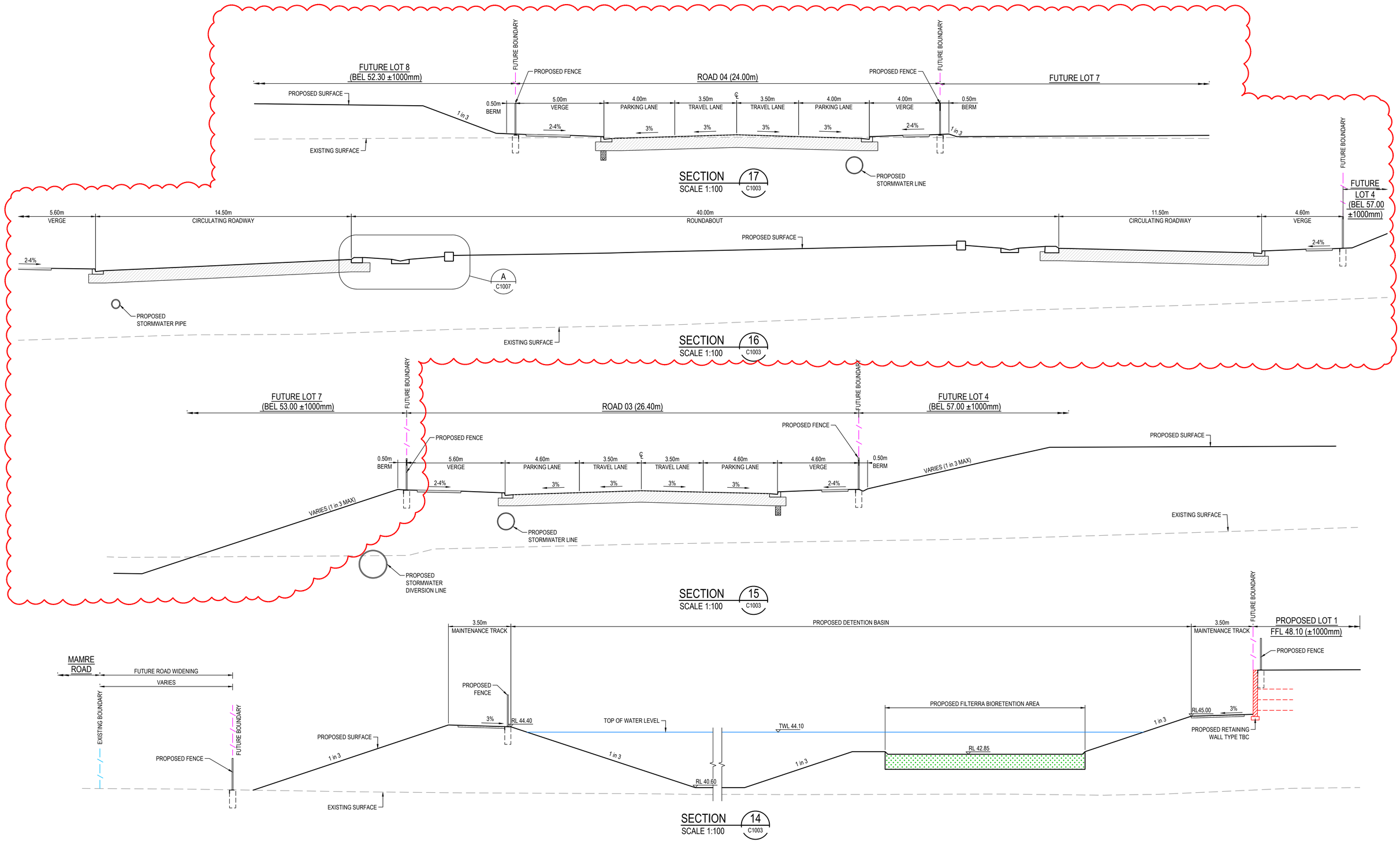
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1012

Issue
O

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1012.dwg



Issue	Description	Date
E	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
D	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
C	ISSUED FOR DEVELOPMENT APPLICATION	'29-04-22
B	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
A	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ 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: mirvac

Scales	1:100
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	AT
Approved	AM

GDA2020

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TYPICAL SECTIONS
SHEET 4

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.: 18-596-C1013

Issue: E

100mm on Original

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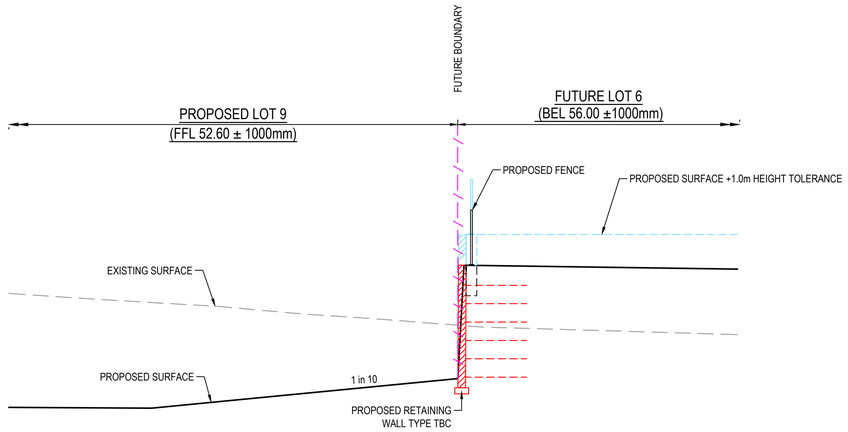
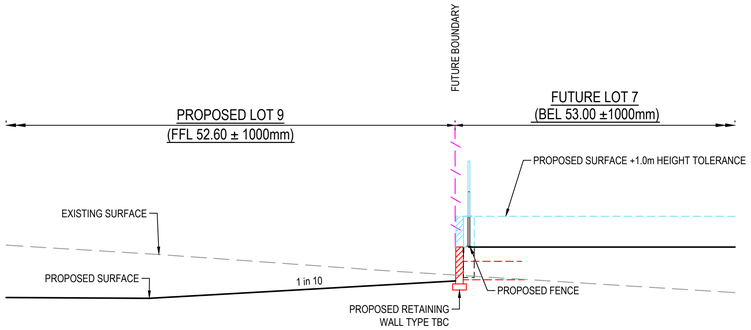


SECTION 19
SCALE 1:100 C1003

LEGEND

PROPOSED LEVEL +1.0m
HEIGHT TOLERANCE



SECTION 18
SCALE 1:100 C1003

Issue	Description	Date
A	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ 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: mirvac

Scales	1:100
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	AT
Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TYPICAL SECTIONS
SHEET 5

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

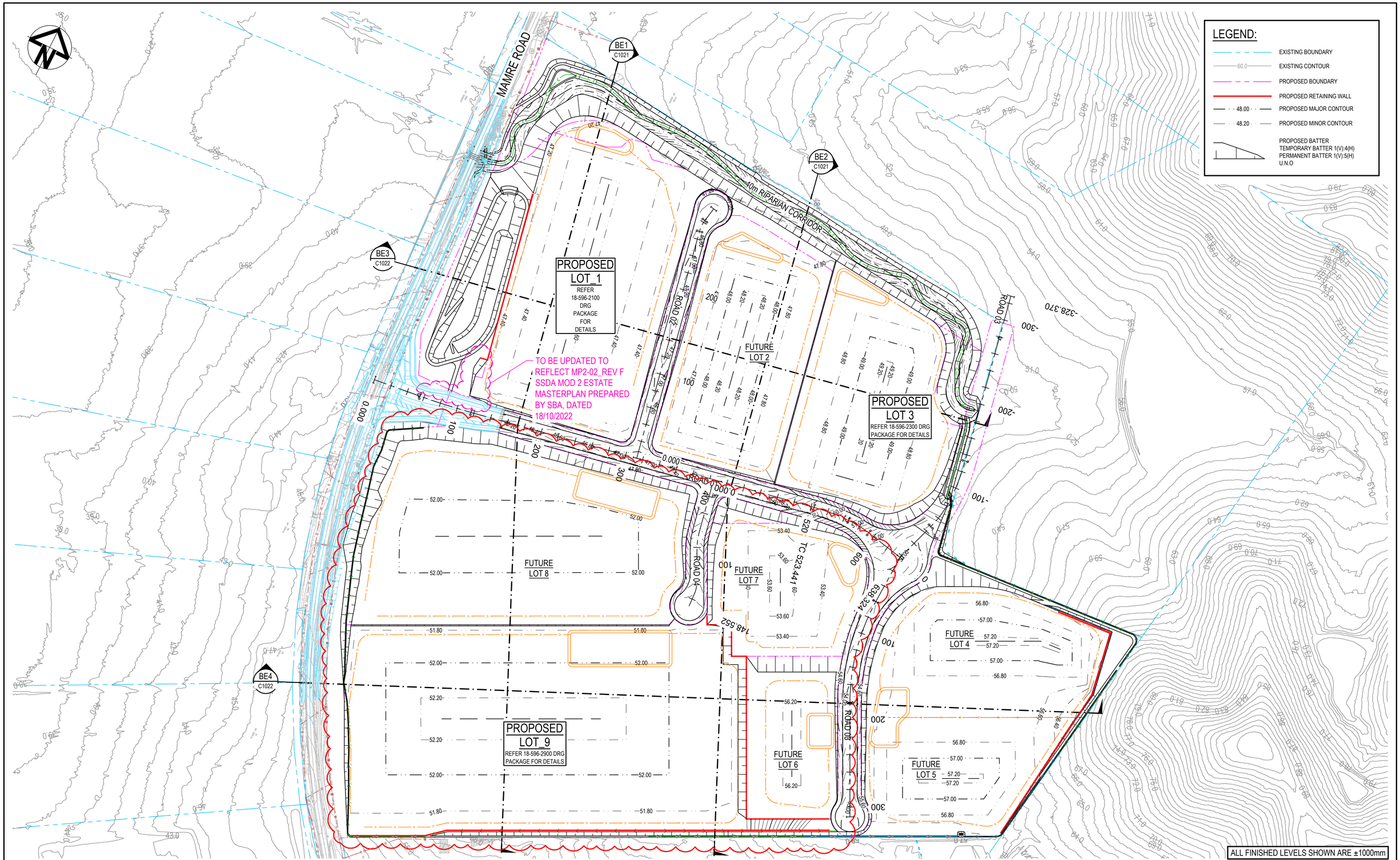
A1

Project - Drawing No.: 18-596-C1014

Issue: A

100mm on Original

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1014.dwg



Issue	Description	Date
Q	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
P	ISSUED FOR DEVELOPMENT APPLICATION	29-09-22
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client

mirvac

Scales	1:2000
Drawn	KR
Designed	KR
Grid	MGA
Checked	AT
Height Datum	AHD
Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

BULK EARTHWORKS
CONTOUR PLAN

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

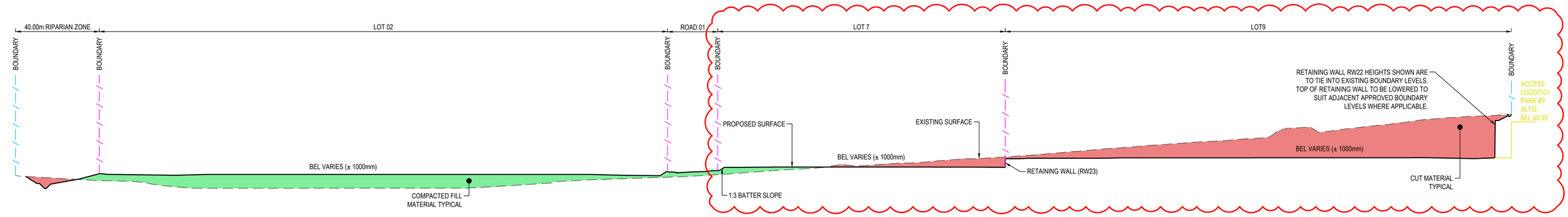
A1

Project - Drawing No.: 18-596-C1020

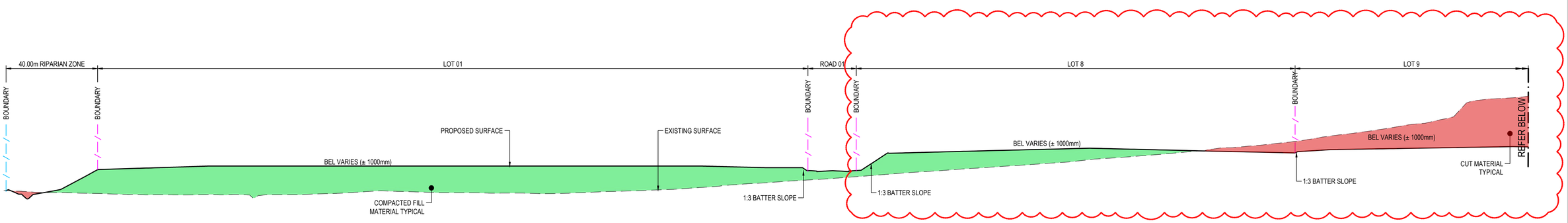
Issue: Q

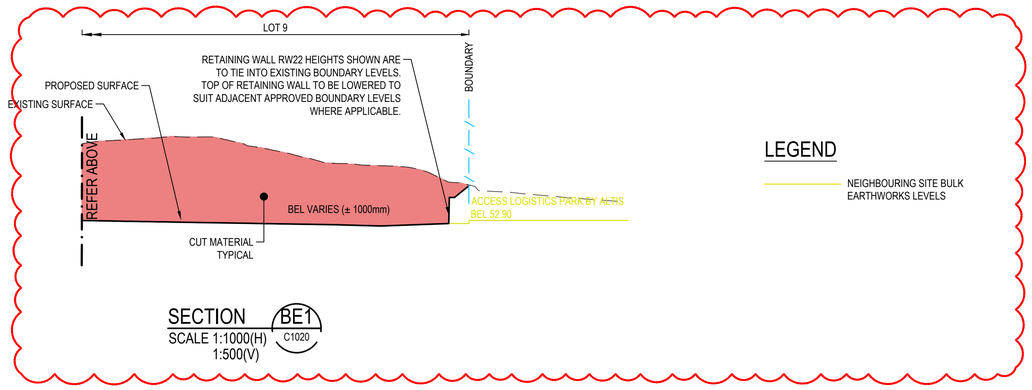
100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1020.dwg



SECTION BE2
SCALE 1:1000(H)
1:500(V)
C1020





SECTION BE1
SCALE 1:1000(H)
1:500(V)
C1020

LEGEND

NEIGHBOURING SITE BULK EARTHWORKS LEVELS

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
R	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
Q	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
P	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
N	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
M	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
L	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
K	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
J	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
H	ISSUED FOR DEVELOPMENT APPLICATION	16-02-22

Bar Scales

0 20 40 60 80 100m
1 : 1000 @ A1 1 : 2000 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

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Client: mirvac

Scales: 1:1000(H) 1:500(V)
Grid: MGA
Height Datum: AHD
GDA2020

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS
SECTIONS
SHEET 1

Civil Engineers and Project Managers
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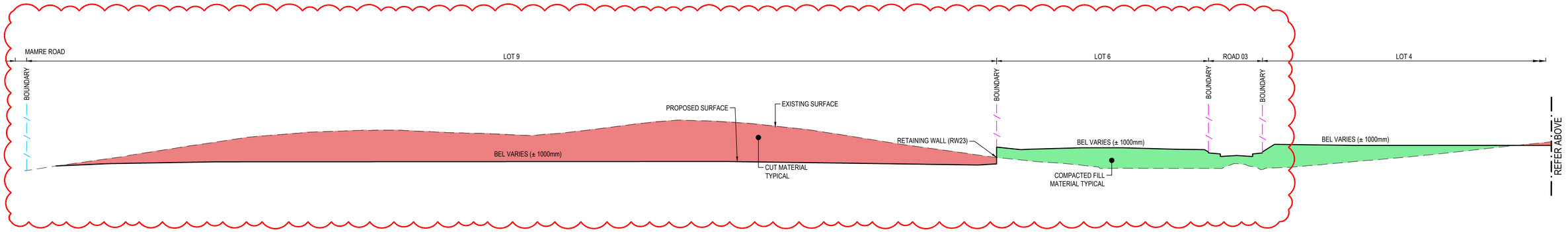
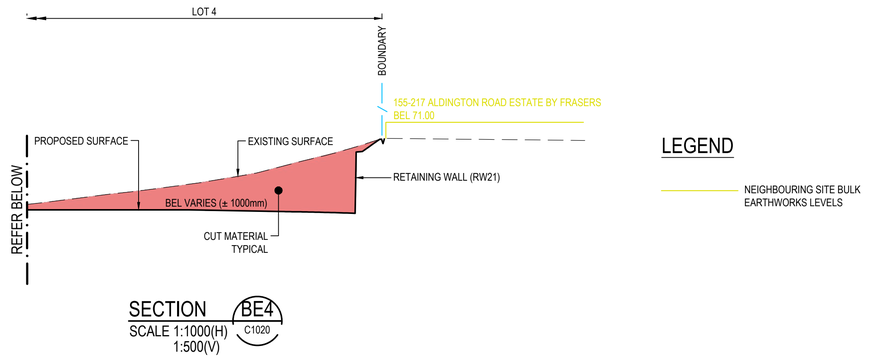
info@atl.net.au

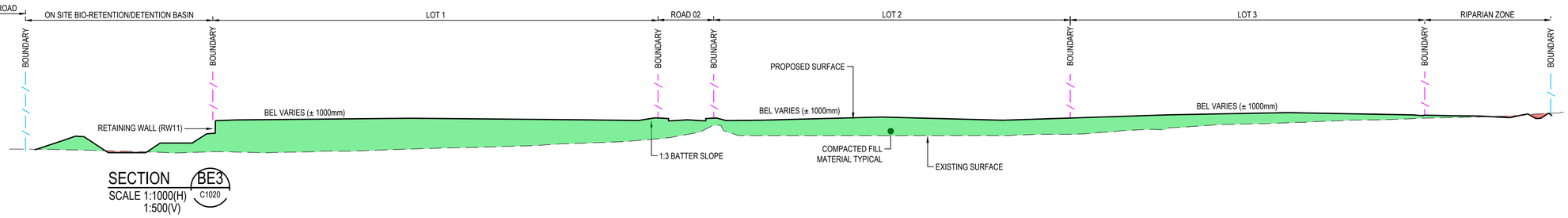
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION
A1
Project - Drawing No.: 18-596-C1021
Issue: R

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1021.dwg





SECTION BE4
SCALE 1:1000(H)
1:500(V)
C1020



SECTION BE3
SCALE 1:1000(H)
1:500(V)
C1020

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
R	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
Q	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
P	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
N	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
M	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
L	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
K	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
J	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
H	ISSUED FOR DEVELOPMENT APPLICATION	16-02-22

Bar Scales

0 20 40 60 80 100m
1 : 1000 @ A1 1 : 2000 @ A3

0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

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Client: mirvac

Scales	1:1000(H) 1:500(V)
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	AT
Approved	AM

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS
SECTIONS
SHEET 2

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

A1

Project - Drawing No.: 18-596-C1022

Issue: R

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1022.dwg

EARTHWORKS VOLUMES

A	B	C	D	E	F	G = A+B+C+D+E+F
EXISTING TOPSOIL STRIPPING VOLUME (cu.m) REFER NOTE No.1	EXCAVATION OF EXISTING CREEKS AND DAMS (cu.m) REFER NOTE No.3	INFRAWORKS SERVICES TRENCHING SPOIL	APPROXIMATE VOLUME OF SELECT MATERIAL IMPORT FOR RETAINING WALLS	NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
-44,486	-51,506	-25,000	-44,411	-1,016,851	1,175,839	-6,415

CUT/FILL DEPTH RANGE LEGEND

Lower_value		Upper_value		Colour
-10.0	to	-8.0	m	
-8.0	to	-7.0	m	
-7.0	to	-6.0	m	
-6.0	to	-5.0	m	
-5.0	to	-4.0	m	
-4.0	to	-3.0	m	
-3.0	to	-2.0	m	
-2.0	to	-1.0	m	
-1.0	to	0.0	m	
0.0	to	1.0	m	
1.0	to	2.0	m	
2.0	to	3.0	m	
3.0	to	4.0	m	
4.0	to	5.0	m	
5.0	to	6.0	m	
6.0	to	7.0	m	
7.0	to	8.0	m	
8.0	to	10.0	m	

EARTHWORKS AREAS

CUT (ha)	17.8
FILL (ha)	38.0
FARM DAMS (ha)	3.0
TOTAL (ha)	58.8

MAMRE ROAD

40m RIPARIAN CORRIDOR

ROAD 01

ROAD 02

ROAD 03

ROAD 04

PROPOSED LOT_1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

BEL 47.80 (±1000mm)

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

BEL 48.20 (±1000mm)
FUTURE LOT 2

BEL 49.00 (±1000mm)

PROPOSED LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

FUTURE LOT 8
BEL 52.30 (±1000mm)

FUTURE LOT 7
BEL 53.00 (±1000mm)

FUTURE LOT 4
BEL 57.00 (±1000mm)

PROPOSED LOT_9
REFER 18-596-2900 DRG PACKAGE FOR DETAILS

BEL 52.30 (±1000mm)

FUTURE LOT 6
BEL 56.00 (±1000mm)

FUTURE LOT 5
BEL 57.00 (±1000mm)

LEGEND:

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED BATTER TEMPORARY BATTER 1(V):4(H) PERMANENT BATTER 1(V):5(H) U.N.O
- EXTENT OF EXCAVATION OF EXISTING CREEKS AND DAMS (REFER NOTE No.3)

NOTES

1. EXISTING TOPSOIL STRIPPED 150mm IN AREAS OF LESS THAN 2m OF ENGINEERED FILL TO BE PLACED OVER THE EXISTING SUBGRADE. IT IS ASSUMED THAT ALL TOPSOIL FROM THE SITE WILL BE RE-USED ON SITE AS PER THE SPECIFICATION OF THE GEOTECHNICAL ENGINEER. EXCESS TOPSOIL WILL BE EXPORTED AS REQUIRED.
2. ALLOWANCE HAS BEEN MADE FOR RETAINING WALL BACKFILL MATERIAL (IMPORT).
3. ADDITIONAL EXCAVATION OF EXISTING CREEKS AND DAMS WITHIN SITE AREA TO A DEPTH 1m BELOW EXISTING INVERT AND WIDTH OF EXISTING CREEK/DAM EXTENT. VOLUMES ARE APPROXIMATE.
   DEPTH OF DAMS HAS BEEN ASSUMED AT 2.5m DEEP. EXCAVATED MATERIAL TO BE FARMED AND USED AS GENERAL FILL WITHIN FILL ZONES 1m BELOW FINAL SURFACE (GEOTECHNICAL ENGINEER TO CONFIRM SUITABILITY OF MATERIAL).
4. POSITIVE BALANCE VOLUMES INDICATE SHORTFALL OF MATERIAL REQUIRED (IMPORT).
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
6. BUILDING PADS HAVE BEEN GRADED AT MINIMUM 0.5% GRADE
7. PROPOSED PAVEMENT BOX OUT HAS BEEN SHOWN AT 700mm DEPTH. PAVEMENT DEPTH TO CONFIRMED DURING DETAILED DESIGN.

Issue	Description	Date
P	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
H	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

100mm on Original

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Client: mirvac

Scales	1:2000	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS
CUT/FILL PLAN

Civil Engineers and Project Managers
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1025

Issue: P

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1025.dwg

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

MAMRE ROAD

MAMRE ROAD

PROPOSED POND LOCATION 300m² APPROXIMATE AREA

40m RIPARIAN CORRIDOR

40.0m RIPARIAN CORRIDOR

5.5m (10.0m TYP.)

15.5m (20.0m TYP.)

14.5m (10m TYP)

24.5m (20.0m TYP.)

1 3 MAX BATTER

1194m³

BEL 47.06

BEL 47.41

LOW FLOW CHANNEL

INLET AND OUTLET SCOUR PROTECTION AND ENERGY DISSIPATION TO BE CONFIRMED

RETAINING WALL RW11 (LENGTH 204m MAX, HEIGHT 2.5m)

DETENTION BASIN

BEL44.34 BEL40.52 BEL40.53 BEL44.94 BEL40.66 BEL40.68 BEL40.69 BEL 47.62

BEL 47.65 BEL 47.65

0.5% MIN 0.5% MIN

PROPOSED LOT 1

REFER 18-596-2000 DRG PACKAGE FOR DETAILS

FUTURE LOT 2

R37 L13.879 10°6'48" L16.868

ROAD 02 16.86

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG No 18-596-C1031

ADJOINS DRG No 18-596-C1032

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	29-09-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales 1:500

Grid MGA

Height Datum AHD

Drawn KR

Designed KR

Checked AT

Approved AM

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

BULK EARTHWORKS PLAN
SHEET 1

Civil Engineers and Project Managers

at&l

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North Sydney NSW 2060
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Tel: 02 9439 1777
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info@atl.net.au

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No. 18-596-C1030

Issue M

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1030.dwg

ADJOINS DRG No 18-596-C1030

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

MAMRE ROAD

DETENTION BASIN

BIO RETENTION
BEL 42.75

RETAINING WALL RW11 (LENGTH: 209m MAX. HEIGHT: 2.5m)

BEL40.72 BEL40.72 BEL40.88 BEL40.88 BEL44.34 BEL41.09 BEL41.10 BEL41.23 BEL41.25 BEL44.95 BEL44.95 BEL44.96 BEL 47.46 BEL 47.31 BEL 47.65 BEL 47.65

0.5% MIN 0.5% MIN 0.5% MIN 0.5% MIN 0.3% MIN

47.40 47.60 47.40 47.40

PROPOSED LOT_1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

1 3 MAX BATTER (×5)

ROAD 01

82°59'25" L55.456 R-800 L61.029

ROAD 02

348°37'18" L288.690

78°37'10" L406.955

CREST 161.801

FUTURE LOT 2

SAG 28.143

FUTURE LOT 8

SAG 53.933 TC 55.456 CT 116.486

REFER ORION CONSULTING DRGS FOR INTERSECTION DETAILS

0.000 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340

3082m³

ALL FINISHED LEVELS SHOWN ARE +1000mm

ADJOINS DRG No 18-596-C1034

ADJOINS DRG No 18-596-C1035

ADJOINS DRG No 18-596-C1033

Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
N	ISSUED FOR DEVELOPMENT APPLICATION	29-09-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

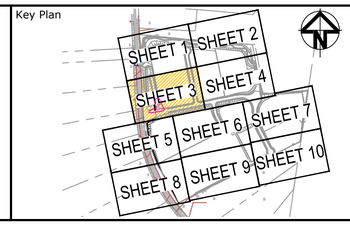
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales 1:500

Drawn KR

Designed KR

Grid MGA

Checked AT

Height Datum AHD

Approved AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS
PLAN
SHEET 3

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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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.
18-596-C1032

Issue
O

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1032.dwg

ADJOINS DRG No 18-596-C1031

ADJOINS DRG No 18-596-C1032

ADJOINS DRG No 18-596-C1035

ADJOINS DRG No 18-596-C1036

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

FUTURE LOT 2

FUTURE LOT 7

PROPOSED LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

40m RIPARIAN CORRIDOR

UPSTREAM CATCHMENT DIVERSION CHANNEL. REFER TO TO DRG 18-596-C1006 FOR DETAIL

ROAD 01

ROAD 03

ROAD 04

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS PLAN
SHEET 4

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
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Tel: 02 9439 1777
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No. 18-596-C1033

Issue M

100mm on Original

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LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ADJOINS DRG No 18-596-C1032

MAMRE ROAD

BEL 51.80

1 3 MAX BATTER

FUTURE LOT 8

52.00

BEL 52.20

0.5% MIN

PROPOSED LOT_9 SUBJECT TO SEPARATE SSDA

BEL 51.70

BEL 54.10

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG No 18-596-C1035

ADJOINS DRG No 18-596-C1037

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client: mirvac

Scales	1:500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project: ASPECT INDUSTIAL ESTATE MAMRE ROAD, KEMPS CREEK STAGE 1

Title: BULK EARTHWORKS PLAN SHEET 5

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1034

Issue: L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1034.dwg

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ADJOINS DRG No 18-596-C1032

ADJOINS DRG No 18-596-C1033

ADJOINS DRG No 18-596-C1034

ADJOINS DRG No 18-596-C1036

ADJOINS DRG No 18-596-C1038

3082m³

4447m³

PROPOSED LOT_9 SUBJECT TO SEPARATE SSDA

FUTURE LOT 8

FUTURE LOT 7

ROAD 04

RETAINING WALL RW23 LENGTH: 372m MAX. HEIGHT: 3.8m +/- 1.0m

BEL 51.80 BEL 52.20 BEL 53.25 BEL 53.70 BEL 52.38 BEL 51.70 BEL 52.43 BEL 52.60 BEL 56.00 BEL 51.64 BEL 51.75 BEL 54.10

52.00 53.60 53.40 50.80 51.80 56.20

48.40 48.60 48.80 49.00 49.20 49.40 49.60 49.80 50.00 50.20 50.40 50.60

0.5% MIN 3 MAX BATTER 10 TYP. BATTER

TC 60.869 60 CT 82.487 80 100 TC 118.604 120 CT 133.891 140 148.552

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client: mirvac

Scales		Drawn	KR
	1:500	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project: ASPECT INDUSTRIAL ESTATE MAMRE ROAD, KEMPS CREEK STAGE 1

Title: BULK EARTHWORKS PLAN SHEET 6

Civil Engineers and Project Managers

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1035

Issue: M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1035.dwg

ADJOINS DRG No 18-596-C1033

ADJOINS DRG No 18-596-C1035

ADJOINS DRG No 18-596-C1039

BEL 53.25
BEL 53.25
BEL 53.25
BEL 53.25
BEL 56.00
BEL 56.00
BEL 56.30
BEL 56.57
BEL 56.68
BEL 56.96
BEL 56.33
BEL 56.02
BEL 56.63
BEL 57.26
BEL 57.26
BEL 57.26

ROAD 01
ROAD 03
ROAD 03

53.00
53.20
53.20
53.00
53.00
53.20
53.40
53.60
53.80
54.00
54.20
54.40
54.60
55.00

600
697m³
638.324
100
1573m³
200
889m³

FUTURE LOT 7
FUTURE LOT 4
FUTURE LOT 6
FUTURE LOT 5

1 3 MAX BATTER
1 3 TYP. BATTER

RETAINING WALL RW21 (LENGTH: 307m, MAX. HEIGHT: 10.9m +/- 1.0m)

DISH DRAIN TO CONNECT INTO SEDIMENT AND EROSION CONTROL CATCH DRAIN

DISH DRAIN TYPE 2 BEHIND RETAINING WALL. REFER TO DRG C1012 FOR DETAIL.

DISH DRAIN TYPE 1 BEHIND RETAINING WALL. REFER TO DRG C1012 FOR DETAIL.

CATCH DRAIN. REFER TO DRG C1012 FOR DETAIL.

SMOOTHLY TRANSITION CATCH DRAIN INTO SPOON DRAIN. CONTRACTOR TO ENSURE NO PONDING TO OCCUR.

SPOON DRAIN. REFER TO DRG C1012 FOR DETAIL.

DD1
DD2
CD
SD

56.80
57.00
57.20
0.5% MIN
0.3% MIN

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	29-09-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales	1:500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
BULK EARTHWORKS PLAN
SHEET 7

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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www.atl.net.au
info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1036

Issue
M

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1036.dwg

ADJOINS DRG No 18-596-C1034

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

BEL 51.70

1 3 MAX BATTER

BEL 54.10

52.00

52.20

BEL 52.32

0.5% MIN

PROPOSED LOT_9 SUBJECT TO SEPARATE SSDA

MAMRE ROAD

1 3 MAX BATTER

BEL 51.70

RETAINING WALL RW22 (LENGTH: 534m, MAX. HEIGHT: 10.80m +/- 1.0m)

CD

CATCH DRAIN. REFER TO DRG C1012 FOR DETAIL.

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG No 18-596-C1038

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales 1:500

Grid MGA

Height Datum AHD

Drawn KR

Designed KR

Checked AT

Approved AM

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

BULK EARTHWORKS PLAN SHEET 8

Civil Engineers and Project Managers

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Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No. 18-596-C1037

Issue L

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ADJOINS DRG No 18-596-C1035

ADJOINS DRG No 18-596-C1037

ADJOINS DRG No 18-596-C1039

BEL 54.10

BEL 54.10

BEL 52.32

BEL 52.32

0.5% MIN

0.5% MIN

0.5% MIN

52.00

52.20

PROPOSED
LOT_9
REFER 18-596-2900 DRG PACKAGE FOR DETAILS

BEL 52.60

BEL 52.60

BEL 56.00

BEL 56.00

BEL 56.00

FUTURE
LOT 6

1
10 TYP.
BATTER

BEL 51.64

BEL 52.64

51.80

0.3% MIN

1
3 TYP.
BATTER

DD1

CD

DISH DRAIN TYPE 1 BEHIND RETAINING WALL. REFER TO DRG C1012 FOR DETAIL.

CATCH DRAIN. REFER TO DRG C1012 FOR DETAIL.

BEL 51.70

1
3 TYP.
BATTER

DD3

DD1

CD

DISH DRAIN TYPE 1 BEHIND RETAINING WALL. REFER TO DRG C1012 FOR DETAIL.

DISH DRAIN TYPE 3 BEHIND RETAINING WALL. REFER TO DRG C1012 FOR DETAIL.

51.80

RETAINING WALL RW22 (LENGTH: 534m, MAX. HEIGHT: 10.80m +/- 1.0m)

DD3

CATCH DRAIN. REFER TO DRG C1012 FOR DETAIL.

BUILDING

BUILDING

BEL 51.70

CD

52.00

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ALL FINISHED LEVELS SHOWN ARE ±1000mm

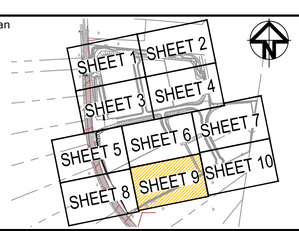
Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

BULK EARTHWORKS
PLAN
SHEET 9

Civil Engineers and Project Managers

at&l

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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1038

Issue
M

100mm on Original

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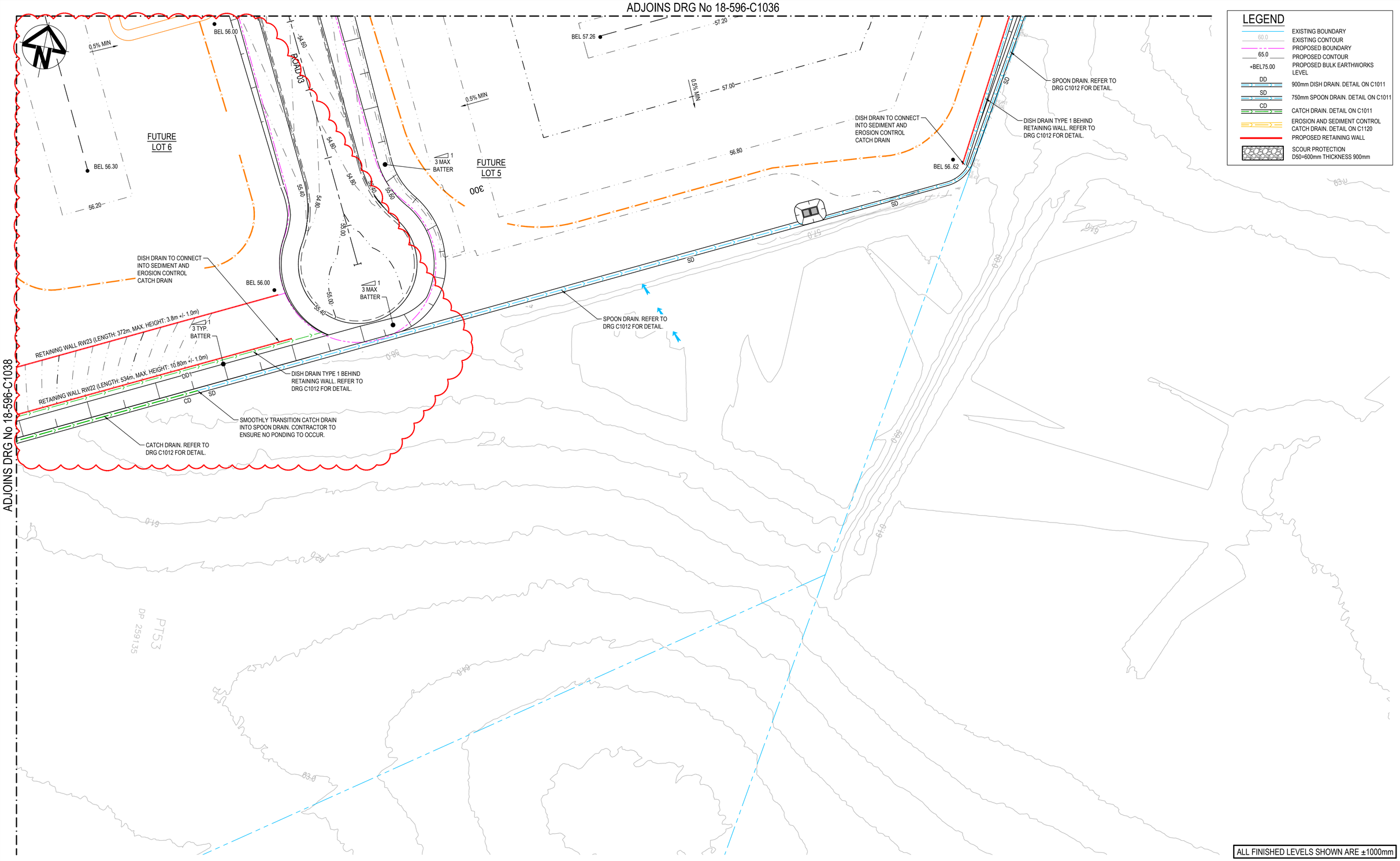
ADJOINS DRG No 18-596-C1036

ADJOINS DRG No 18-596-C1038



LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
N	ISSUED FOR DEVELOPMENT APPLICATION	29-09-22
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

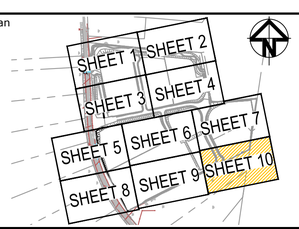
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client: mirvac

Scales: 1:500

Grid: MGA

Height Datum: AHD

Drawn: KR

Designed: KR

Checked: AT

Approved: AM

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GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: BULK EARTHWORKS PLAN SHEET 10

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www.atl.net.au
info@atl.net.au

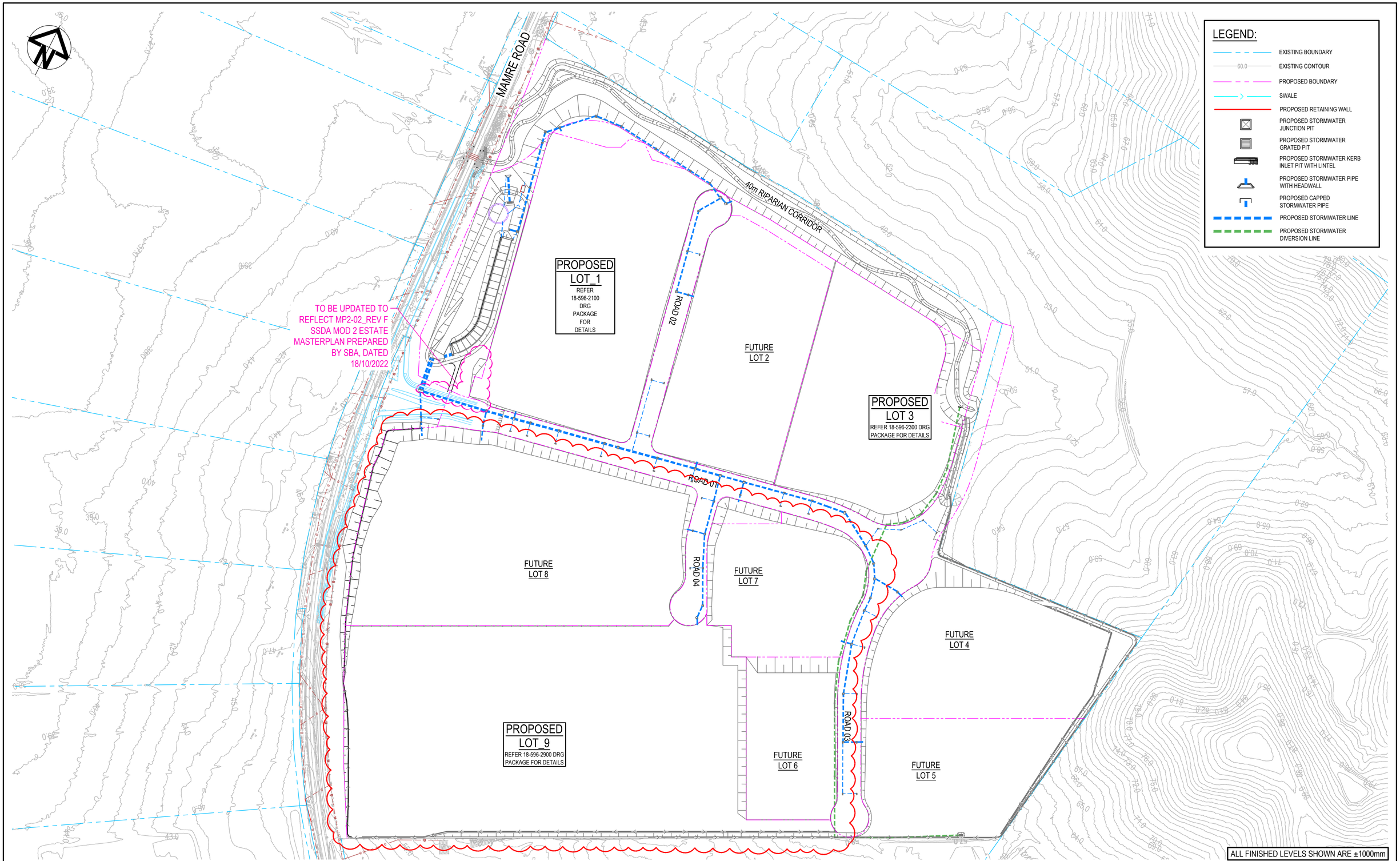
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1039

Issue: N

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1039.dwg



Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
N	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

100mm on Original

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client

mirvac

Scales	1:2000	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

STORMWATER DRAINAGE
OVERALL 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

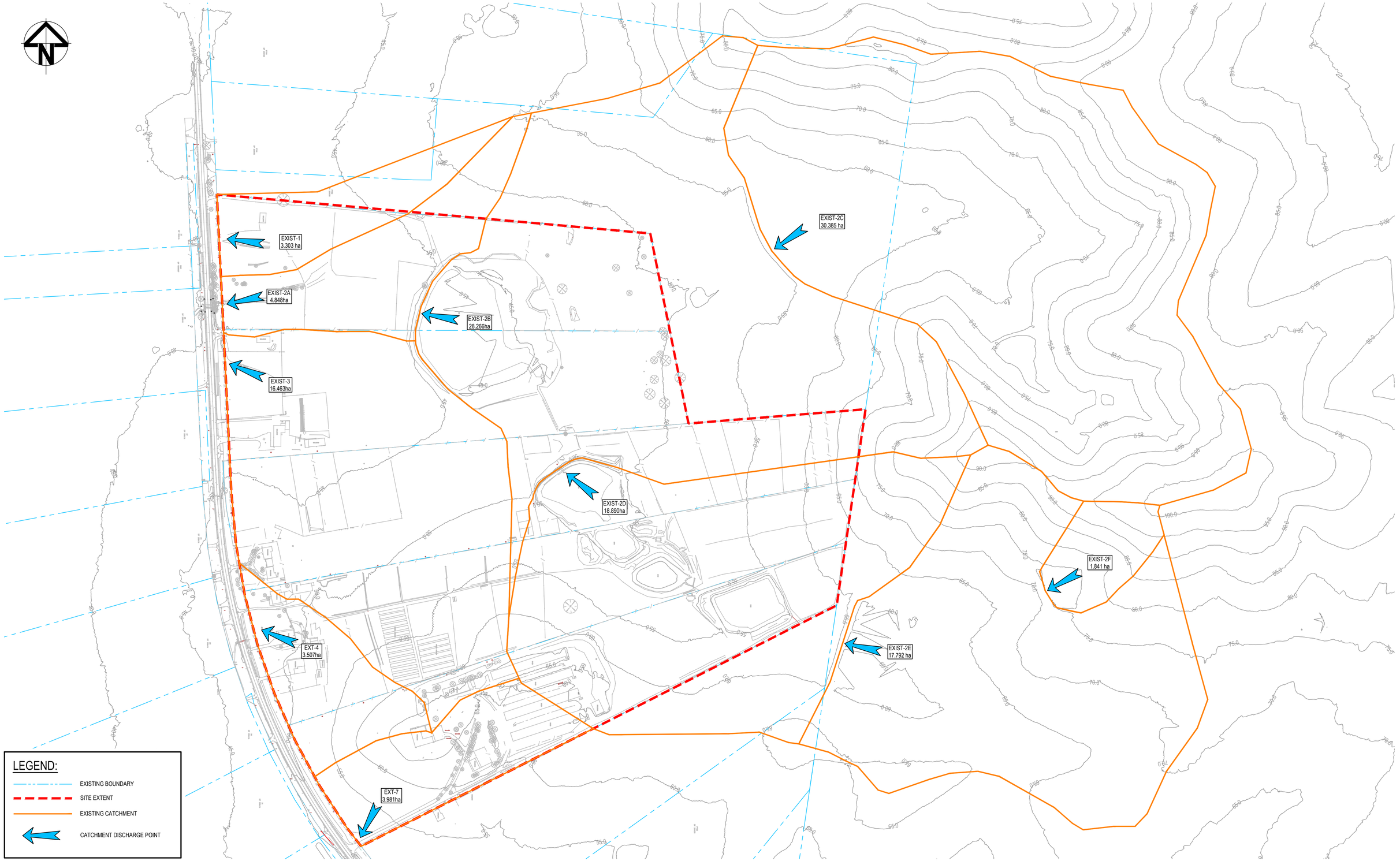
Project - Drawing No.

18-596-C1040

Issue

O

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1040.dwg



Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20
B	ISSUED FOR DEVELOPMENT APPLICATION	12-10-20

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client

mirvac

Scales	1:2500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

STORMWATER DRAINAGE CATCHMENT PLAN (PRE-DEVELOPED)

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
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

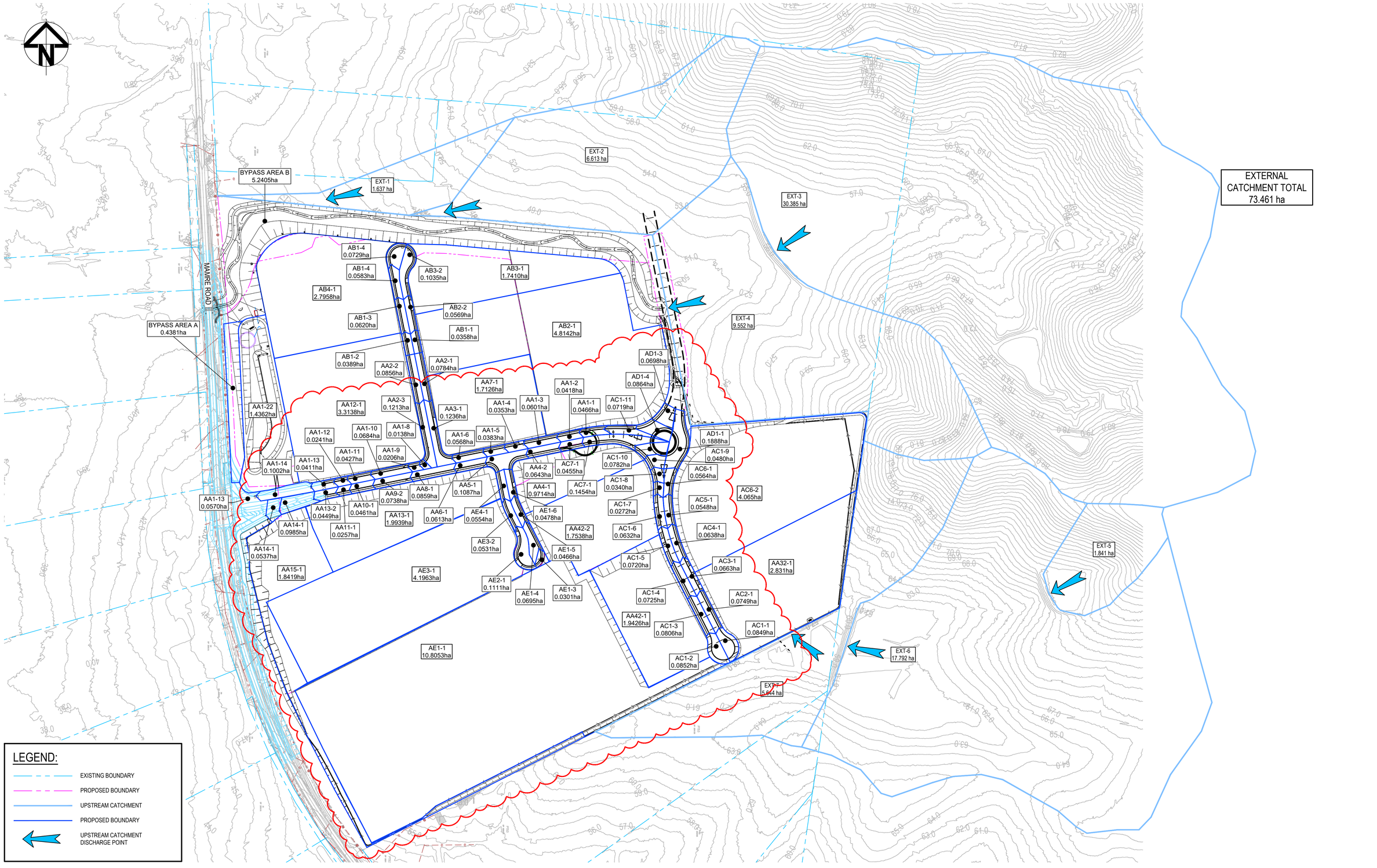
A1

Project - Drawing No.: 18-596-C1045

Issue: K

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1045.dwg



Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	16-05-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client

mirvac

Scales	1:2500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

STORMWATER DRAINAGE CATCHMENT PLAN (POST-DEVELOPED)

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
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Status

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

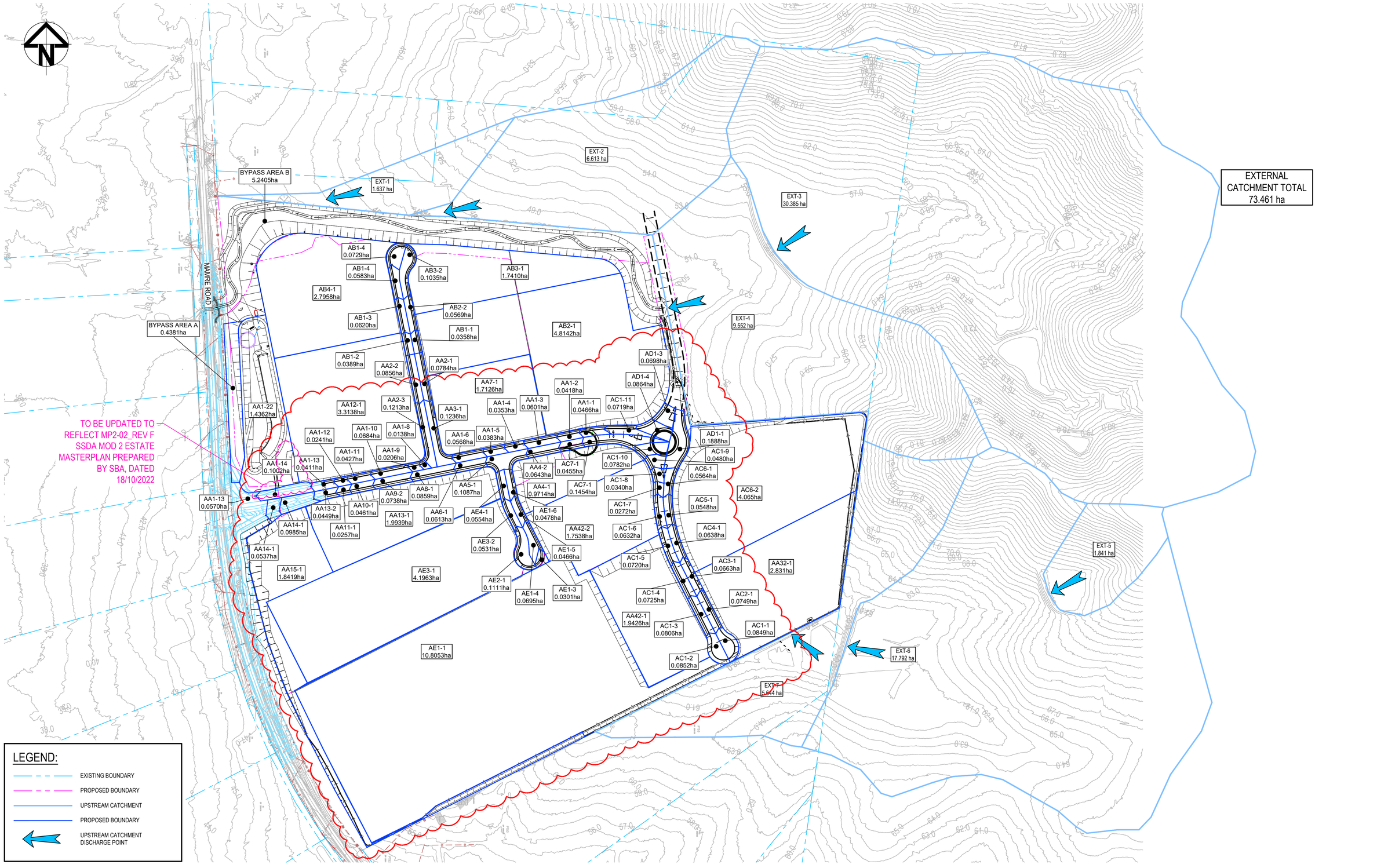
Project - Drawing No.

18-596-C1046

Issue

O

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1046.dwg



LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- UPSTREAM CATCHMENT
- PROPOSED BOUNDARY
- UPSTREAM CATCHMENT DISCHARGE POINT

Issue	Description	Date
P	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
O	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	16-05-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client: mirvac

Scales	1:2500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
STORMWATER DRAINAGE
CATCHMENT
PLAN
(POST-DEVELOPED)

Civil Engineers and Project Managers
at&l
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Fax: 02 9923 1055
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info@atl.net.au

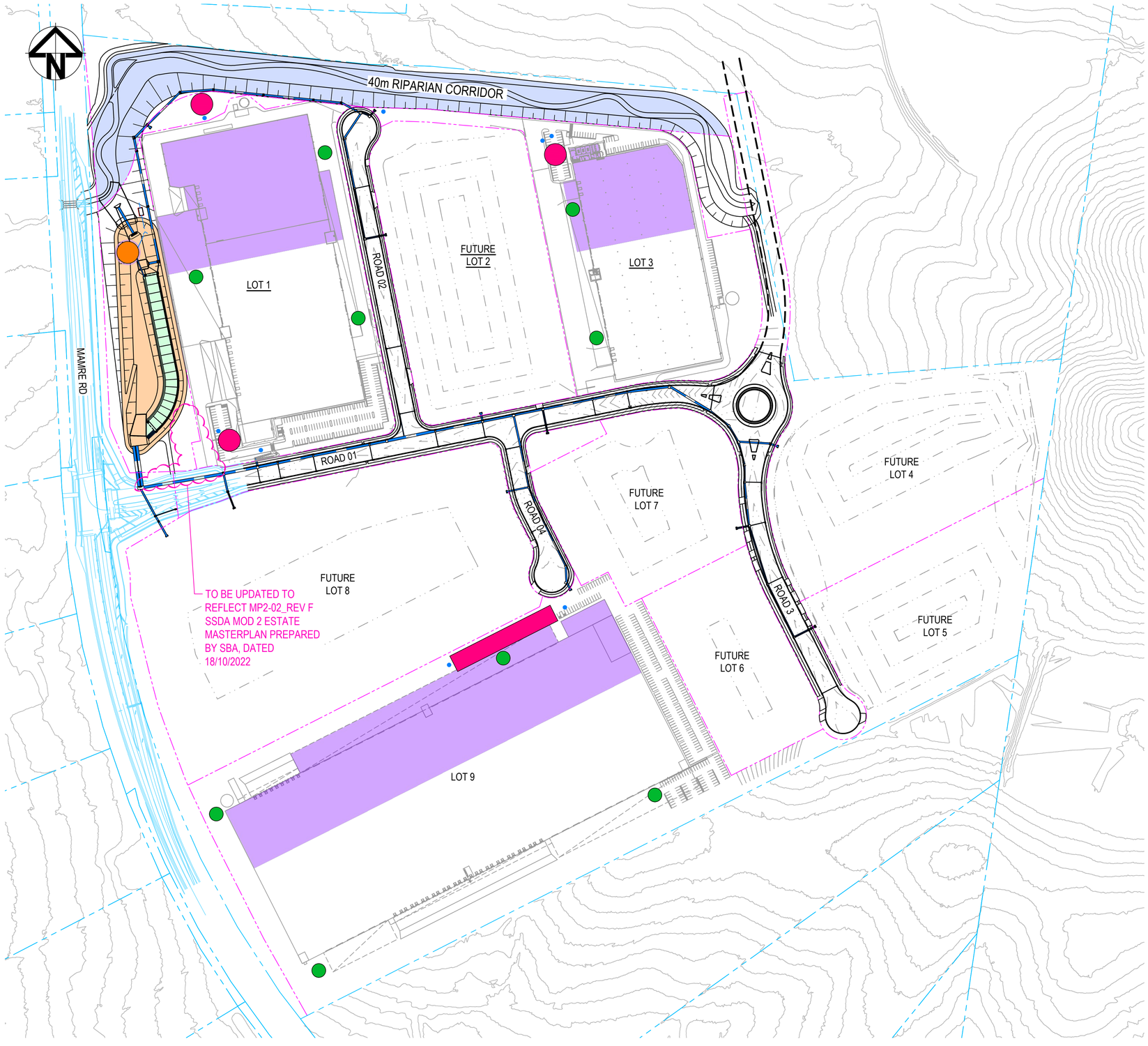
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1046

Issue
P

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1046.dwg



LEGEND

- APPROXIMATE EXTENT OF EVAPORATIVE IRRIGATION ON WAREHOUSE ROOF AREAS (EQUIVALENT TO 40% OF TOTAL WAREHOUSE ROOF AREA)
- 50% OF TOTAL AREA OF C2 CORRIDOR TO BE IRRIGATED APPROXIMATE AREA = 12,600m^2
- DETENTION BASIN APPROXIMATE VOLUME = 15,500m^3
- FILTERRA PROPRIETARY BIO-RETENTION SYSTEM APPROXIMATE AREA = 1,600m^2
- STORMWATER REUSE TANK FOR EVAPORATIVE ROOF IRRIGATION (INDICATIVE SIZE AND LOCATION ONLY)
- GROSS POLLUTANT TRAP (INDICATIVE SIZE AND LOCATION ONLY)
- STORMWATER REUSE TANK FOR IRRIGATION OF 80% OF THE C2 CORRIDOR (INDICATIVE SIZE AND LOCATION ONLY)
- RAINWATER TANK - FOR ON-LOT NON-POTABLE REUSE (TOILETS AND LANDSCAPE IRRIGATION) (INDICATIVE SIZE AND LOCATION ONLY)

TABLE 1: STORMWATER REUSE DETAILS

	RAINWATER TANK VOLUME (m3)	LANDSCAPE AREA TO BE IRRIGATED (m2)	STORMWATER REUSE TANK VOLUME (m3)	STORMWATER REUSE TANK - ANNUAL IRRIGATION RATE (ML/yr)	WAREHOUSE ROOF / AWNING AREA TO BE IRRIGATED (m2)
Lot 1	120	6,220	2,050	25.6	13,400
Lot 3	150	8,140	1,200	16.2	8,500
Lot 9	200	9,960	3,850	50.3	26,400

NOTE - ALL FIGURES PRESENTED IN TABLE 1 ARE TO BE CONFIRMED DURING DETAILED DESIGN OF EACH LOT
- RAINWATER TANKS CAN BE CO-LOCATED WITH STORMWATER REUSE TANK. TO BE CONFIRMED DURING DETAILED DESIGN OF EACH LOT

NOTE

THIS PLAN PRESENTS STORMWATER MANAGEMENT MEASURES THAT WILL BE REQUIRED TO SATISFY STORMWATER QUALITY, QUANTITY AND FLOW TARGETS STIPULATED IN THE MAMRE ROAD PRECINCT DCP 2021 FOR THE STAGE 1 DEVELOPMENT.

REFER TO AT&L CIVIL INFRASTRUCTURE & WATER MANAGEMENT REPORT FOR FURTHER DETAILS.

Issue	Description	Date
B	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
A	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client: mirvac

Scales: 1:2000

Grid: MGA

Height Datum: AHD

GDA2020

Drawn: MH

Designed: TM

Checked: DS

Approved: AM

Project: ASPECT INDUSTIAL ESTATE MAMRE ROAD, KEMPS CREEK STAGE 1

Title: STORMWATER MANAGEMENT PLAN STAGE 1

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

A1

Project - Drawing No.: 18-596-C1047

Issue: B

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1047.dwg

LEGEND

- APPROXIMATE EXTENT OF EVAPORATIVE IRRIGATION ON WAREHOUSE ROOF AREAS (EQUIVALENT TO 40% OF TOTAL WAREHOUSE ROOF AREA)
- 50% OF TOTAL AREA OF C2 CORRIDOR TO BE IRRIGATED APPROXIMATE AREA = 12,600m^2
- DETENTION BASIN APPROXIMATE VOLUME = 15,500m^3
- FILTERRA PROPRIETARY BIO-RETENTION SYSTEM APPROXIMATE AREA = 1,600m^2
- STORMWATER REUSE TANK FOR EVAPORATIVE ROOF IRRIGATION (INDICATIVE SIZE AND LOCATION ONLY)
- GROSS POLLUTANT TRAP (INDICATIVE SIZE AND LOCATION ONLY)
- STORMWATER REUSE TANK FOR IRRIGATION OF 50% OF THE C2 CORRIDOR (INDICATIVE SIZE AND LOCATION ONLY)
- RAINWATER TANK - FOR ON-LOT NON-POTABLE REUSE (TOILETS AND LANDSCAPE IRRIGATION) (INDICATIVE SIZE AND LOCATION ONLY)

TABLE 1: STORMWATER REUSE DETAILS

	RAINWATER TANK VOLUME (m3)	LANDSCAPE AREA TO BE IRRIGATED (m2)	STORMWATER REUSE TANK VOLUME (m3)	STORMWATER REUSE TANK - ANNUAL IRRIGATION RATE (ML/yr)	WAREHOUSE ROOF / AWNING AREA TO BE IRRIGATED (m2)
Lot 1	120	6,220	2,050	25.6	13,400
Lot 2	80	3,960	1,350	18.0	9,400
Lot 3	150	8,140	1,200	16.2	8,500
Lot 4	300	14,500	1,400	20.2	10,600
Lot 6	40	2,140	550	7.0	3,700
Lot 7	100	5,710	850	11.5	6,000
Lot 8	200	10,990	2,450	34.2	17,900
Lot 9	200	9,960	3,850	50.3	26,400

NOTE - ALL FIGURES PRESENTED IN TABLE 1 ARE TO BE CONFIRMED DURING DETAILED DESIGN OF EACH LOT
- RAINWATER TANKS CAN BE CO-LOCATED WITH STORMWATER REUSE TANK. TO BE CONFIRMED DURING DETAILED DESIGN OF EACH LOT

NOTE

THIS PLAN PRESENTS STORMWATER MANAGEMENT MEASURES THAT WILL BE REQUIRED TO SATISFY STORMWATER QUALITY, QUANTITY AND FLOW TARGETS STIPULATED IN THE MAMRE ROAD PRECINCT DCP 2021 FOR THE MOD 4 MASTER PLAN.

REFER TO AT&L CIVIL INFRASTRUCTURE & WATER MANAGEMENT REPORT FOR FURTHER DETAILS.

Issue	Description	Date
B	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
A	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client: mirvac

Scales: 1:2000

Grid: MGA

Height Datum: AHD

GDA2020

Drawn	MH
Designed	TM
Checked	DS
Approved	AM

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: STORMWATER MANAGEMENT PLAN
MOD 4 MASTER PLAN

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1048

Issue: B

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1048.dwg

ADJOINS DRG 18-596-C1060

LEGEND:

- EXISTING BOUNDARY
- EXISTING ELECTRICITY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED RETAINING WALL
- 48.00 PROPOSED MAJOR CONTOUR
- 48.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER STAGE 1A WORKS TEMPORARY BATTER 1(V):4(H) PERMANENT BATTER 1(V):5(H) U.N.O
- MK PROPOSED MOUNTABLE KERB TO PCC SPECIFICATION
- K&G PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
- PROPOSED DRIVEWAY LAYBACK
- PROPOSED KERB RAMP
- LIMIT OF WORKS
- PROPOSED CATCH DRAIN
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED CAPPED STORMWATER PIPE
- PROPOSED STORMWATER LINE
- PROPOSED INDUSTRIAL ROAD PAVEMENT TO PCC SPECIFICATION
- PROPOSED FOOTPATH PAVEMENT TO PCC SPECIFICATION
- PROPOSED INDUSTRIAL DRIVEWAY PAVEMENT TO PCC SPECIFICATION
- CUL-DE-SEC ROUNDABOUT PAVEMENT
- MAINTENANCE ACCESS TRACK
- BASIN MAINTENANCE DRIVEWAY
- REINFORCED CONCRETE WIER
- LANDSCAPED MEDIAN
- CONCRETE MEDIAN

AA1-15
AA1-14
AA14-2
AA15-2
AA15-1
AA14-1
AA13-2
AA13-1
AA12-1
AA11-1

PROPOSED STORMWATER DETENTION BASIN.

PROPOSED LOW FLOW PIPE TO DRAIN TREATABLE FLOW TO FILTERRA BIO-RETENTION SYSTEM REFER TO DRG 18-596-C1059 FOR DETAILS

GRADE LANDSCAPE TO DRAIN 100 YEAR ARI STORMWATER OVERLAND FLOW TO BASIN

OVERLAND FLOW PATH TYP.

PROPOSED STORMWATER SPLITTER PIT WITH LOW AND HIGH FLOW WEIR. LOW FLOW IS TO BE DIRECTED INTO BIO BASN AND HIGH FLOW IS TO BE DIRECTED INTO OSD BASIN

BOX CULVERT 2 x 2.4W x 2.4H

BOX CULVERT 2.4W x 2.4H

BOX CULVERT 1.5W x 0.9H

FRC Ø525

FRC 4 x Ø600

VARIES (3 MAX) BATTER

PROPOSED LOT 1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

CAP PROPOSED STORMWATER PIP FOR FUTURE CONNECTION

ROAD 01

82°59'25"
L55.456
R-800
L61.029

INTERSECTION GEOMETRY (INCLUSIVE OF BOUNDARY) BASED ON INDICATIVE TfNSW CONCEPT PLAN. TBC WITH TfNSW AT DETAILED DESIGN

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

REFER ORION CONSULTING DRGS FOR INTERSECTION DETAILS

ROAD RESERVE 26.40m

8.10m

1.50m

4.60m

2.50m

5.60m

TC 55.456
SAG 53.933

CT 116.486

FUTURE LOT 8

CAP PROPOSED STORMWATER PIPE FOR FUTURE CONNECTION

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG 18-596-C1051

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client: mirvac

Scales: 1:250
Grid: MGA
Height Datum: AHD

Drawn: KR
Designed: KR
Checked: AT
Approved: AM

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GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: ROADWORKS
AND STORMWATER DRAINAGE
SHEET 1

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

A1

Project - Drawing No.: 18-596-C1050

Issue: M

100mm on Original

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ADJOINS DRG 18-596-C1057

ADJOINS DRG 18-596-C1050

ADJOINS DRG 18-596-C1052

PROPOSED LOT 1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

FUTURE LOT 2

FUTURE LOT 8

24.00m ROAD RESERVE
5.00m | 7.50m | 7.50m | 4.00m
2.50m | 1.50m

ROAD 02

ROAD 01

AA1-11 | AA1-10 | AA1-9 | AA1-8 | AA1-7 | AA1-6
AA2-3 | AA3-1
AA10-1 | AA9-1 | AA8-1 | AA6-1

BOX CULVERT 2.4W x 2.4H
BOX CULVERT 2.1W x 2.4H

FRC Ø375
FRC Ø600

1 VARIES (3 MAX) BATTER

1.50m | 4.60m | 8.10m | 26.40m ROAD RESERVE | 8.10m | 2.50m | 5.60m

47.00 | 47.20 | 47.40 | 47.40 | 47.80 | 48.00

78°37'10"
L406.955

0.000

SAG 28.143

40 | 20

180 | 200 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 2

Civil Engineers and Project Managers
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North Sydney NSW 2060
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Tel: 02 9439 1777
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Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1051

Issue
M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1051.dwg

FUTURE
LOT 2

PROPOSED LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

1
VARIES
(3 MAX)
BATTER

CAP PROPOSED STORMWATER
PIPE FOR FUTURE CONNECTION

AA7-1

BOX CULVERT
1.5W x 0.9H

AA1-5

BOX CULVERT
2.1W x 2.4H

AA1-4

BOX CULVERT
1.8W x 1.8H

AA1-3

1.50m
4.60m

BOX CULVERT
1.8W x 1.5H

AA1-2

BOX CULVERT
1.8W x 1.5H

AA1-1

BOX CULVERT
1.8W x 1.5H

ADJOINS DRG 18-596-C1051

ADJOINS DRG 18-596-C1053

FRC
Ø375

ROAD 01

48.20

48.40

ROAD 04

BOX CULVERT
1.5W x 1.2H

48.60

000.0

2 x FRC
Ø600

8.10m

26.40m
ROAD RESERVE

48.80

49.00

49.20

49.40

49.60

49.80

50.00

50.20

50.40

50.60

AA5-1

AA4-2

AA4-1

AC10-1

AC7-1

CAP PROPOSED STORMWATER
PIPE FOR FUTURE CONNECTION

FRC
Ø450

AE4-1

AE1-6

20

FUTURE
LOT 7

1
VARIES
(3 MAX)
BATTER

380

400

420

440

480

500

520

L60.869

168°37'9"

40

TC 523.441

TEMPORARY STAGE 1A TURNING HEAD.
REFER TO DRG C1250 FOR DETAILS.
TO BE REMOVED IN STAGE 1B.

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
N	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
M	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

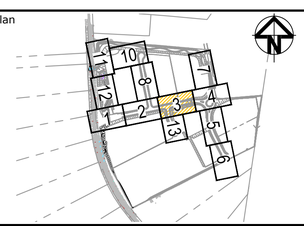
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 3

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
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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1052

Issue
N

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1052.dwg

ADJOINS DRG 18-596-C1056

PROPOSED LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

ADJOINS DRG 18-596-C1052

ADJOINS DRG 18-596-C1054

TC 523.441

FUTURE LOT 7

FUTURE LOT 4

1 VARIES (3 MAX) BATTER

CONNECT TO EXISTING STORMWATER

BOX CULVERT 1.8W x 1.5H

BOX CULVERT 1.5W x 1.5H

BOX CULVERT 1.5W x 1.2H

BOX CULVERT 1.5W x 0.9H

BOX CULVERT 1.2W x 1.2H

FRC Ø375

FRC Ø450

AA1-1

AA1-2

AC1-11

AC1-10

AC1-9

AC1-8

AC10-1

AC7-1

AC6-2

AC6-1

AD1-1

AD1-2

AD1-3

DV1-10

DV1-11

DV1-12

DV1-13

DV1-9

ROAD 01

ROAD 03

26.40m ROAD RESERVE

GRASS LINED SWALE

TEMPORARY STAGE 1A TURNING HEAD.
REFER TO DRG C1250 FOR DETAILS.
TO BE REMOVED IN STAGE 1B

CAP PROPOSED STORMWATER PIPE FOR FUTURE CONNECTION

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 4

Civil Engineers and Project Managers
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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

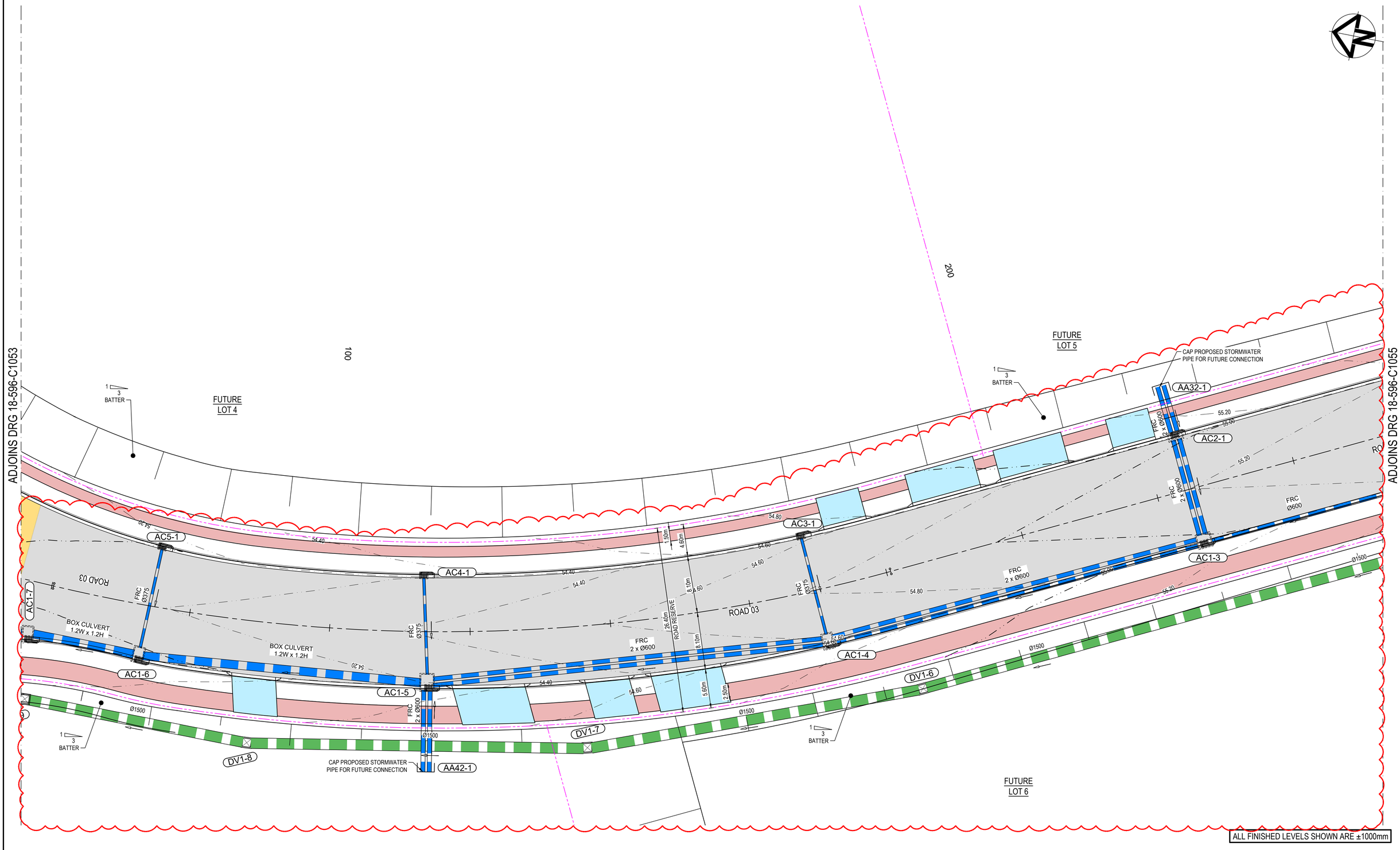
A1

Project - Drawing No.
18-596-C1053

Issue
L

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1053.dwg



Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

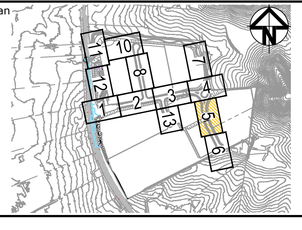
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
	1:250	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

ROADWORKS
AND STORMWATER DRAINAGE
SHEET 5

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Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1054

Issue: L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1054.dwg

ADJOINS INSET A ON THIS DRAWING

ADJOINS DRG 18-596-C1054

FUTURE LOT 5

FUTURE LOT 6

ROAD 03

26.40m ROAD RESERVE

8.10m

1.50m

2.50m

5.60m

55.40

55.60

55.80

AC1-1

AC1-2

DV1-1

DV1-2

DV1-3

DV1-4

DV1-5

FRC Ø525

FRC Ø600

Ø1500

Ø600

DS

STORMWATER DIVERSION SWALE APART OF STAGE 1A SITEWORKS TO BE INFILLED AND REPLACED WITH GRASS LINED SWALE OVER STORMWATER DIVERSION PIPE

FUTURE CONNECTION WITH SOUTHERN DEVELOPMENT

STORMWATER DIVERSION PIPE SIZE AND LOCATION TO BE CONFIRMED WITH DEVELOPMENT TO THE SOUTH

RETAINING WALL RW23 (LENGTH: 372m, MAX. HEIGHT: 3.80m +/- 1.0m, SUBJECT TO DETAILED DESIGN)

RETAINING WALL RW22 (LENGTH: 534m, MAX. HEIGHT: 10.80m +/- 1.0m, SUBJECT TO DETAILED DESIGN)

1 3 BATTER

2x 1500x1500 SAG INLET PITS

ADJOINS ABOVE INSET A

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Key Plan

Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 6

Civil Engineers and Project Managers
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info@atl.net.au

Status
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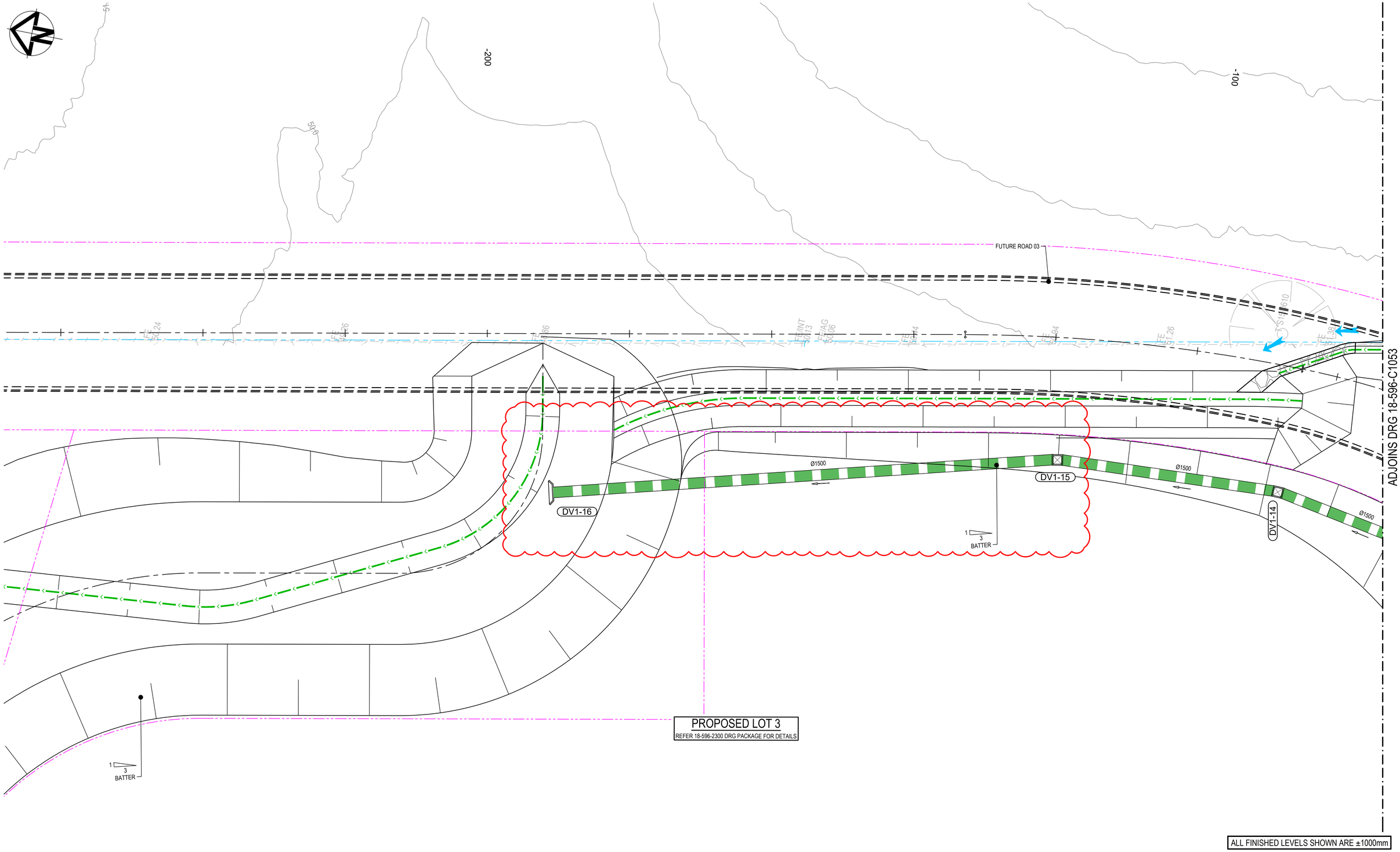
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1055

Issue
M

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1055.dwg



Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

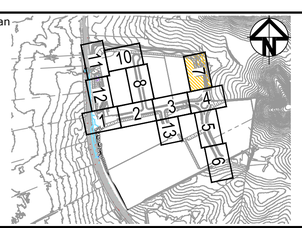
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales 1:250

Drawn KR

Designed KR

Checked AT

Approved AM

Grid MGA

Height Datum AHD

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

ROADWORKS
AND STORMWATER DRAINAGE
SHEET 7

Civil Engineers and Project Managers

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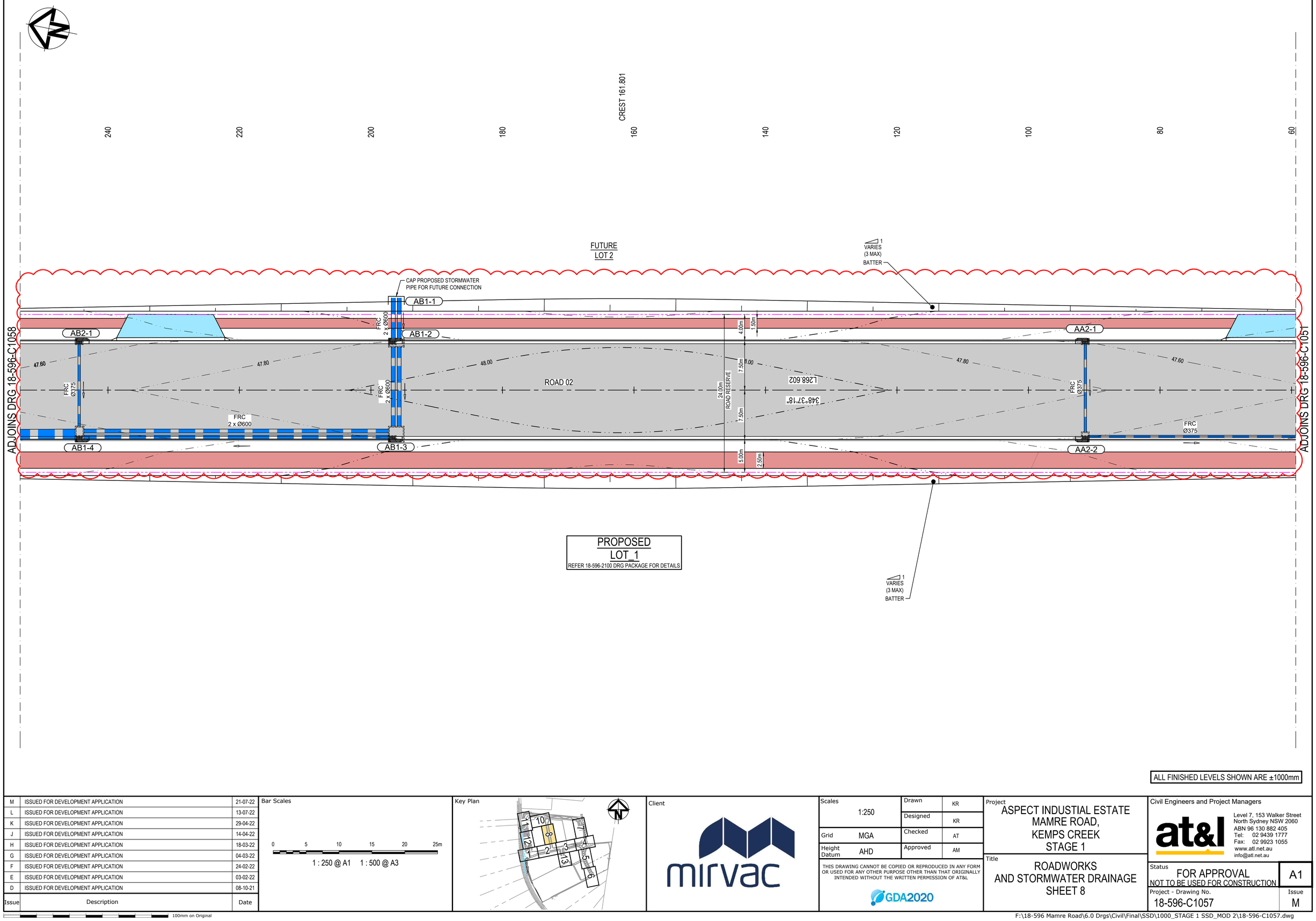
Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No. 18-596-C1056

Issue L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1056.dwg



ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales 1:250

Drawn KR

Designed KR

Checked AT

Approved AM

Grid MGA

Height Datum AHD

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Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

ROADWORKS
AND STORMWATER DRAINAGE
SHEET 8

Civil Engineers and Project Managers

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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

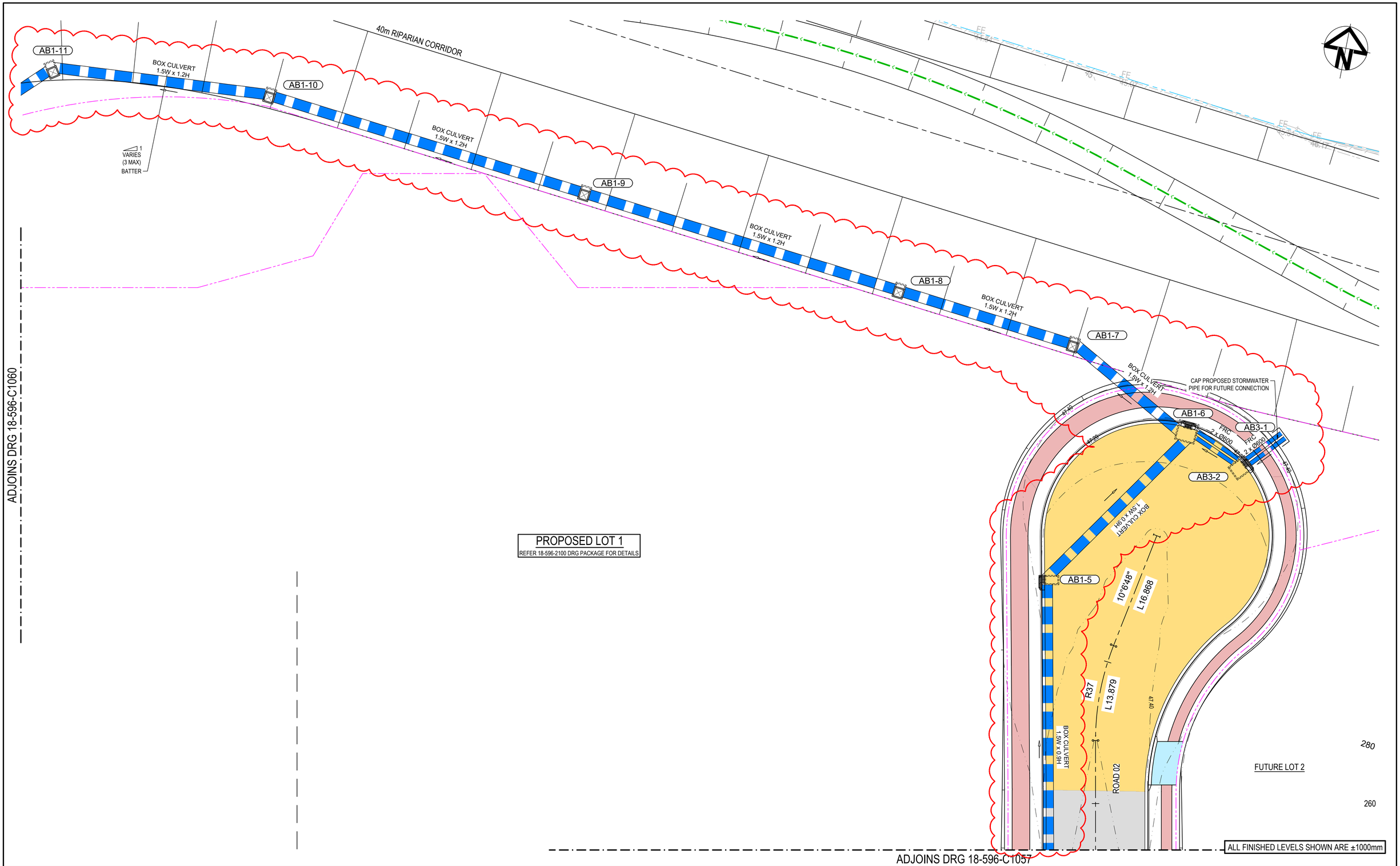
A1

Project - Drawing No.
18-596-C1057

Issue
M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1057.dwg



Issue	Description	Date
I	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	'14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

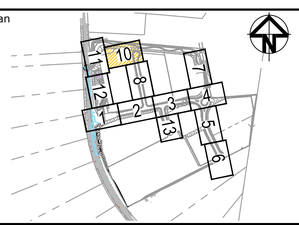
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales 1:250

Drawn KR

Designed KR

Grid MGA

Checked DS

Height Datum AHD

Approved AM

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

ROADWORKS
AND STORMWATER DRAINAGE
SHEET 10

Civil Engineers and Project Managers

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A1

Project - Drawing No. 18-596-C1059

Issue I

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ADJOINS DRG 18-596-C1059

ADJOINS DRG 18-596-C1061

PROPOSED LOT 1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

BOX CULVERT 1.8W x 1.2H

BOX CULVERT 1.8W x 0.9H

AB4-1

CAP PROPOSED STORMWATER PIPE FOR FUTURE CONNECTION

AB1-12

AB1-13

AB1-14

AB1-15

1 in 3 BATTER

IRRIGATION WATER PIPE TO PUMP UNIT

NOM. LOCATION OF PUMP AND TREATMENT UNIT, SUBJECT TO COORDINATION WITH LANDSCAPE AND IRRIGATION CONSULTANT

RETAINING WALL RW11 (LENGTH: 211m, MAX. HEIGHT: 2.5m)

BLOCK RETAINING WALL

PIPE TO C2 CORRIDOR IRRIGATION SYSTEM, SIZE AND LOCATION TO BE CONFIRMED DURING DETAILED DESIGN

LOW FLOW CHANNEL

PROPOSED POND LOCATION. 300m² APPROXIMATE AREA

PROPOSED BASIN OVERFLOW MINIMUM WIDTH 15m AT RL44.10m

PROVIDE ROCK SCOUR PROTECTION

STORMWATER BASIN TO DISCHARGE TO PROPOSED SWALE

AO1-1

AO1-2

BOX CULVERT 2.1W X 1.8H

Ø375

STORMWATER BASIN DISCHARGE LINE

STORMWATER REUSE TANK Ø375 OVERFLOW RELIEF PIPE

PROPOSED STORMWATER HIGH FLOW DISCHARGE PIT. REFER TO DRG C1019 FOR DETAILS.

STORMWATER REUSE TANK FOR IRRIGATION OF THE C2 CORRIDOR 1050kL (NOM.) TANK FSL 40.65 BEL 36.25 (INDICATIVE SIZE AND LOCATION ONLY)

FOR BOTH STAGE 1 AND THE ULTIMATE MASTERPLAN LAYOUT PER MODIFICATION NO. 4, 50% OF THE C2 CORRIDOR IS TO BE IRRIGATED. APPROXIMATE AREA TO BE IRRIGATED = 12,600m2

SWALE IL39.26 AT 0.5% GRADE

INLET AND OUTLET SCOUR PROTECTION AND ENERGY DISSIPATION TO BE CONFIRMED

MAKE SMOOTH CONNECTION WITH EXISTING CHANNEL

REFER TO ECOLOGIST AND LANDSCAPE PLANS FOR BATTER PLANTING TREATMENTS

EXISTING 3No. 900 HIGH x 1800 WIDE ROAD CULVERT CROSSING. UPSTREAM INVERT LEVEL IL38.97

EXISTING CULVERT WING WALLS TO BE RETAINED.

1 in 4 BATTER

1 in 10 BATTER

EXISTING POWER POLES TO REMAIN

MAMRE ROAD

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
I	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	'14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales		Drawn	KR
	1:250	Designed	KR
Grid	MGA	Checked	DS
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 11

Civil Engineers and Project Managers
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Status
FOR APPROVAL
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A1

Project - Drawing No.
18-596-C1060

Issue
I

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1060.dwg

ADJOINS DRG 18-596-C1059

ADJOINS DRG 18-596-C1050

PROPOSED LOT 1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

PROPOSED FILTERRA BIORETENTION.
BY OCEAN PROTECT. TO BE INSTALLED TO MANUFACTURER'S SPECIFICATION. REFER TO OCEAN PROTECT FOR COSTING.

1 in 3 BATTER

PROPOSED STORMWATER SPLITTER PIT

BOX CULVERT 1.8W x 1.2H

AB1-16

USIL 41.93
DSIL 41.86

PROPOSED BIO-RETENTION INLET STRUCTURE TO MANUFACTURER'S SPECIFICATION

FULL HEIGHT SEPARATION WALL BETWEEN FILTERRA SECTIONS

F45.00

FRC Ø600

AB1B-1

WEEP HOLES AT BASE OF WEIR INTO SF CHAMBER TO ALLOW FOR CHANNEL TO EMPTY AT THE END OF THE STORM

PROPOSED LOW FLOW PIPE TO DRAIN TO FILTERRA BIO RETENTION AREA

BOX CULVERT 1.8W x 1.2H

AB1-17

WEIR TO OVERFLOW INTO STORMFILTER CHAMBER WHEN FILTERRA SYSTEM IS FULL
SMALL HOLES IN THE BASE OF WEIR TO ALLOW FOR CHANNEL TO EMPTY AT THE END OF THE STORM
WEIR LEVEL WITH EXTERNAL OVERFLOW WEIR

BIO RETENTION
BEL 42.75

PROPOSED FILTERRA BIO-RETENTION SYSTEM
MINIMUM SURFACE AREA: 1,600m²
TOP OF FILTER MEDIA LEVEL: RL42.85mAHD
TOP OF EXTENDED DETENTION: RL43.00mAHD

FRC Ø375

FRC Ø900

IL 40.90

IL 39.40

IL 39.20

DETENTION BASIN

F43.00

F45.00

STORMFILTER BAY
3x690mm PSORB CARTRIDGES

SEALED CONCRETE BOX CULVERT, 900mm WIDE DEPTH VARIES, MIN. 0.5% FALL

PROPOSED BIORETENTION UNDERDRAIN COLLECTION LINES

F40.80

PROVIDE ROCK SCOUR PROTECTION

0.5% MIN

1 in 3 BATTER

DETENTION BASIN

PROPOSED STORMWATER DETENTION BASIN
VOLUME: 14,900m³
MAXIMUM DEPTH: 3.5m

PROPOSED BIO-RETENTION COLLECTION LINE TO OUTLET INTO OSD BASIN

PROPOSED PIPE TO DRAIN FILTERRA OUTFLOW TO STORMWATER HARVESTING TANK

F44.40

STORMWATER REUSE TANK
FOR IRRIGATION OF THE C2 CORRIDOR
1050kL (NOM.) TANK
FSL 40.65
BEL 36.25
(INDICATIVE SIZE AND LOCATION ONLY)

FOR BOTH STAGE 1 AND THE ULTIMATE MASTERPLAN LAYOUT PER MODIFICATION NO. 4, 50% OF THE C2 CORRIDOR IS TO BE IRRIGATED. APPROXIMATE AREA TO BE IRRIGATED = 12,600m2

F40.91

USIL 41.44
DSIL 41.31

FRC 4 x Ø900

FRC Ø375

AA1B-1

F41.00

STORMFILTER
FILTER NUMBERS TBC
5x690mm PSORB CARTRIDGES

HIGH FLOW DIVERSION WEIR
RL 43.00

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
K	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
J	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
H	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Key Plan

Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	DS
Height Datum	AHD	Approved	AM

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

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 12

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

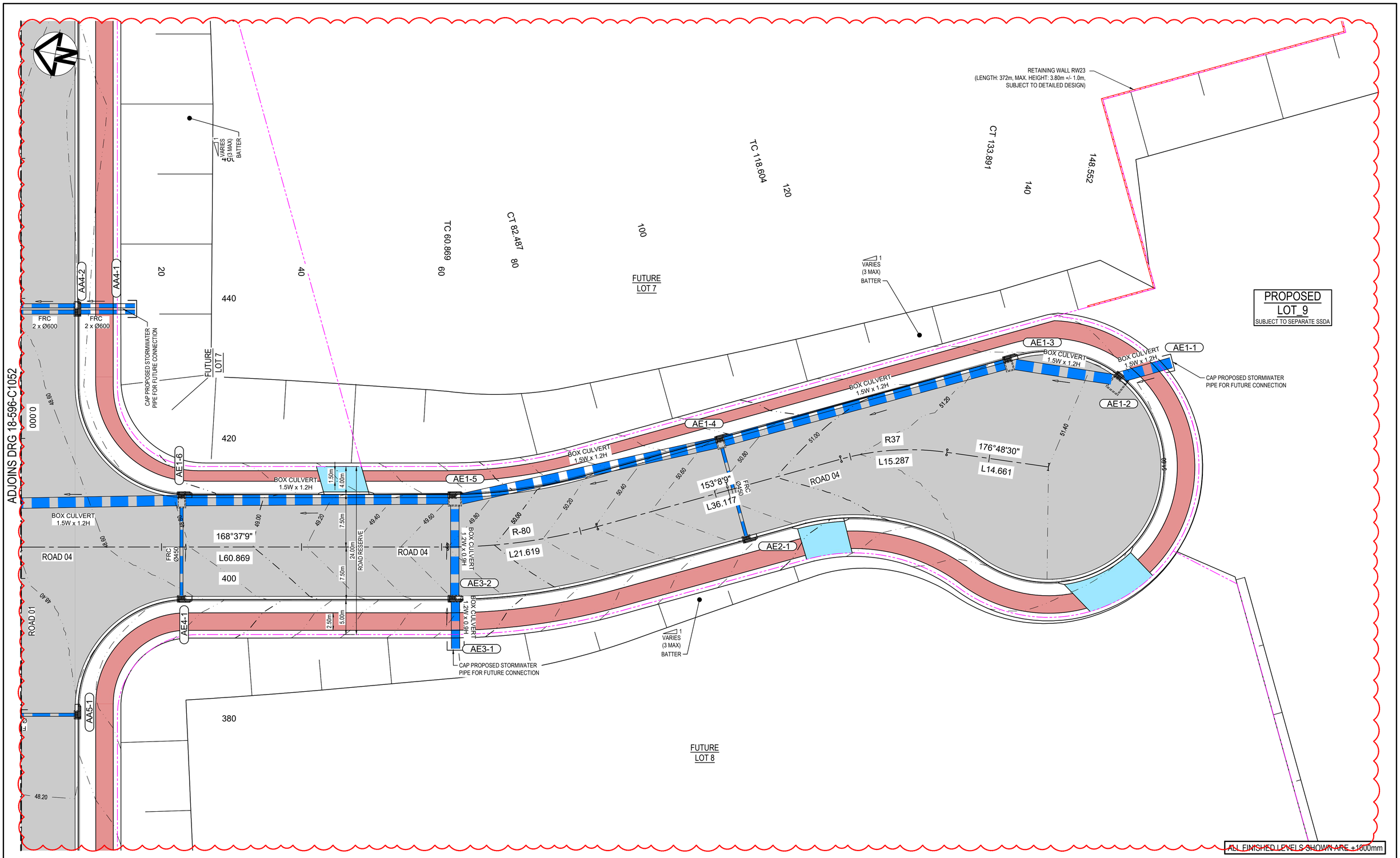
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1061

Issue
L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1061.dwg



Issue	Description	Date
D	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
C	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 13

Civil Engineers and Project Managers
at&l
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North Sydney NSW 2060
ABN 96 130 882 405
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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1062

Issue
D

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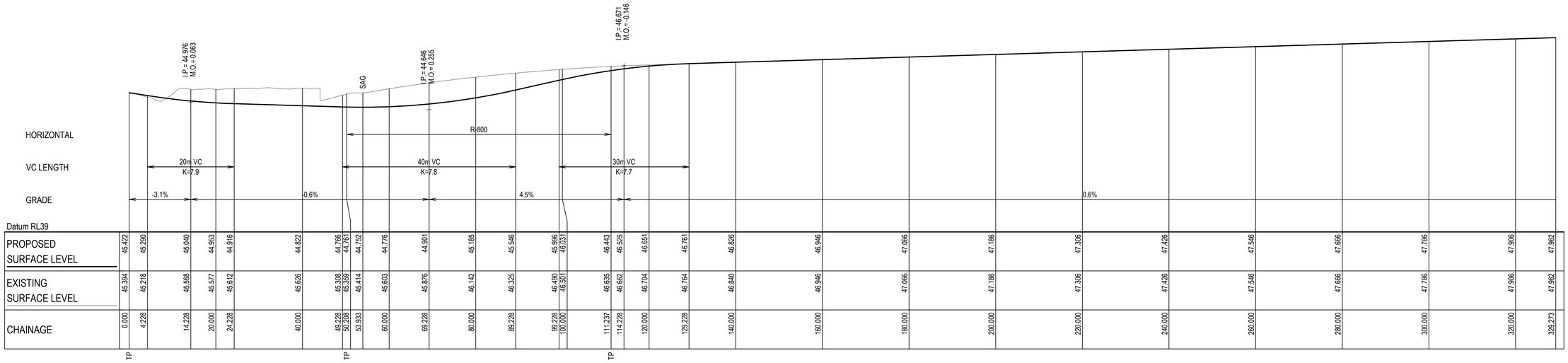
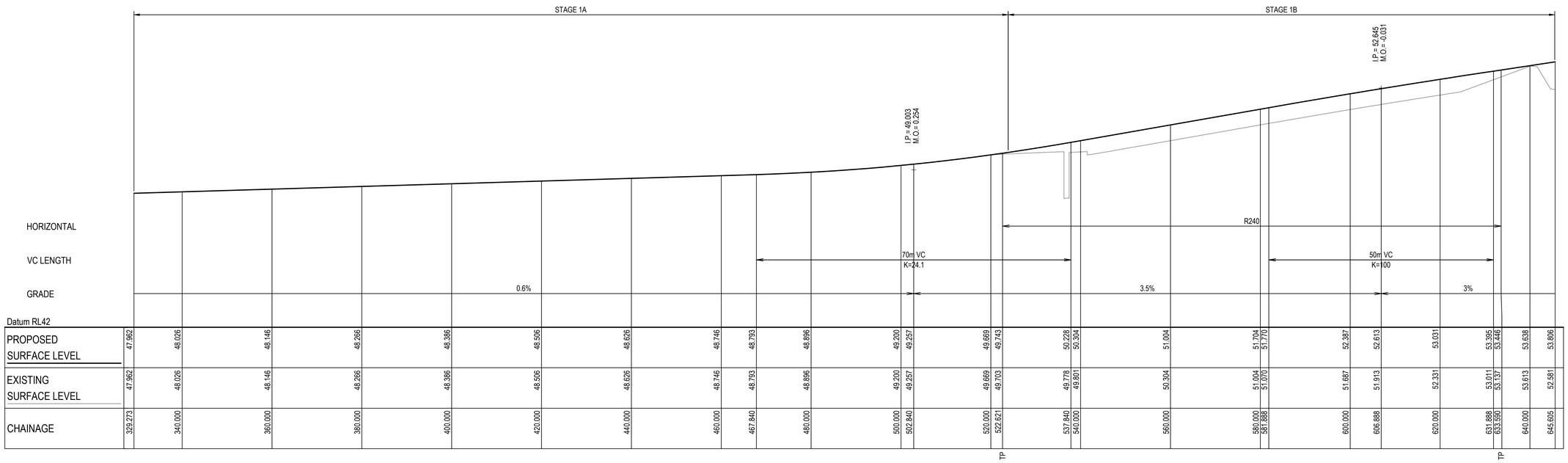


ROAD 01 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:100 VERT.



ROAD 01 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:100 VERT.

Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20
B	ISSUED FOR DEVELOPMENT APPLICATION	12-10-20

100mm on Original

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

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Client: mirvac

Scales: 1:500 (H) 1:100 (V)
Grid: MGA
Height Datum: AHD
GDA2020

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROAD 01
LONGITUDINAL SECTION
SHEET 1

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
North Sydney NSW 2060
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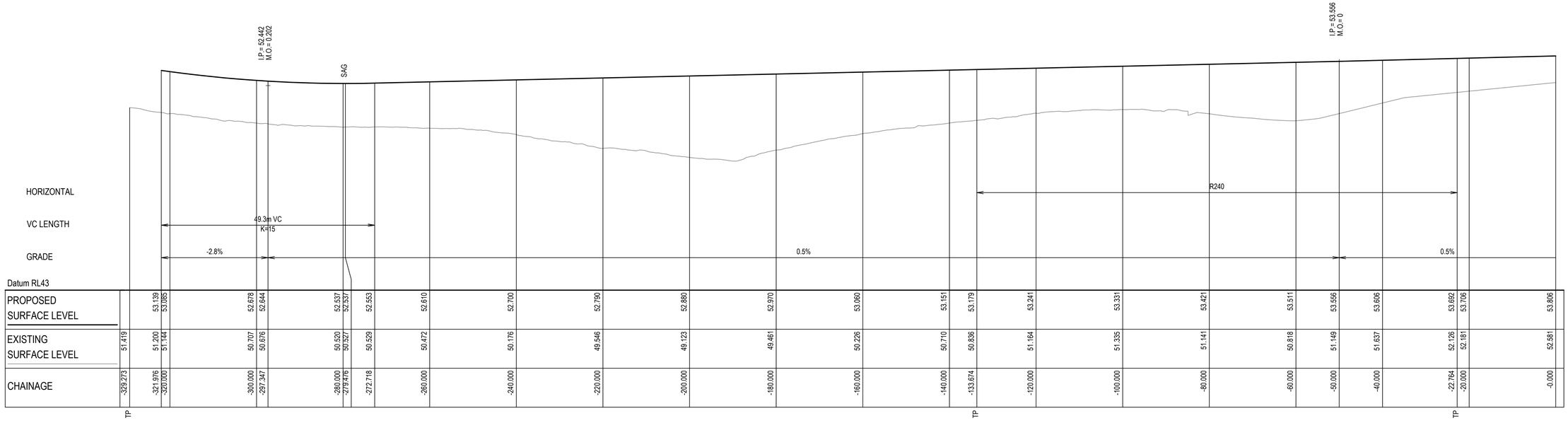
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION
A1

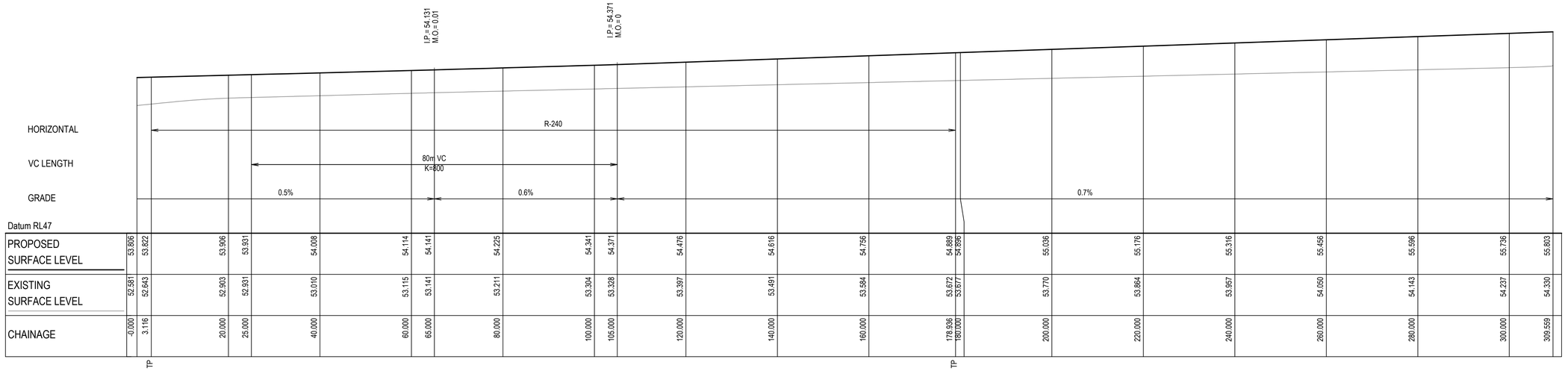
Project - Drawing No.: 18-596-C1070
Issue: K

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1070.dwg



ROAD 03 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:100 VERT.



ROAD 03 LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:100 VERT.

Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20
B	ISSUED FOR DEVELOPMENT APPLICATION	12-10-20

100mm on Original

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

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Client: mirvac

Scales	1:500 (H) 1:100(V)	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
ROAD 03
LONGITUDINAL SECTION
SHEET 1

Civil Engineers and Project Managers
at&l
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info@atl.net.au

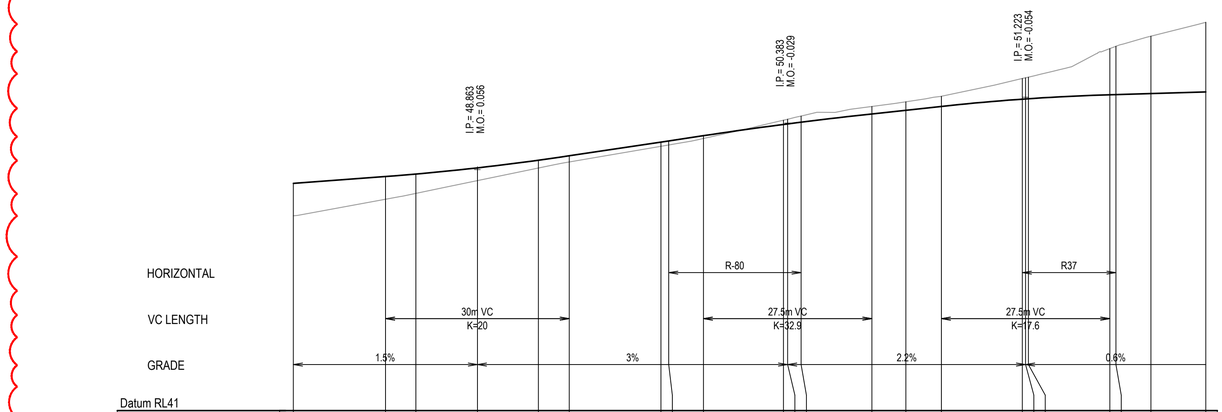
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1072

Issue
K

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1072.dwg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M.O = 0.096
I.P = 50.383
M.O = -0.029
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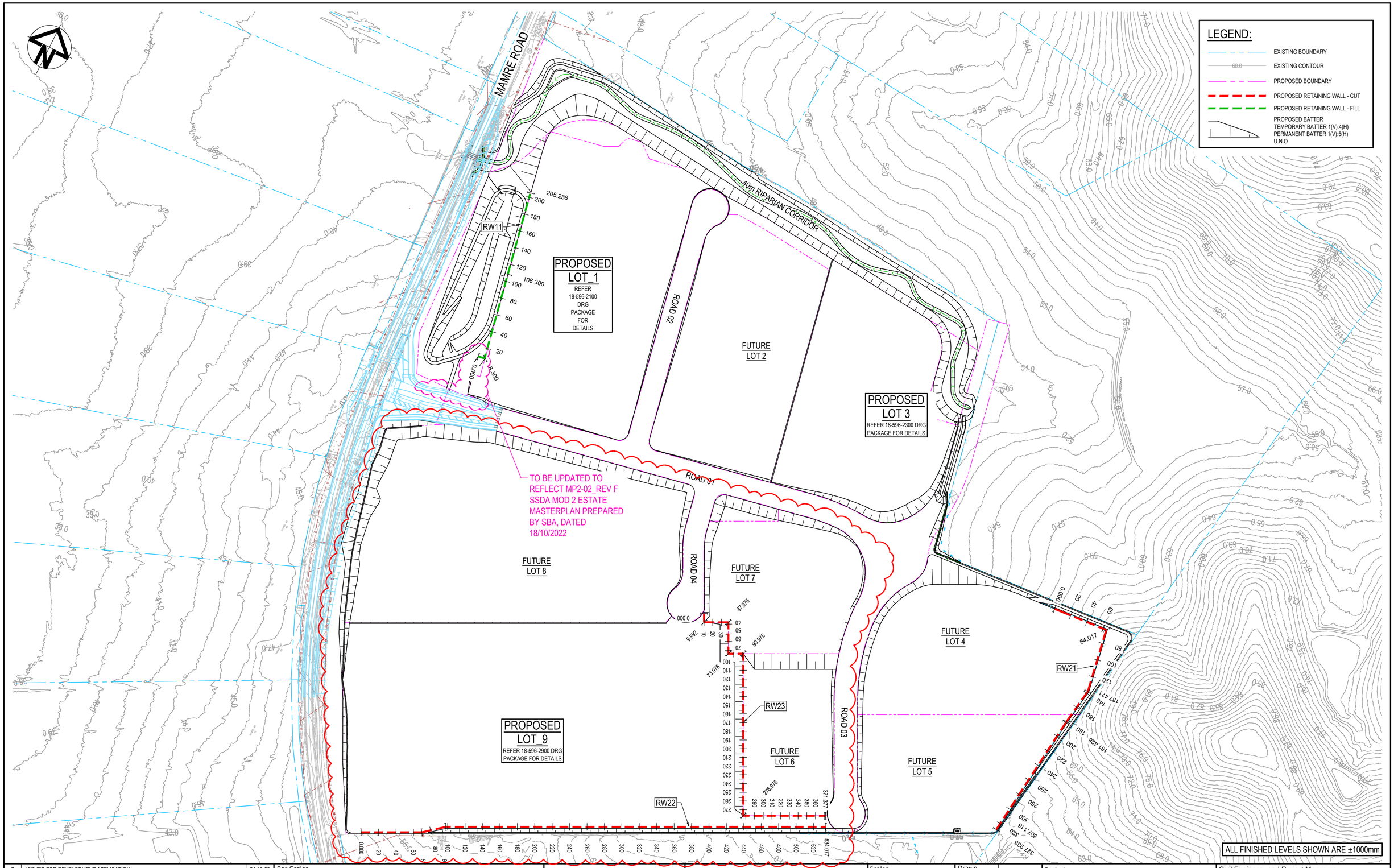
M.O = -0.054
HORIZONTAL
R-80
R37
VC LENGTH
30m VC
K=20
27.5m VC
K=32.9
27.5m VC
K=17.6
GRADE
1.5%
3%
2.2%
0.6%
Datum RL41

| | | |



Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
N	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

100mm on Original

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client

mirvac

Scales		Drawn	KR
1:2000		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

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
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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

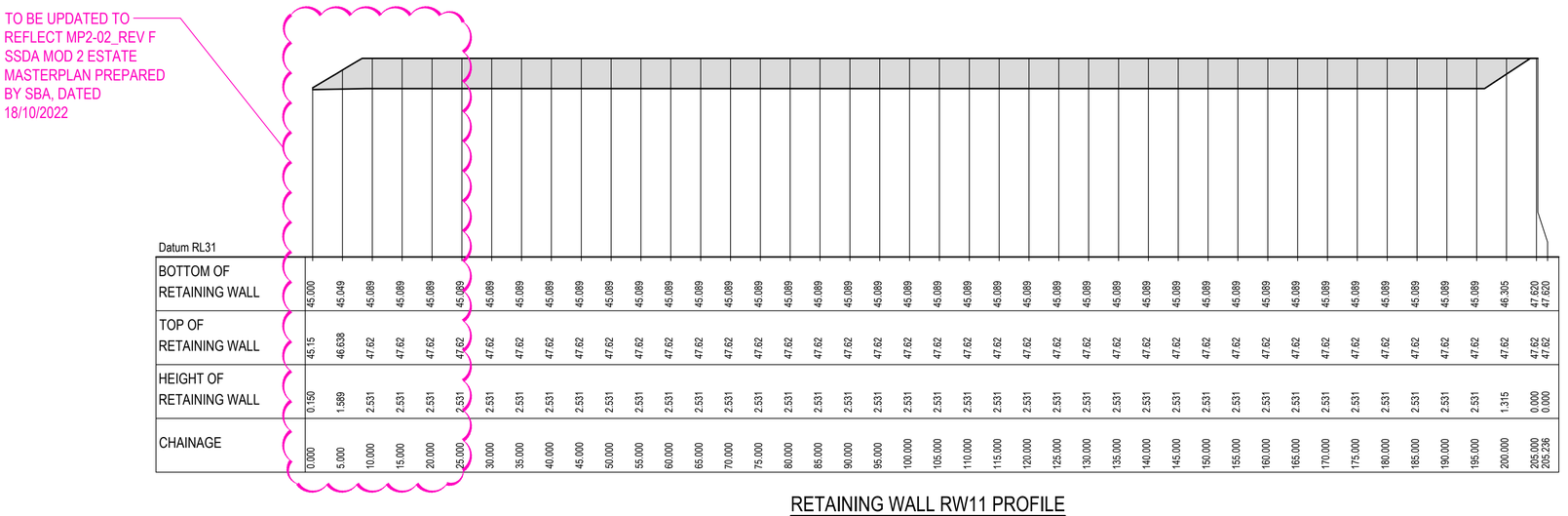
Project - Drawing No.: 18-596-C1080

Issue: O

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1080.dwg

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

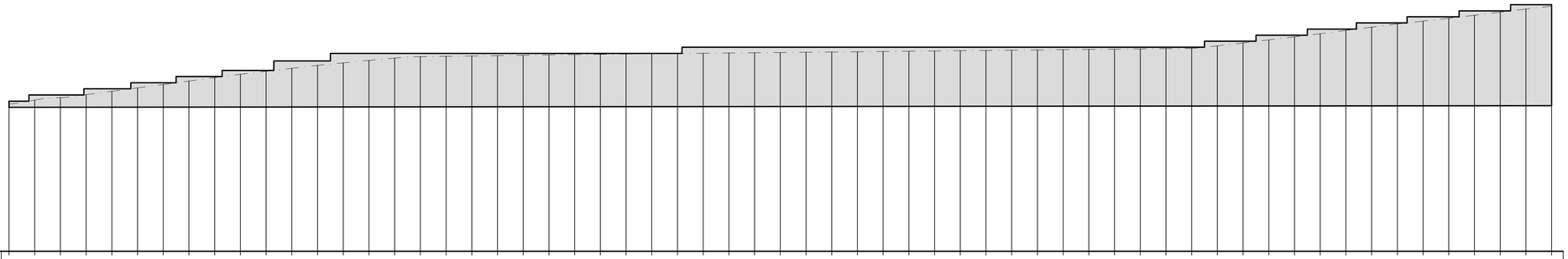
NOTE:
RETAINING WALL DESIGN AND DETAIL TO BE CONFIRMED AT DETAILED DESIGN STAGES.



Datum RL31

| | | |

NOTE:
RETAINING WALL DESIGN AND DETAIL TO BE CONFIRMED AT DETAILED DESIGN STAGES.

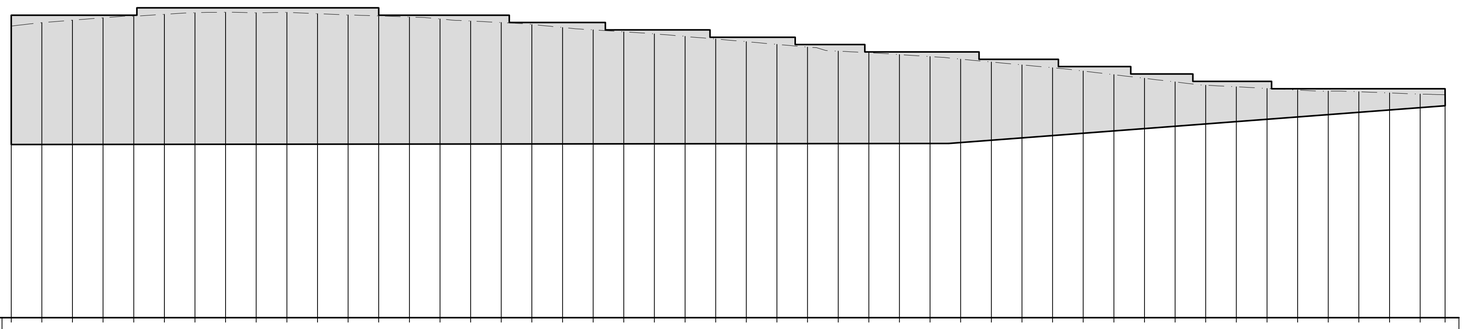


Datum RL38

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	80.000	85.000	90.000	95.000	100.000	105.000	110.000	115.000	120.000	125.000	130.000	135.000	140.000	145.000	150.000	155.000	160.000	165.000	170.000	175.000	180.000	185.000	190.000	195.000	200.000	205.000	210.000	215.000	220.000	225.000	230.000	235.000	240.000	245.000	250.000	255.000	260.000	265.000	270.000	275.000	280.000	285.000	290.000	295.000	300.000
BOTTOM OF RETAINING WALL	51.966	51.968	51.970	51.973	51.975	51.977	51.979	51.981	51.984	51.986	51.988	51.990	51.993	51.995	51.997	51.999	52.001	52.004	52.006	52.008	52.010	52.012	52.015	52.017	52.019	52.021	52.024	52.026	52.028	52.030	52.032	52.035	52.037	52.039	52.041	52.043	52.046	52.048	52.050	52.052	52.055	52.057	52.059	52.061	52.063	52.066	52.068	52.070	52.072	52.074	52.077	52.079	52.081	52.083	52.085	52.088	52.090	52.092	52.094	52.097	52.099
TOP OF RETAINING WALL	52.279	52.663	52.913	53.195	53.523	53.862	54.182	54.518	54.853	55.175	55.464	55.753	56.041	56.279	56.517	56.74	56.885	56.919	56.952	56.986	57.018	57.052	57.085	57.11	57.135	57.16	57.185	57.21	57.235	57.26	57.285	57.31	57.335	57.36	57.385	57.41	57.435	57.46	57.485	57.51	57.535	57.56	57.585	57.61	57.635	57.66	57.685	57.929	58.222	58.515	58.807	59.113	59.428	59.743	60.05	60.331	60.611	60.904	61.203	61.501	61.794
HEIGHT OF RETAINING WALL	0.313	0.695	0.943	1.222	1.549	1.875	2.203	2.536	2.869	3.189	3.476	3.762	4.049	4.285	4.520	4.740	4.884	4.915	4.947	4.978	5.008	5.039	5.070	5.093	5.116	5.139	5.162	5.185	5.207	5.230	5.253	5.276	5.299	5.321	5.344	5.367	5.390	5.412	5.435	5.458	5.481	5.504	5.526	5.549	5.572	5.595	5.618	5.859	6.150	6.440	6.730	7.035	7.347	7.660	7.965	8.243	8.521	8.812	9.108	9.405	9.696

RETAINING WALL RW22 PROFILE

SCALE 1:500 HORI.
1:250 VERT.



Datum RL38

CHAINAGE	300.000	305.000	310.000	315.000	320.000	325.000	330.000	335.000	340.000	345.000	350.000	355.000	360.000	365.000	370.000	375.000	380.000	385.000	390.000	395.000	400.000	405.000	410.000	415.000	420.000	425.000	430.000	435.000	440.000	445.000	450.000	455.000	460.000	465.000	470.000	475.000	480.000	485.000	490.000	495.000	500.000	505.000	510.000	515.000	520.000	525.000	530.000	534.077
BOTTOM OF RETAINING WALL	52.099	52.101	52.103	52.105	52.108	52.110	52.112	52.114	52.116	52.119	52.121	52.123	52.125	52.128	52.130	52.132	52.134	52.136	52.139	52.141	52.143	52.145	52.147	52.150	52.179	52.213	52.247	52.282	52.316	52.350	52.544	52.737	52.931	53.125	53.318	53.512	53.706	53.899	54.093	54.287	54.480	54.674	54.867	55.061	55.255	55.448	55.642	55.800
TOP OF RETAINING WALL	61.794	62.076	62.272	62.466	62.596	62.754	62.885	62.922	62.879	62.911	62.805	62.701	62.623	62.533	62.373	62.207	62.082	61.921	61.677	61.483	61.327	61.156	60.958	60.741	60.519	60.298	60.076	59.749	59.618	59.465	59.305	59.095	58.861	58.627	58.393	58.124	57.828	57.532	57.235	56.961	56.838	56.703	56.575	56.485	56.436	56.336	56.244	56.188
HEIGHT OF RETAINING WALL	9.696	9.975	10.168	10.361	10.488	10.644	10.773	10.807	10.762	10.792	10.684	10.578	10.497	10.406	10.243	10.075	9.948	9.784	9.538	9.342	9.184	9.011	8.810	8.591	8.341	8.085	7.829	7.468	7.302	7.115	6.761	6.357	5.930	5.502	5.075	4.612	4.122	3.632	3.143	2.674	2.358	2.030	1.708	1.424	1.182	0.887	0.602	0.388

RETAINING WALL RW22 PROFILE

SCALE 1:500 HORI.
1:250 VERT.

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

100mm on Original

Bar Scales

0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

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Client: mirvac

Scales: 1:500 (H) 1:250 (V)
Grid: MGA
Height Datum: AHD
GDA2020

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
RETAINING WALL PROFILES SHEET 2

Civil Engineers and Project Managers
at&l
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ABN 96 130 882 405
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www.atl.net.au
info@atl.net.au

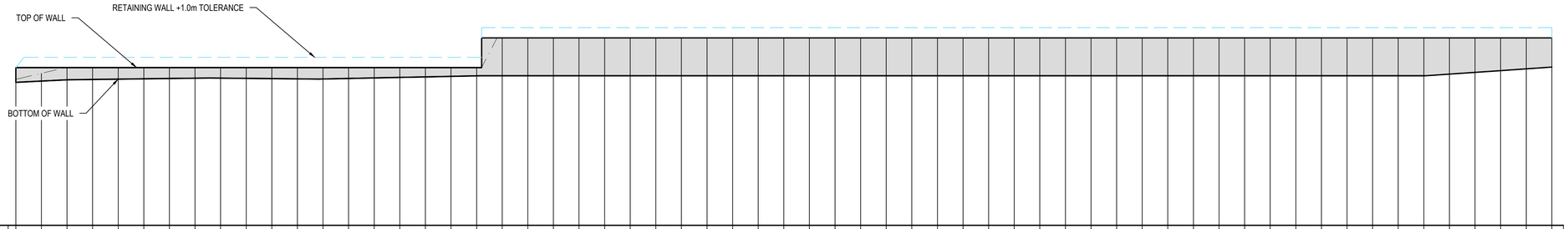
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

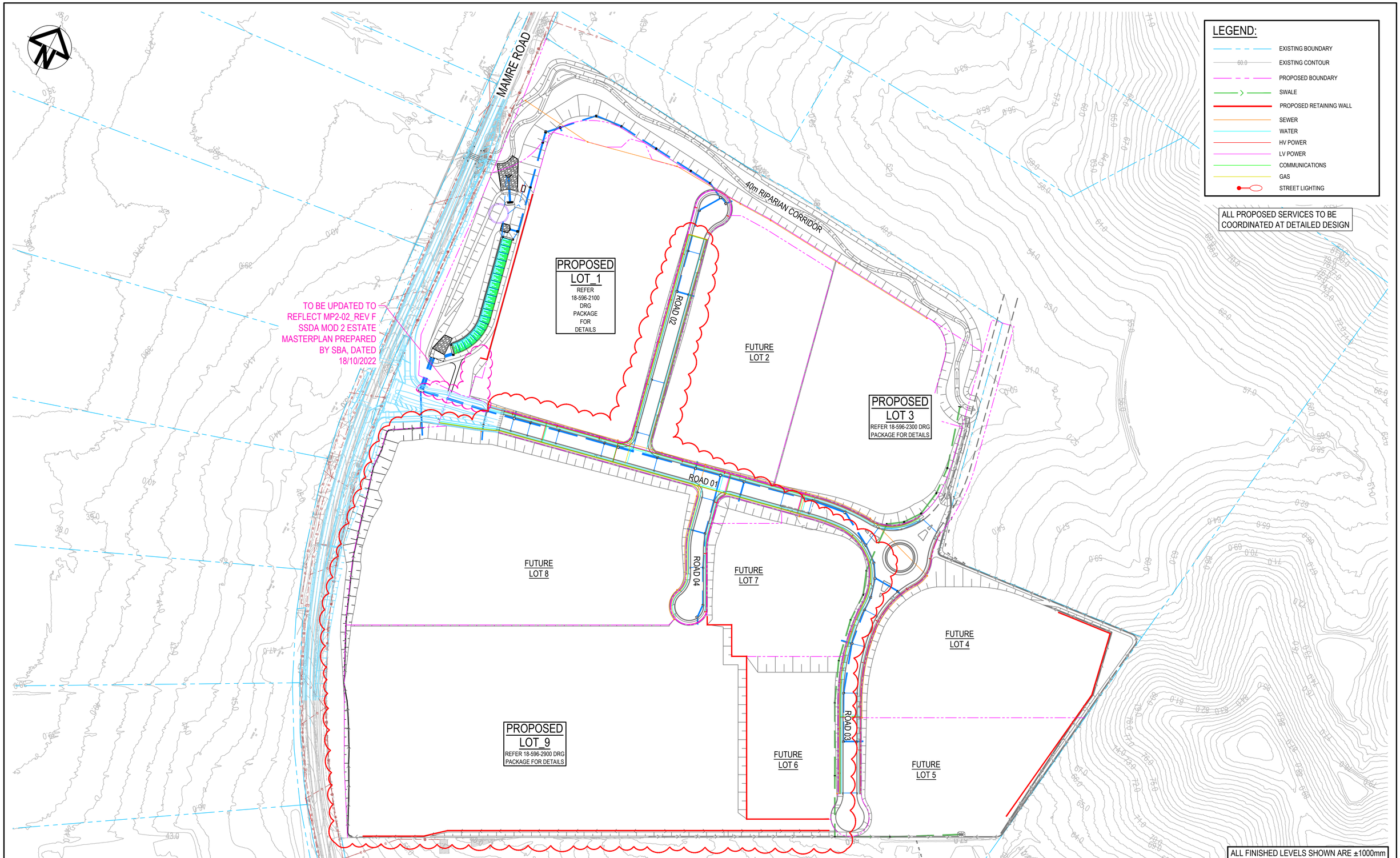
Project - Drawing No.: 18-596-C1082
Issue: M

\\ATLSERVER2\Projects\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1082.dwg

NOTE:
RETAINING WALL DESIGN AND DETAIL TO BE CONFIRMED AT DETAILED DESIGN STAGES.



| Datum RL38 | | |



Issue	Description	Date
O	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
N	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22

100mm on Original

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client

mirvac

Scales	1:2000	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

SERVICES AND UTILITIES COORDINATION OVERALL 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-C1090

Issue: O

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1090.dwg

ADJOINS DRG No 18-596-C1093

LEGEND

GENERAL

- EXISTING BOUNDARY
- 50 EXISTING CONTOURS
- 65.0 PROPOSED CONTOURS
- FUTURE MAMRE ROAD WIDENING
- PROPOSED BOUNDARY

UTILITIES - PROPOSED

- STORMWATER PIPE WITH SIZE
- KERB INLET PIT
- KERB INLET SAG PIT
- GROSS POLLUTANT TRAP
- JUNCTION PIT
- GRATED INLET PIT
- HEADWALL
- S SEWER
- W WATER
- HV HV POWER
- LV LV POWER
- T COMMUNICATIONS
- G GAS
- STREET LIGHTING

UTILITIES - EXISTING

- e ELECTRICITY LINE
- w WATER

NOTE

REFER TO TYPICAL ROAD SECTIONS ON DRG C1005 & 1006 FOR DIMENSIONS OF SERVICE ALLOCATIONS

ALL PROPOSED SERVICES TO BE COORDINATED AT DETAILED DESIGN

PROPOSED LOT_1
REFER 18-596-2100 DRG PACKAGE FOR DETAILS

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

ROAD 01

ROAD 02

FUTURE LOT 2

FUTURE LOT 8

TC 55.456
SAG 53.933
CT 116.486
SAG 28.143

REFER ORION CONSULTING DRGS FOR INTERSECTION DETAILS

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG No 18-596-C1092

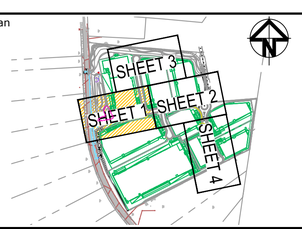
Issue	Description	Date
N	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client: mirvac

Scales	1:500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
SERVICES AND UTILITIES COORDINATION PLAN
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-C1091

Issue: N

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1091.dwg

ADJOINS DRG No 18-596-C1093

INSET A

PROPOSED
LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

SERVICES BUILT DURING STAGE 1A ARE TO BE CAPPED AT THE TURNING HEAD FOR FUTURE EXTENSION DURING STAGE 1B

ROAD 04

FUTURE LOT 8

FUTURE LOT 4

TC 523.441

CT 82,487 80

TC 118.604

CT 133.891

148.552

TC 60.869

638.324

ADJOINS DRG No 18-596-C1091

ADJOINS INSET A ON THIS DRG

ADJOINS DRG No 18-596-C1094

ALL FINISHED LEVELS SHOWN ARE ±1000mm

LEGEND

GENERAL

- EXISTING BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FUTURE MAMRE ROAD WIDENING
- PROPOSED BOUNDARY

UTILITIES - PROPOSED

- STORMWATER PIPE WITH SIZE
- KERB INLET PIT
- KERB INLET SAG PIT
- GROSS POLLUTANT TRAP
- JUNCTION PIT
- GRATED INLET PIT
- HEADWALL
- SEWER
- WATER
- HV POWER
- LV POWER
- COMMUNICATIONS
- GAS
- STREET LIGHTING

UTILITIES - EXISTING

- ELECTRICITY LINE
- WATER

NOTE
REFER TO TYPICAL ROAD SECTIONS ON DRG C1005 & 1006 FOR DIMENSIONS OF SERVICE ALLOCATIONS

ALL PROPOSED SERVICES TO BE COORDINATED AT DETAILED DESIGN

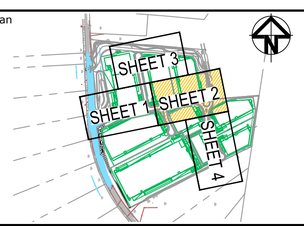
Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales	1:500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
SERVICES AND
UTILITIES COORDINATION
PLAN
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

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

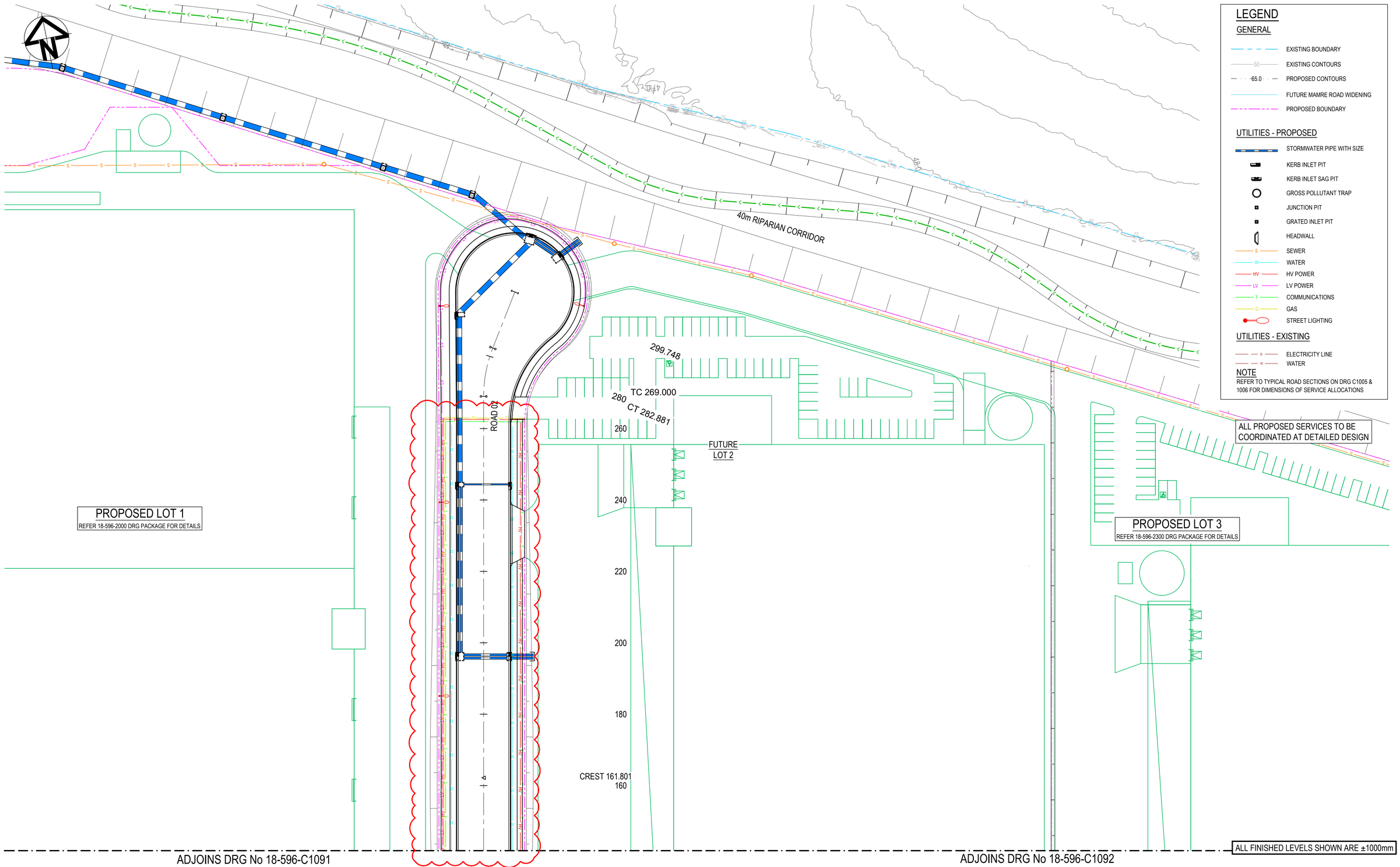
A1

Project - Drawing No.
18-596-C1092

Issue
M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1092.dwg



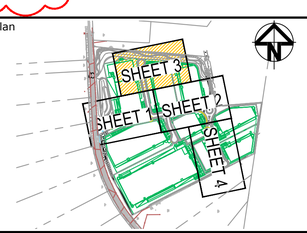
Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales	1:500	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

SERVICES AND UTILITIES COORDINATION PLAN SHEET 3

Civil Engineers and Project Managers

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1093

Issue: M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1093.dwg

FUTURE LOT 4

FUTURE LOT 5

FUTURE LOT 6

FUTURE LOT 8

ROAD 01

ROAD 03

638/324

600

100

200

300

550

SERVICES BUILT DURING STAGE 1A ARE TO BE CAPPED AT THE TURNING HEAD FOR FUTURE EXTENSION DURING STAGE 1B

TC 523.441

520

500

480

ADJOINS DRG No 18-596-C1092

ALL PROPOSED SERVICES TO BE COORDINATED AT DETAILED DESIGN

LEGEND

GENERAL

- EXISTING BOUNDARY
- 50 EXISTING CONTOURS
- 65.0 PROPOSED CONTOURS
- FUTURE MAMRE ROAD WIDENING
- PROPOSED BOUNDARY

UTILITIES - PROPOSED

- STORMWATER PIPE WITH SIZE
- KERB INLET PIT
- KERB INLET SAG PIT
- GROSS POLLUTANT TRAP
- JUNCTION PIT
- GRATED INLET PIT
- HEADWALL
- S SEWER
- W WATER
- HV HV POWER
- LV LV POWER
- T COMMUNICATIONS
- G GAS
- STREET LIGHTING

UTILITIES - EXISTING

- E ELECTRICITY LINE
- W WATER

NOTE

REFER TO TYPICAL ROAD SECTIONS ON DRG C1005 & 1006 FOR DIMENSIONS OF SERVICE ALLOCATIONS

ALL FINISHED LEVELS SHOWN ARE ±1000mm

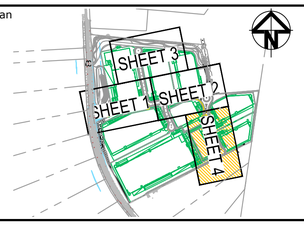
Issue	Description	Date
G	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	'14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client: mirvac

Scales: 1:500

Drawn	KR	Grid	MGA
Designed	KR	Height Datum	AHD
Checked	DS		
Approved	AM		

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Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: SERVICES AND UTILITIES COORDINATION PLAN SHEET 4

Civil Engineers and Project Managers

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1094

Issue: G

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1094.dwg

ADJOINS DRG No 18-596-C1110

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

MAMRE ROAD

DETENTION BASIN

BIO RETENTION
BEL 42.75

BEL40.72 BEL40.72 BEL40.88 BEL40.88 BEL44.34 BEL41.09 BEL41.10 BEL41.23 BEL41.25 BEL44.95 BEL44.95 BEL44.96

PROVIDE SEDIMENT FENCE (TYP.)

PROVIDE CATCH DRAIN (TYP.)

ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)

BEL 47.31 BEL 47.65 BEL 47.65

0.5% MIN 0.5% MIN 0.5% MIN 0.5% MIN 0.3% MIN

47.40 47.60 47.60 47.40 47.40 47.20 47.20 47.80 47.80 46.80

TO BE UPDATED TO REFLECT MP2-02_REV F SSDA MOD 2 ESTATE MASTERPLAN PREPARED BY SBA, DATED 18/10/2022

ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)

PROVIDE CATCH DRAIN (TYP.)

STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

PROVIDE SEDIMENT FENCE (TYP.)

BEL 47.46

BEL 47.65

PROPOSED SEDIMENT BASIN J
REFER TO DRG 18-596-C1114 FOR DIMENSIONS

PROVIDE SEDIMENT FENCE (TYP.)

BEL 51.80

46.20 46.40 46.60 46.80

EMERGENCY BASIN OVERFLOW

PROPOSED SEDIMENT BASIN F2
REFER TO DRG 18-596-C1115 FOR DIMENSIONS

47.20 47.80

BEL 51.80

3082m³

ALL FINISHED LEVELS SHOWN ARE +1000mm

ADJOINS DRG No 18-596-C1114

ADJOINS DRG No 18-596-C1115

ADJOINS DRG No 18-596-C1113

Issue	Description	Date
N	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales 1:500

Grid MGA

Height Datum AHD

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

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Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
EROSION AND SEDIMENT CONTROL PLAN
SHEET 3

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-C1112

Issue
N

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1112.dwg

ADJOINS DRG No 18-596-C1111

ADJOINS DRG No 18-596-C1112

ADJOINS DRG No 18-596-C1115

ADJOINS DRG No 18-596-C1116

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)

PROVIDE CATCH DRAIN (TYP.)

STRAWBALE AND GEOTEXTILE SEDIMENT FILTER AT 30m SPACING (TYP.)

STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

EMERGENCY BASIN OVERFLOW

PROVIDE SEDIMENT FENCE (TYP.)

0.5% MIN

0.3% MIN

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN
SHEET 4

Civil Engineers and Project Managers

at&l

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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-C1113

Issue: M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1113.dwg

ADJOINS DRG No 18-596-C1112

ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)

PROVIDE CATCH DRAIN (TYP.)

MAMRE ROAD

PROVIDE SEDIMENT FENCE (TYP.)

52.00

0.5% MIN

52.00

PROVIDE CATCH DRAIN (TYP.)

51.80

ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)

ALL FINISHED LEVELS SHOWN ARE ±1000mm

ADJOINS DRG No 18-596-C1115

ADJOINS DRG No 18-596-C117

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client

mirvac

Scales 1:500

Drawn KR

Designed KR

Checked AT

Approved AM

Grid MGA

Height Datum AHD

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN
SHEET 5

Civil Engineers and Project Managers

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info@atl.net.au

Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No. 18-596-C1114

Issue L

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1114.dwg

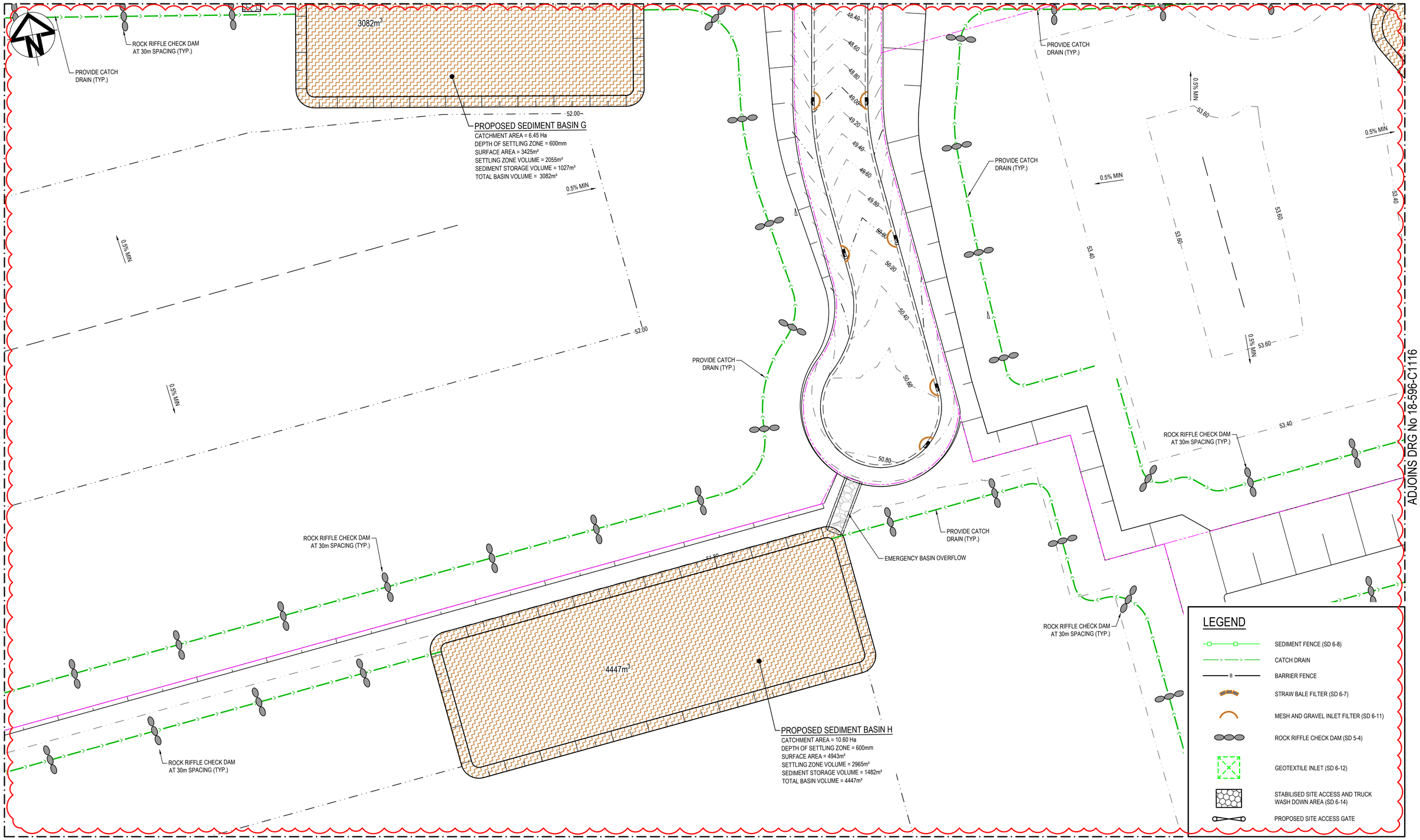
ADJOINS DRG No 18-596-C1112

ADJOINS DRG No 18-596-C1113

ADJOINS DRG No 18-596-C1114

ADJOINS DRG No 18-596-C1116

ADJOINS DRG No 18-596-C1118



ALL FINISHED LEVELS SHOWN ARE ±1000mm

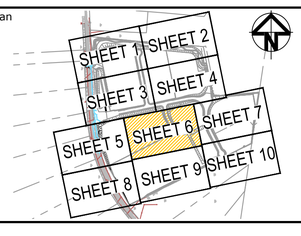
Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
L	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN SHEET 6

Civil Engineers and Project Managers

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1115

Issue: M

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1115.dwg

ADJOINS DRG No 18-596-C1113

ADJOINS DRG No 18-596-C1115

ADJOINS DRG No 18-596-C1119

PROPOSED SEDIMENT BASIN F
CATCHMENT AREA = 2.65 Ha
DEPTH OF SETTLING ZONE = 600mm
SURFACE AREA = 775m²
SETTLING ZONE VOLUME = 465m³
SEDIMENT STORAGE VOLUME = 232m³
TOTAL BASIN VOLUME = 697m³

697m³

PROPOSED SEDIMENT BASIN D
CATCHMENT AREA = 5.991 Ha
DEPTH OF SETTLING ZONE = 600mm
SURFACE AREA = 1749m²
SETTLING ZONE VOLUME = 1049m³
SEDIMENT STORAGE VOLUME = 524m³
TOTAL BASIN VOLUME = 1573m³

1573m³

PROPOSED SEDIMENT BASIN E
CATCHMENT AREA = 3.385 Ha
DEPTH OF SETTLING ZONE = 600mm
SURFACE AREA = 989m²
SETTLING ZONE VOLUME = 593m³
SEDIMENT STORAGE VOLUME = 296m³
TOTAL BASIN VOLUME = 889m³

889m³

PROVIDE SEDIMENT FENCE (TYP.)
ROCK RIFFLE CHECK DAM AT 30m SPACING (TYP.)
PROVIDE CATCH DRAIN (TYP.)
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA
EMERGENCY BASIN OVERFLOW
0.5% MIN
0.3% MIN

LEGEND
- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

Bar Scales
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

Key Plan
SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10

Client
mirvac

Scales 1:500
Grid MGA
Height Datum AHD

Drawn	KR
Designed	KR
Checked	AT
Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
EROSION AND SEDIMENT CONTROL 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

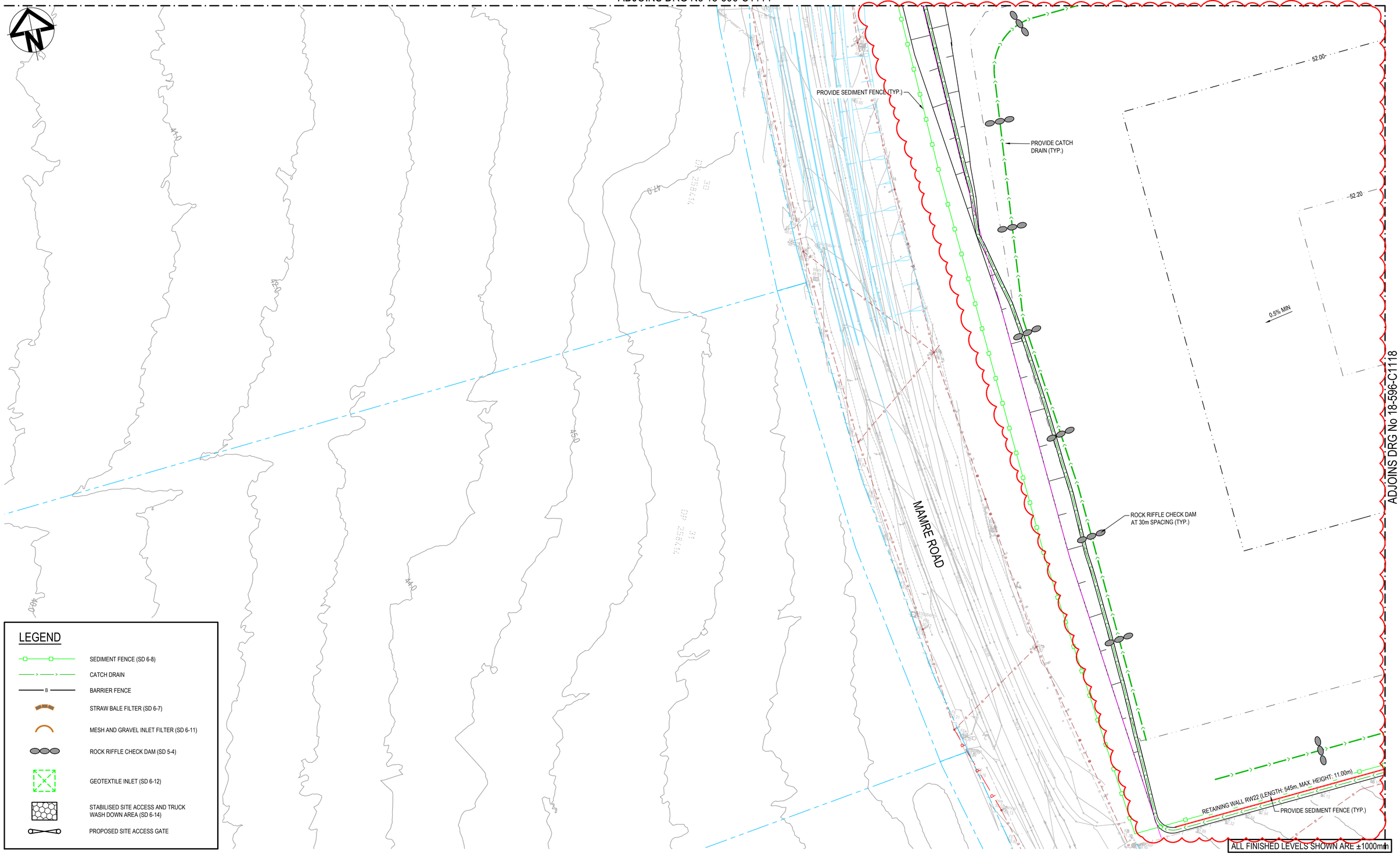
Project - Drawing No.
18-596-C1116

Issue
L

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1116.dwg

ADJOINS DRG No 18-596-C1114



LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20

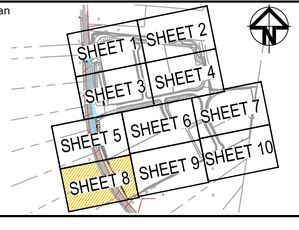
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
	1:500	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN SHEET 8

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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www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1117

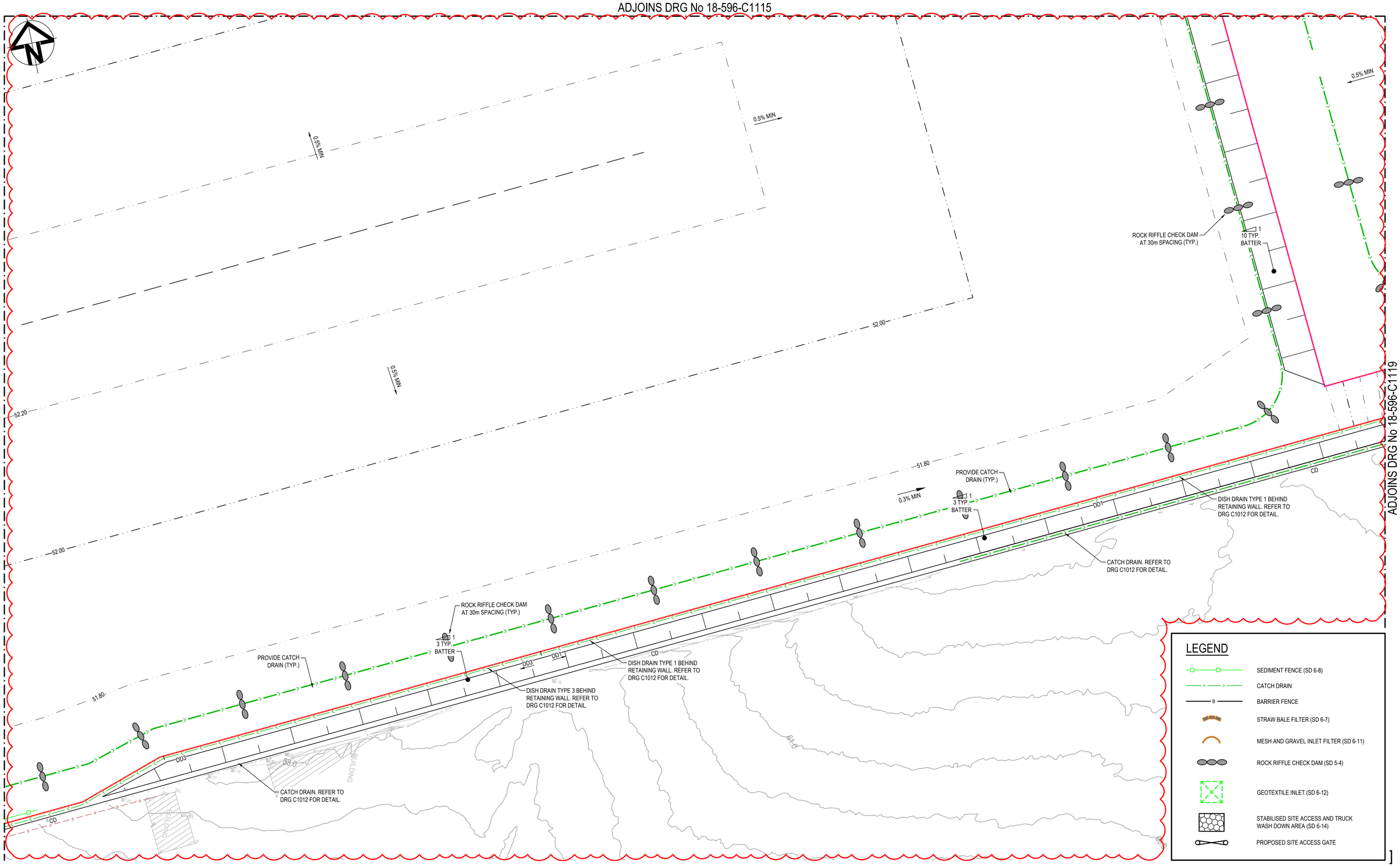
Issue: L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1117.dwg

ADJOINS DRG No 18-596-C1115

ADJOINS DRG No 18-596-C1117

ADJOINS DRG No 18-596-C1119



LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

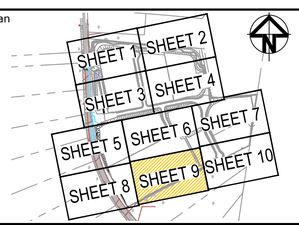
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN
SHEET 9

Civil Engineers and Project Managers

at&l

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info@atl.net.au

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

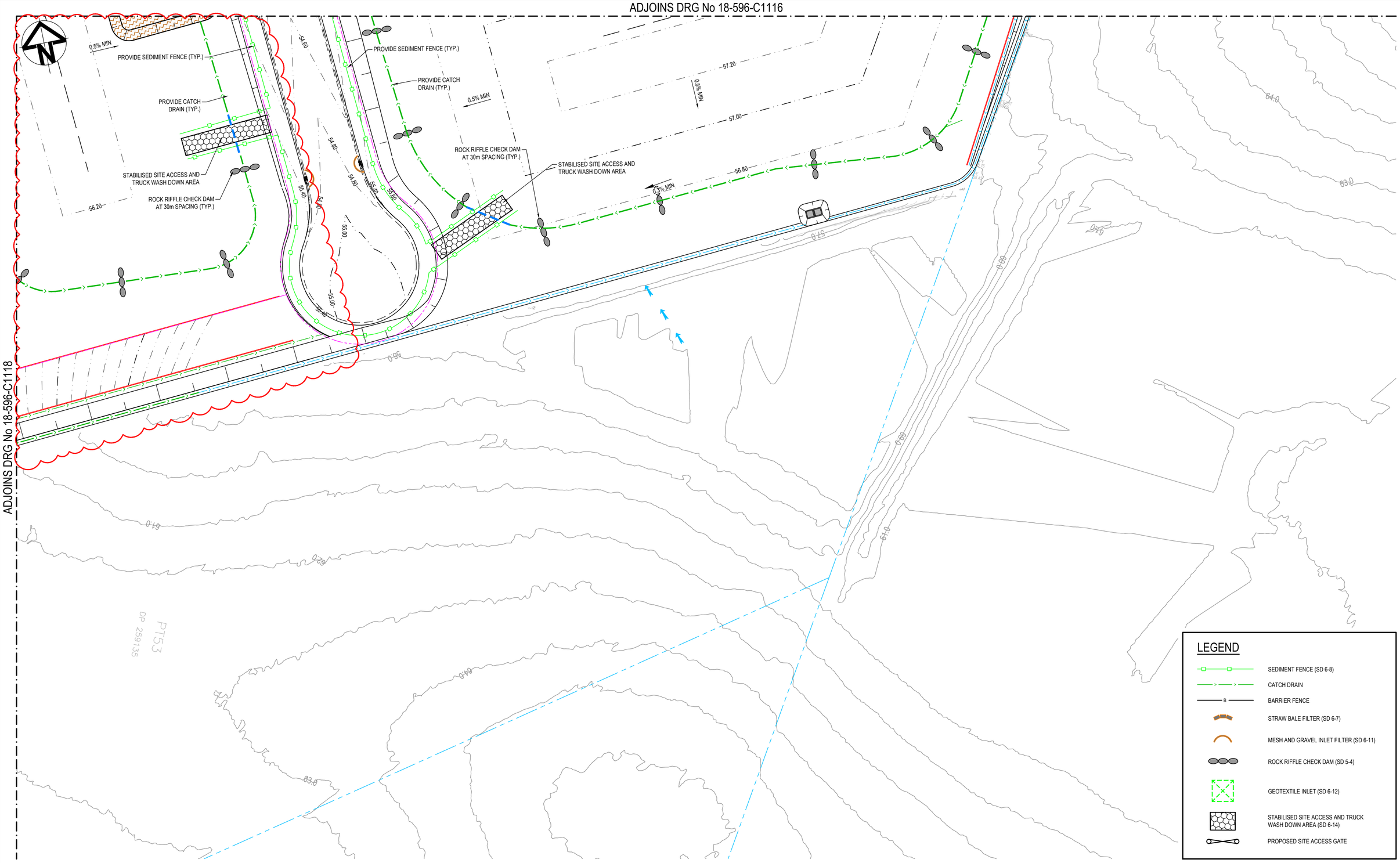
Project - Drawing No.: 18-596-C1118

Issue: M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1118.dwg

ADJOINS DRG No 18-596-C1116

ADJOINS DRG No 18-596-C1118



Issue	Description	Date
M	ISSUED FOR DEVELOPMENT APPLICATION	19-08-22
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

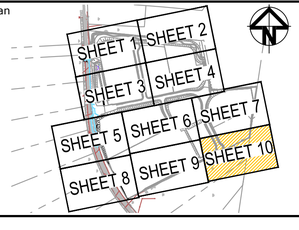
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
	1:500	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

EROSION AND SEDIMENT CONTROL PLAN
SHEET 10

Civil Engineers and Project Managers

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www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
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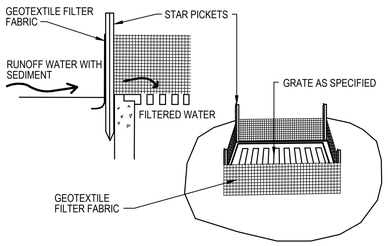
A1

Project - Drawing No.: 18-596-C1119

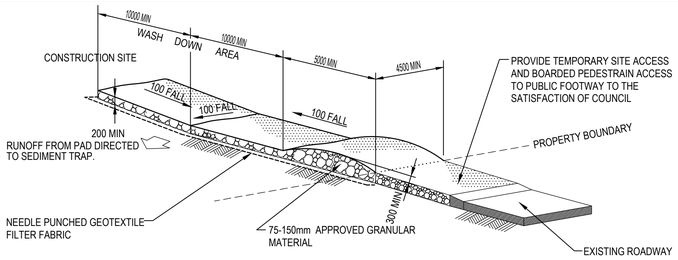
Issue: M

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1119.dwg



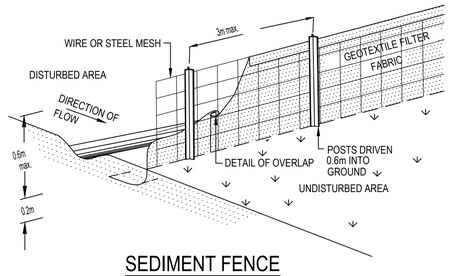
GEOTEXTILE FILTER PIT SURROUND

NTS



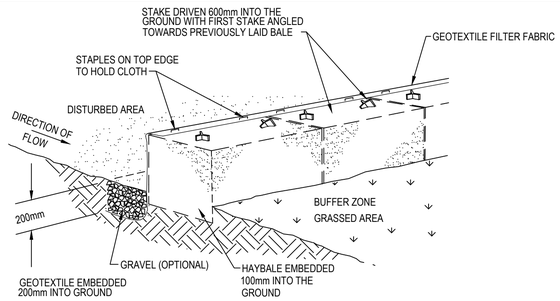
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

NTS



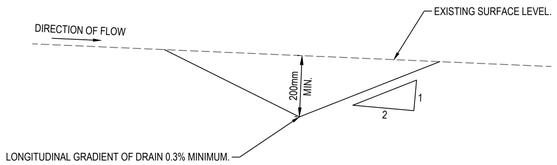
SEDIMENT FENCE

NTS



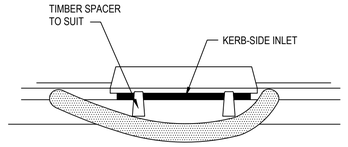
HAYBALE AND GEOTEXTILE SEDIMENT FILTER

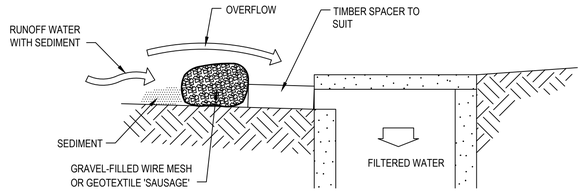
NTS



CATCH DRAIN DETAIL

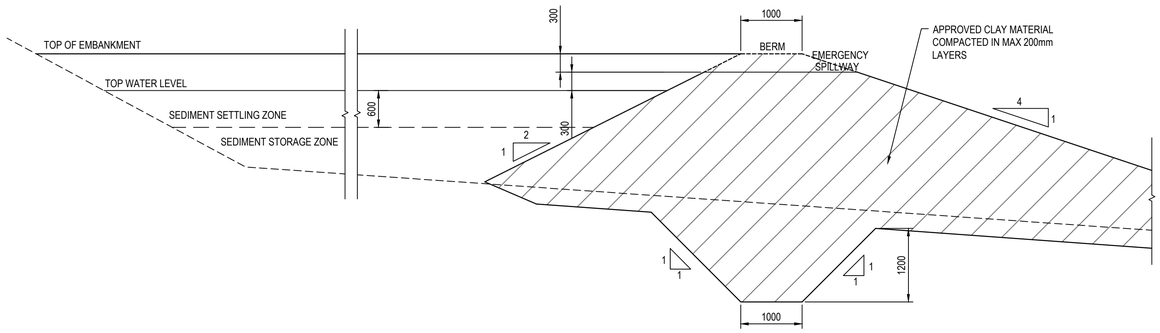
SCALE 1:10





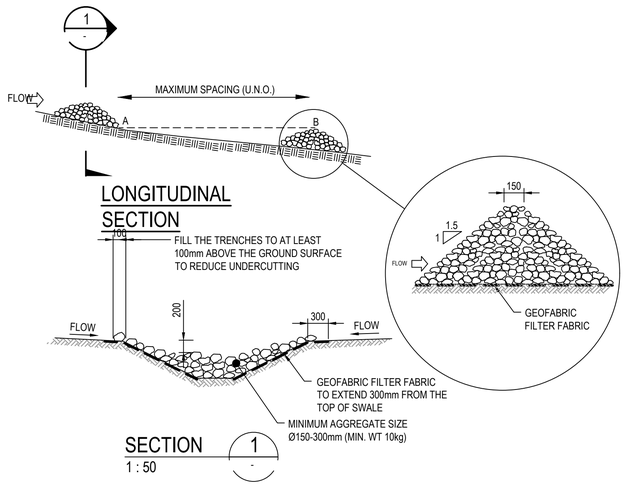
MESH AND GRAVEL INLET FILTER

NTS



SEDIMENT BASIN TYPICAL CROSS SECTION

1 : 50



ROCK RIFFLE CHECK DAM (SD 5-4)

1 : 50

Issue	Description	Date
K	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
J	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
G	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
E	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21
C	ISSUED FOR DEVELOPMENT APPLICATION	15-10-20
B	ISSUED FOR DEVELOPMENT APPLICATION	12-10-20

Bar Scales

0 100 200 400 600 800 1000mm

1 : 10 @ A1 1 : 20 @ A3

0 1 2 3 4 5m

1 : 50 @ A1 1 : 100 @ A3

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Client: mirvac

Scales		Drawn	KR
	1:10 1:50	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: EROSION AND SEDIMENT CONTROL 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.: 18-596-C1120

Issue: K

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1120.dwg

FUTURE
LOT 2

ROAD 01

ROAD 02

30m A-DOUBLE_PBS LEVEL 2B
Custom

30m A-DOUBLE_PBS LEVEL 2B
Custom

30m A-DOUBLE_PBS LEVEL 2B
Custom

30m A-DOUBLE_PBS LEVEL 2B
Custom

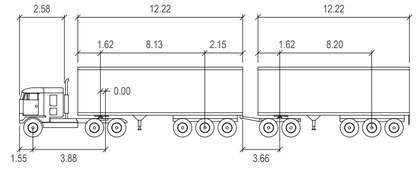
FUTURE
LOT 8

LEGEND

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY
CLEARANCE ENVELOPE

DESIGN VEHICLE PROFILE



30m PBS TYPE 2B

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
J	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
G	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
E	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
C	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

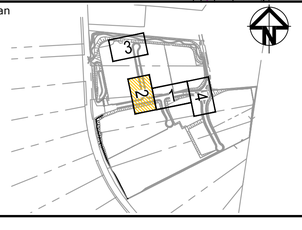
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales	1:250	Drawn	KR
		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
VEHICLE
TURN PATHS
PLAN
SHEET 1

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
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www.atl.net.au
info@atl.net.au

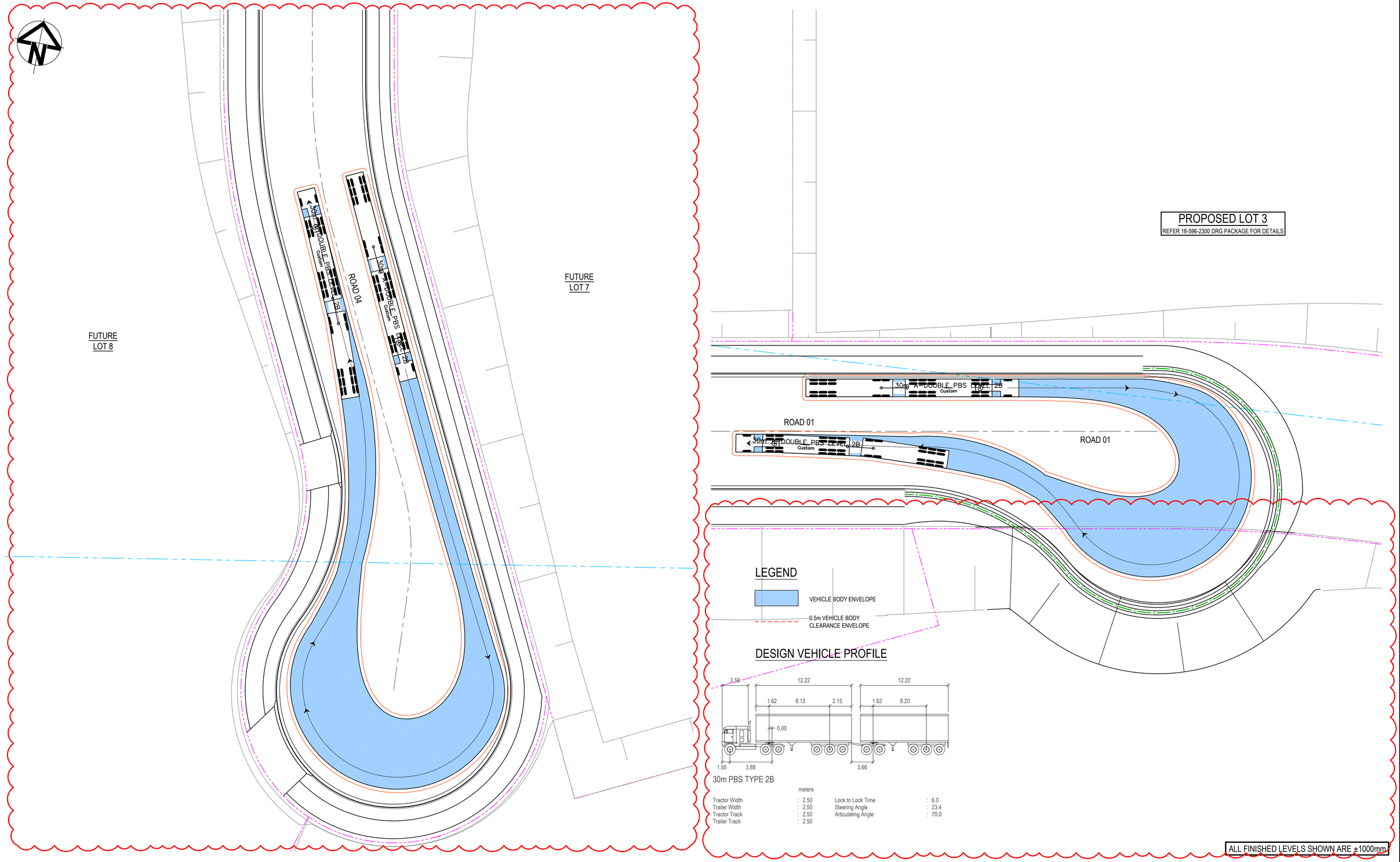
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1150

Issue
L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1150.dwg



Issue	Description	Date
L	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
K	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
J	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
H	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
G	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
F	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
E	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
D	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22
C	ISSUED FOR DEVELOPMENT APPLICATION	08-10-21

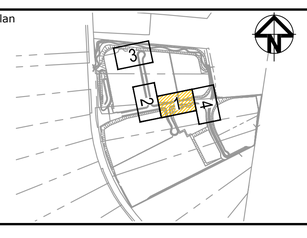
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:250		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
VEHICLE
TURN PATHS
PLAN
SHEET 2

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

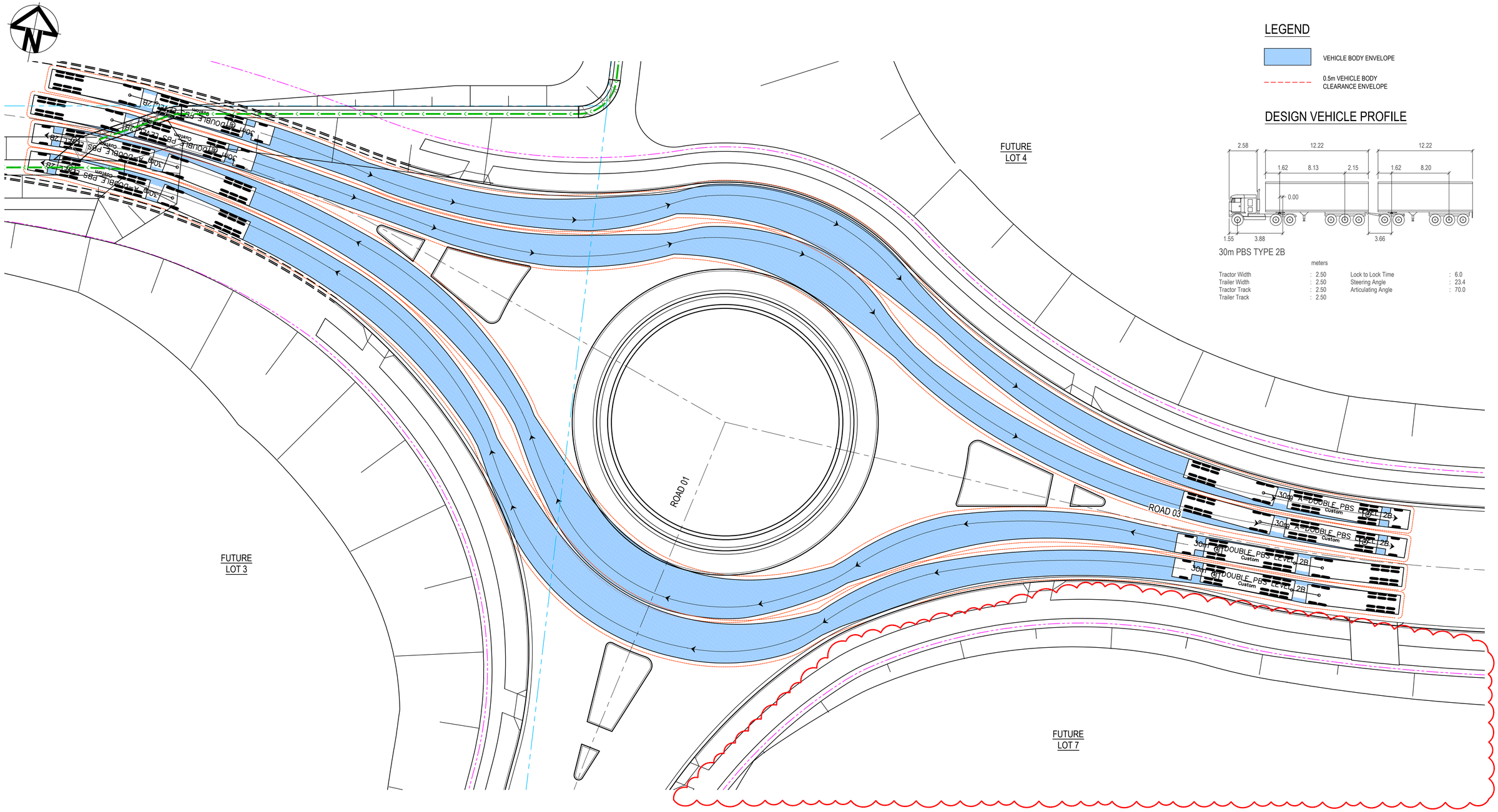
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1151

Issue
L

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1151.dwg



Issue	Description	Date
F	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
E	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
C	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
A	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales		Drawn	KR
	1:250	Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
VEHICLE
TURN PATHS
PLAN
SHEET 5

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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info@atl.net.au

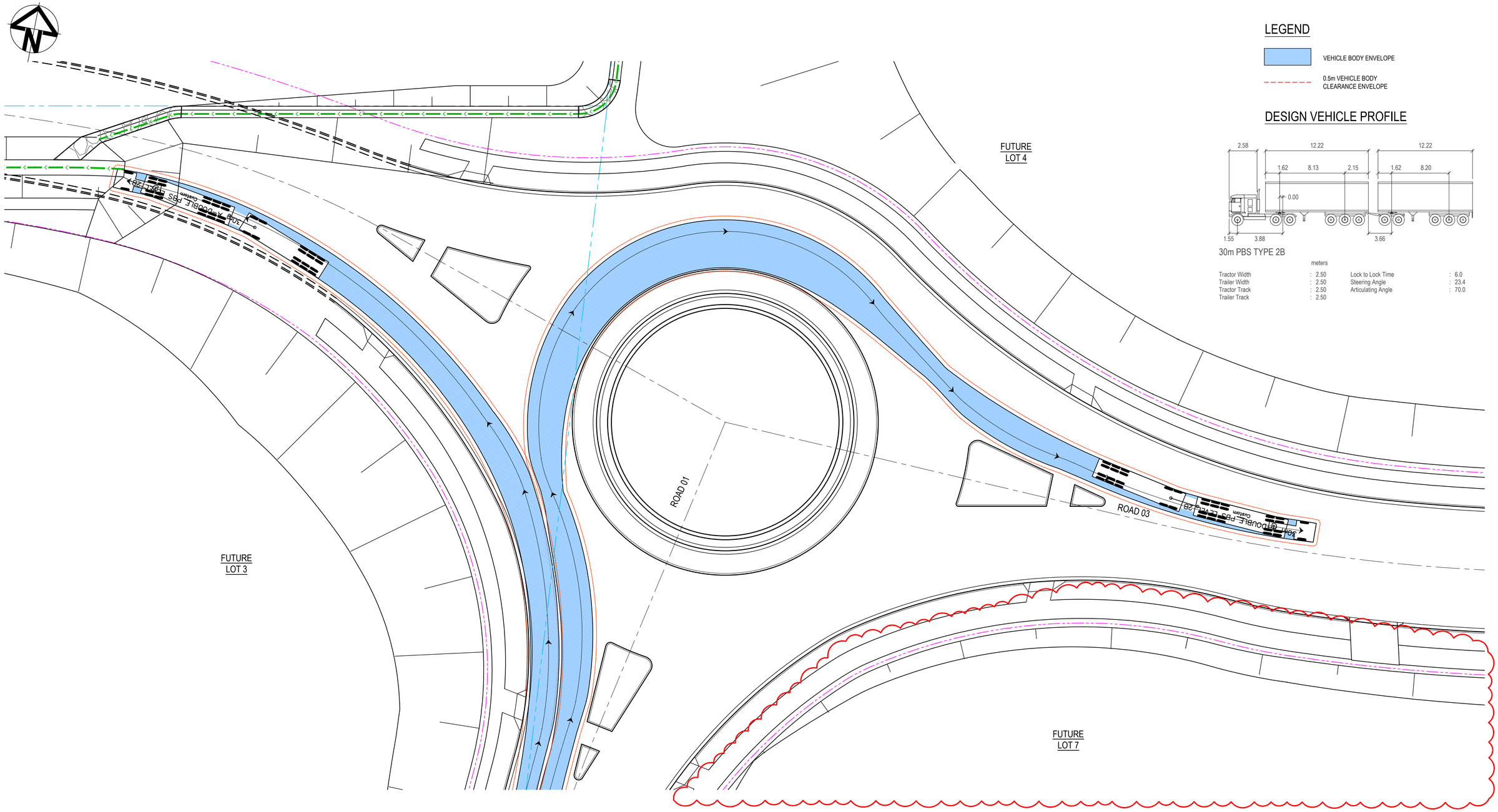
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-C1154

Issue
F

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1154.dwg



LEGEND

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE

DESIGN VEHICLE PROFILE

30m PBS TYPE 2B

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
F	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
E	ISSUED FOR DEVELOPMENT APPLICATION	29-04-23
D	ISSUED FOR DEVELOPMENT APPLICATION	14-04-23
C	ISSUED FOR DEVELOPMENT APPLICATION	18-03-23
B	ISSUED FOR DEVELOPMENT APPLICATION	04-03-23
A	ISSUED FOR DEVELOPMENT APPLICATION	24-02-23

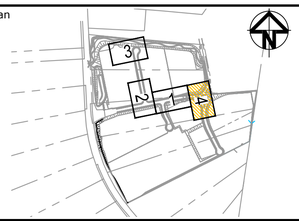
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:251		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

VEHICLE
TURN PATHS
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.

18-596-C1155

Issue

F

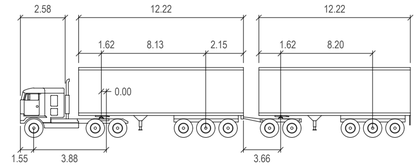
F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1155.dwg

LEGEND

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE

DESIGN VEHICLE PROFILE



30m PBS TYPE 2B

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

FUTURE LOT 4

FUTURE LOT 3

FUTURE LOT 7

ROAD 01

ROAD 03

30m B-DOUBLE PBS Custom 2B

30m A-DOUBLE PBS Custom 2B

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
F	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
E	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
C	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
A	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22

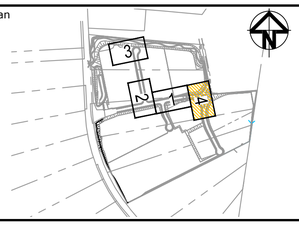
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan



Client

mirvac

Scales		Drawn	KR
1:250		Designed	KR
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	AM

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GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

VEHICLE
TURN PATHS
PLAN
SHEET 7

Civil Engineers and Project Managers

at&l

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info@atl.net.au

Status

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

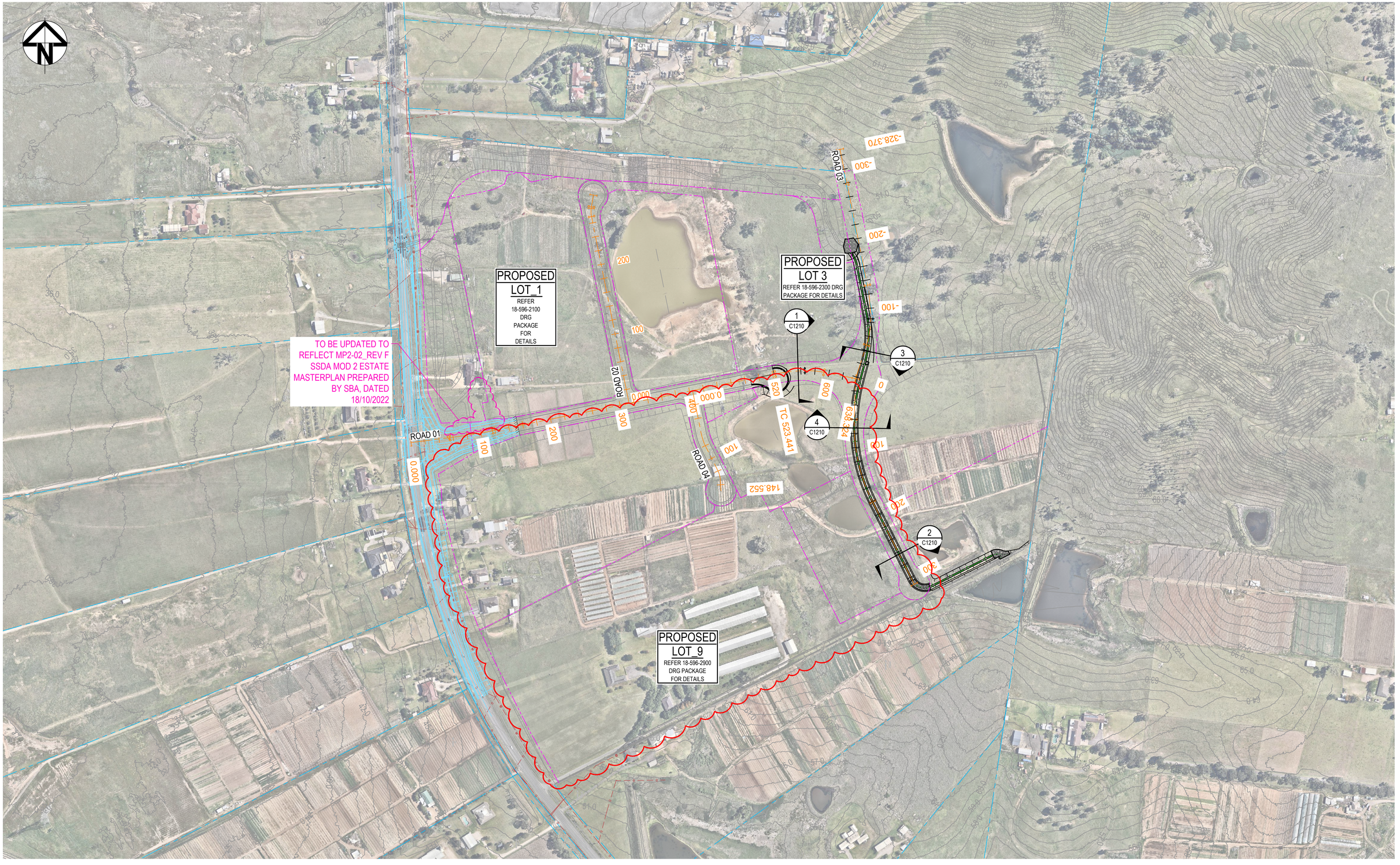
Project - Drawing No.

18-596-C1156

Issue

F

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1156.dwg



Issue	Description	Date
I	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client

mirvac

Scales 1:2000

Grid MGA

Height Datum AHD

Drawn KR

Designed KR

Checked DS

Approved AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

TEMPORARY WORKS
GENERAL ARRANGEMENT
PLAN

Civil Engineers and Project Managers

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North Sydney NSW 2060
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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

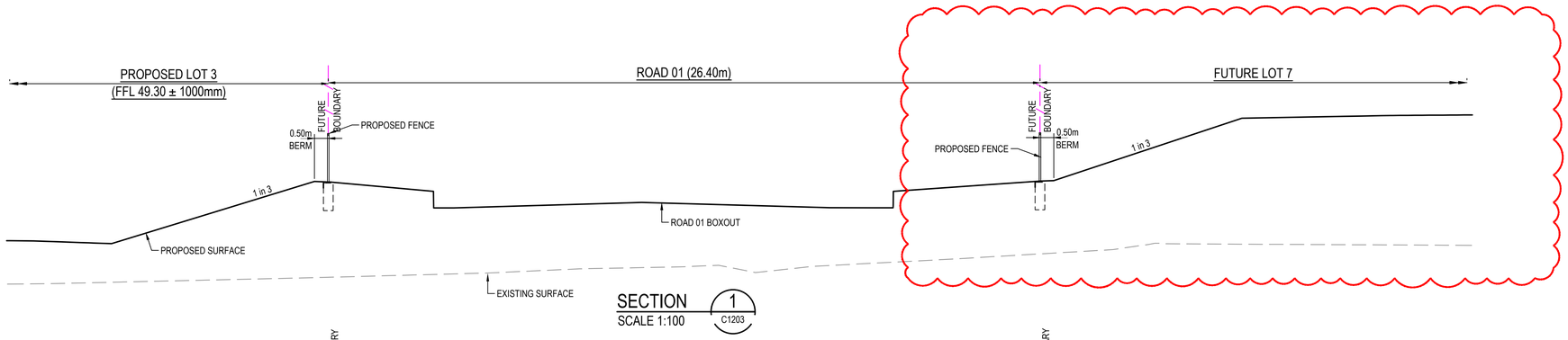
Project - Drawing No.

18-596-C1203

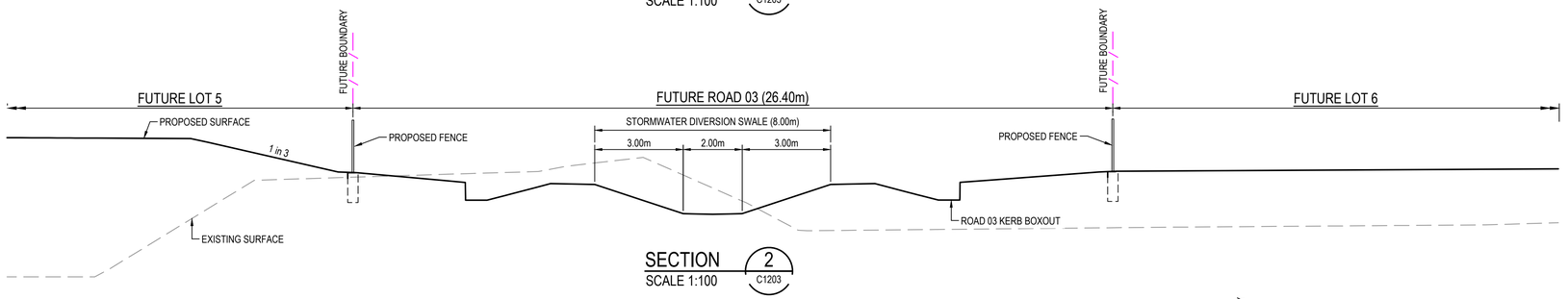
Issue

I

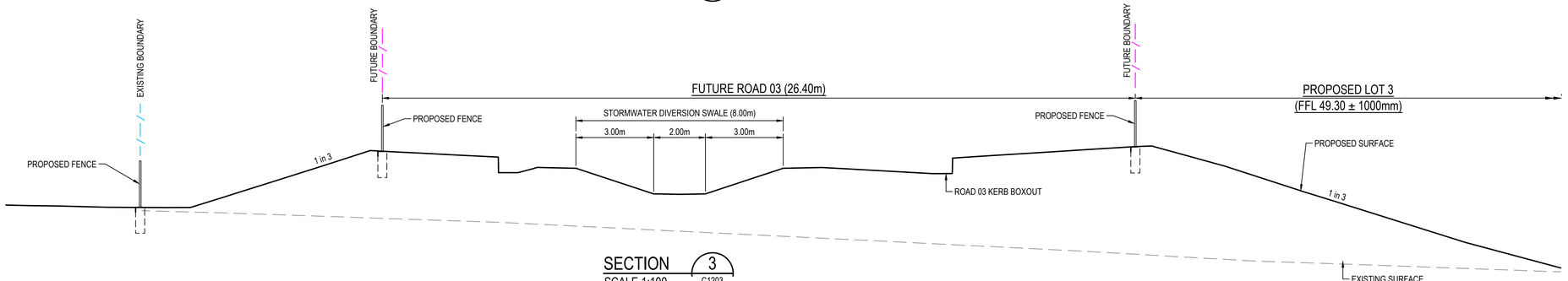
F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1203.dwg



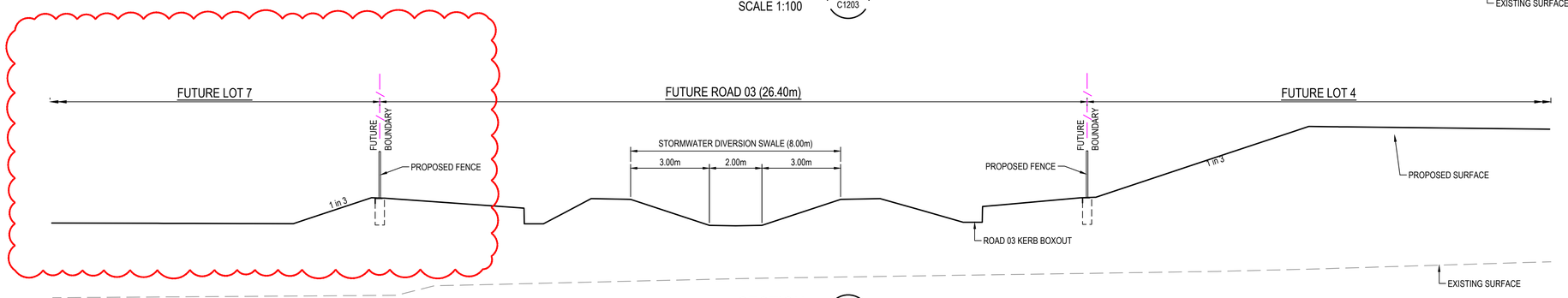
SECTION 1
SCALE 1:100 C1203



SECTION 2
SCALE 1:100 C1203



SECTION 3
SCALE 1:100 C1203



SECTION 4
SCALE 1:100 C1203

Issue	Description	Date
G	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Client: mirvac

Scales: 1:100

Grid: MGA

Height Datum: AHD

GDA2020

Drawn: KR

Designed: KR

Checked: DS

Approved: AM

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TEMPORARY WORKS
TYPICAL SECTIONS
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

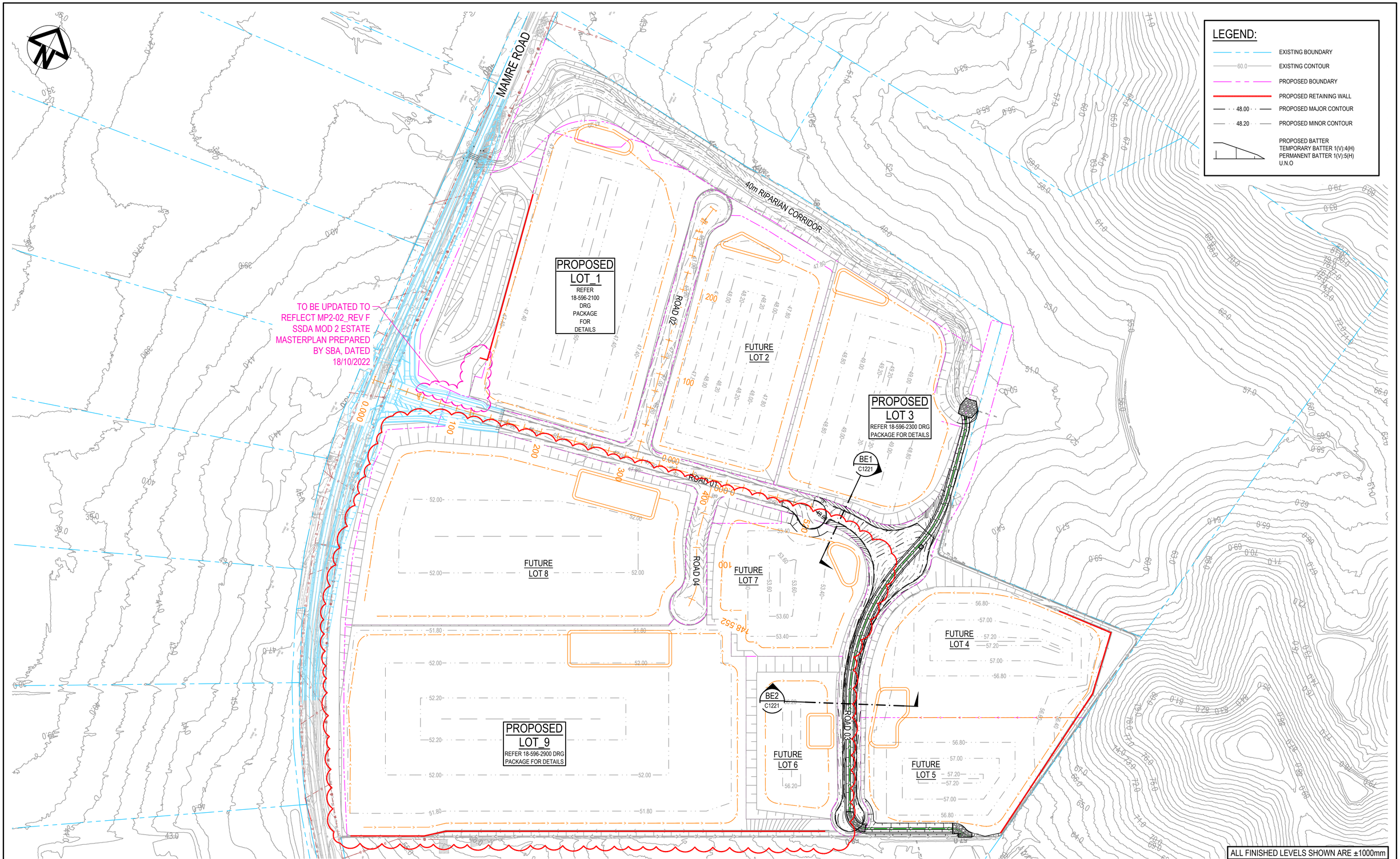
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-C1210

Issue: G

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1210.dwg



Issue	Description	Date
I	ISSUED FOR DEVELOPMENT APPLICATION	24-10-22
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

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Client

mirvac

Scales	1:2000
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	AM

GDA2020

Project

ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

TEMPORARY WORKS
BULK EARTHWORKS
CONTOUR 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

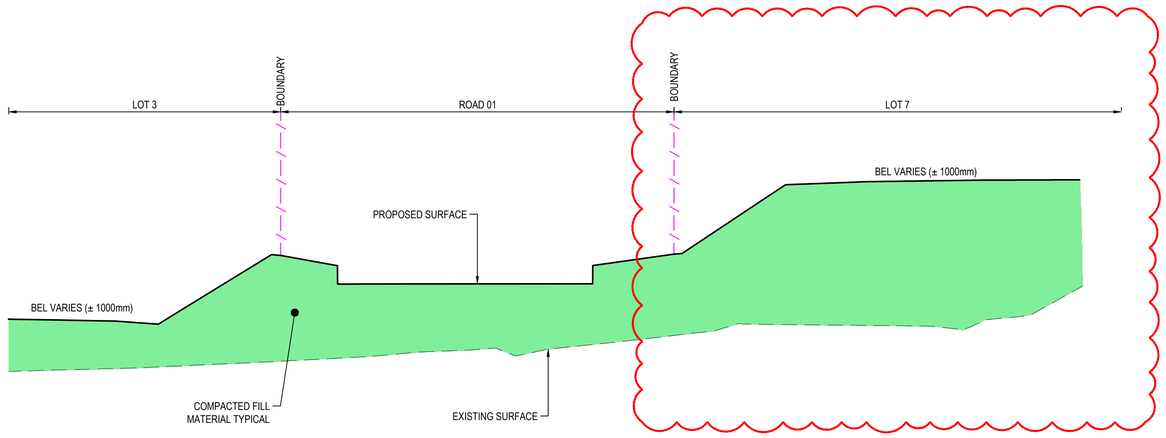
A1

Project - Drawing No.: 18-596-C1220

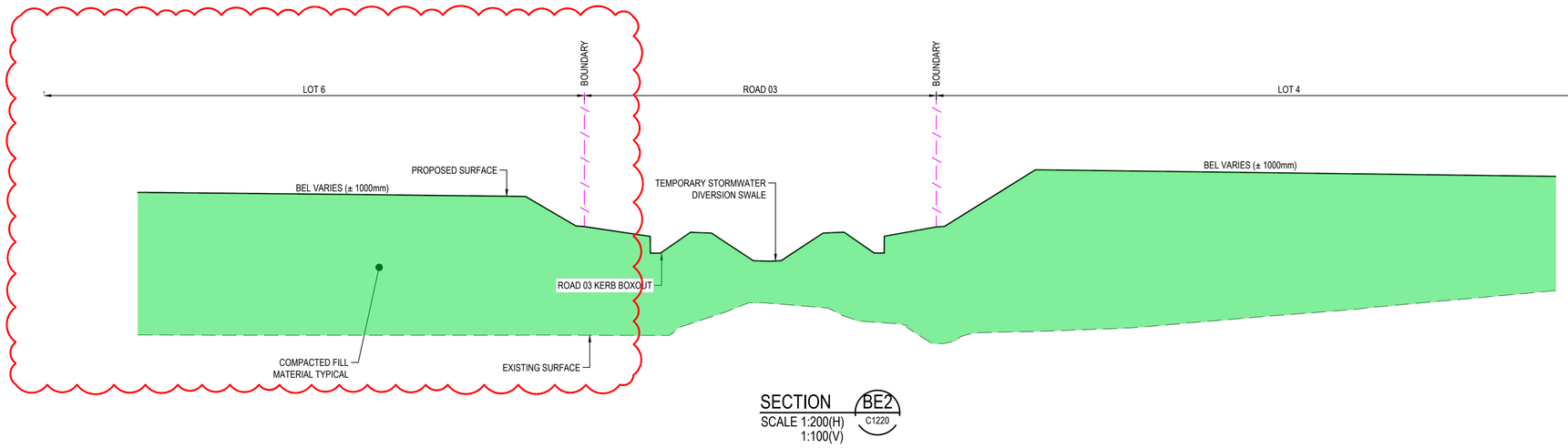
Issue: I

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1220.dwg



SECTION BE1 (C1220)
SCALE 1:200(H)
1:100(V)



SECTION BE2 (C1220)
SCALE 1:200(H)
1:100(V)

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
G	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 5 10 15 20m
1 : 200 @ A1 1 : 400 @ A3
0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

100mm on Original

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Client: mirvac

Scales: 1:200(H) 1:100(V)
Grid: MGA
Height Datum: AHD
GDA2020

Drawn	KR
Designed	KR
Checked	DS
Approved	AM

Project: ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TEMPORARY WORKS
BULK EARTHWORKS
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-C1221

Issue: G

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1221.dwg

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

PROPOSED
LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

ROAD 01

ROAD 03

FUTURE
LOT 7

FUTURE
LOT 4

TC 523.441

RETAINING WALL RW21 (LENGTH: 307m, H

ADJOINS DRG No 18-596-C1230

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

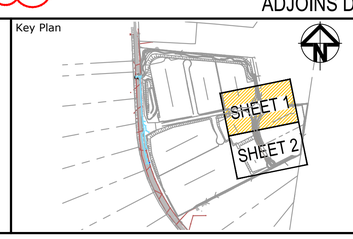
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client

mirvac

Scales	1:500
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TEMPORARY WORKS
BULK EARTHWORKS
PLAN
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-C1230

Issue
H

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1230.dwg

ADJOINS DRG No 18-596-C1230

LEGEND

- EXISTING BOUNDARY
- 60.0 EXISTING CONTOUR
- PROPOSED BOUNDARY
- 65.0 PROPOSED CONTOUR
- +BEL75.00 PROPOSED BULK EARTHWORKS LEVEL
- DD 900mm DISH DRAIN. DETAIL ON C1011
- SD 750mm SPOON DRAIN. DETAIL ON C1011
- CD CATCH DRAIN. DETAIL ON C1011
- EROSION AND SEDIMENT CONTROL CATCH DRAIN. DETAIL ON C1120
- PROPOSED RETAINING WALL
- SCOUR PROTECTION D50=600mm THICKNESS 900mm

ROAD 03

FUTURE LOT 4

FUTURE LOT 5

FUTURE LOT 6

RETAINING WALL RW22 (LENGTH: 545m, MAX. HEIGHT: 11.00m)

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
G	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1

SHEET 2

Client

mirvac

Scales		Drawn	KR
1:500		Designed	KR
Grid	MGA	Checked	DS
Height Datum	AHD	Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TEMPORARY WORKS
BULK EARTHWORKS
PLAN
SHEET 2

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.
18-596-C1231

Issue
G

F:\18-596 Mamre Road\6.0 Drgs\Civil\Final\SSD\1000_STAGE 1 SSD_MOD 2\18-596-C1231.dwg

LEGEND:

- EXISTING BOUNDARY
- EXISTING ELECTRICITY
- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED RETAINING WALL
- 48.00 PROPOSED MAJOR CONTOUR
- 48.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER STAGE 1A WORKS TEMPORARY BATTER 1(V):4(H) PERMANENT BATTER 1(V):5(H) U.N.O
- MK PROPOSED MOUNTABLE KERB TO PCC SPECIFICATION
- K&G PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
- PROPOSED DRIVEWAY LAYBACK
- PROPOSED KERB RAMP
- LIMIT OF WORKS
- PROPOSED CATCH DRAIN
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED CAPPED STORMWATER PIPE
- PROPOSED STORMWATER LINE
- PROPOSED INDUSTRIAL ROAD PAVEMENT TO PCC SPECIFICATION
- PROPOSED FOOTPATH PAVEMENT TO PCC SPECIFICATION
- PROPOSED INDUSTRIAL DRIVEWAY PAVEMENT TO PCC SPECIFICATION
- CUL-DE-SEC ROUNDABOUT PAVEMENT
- MAINTENANCE ACCESS TRACK
- BASIN MAINTENANCE DRIVEWAY
- REINFORCED CONCRETE WIER
- LANDSCAPED MEDIAN
- CONCRETE MEDIAN

PROPOSED LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

FUTURE ROAD 01 ALIGNMENT. SEE DRGS C1050-C1061 FOR DETAIL.

AC1-11

AC1-10

AC10-1

Ø1800

Ø1800

Ø375

ROAD 01

CAP PROPOSED STORMWATER PIPE FOR FUTURE CONNECTION

TEMPORARY TURNING HEAD. SEE DETAIL ON DRG C1006.

48.40

49.00

49.20

49.40

49.60

49.80

FUTURE LOT 7

440

460

480

500

520

40

1 VARIES (3 MAX) BATTER

FUTURE LOT 7

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Key Plan

Client

mirvac

Scales	1:250
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	AM

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GDA2020

Project
ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title
TEMPORARY WORKS
ROADWORKS
AND STORMWATER DRAINAGE
SHEET 1

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
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A1

Project - Drawing No.
18-596-C1250

Issue
H

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LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

PROPOSED
LOT 3
REFER 18-596-2300 DRG PACKAGE FOR DETAILS

STRAWBALE AND GEOTEXTILE SEDIMENT FILTER AT 30m SPACING (TYP.)

STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

ROAD 01

PROVIDE SEDIMENT FENCE (TYP.)

PROPOSED SWALE VEHICLE CROSSING. PROVIDE 2No. Ø1050 RCP WITH HEADWALL INLET/OUTLETS

ROAD 03

PROVIDE SEDIMENT FENCE (TYP.)

PROVIDE SEDIMENT FENCE (TYP.)

FUTURE LOT 7

FUTURE LOT 4

ADJOINS DRG No 18-596-C1311

ALL FINISHED LEVELS SHOWN ARE ±1000mm

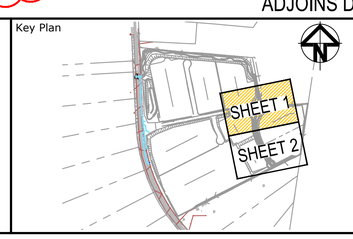
Issue	Description	Date
H	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
G	ISSUED FOR DEVELOPMENT APPLICATION	13-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan



Client: mirvac

Scales	1:500
Grid	MGA
Height Datum	AHD
Drawn	KR
Designed	KR
Checked	DS
Approved	AM

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GDA2020

Project: ASPECT INDUSTIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title: TEMPORARY WORKS EROSION AND SEDIMENT CONTROL PLAN SHEET 1

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Project - Drawing No.: 18-596-C1310

Issue: H

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ADJOINS DRG No 18-596-C1310

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- ROCK RIFFLE CHECK DAM (SD 5-4)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

FUTURE LOT 4

FUTURE LOT 5

FUTURE LOT 6

ROAD 03

ROAD 03

STRAWBALE AND GEOTEXTILE SEDIMENT FILTER AT 30m SPACING (TYP.)

PROVIDE SEDIMENT FENCE (TYP.)

PROVIDE SEDIMENT FENCE (TYP.)

STRAWBALE AND GEOTEXTILE SEDIMENT FILTER AT 30m SPACING (TYP.)

ALL FINISHED LEVELS SHOWN ARE ±1000mm

Issue	Description	Date
G	ISSUED FOR DEVELOPMENT APPLICATION	21-07-22
F	ISSUED FOR DEVELOPMENT APPLICATION	29-04-22
E	ISSUED FOR DEVELOPMENT APPLICATION	14-04-22
D	ISSUED FOR DEVELOPMENT APPLICATION	18-03-22
C	ISSUED FOR DEVELOPMENT APPLICATION	04-03-22
B	ISSUED FOR DEVELOPMENT APPLICATION	24-02-22
A	ISSUED FOR DEVELOPMENT APPLICATION	03-02-22

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Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Key Plan

SHEET 1

SHEET 2

Client

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1

Title

TEMPORARY WORKS
EROSION AND
SEDIMENT CONTROL
PLAN SHEET 2

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Project - Drawing No.: 18-596-C1311

Issue: G

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APPENDIX C – AIE Stage 6 Post Development Catchment Plan

Issue	Description	Date
P1	ISSUED FOR APPROVAL	13-10-25

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client

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Height Datum	AHD	Approved	DS/TM

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK

Title

MOD 12
STAGE 6
POST-DEVELOPMENT
CATCHMENT PLAN

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A1

Project - Drawing No.
18-596-SKC197F

Issue
P1

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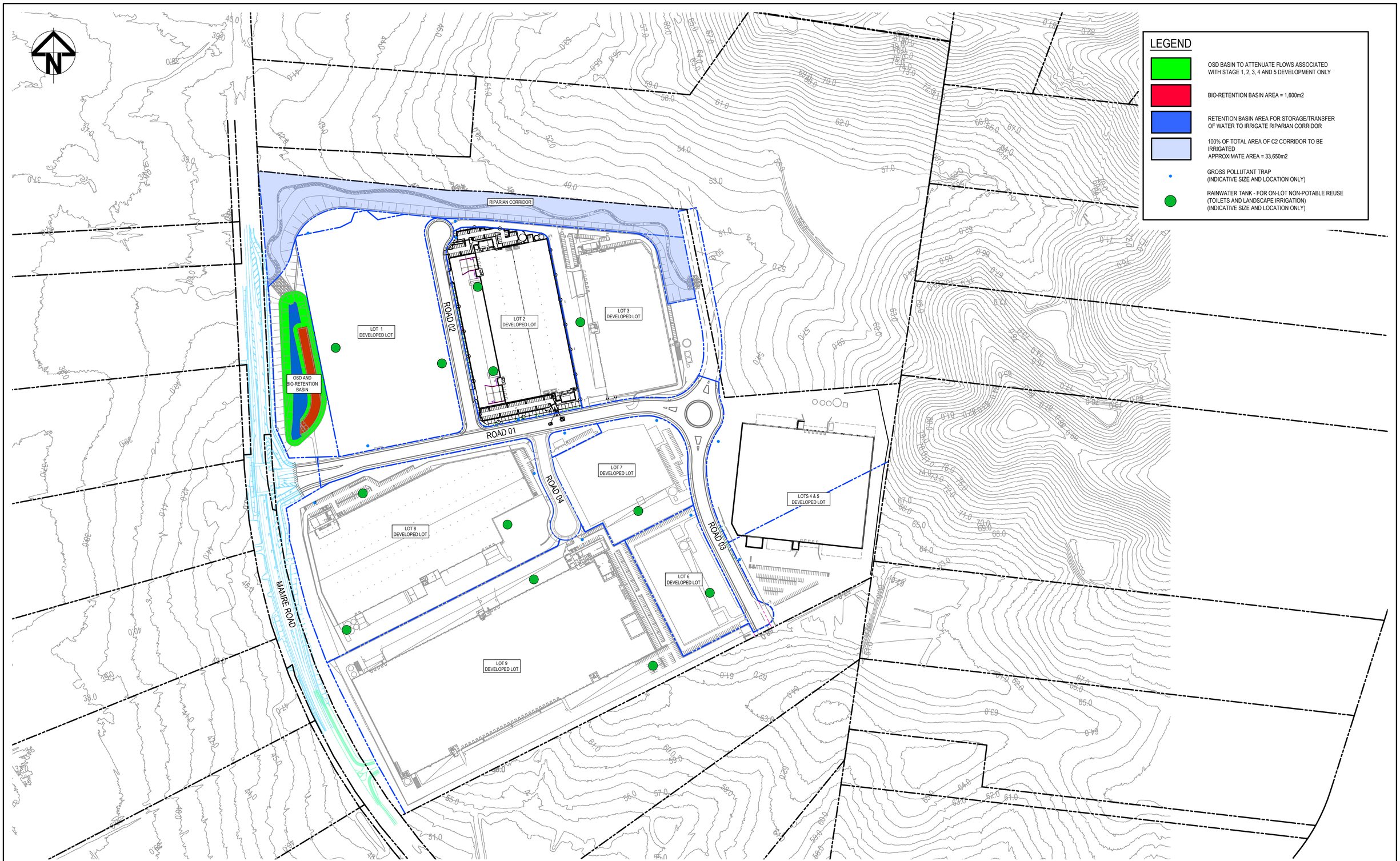
APPENDIX D – AIE Stage 6 Stormwater Management Plan



Issue	Description	Date
P1	ISSUED FOR APPROVAL	13-10-25

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Bar Scales

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1 : 2500 @ A1

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Client

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Designed	TM
Checked	DS/TM
Approved	DS/TM

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Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK

Title

MOD 12 STAGE 6
STORMWATER MANAGEMENT
PLAN

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Project - Drawing No.: 18-596-SKC198F

Issue: P1

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APPENDIX E – EEP Stage 1A Stormwater Management Plan

LEGEND

- INTERIM EVAPORATION POND (TO BE REMOVED UPON DELIVERY OF REGIONAL STORMWATER SCHEME MEASURES BY SYDNEY WATER)
- DETENTION BASIN FOR STORMWATER MANAGEMENT
- GROSS POLLUTANT TRAP (INDICATIVE SIZE AND LOCATION ONLY)
- PROPOSED CATCH DRAIN
- ENVIRONMENT AND RECREATION ZONE

NOTES:

- THIS PLAN PRESENTS TEMPORARY STORMWATER MANAGEMENT MEASURES THAT WOULD BE REQUIRED TO SATISFY STORMWATER QUALITY, QUANTITY AND FLOW TARGETS STIPULATED IN THE WESTERN SYDNEY AEROTROPOLIS DCP 2022 IN THE ABSENCE OF REGIONAL STORMWATER MANAGEMENT INTERVENTIONS. ONCE REGIONAL STORMWATER MANAGEMENT INTERVENTIONS ARE IN PLACE (SUBJECT TO TIMING) THIS PLAN MAY BE SUPERSEDED BY THE ULTIMATE STORMWATER MANAGEMENT PLAN PRESENTED ON DRAWING C1152 WITHOUT MODIFICATION TO THE SSDA APPROVAL.
- NO ON-LOT IRRIGATION WITHIN UNDEVELOPED LOT AREAS. ALL STORMWATER TO DISCHARGE TO TEMPORARY EVAPORATION BASIN.

PROPOSED EVAPORATION BASIN (INTERIM MEASURE ONLY, TO BE REMOVED UPON DELIVERY OF SYDNEY WATER REGIONAL SCHEME INFRASTRUCTURE)
AREA = 9.53ha
APPROX. VOLUME = 38.8ML
ENTIRE FOOTPRINT TO INCLUDE AN IMPERVIOUS LINER (SUBJECT TO DETAILED SALINITY AND SODICITY ASSESSMENT)

HATCHING SHOWS MAXIMUM INUNDATION AREA. MAXIMUM PONDING DEPTH OF 1M.

BASIN DEPTHS VS % OF TIME

0mm (EMPTY):	APPROXIMATELY 2% OF THE TIME
0-250mm MAX DEPTH:	APPROXIMATELY 10% OF THE TIME
250-500mm MAX DEPTH:	APPROXIMATELY 14% OF THE TIME
500-750mm MAX DEPTH:	APPROXIMATELY 26% OF THE TIME
750-1000mm MAX DEPTH:	APPROXIMATELY 47% OF THE TIME
> 1000mm MAX DEPTH:	APPROXIMATELY 1.3% OF THE TIME

DOWNSTREAM CATCHMENT STAGE 1 ENZ AREA 16.324ha

EXISTING 1% AEP FLOOD EXTENT *WIANAMATTA (SOUTH) CREEK FLOOD STUDY - EXISTING CONDITIONS (PREPARED BY ADVISIAN FOR INFRASTRUCTURE NSW, NOVEMBER 2020)* AS REFERRED TO WITHIN THE PHASE 2 DCP.

DETENTION BASIN (APPROX. 15ML) OVERFLOW INTO INTERIM EVAPORATION POND

INDICATIVE SEWER PUMP STATION SUBJECT TO JUST TERMS ACQUISITION. LOCATION TBC. BULK EARTHWORKS PART OF THIS APPLICATION, THOUGH PUMP STATION SUBJECT TO SYDNEY WATER APPROVALS.

INDICATIVE SYDNEY WATER REGIONAL BASIN SC09 LAYOUT SHOWN IN ORANGE. SC09 FUTURE DEVELOPMENT WORKS INTENDED TO BE DELIVERED BY MIRVAC AS PART OF THE FUTURE STAGE 1B SSDA. BASIN SC09 IS NOT PART OF THIS SSDA.

LOT 100 DP 1283398

SYDNEY WATER REGIONAL BASIN SC09

WIANAMATTA-SOUTH CREEK

BASIN A 0.882ha

FUTURE SPS 0.419ha

103 C1165

SYDNEY WATER REGIONAL BASIN SC10

TEMPORARY BERM TO CREATE EVAPORATION BASIN. REQUIRED TO MEET WATERWAY HEALTH REQUIREMENTS IN ADVANCE OF DELIVERY OF SYDNEY WATER REGIONAL STORMWATER BASINS.
HEIGHT = 1.5m (RL 42.5)
TOP WIDTH = 3m
INTERNAL AND EXTERNAL BATTERS 1:4 (MAX)

SYDNEY WATER REGIONAL BASIN SC11

DOWNSTREAM CATCHMENT STAGE 2 ENZ LAND 24.620 ha

EEP STAGE 2 UNDEVELOPED 7.538ha

OUTLET PIT WITH GRATE LEVEL AT RL 42.00 AND Ø750 OUTLET PIPE AT 1% FALL. ORIFICE PLATE WITH Ø705 ORIFICE TO BE INSTALLED TO THE OUTLET PIPE INLET. OUTLET PIPE TO DISCHARGE BEYOND THE BERM VIA HEADWALL.

102 C1165

101 C1165

SYDNEY WATER REGIONAL BASIN SC12

EEP STAGE 2 UNDEVELOPED 35.719 ha

LOT 102 DP 1271336

LOT 741 DP 810111

INDICATIVE ENDEAVOUR ENERGY ZONE SUBSTATION. LOCATION TBC. ZONE SUBSTATION INFRASTRUCTURE SUBJECT TO ENDEAVOUR ENERGY APPROVALS

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE NORTH

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE WEST

LOT 740 DP 810111

ROAD (MC02)

ROAD (MC03)

LOT 8 BENCHED, SERVICED PAD & RETAINING WALLS = 3.99ha

BENCHED, SERVICED PAD = 0.38ha

LOT 7 BENCHED, SERVICED PAD & RETAINING WALLS = 6.94ha

LOT 5 BENCHED, SERVICED PAD & RETAINING WALLS = 1.60ha

LOT 6 ROOF AREA = 4.095ha PAVED AREA = 1.900ha LANDSCAPE AREA = 1.060ha

LOT 4 BENCHED, SERVICED PAD & RETAINING WALLS = 2.39ha

ROAD (MC01)

PROPOSED SUBSTATION AREA = 1.25ha

LOT 2 ROOF AREA = 1.596ha PAVED AREA = 1.120ha LANDSCAPE AREA = 0.609ha

LOT 1 BENCHED, SERVICED PAD & RETAINING WALLS = 1.29ha

UNNAMED PENRITH CITY COUNCIL ROAD

LOT 4 DP 860456

ALL WORKS WITHIN LOT 99 ARE TO BE COMPLETED BY OTHERS AND ARE NOT PART OF THIS PACKAGE. ZONE SUBSTATION UNDER CONSTRUCTION BY ENDEAVOUR ENERGY.

LOT 99 CATCHMENT CONSIDERED AS PART OF STAGE 1 EEP STORMWATER MANAGEMENT.

WORKS SHOWN IN GREY HAVE BEEN APPROVED AND ARE TO BE CONSTRUCTED UNDER DA24/0775. MINOR WORKS WITHIN WADIGU DRIVE AND BANA STREET, AS SHOWN, FORM PART OF THIS SSDA.

ELIZABETH DRIVE

MARTIN ROAD

LOT 4 DP 858141

LOT 2 DP 553886

LOT 1 DP 553886

LOT 12 DP 226448

LOT 11 DP 226448

LOT 10 DP 226448

LOT 11 DP 860338

LOT 10 DP 860338

Issue	Description	Date
A10	ISSUED FOR APPROVAL	08-12-25
A9	ISSUED FOR APPROVAL	21-11-25
A8	ISSUED FOR APPROVAL	19-09-25
A7	ISSUED FOR APPROVAL	11-07-25
A6	ISSUED FOR APPROVAL	26-06-25
A5	ISSUED FOR APPROVAL	28-02-25
A4	ISSUED FOR APPROVAL	19-02-25
A3	ISSUED FOR APPROVAL	19-12-24
A2	ISSUED FOR APPROVAL	24-09-24

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client: mirvac

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		Designed	JB
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

GDA2020

Project: ELIZABETH ENTERPRISE PRECINCT STAGE 1A BADGERYS CREEK

Title: STORMWATER MANAGEMENT PLAN INTERIM ARRANGEMENT

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Project - Drawing No.: 16-369-C1151

Issue: A10

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APPENDIX F – MOD11 Water and Stormwater Management Plan

(AT&L, December 2025)

Aspect Industrial Estate

SSD-10448 Modification 11

Lot 301 and 305 DP1305254, and Lot 104 and 105 DP 1305965

788-882 Mamre Road, Kemps Creek

Water and Stormwater Management Plan

CLIENT/ Mirvac

DATE/ 9/12/2025

CODE/ 18-596

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Document Registration

Document Title	Aspect Industrial Estate – Water and Stormwater Management Plan
Document File Name	REP025-05-18-596-MOD11 WSMP
Section	Civil / Urban Water Management
Document Author	Tim Michel and Winston Phan

Issue	Description	Date	Author	Checked	Approved
01	Draft for Client Review	21-10-2025	Tim Michel and Winston Phan	☒	☐
02	Update for SEED Stage 1A RTS	24-11-2025	Tim Michel and Winston Phan	☒	☐
03	Update for SEED Stage 1A RTS	01-12-2025	Tim Michel and Winston Phan	☒	☒
03	Update for SEED Stage 1A RTS	03-12-2025	Tim Michel and Winston Phan	☒	☒
04	Update for SEED Stage 1A RTS	09-12-2025	Tim Michel and Winston Phan	☒	☒

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1. Introduction

This Water and Stormwater Management Plan (WSMP) has been prepared by AT&L on behalf of Mirvac Projects Pty Ltd (Mirvac) to inform a modification application, Modification No.11 (MOD11) of State Significant Development Application (SSDA) for the staged development of the Aspect Industrial Estate (AIE) at 788-882 Mamre Road, Kemps Creek (reference SSD-10448).

This modification application relates to changes to the proposed water management strategy for the AIE Site SSD-10448 to demonstrate interim compliance with stormwater quality, quantity and flow targets in accordance with the Mamre Road Precinct Development Control Plan (DCP) to support the development of warehouses 1, 2, 3, 6, 7 (incl. Café), 8 & 9 on AIE in advance of a regional stormwater scheme by Sydney Water.

As per MOD4 and MOD8 (both of which are approved), the undeveloped land at Mirvac's Elizabeth Enterprise Precinct at 1669-1732 Elizabeth Drive, Badgerys Creek (EEP) was included within cumulative MUSIC modelling to satisfy the stormwater quality, quantity and flow targets to enable progression of the abovementioned development on AIE in advance of a regional stormwater scheme for the Mamre Road Precinct.

AIE SSD-10448 MOD8 sought minor adjustments to the cumulative stormwater management strategy, which notably reduced the extent of undeveloped land considered at EEP. Minor modifications were made to the applicable SSD-10448 conditions of consent as part of the MOD8 approval.

MOD11 seeks approval for an amended cumulative stormwater management strategy, which seeks to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251). The EEP Stage 1 SSDA seeks approval to construct infrastructure works across the EEP Stage 1 lands, and also seeks approval for the development of Warehouse 2 and Warehouse 6 at EEP. The cumulative development scenario includes the development at AIE, including warehouses 1, 2, 3, 6, 7 (incl. Café), 8 & 9, and EEP Stage 1A, including warehouses 2 and 6.

The MOD11 interim stormwater management strategy supports the following development on AIE in advance of delivery of a regional stormwater scheme within the Mamre Road Precinct:

- **Stages 1 to 3 (Warehouse 1, 3, 9, 2):** which are constructed and operational.
- **Stage 4 & 5 (Warehouse 8, 6, 7, adjacent Café):** which are currently under construction.

It also supports the delivery of Stage 1A works on the EEP site, as contemplated under SSD-19618251, which includes:

- Street trees throughout the EEP Stage 1 Estate – either passively or actively irrigated
- Evaporation Basin – with the potential for evaporative losses proposed within EEP Stage 2 land
- On-site stormwater detention (Basin A)

Refer to the EEP Stage 1 SSDA WSMP (REP005B-19-16-369) for more information.

As the warehouses contemplated under AIE Stage 4 and 5 are under construction, for the purposes of the MOD11 cumulative stormwater management strategy, we have only sought to demonstrate compliance with development at AIE for Stage 5, as this incorporates and builds upon all stormwater management approvals for prior AIE Stages 1-4.

Under the MOD8 approval, the Mirvac EEP site is proposed to be retained in its undeveloped state unless either of the following:

1) A regional stormwater scheme is delivered within the Mamre Road Precinct which satisfies the AIE stormwater quality and quantity targets.

2) An alternative interim stormwater strategy is approved by the Department of Planning and Environment (DPE) to enable development within the AIE site consistent with the abovementioned warehouses 1, 2, 3, 6, 7 (including adjacent Café), 8 & 9.

3) Approval of a future development application by Mirvac which demonstrates ability to maintain compliance with waterway health targets on a cumulative basis between Mirvac AIE and EEP sites.

4) Any other reason as approved by the DPE.

As such, and per 3) above, MOD11 seeks consent for a cumulative WWH strategy across AIE (to Stage 5) and EEP (including Stage 1A) to enable delivery of development under those staged built form approvals.

The proposed Stage 1 EEP development includes the construction and fit out of warehouses and distribution buildings on proposed Lots 2 and 6 among other works such as an internal road infrastructure works and on-site bulk earthworks.

Note that an update to the EEP Stage 1A SSDA WSMP has been submitted concurrently to DPHI for approval to support MOD11, which demonstrates compliance with the interim stormwater management requirements.

This report supports the MOD11 application to SSD-10448 for the Site and should be read in conjunction with the Environmental Impact Statement (EIS) as prepared by Urbis, development plans and supporting documentation submitted with the SSDA, and the most recently amended WSMP as included in the MOD8 application. It also should be read in conjunction with the EEP Stage 1 SSDA Water and Stormwater Management Plan (REP005B-19-16-369-SSDA WSMP) which was submitted as part of SSD-19618251 for approval.

The original SSD-10448 was approved on 24 May 2022 and the MOD8 application, incorporating the most recent amendments to the WSMP, was approved on 7 May 2025.

The location of the Mirvac AIE and EEP Sites are presented as **Figure 1**.

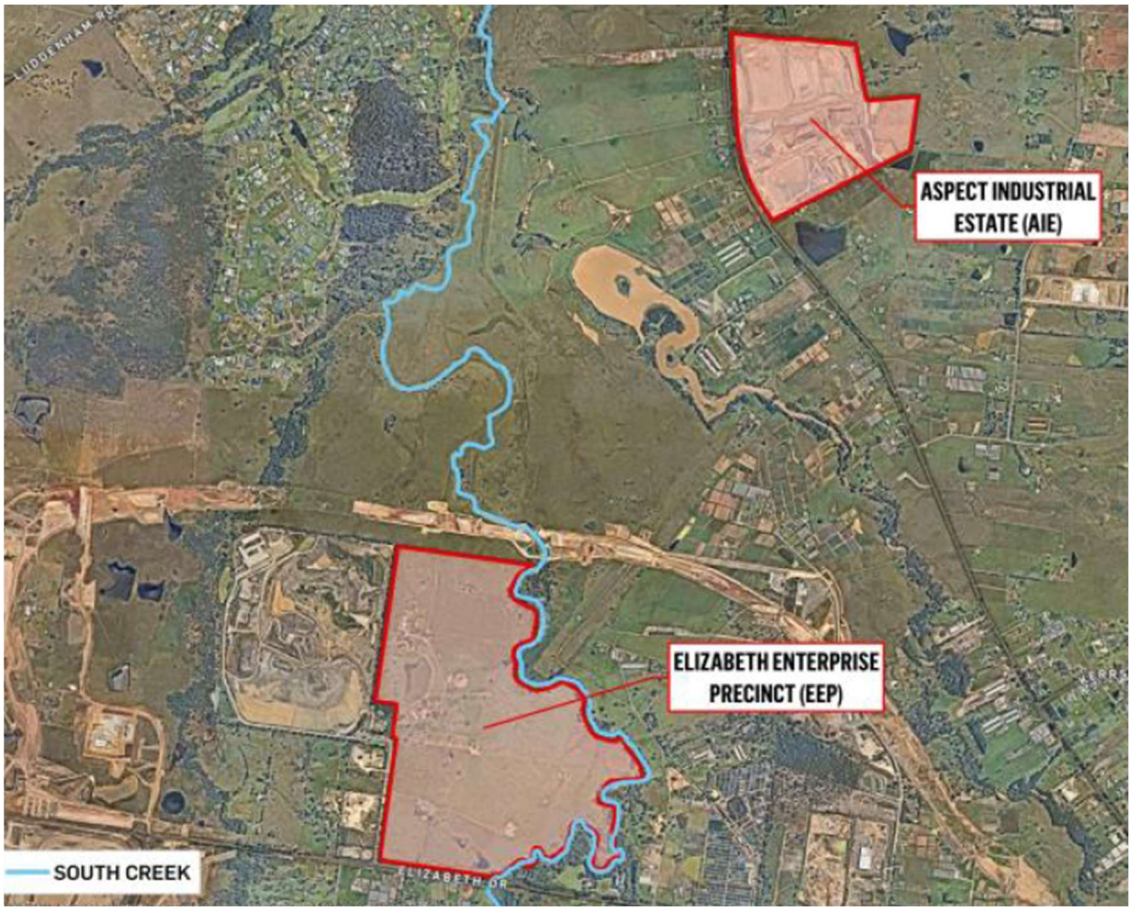


Figure 1: AIE and EEP Site Locations (imagery from near map dated 30 March 2023)

2. Site Description and Pre-Development Site Conditions

2.1. Site Locations

2.1.1. Aspect Industrial Estate (AIE)

The Mirvac AIE site is located at 788-882 Mamre Road, Kemps Creek is legally described as Lot 301 and 305 DP1305254, and Lot 104 and 105 DP 1305965 and is located east of Mamre Road, Kemps Creek within the Penrith Local Government Area (LGA). The site has approximately 950m of direct frontage to Mamre Road with a proposed signalised intersection providing permanent vehicular access via Mamre Road to the M4 Motorway and Great Western Highway to the north and Elizabeth Drive to the south.

The AIE site is located approximately 4km north-west of the future Western Sydney Nancy-Bird Walton Airport, 13km south-east of the Penrith CBD and 40km west of the Sydney CBD.

The AIE site has an area is approximately 55.83 Ha. Construction works, namely bulk earthworks, commenced across the Site in August 2022. Prior to the commencement of works, the Site was primarily used for rural activities and comprised of residential dwellings, sheds, man-made dams and grassed fields.

2.1.2. Elizabeth Enterprise Precinct (EEP)

The Mirvac EEP site is located at 1669-1732 Elizabeth Drive, Badgerys Creek and is legally described as Lot 100 DP1283398, Lot 741 DP810111 and Lot 99 DP1283398. The EEP site is owned by Mirvac, is located directly adjacent to Wianamatta-South Creek and upstream of the Mirvac AIE site. The EEP site is zoned for employment generating purposes under the Aerotropolis SEPP though presently remains undeveloped in its rural residential state.

The EEP site has a total site area of approximately 132Ha.

2.2. Waterways and Vegetation

A Riparian Assessment report was undertaken by Eco Logical Australia to support SSD-10448 for the Aspect Industrial Estate (Eco Logical Australia, 2020). Within this report it was determined there were two mapped hydrolines located within the site. These hydrolines are indicated on **Figure 2**.

Figure 2: Watercourses mapped within the AIE Site

Realignment of the mapped hydrolines was approved under SSD-10448, and will generally include the following work (refer to **Figure 3**):

- Removal of the existing watercourse and establishment of a 40-metre-wide Realigned Trunk Drainage Corridor, consisting of an 800-metre-long channel.
- A low flow channel with a typical width of 3.75m – 5.7m.
- A high flow channel with a typical width of 20m.
- Establishment of Inner and Outer Vegetated Riparian Zones (VRZs).

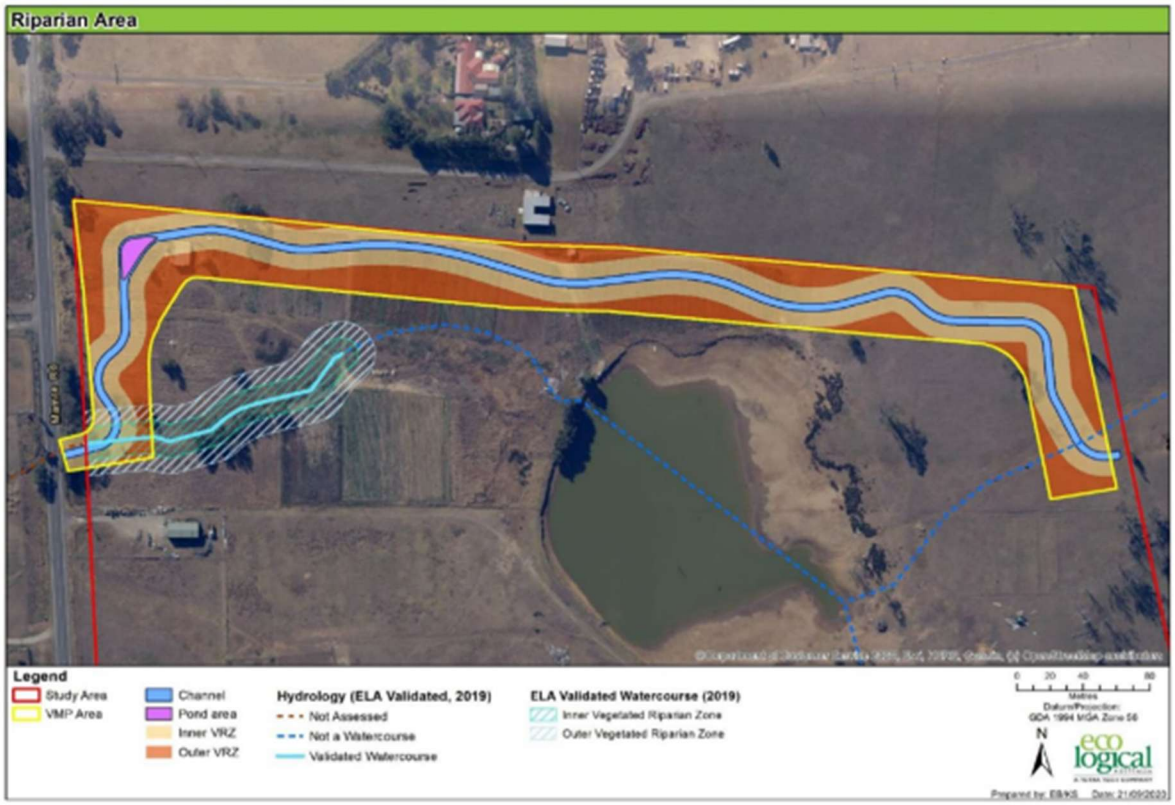


Figure 3: Proposed Realigned Trunk Drainage Corridor alignment approved under SSD-10448

The diversion of the pre-development watercourse and proposed Realigned Trunk Drainage Corridor is unchanged as part of the MOD11 application.

2.3. Geology and Soils

Based on an Geotechnical Report undertaken by Pells Sullivan Meynink (PSM) for the AIE site (reference: PSM3739-004L Rev6, dated 13 October 2020) the following inferred sub surface soils were encountered across the site:

- Topsoil – Silty CLAY Depth 0.0 - 0.3m
- Natural Soil/ Fill – CLAY and Silty CLAY: Depth 0.1 to 4.5m
- Bedrock –SHALE: Depth 1.0 to 6.5m

2.3.1. Salinity

Based on site investigations undertaken by PSM for the AIE site, consisting of testing of 20 samples undertaken across the Site, the majority of soils were found to be "non-saline to moderately saline". Only one sample out of the 20 tested was found to be "very saline". The location of this sample is in an area on future lot 4 that will be filled by approximately 2 metres above pre-development ground level.

2.3.2. Sodicity

The Exchangeable Sodium Percentages (ESPs) calculated from tests undertaken by PSM ranged from 5.6% to 53.4%, which indicates that the soils on site range from sodic to highly sodic when compared to criteria listed in *Site Investigations for Urban Salinity* (DLWC, 2002).

2.3.3. Construction Salinity Management Plan

PSM prepared a *Construction Salinity Management Plan* (CSMP, July 2022) for the AIE Site to effectively manage site salinity, to minimise the effect of the proposed development on salinity processes and to protect

the development of the AIE Site from salinity damage. A range of strategies are outlined in the CSMP to manage potential impacts relating to salinity, including:

- Implementation of erosion and sediment control practices (e.g., diversion of surface water runoff around disturbed areas, sediment traps, silt fencing, sealing temporary batters and stockpiles).
- Avoid over-watering for dust suppression.
- Grade surfaces to prevent ponding of surface water
- Undertake salinity testing of soils to be imported to ensure high saline soils are not bought into the site.

2.3.4. Assessment of Potential Impacts on Soil Resources

PSM have also prepared an *Assessment of Potential Impact on Soil Resources and Infrastructure* (August 2022) in support of the MOD3 application. PSM noted that from a geotechnical point of view, the proposed development has close to no impact on soil resources at the site. The earthworks will comprise a cut to fill balance on site with minor import.

It shall be noted that the MOD11 application does not seek to amend the site bulk earthworks, and as such, the above assessment completed by PSM is still considered valid for MOD11.

2.4. Pre-Development Catchment Delineation

Catchment delineation of the AIE Site under pre-development conditions is presented in **Figure 4**.

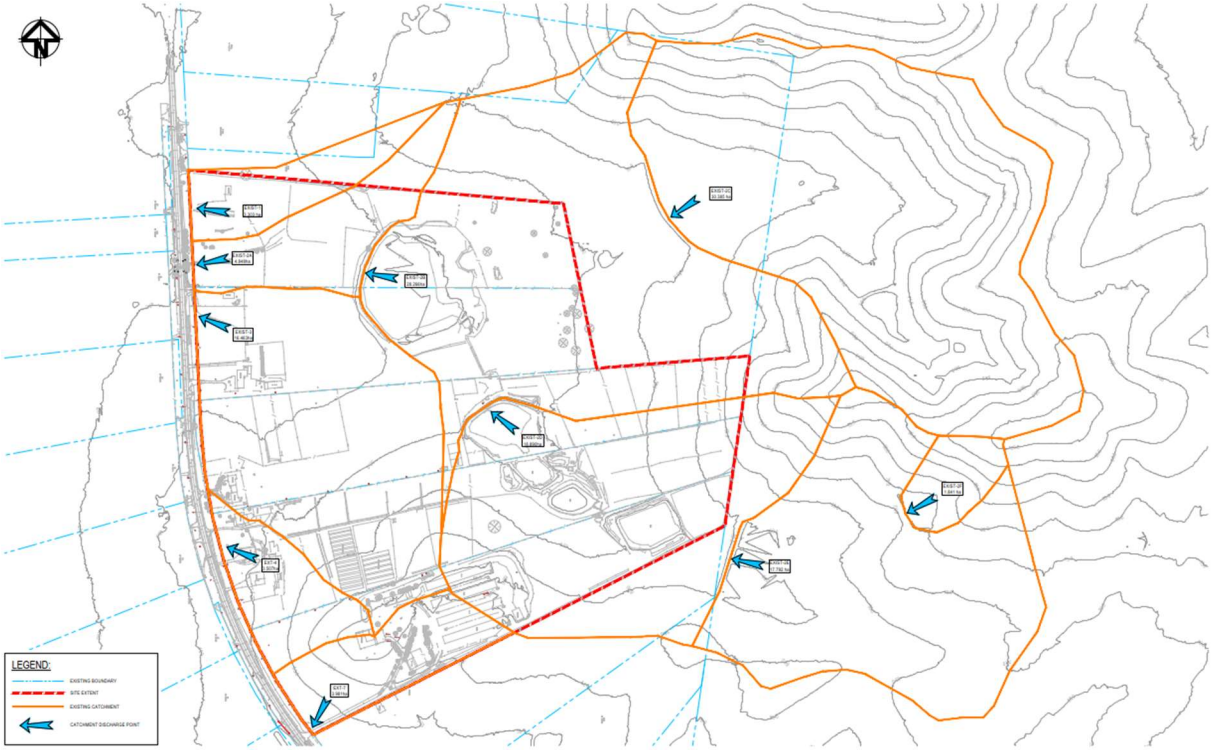


Figure 4: Catchment delineation under pre-development conditions

A summary of the internal and external catchments under pre-development conditions is presented in **Table 1**.

Table 1: Internal and external catchments under pre-development conditions

Catchment ID	Area (ha)	Internal / External	Description
1	3.303	Internal & External	North-western portion of AIE Site and a small portion of adjacent site to the north. Discharges towards Mamre Road.
2A	4.848	Internal & External	North-western portion of AIE Site and a small portion of adjacent site to the north. Discharges towards a box culvert drainage crossing under Mamre Road.
2B	28.266	Internal & External	North-eastern portion of the AIE Site, including external catchment that drains towards a farm dam within the Site.
2C	30.385	External	External catchment that drains towards the eastern boundary of the Site.
2D	18.890	Internal & External	South-eastern portion of the AIE Site, including external catchment that drains towards three farm dams within the Site.
2E	17.792	External	External catchment that drains towards the southern boundary of the Site.
2F	1.841	External	External catchment that drains towards the southern boundary of the Site.
3	16.463	Internal	Western portion of the Site that drains towards Mamre Road.
4	3.507	Internal	Western portion of the Site that drains towards Mamre Road.
7	3.981	Internal	South-western portion of the Site that drains in a southerly direction towards Mamre Road.

3. Proposed Development

3.1. Scope of MOD11 Application

Under the provisions of S4.55 (1A) of the EPA Act, the MOD11 application seeks consent for:

- Adjustment to the previously approved WSMP under SSD-10448 MOD8 for an amended cumulative stormwater management strategy, which seeks to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251). The EEP Stage 1 SSDA seeks approval to construct infrastructure works across the EEP Stage 1 lands and also seeks approval for the development of Warehouse 2 and Warehouse 6 at EEP.

The amended cumulative stormwater management strategy sought as part of MOD11 includes the development at AIE, including warehouses 1, 2, 3, 6, 7 (incl. Café), 8 & 9, and EEP Stage 1A, as a progression from MOD8 to provide for the development of EEP Stage 1 Warehouse 2 and 6 along with Stage 1 estate infrastructure and the temporary evaporation basin within Stage 2 area of EEP whilst providing stormwater management measures for both EEP and AIE in advance of the regional stormwater scheme.

MOD4 incorporated 132Ha of undeveloped land at Mirvac's EEP site. MOD8 sought to reduce the area of undeveloped land at EEP down to 127Ha. This subject MOD 11 seeks to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251).

- **All other water management measures remain unchanged from MOD8.**

After the approval of MOD11 by DPHI and until the development works commence for Stage 1 EEP, it is intended that the approved MOD8 stormwater management strategy will still be applicable to achieve compliance to the WWH/WSUD requirements. As outlined previously, the MOD8 stormwater strategy would include the EEP undeveloped land to achieve a cumulative stormwater strategy that is compliant to WWH requirements. Once Stage 1 EEP construction works commence, the construction phase targets outlined in DCP will apply to the EEP site. Next, once the Stage 1 EEP stormwater management measures are completed/commissioned, the MOD11 stormwater management strategy will come into effect. Where practicable, the construction and commissioning of the stormwater management measures as detailed in Stage 1 EEP (SSD-19618251) will be re-prioritised.

The overall objective of the proposed revisions to the WSMP is to document a series of water management measures that will be required on a staged basis to support the following development on the AIE site:

- **Stages 1 to 3 (Warehouse 1, 3, 9, 2):** which are constructed and operational.
- **Stage 4 & 5 (Warehouse 8, 6, 7, adjacent Café):** which are currently under construction.

As the warehouses contemplated under Stage 4 and 5 are under construction, for the purposes of the MOD11 cumulative stormwater management strategy, we have only sought to demonstrate compliance with development at AIE for Stage 5 as the Stage 5 scenario incorporates and builds upon the approved stormwater management measures for the prior AIE Stages 1-4.

Details of the proposed WSUD strategy are outlined in **Section 5** of this WSMP. In summary, the revised strategy incorporates the following key elements:

- Incorporation of the proposed development and stormwater management measures proposed as part of the EEP Stage 1A SSDA (SSD-19618251), into the overall cumulative stormwater management strategy that considers both AIE and the EEP sites together.
- The stormwater management measures to be implemented as part of the Stage 1A EEP SSDA include:
  - An evaporative basin with Mirvac's Stage 2 EEP lands. The evaporation basin will be formed via an earth bund to store all stormwater runoff generated from Stage 1 development and also the undeveloped areas of Stage 2. The evaporative losses through the large basin are modelled on MUSIC to demonstrate WWH compliance for both EEP and AIE sites.

- Existing farm dams are located within the EEP site and the Stage 1 existing farm dams are assumed to be removed for the infrastructure works associated with EEP Stage 1A. The existing farm dams are not modelled in MUSIC. Further discussion in Section 6.2.2.
- Street trees – either passively or actively irrigated
- On-site stormwater detention (Basin A)

- As noted above, the proposed stormwater management measures that are to be implemented at AIE remain unchanged from MOD8, and include:
  - Provision of stormwater management measures generally consistent with Mamre Road Precinct DCP requirements.
  - Provision of on lot stormwater management measures which include rainwater tanks for non-potable reuse, and gross pollutant traps.
  - Provision of an interim retention pond in the estate-wide detention basin for the purpose of stormwater storage and reuse for irrigation across the Realigned Trunk Drainage Corridor within the AIE Site.
  - Provision of bio-retention system within the estate basin between Mamre Road and Lot 1. Note the bio-retention system has been approved and installed.

Currently, AIE Stages 1 to 3 (Warehouses 1, 3, 9, 2) have completed construction and are currently operational. Stages 4 and 5 are currently under construction which includes Warehouse 8, 6, 7 and the adjacent Café. As the warehouses contemplated under Stage 4 and 5 are under construction, for the purposes of the MOD11 cumulative stormwater management strategy, we have only sought to demonstrate compliance with development at AIE for Stage 5.

The AIE development and final stormwater measures at AIE in Stage 5 are shown in

Figure 5 below.

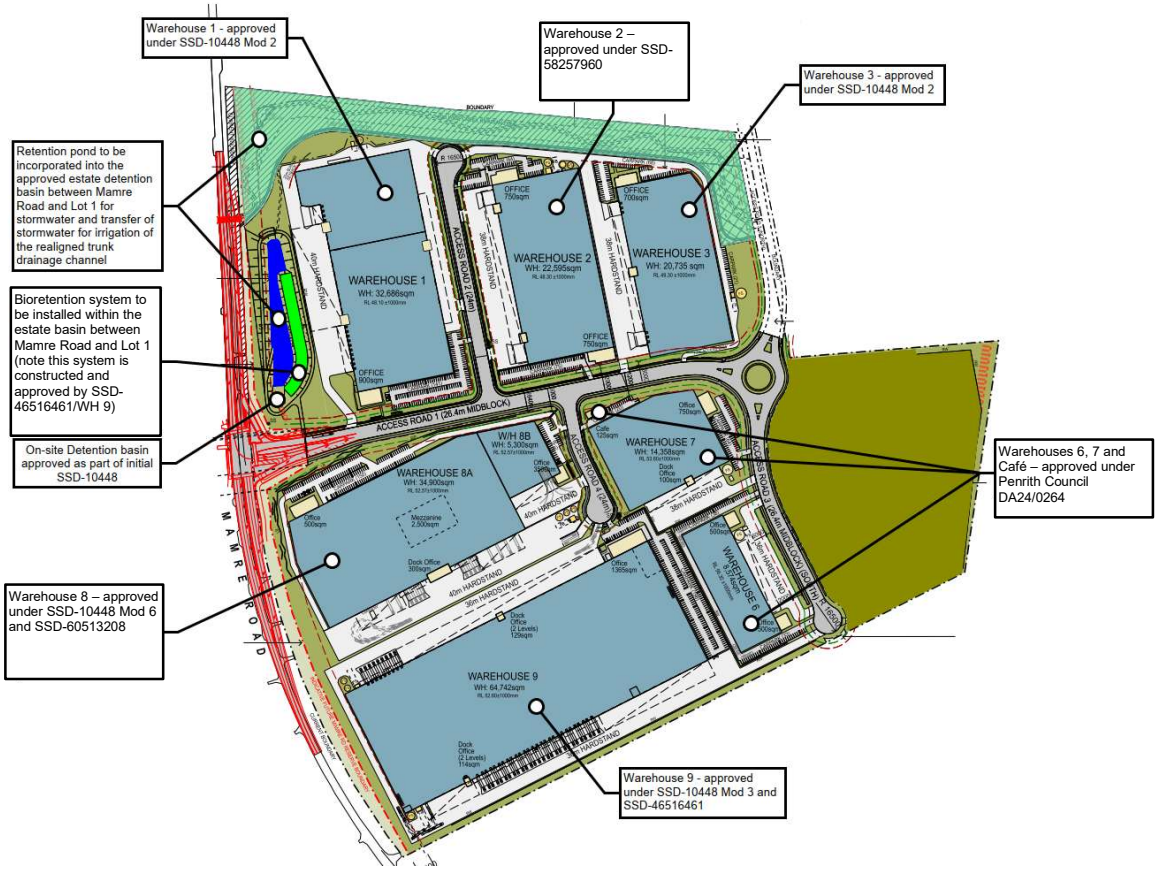


Figure 5: Stage 5 – (Lots 1, 3, 9, 2, 8, 6, 7 and Café)

3.2. Trunk Drainage Paths

In December 2022, Sydney Water released the Mamre Road Precinct Stormwater Scheme Plan (SSP), reproduced below as **Figure 6**. The SSP presents indicative regional trunk drainage infrastructure proposed by Sydney Water in the Mamre Road Precinct. The SSP was developed in line with NSW Government planning requirements and includes measures that would ensure development in the precinct complies with the waterway health targets outlined in the Mamre Road Precinct DCP.

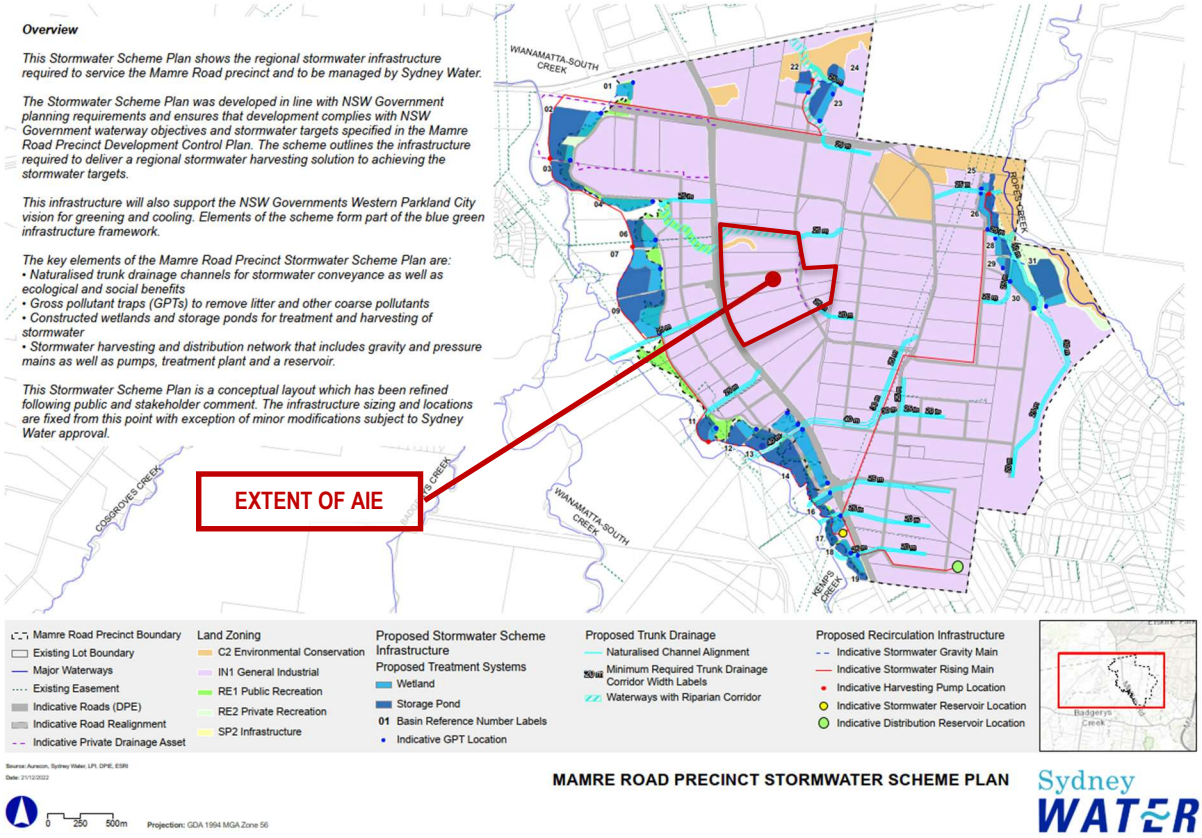


Figure 6: Mamre Road Precinct Stormwater Scheme Plan (Sydney Water, December 2022)

The approved SSDA for the AIE Site incorporates realignment of the trunk drainage channel such that it will follow the northern boundary of the Site. This is consistent with the proposed waterway shown in the SSP.

The SSP also shows a private drainage asset, which will drain the external catchment to the south and east of the AIE Site via a pit and pipe network that will be installed parallel to proposed Road 3. This drainage line will ultimately discharge into the proposed trunk drainage corridor. This proposed private drainage asset was approved under SSD-10448 and will remain unchanged as a result of the MOD11 application.

3.3. Post-Development Catchment Delineation

Catchment delineation of the AIE Site under post-development conditions is presented in **Figure 7**.

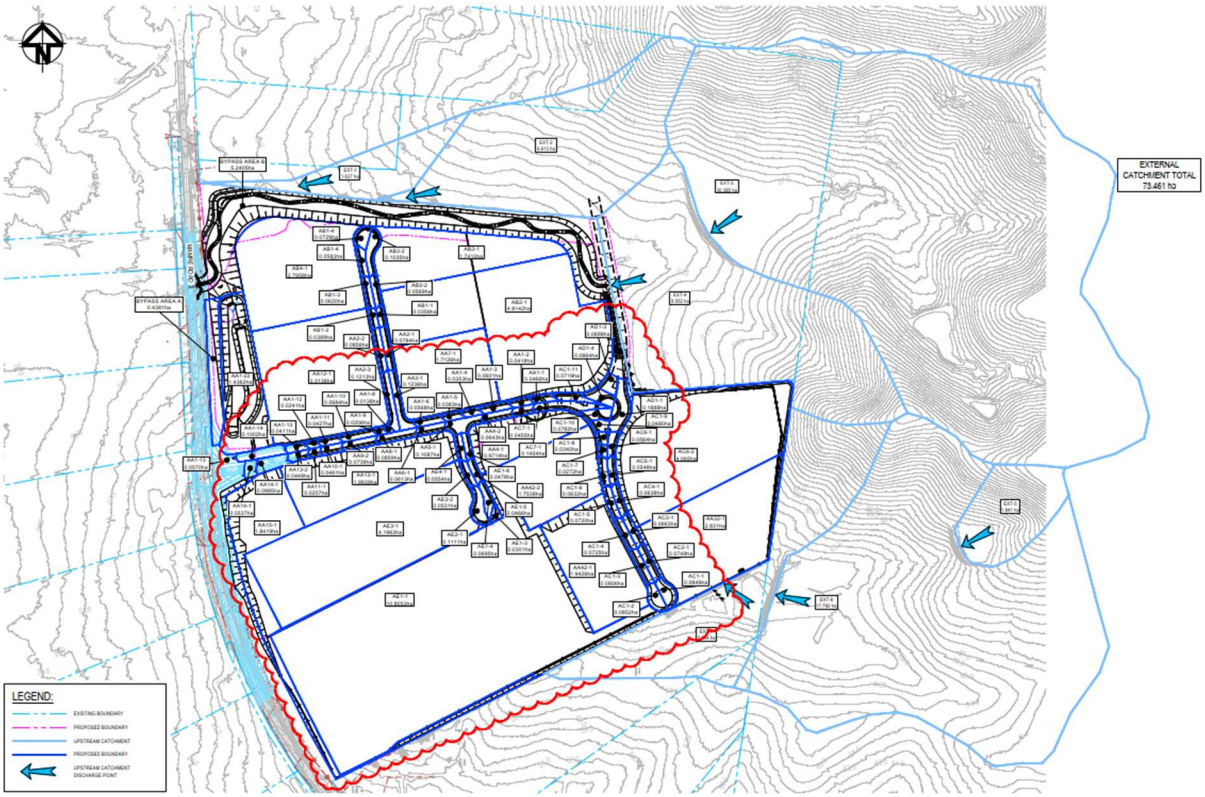


Figure 7: Catchment delineation under post-development conditions

Internal catchments within the AIE Site will be directed via a network of proposed stormwater drainage infrastructure towards estate-based stormwater management measures, consisting of:

- A bio-retention system, which will treat low flows prior to discharge from the Site. Further details of the proposed bio-retention system/basin are outlined in **Section 5.2.4**.
- A detention basin, which has been designed to attenuate peak flows such that the stormwater quantity management controls in the Mamre Road Precinct DCP are satisfied. Further details of the proposed basin are outlined in **Section 5.2.5**.

External catchments will be managed through the Site as follows:

- Catchments 1 and 2A will drain towards the northern boundary and will discharge into the new drainage channel (now constructed).
- Catchments 2B and 2C will drain towards the natural low point at the eastern boundary and into the upstream end of the new drainage channel (now constructed).
- Catchments 2D, 2E and 2F will discharge into an upstream diversion line (pit and pipe), which will follow the alignment of Road 3 and discharge into the upstream end of the new drainage channel (now constructed).

3.4. Water Sources and Demands

3.4.1. Water Requirements

Water requirements within the AIE Site will be typical of large format warehouses and distribution centres. Sources of demand for water within the allotments and public domain will include:

- Office amenities (kitchen, bathrooms)
- Landscape irrigation
- Dust suppression (depending on end user requirements)

3.4.2. Water Sources

The primary source of water to the AIE Site will be Sydney Water's potable water reticulation network. Details of existing and proposed infrastructure that will be required to service the estate are presented in the Civil Infrastructure Report prepared by AT&L (refer to REP007-03-18-596-MOD3 Civil Infrastructure Report). Note the potable water network has been installed as part of the Estate Works.

A "third-pipe" reticulated recycled water network will supply non-potable water throughout the Mamre Road Precinct. Non-potable water will be supplied from two sources:

- Stormwater harvested within precinct-wide wetlands / ponds, to be delivered and operated by Sydney Water as part of a regional stormwater management scheme.
- Recycled water from the planned Upper South Creek Advanced Recycled Water Centre.

3.4.3. Water Use Minimisation

Sydney Water provides a wide range of advice and guidance relating to water use minimisation and water efficiency. Whilst warehouses and distribution centres are relatively low water users in comparison to other industrial users, the following water use minimisation principles apply to development within the AIE Site:

- **Avoid using water** where possible, such as sweeping hard surfaces instead of washing them.
- **Reduce water use** by installing water-efficient appliances and equipment (e.g., toilets, urinals, shower heads).
- **Reuse water** from manufacturing or cooling processes to toilet flushing, landscape irrigation and dust suppression.

4. Stormwater Targets

The Mamre Road Precinct DCP establishes the construction and operational phase stormwater quality and quantity (flow) targets for the Site. This Water and Stormwater Management Plan addresses operational phase targets only. Construction phase targets are addressed in an Erosion and Sediment Control Plan for the Site.

For the operational phase targets there are two options available for stormwater quality and two options available for stormwater flow.

Stormwater quality targets for Option 1 (annual load reduction) and Option 2 (allowable loads) are summarised in **Table 2**.

Table 2: Operational phase stormwater quality targets – Options 1 and 2

Parameter	Option 1 Target (reduction in mean annual load from unmitigated development)	Option 2 Target (allowable mean annual load from development)
Gross pollutants (anthropogenic litter >5mm and coarse sediment >1mm)	90%	< 16 kg/ha/yr
Total suspended solids (TSS)	90%	< 80 kg/ha/yr
Total phosphorus (TP)	80%	< 0.3 kg/ha/yr
Total nitrogen (TN)	65%	< 3.5 kg/ha/yr

Stormwater quantity (flow) targets for Option 1 (mean annual runoff volume) and Option 2 (flow percentiles) are summarised in **Table 3**.

Table 3: Operational phase stormwater quantity (flow) targets – Options 1 and 2

Parameter	Option 1 Target (MARV)	Option 2 Target (flow percentiles)
Mean annual runoff volume (MARV)	≤ 2 ML/ha/yr at the point of discharge to the local waterway	n/a
95%ile flow (L/ha/day at the point of discharge to the local waterway)	n/a	3000 – 15000
90%ile flow (L/ha/day at the point of discharge to the local waterway)	1000 – 5000	1000 – 5000
75%ile flow (L/ha/day at the point of discharge to the local waterway)	n/a	100 – 1000
50%ile flow (L/ha/day at the point of discharge to the local waterway)	5 – 100	5 – 100
10%ile flow (L/ha/day at the point of discharge to the local waterway)	0	n/a
Cease to flow	n/a	Between 10% to 30% of the time

5. Water Sensitive Urban Design Strategy

The Water Sensitive Urban Design (WSUD) Strategy for the MOD11 application incorporates a series of management measures to address stormwater quality, quantity (peak flow attenuation) and flow volume. The stormwater management strategy outlined below supports the development under MOD11, which includes the development at AIE, including warehouses 1, 2, 3, 6, 7 (incl. Café), 8 & 9, and EEP Stage 1A, including warehouses 2 and 6.

5.1. Strategy Overview

This revised WSUD Strategy has been developed to support:

a) The currently approved on-lot developments within AIE Lots 1, 3 (SSD-10448 MOD8), 9 (SSD-10448 MOD8 / SSD46516461 MOD3) and Lot 2 (SSD-58257960 MOD1, MOD 2 approval pending)

b) Separate SSDA submission for the on-lot development located within Lot 8 (references SSD-10448 MOD10 and SSD-60513208 MOD2), and local Penrith City Council DA on Lot 6 and Lot 7 (DA DA24-624). The developments on Lot 8, 6 and 7 are all approved and are under construction.

c) Development of the EEP Stage 1A SSDA application (SSD-19618251), which includes the development of Lots 2 and 6 in Stage 1 EEP (SSD-19618251) and the Stage 1 estate infrastructure, and other interim stormwater management measures, including a temporary evaporation basin in Stage 2 EEP land

Approval of the revised WSUD Strategy is being sought under the MOD11 application to SSD-10448. The key elements of this Strategy are presented on a series of drawings contained in **Appendix B** and **Appendix C** and form a solution that will satisfy the stormwater quality, quantity (peak flow) and flow volume controls presented in **Section 4**.

As an outcome of liaison between Mirvac and NSW DPHI, the currently approved interim strategy for WSUD (approved under SSD-10448 MOD8), which considers the on-lot development works on Lots 1, 2, 3, 6, 7 (Incl. Café), 8 and 9 and all AIE estate roads, has been developed that incorporates land that is under the control of Mirvac – the Elizabeth Enterprise Precinct (EEP Site) at 1669-1723 Elizabeth Drive, Badgerys Creek (Lot 100 DP1283398, Lot 741 DP810111 and Lot 99 DP1283398). The WSUD Strategy to support the proposed additional development of Lots 2, 6, 7 (incl. Café) and 8 on the AIE Site, including previously approved development on Lots 1, 3 and 9, involves including the existing EEP undeveloped site within cumulative MUSIC modelling. MOD11 seeks to amend this interim WSUD strategy to align with the cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251).

Should any further amendments to the WSUD Strategy be required to support development within the AIE site, this would form part of subsequent applications, i.e., further Modifications to SSD-10448, or as part of supplementary SSDA/DA submissions.

5.1.1. Stormwater Quality and Flow Management Measures

In advance of delivery of a regional stormwater scheme within the Mamre Road Precinct, the interim stormwater measures within this WSMP supports the development of Warehouses 1, 2, 3, 6, 7 (Incl. Café), 8 and 9 on AIE. These measures are provided in five (5) key stages as follows:

- **Stages 1 to 3 (Warehouse 1, 3, 9, 2):** which are constructed and operational.
- **Stage 4 & 5 (Warehouse 8, 6, 7, adjacent Café):** which are currently under construction.

As the warehouses contemplated under Stage 4 and 5 are under construction, for the purposes of the MOD11 cumulative stormwater management strategy, we have only sought to demonstrate compliance with development at AIE for Stage 5, as this incorporates and builds upon all stormwater management approvals for prior AIE Stages 1-4.

The proposed interim measures to address the operational stormwater quality and flow targets for Stage 1 – Phase 1, Stage 1 – Phase 2, Stage 2, Stage 3, Stage 4 and Stage 5 are outlined within **Table 4**.

Note there are no proposed changes to any proposed stormwater management measures approved at AIE, or any subsequent approvals for any separate SSDA/DA approvals with development works within AIE.

Table 4: Summary of progressive stormwater measures to address stormwater quality and flow volume targets for AIE Stages 1–5

AIE Development Stages	Stormwater measures					
	Rainwater Tanks (for non-potable water reuse)	GPTs	OSD	Stormwater retention within estate basin for temporary irrigation	Bio-filtration within Estate Basin	Mirvac EEP site
Stage 1 – Phase 1 + Warehouse 1 - SSD-10448 MOD8	+ WH1		Estate OSD	Nil	Nil	Existing 127Ha undeveloped EEP site included within cumulative MUSIC modelling As approved per AIE SSD-10448 MOD8
Stage 1 – Phase 2 • Warehouse 1 - SSD-10448 MOD8 + Warehouse 3 - SSD-10448 MOD8	• WH1 + WH3		As above	Nil	Bioretention system to be installed within the estate basin between Mamre Road and Lot 1	As above
Stage 2 • Warehouse 1 - SSD-10448 MOD8 • Warehouse 3 - SSD-10448 MOD8 + Warehouse 9 - SSD-10448 MOD8 and SSD-46516461 MOD3	• WH1 • WH3 + WH9		As above	Retention pond to be incorporated into the approved estate detention basin between Mamre Road and Lot 1 for stormwater and transfer of stormwater for irrigation of the realigned trunk drainage channel	As above	As above
Stage 3 • Warehouse 1 - SSD-10448 MOD8 • Warehouse 3 - SSD-10448 MOD8 • Warehouse 9 - SSD-10448 MOD8 and SSD-46516461 MOD 3 + Warehouse 2 - SSD-58257960 MOD1 (MOD2 approval pending)	• WH1 • WH3 • WH9 + WH2		As above	As above	As above	As above
Stage 4 • Warehouse 1 - SSD-10448 MOD8 • Warehouse 3 - SSD-10448 MOD8 • Warehouse 9 - SSD-10448 MOD8 and SSD-46516461 MOD 3 • Warehouse 2 - SSD-58257960 MOD1 (MOD2 approval pending) + Warehouse 8 - SSD-10448 MOD10 and SSD-60513208 MOD2	• WH1 • WH3 • WH9 • WH2 + WH8		As above	As above	As above	Proposed EEP Stage 1A SSD (SSD-19618251), including temporary evaporation basin within Stage 2 EEP lands, street trees and OSD Basin A, included within cumulative MUSIC modelling
Stage 5 • Warehouse 1 - SSD-10448 MOD8 • Warehouse 3 - SSD-10448 MOD8 • Warehouse 9 - SSD-10448 MOD8 and SSD-46516461 MOD 3 • Warehouse 2 - SSD-58257960 MOD1 (MOD2 approval pending) • Warehouse 8 - SSD-10448 MOD10 and SSD-60513208 MOD2 + Warehouses 6, 7 and adjacent Café (PCC DA 24/264)	• WH1 • WH3 • WH9 • WH2 • WH8 + WH6 + WH7 + Café (NB: rainwater tanks accounting for the both the WH7 and café area are sought to provided by WH7)		As above	As above	As above	As above

NB: Stormwater measures that are already implemented as part of Stages 1 to 3 are shown in green.

5.1.2. Stormwater detention Management Measures

The estate detention basin, approved as part of the original SSD-10448 consent, located between Mamre Road and Lot 1, has been designed to satisfy the stormwater peak flow discharge rate targets for the AIE Site. The detention basin has been designed to satisfy the following controls adopted in Section 2.5 of the Mamre Road Precinct DCP:

- *12) OSD is to be accommodated on-lot, within the development site, or at the subdivision or estate level, unless otherwise provided at the catchment level to the satisfaction of the relevant consent authority.*
- *13) Stormwater basins are to be located above the 1% AEP.*
- *14) Post-development flow rates from development sites are to be the same or less than pre-development flow rates for the 50% to 1% AEP events.*
- *15) OSD must be sized to ensure no increase in 50% and 1% AEP peak storm flows at the Precinct boundary or at Mamre Road culverts. OSD design shall compensate for any local roads and/or areas within the development site that does not drain to OSD.*

The approved detention basin dimensions, and location remain unchanged as part of MOD11 to that approved under original SSD-10448.

5.2. Proposed Stormwater Management Measures at AIE Only

A general description of the proposed stormwater treatment train components is presented in the following sections.

Refer to AT&Ls EEP Stage 1 SSDA Water and Stormwater Management Plan (REP005B-19-16-369-SSDA WSMP) for details of the proposed stormwater management measures proposed to be implemented as part of the Stage 1A EEP SSDA development. A summary of the proposed water management measures is outlined below:

- Street trees – either passively or actively irrigated
- Evaporation Basin – with the potential for evaporative losses proposed within EEP Stage 2 land
- On-site stormwater detention (Basin A)

5.2.1. Rainwater Tanks

Rainwater tanks have been adopted to satisfy the following control in the MRP DCP:

- *8) Where development is not serviced by a recycled water scheme, at least 80% of its non-potable demand is to be supplied through allotment rainwater tanks.*

The MUSIC modelling for the AIE site was developed to estimate the rainwater tank volume required to satisfy this control. To determine the tank volume required to meet at least 80% of non-potable demand on individual lots, the following assumptions have been made (consistent with the requirements of the *Technical guidance for achieving Wianamatta-South Creek stormwater management targets*):

- Non-potable demand for toilet flushing has been based on 15 litres per person per day, at a rate of 25 persons per hectare of warehouse roof.
- Non-potable demand for landscape irrigation has been based on 50% of the on-lot landscape area being irrigated at a rate of 600 millimetres per year (equivalent to 6 ML/ha/yr).
    - At least 50% of the warehouse roof area would drain to the rainwater tank (or multiple tanks if required based on configuration of roof guttering and downpipes). If a proportion of the roof cannot drain to a rainwater tank, the tank volume would be increased to satisfy the 80% non-potable supply requirement. This would be confirmed during detailed design.

A summary of the rainwater tank volumes adopted in MUSIC is presented in **Table 5**. The rainwater tank parameters for lots 1, 2, 3 and 9 remain unchanged from the approved Stage 1 (Lots 1 and 3) SSD-10448 (MOD8), Stage 2 (Lot 9) SSD-10448 MOD8 and SSD-46516461 MOD3, and Stage 3 (Lot 2) SSD-5827960 approvals.

Table 5: Rainwater tank volumes adopted in MUSIC

Lot	Total Area (ha)	Roof area to rainwater tank (ha)	Non-potable demand in toilets (kL/day)	Non-potable irrigation demand (ML/year)	Adopted rainwater tank volume (kL)	% of reuse demand met
1	6.12	1.25	2.29	2.06	305	88.7
2	4.02	1.06	1.51	1.22	120	84.2
3	4.28	0.89	1.60	1.93	250	85.0
6	1.96	0.47	0.74	0.62	60	83.1
7 (Incl. Café)	2.69	0.73	1.01	1.65	160	81.0
8	7.57	2.40	2.84	2.89	220	80.4
9	11.31	3.10	4.24	2.70	200	80.5

NB: cells shaded grey indicate rainwater tank parameters that remain unchanged from the approved Stage 1 Lot 1 & 3 SSD-10448 MOD2 and Stage 2 Lot 9 SSD-10448 MOD3 and SSD-46516461 (MOD3) applications. Cells shaded green indicate rainwater tank parameters that remain generally consistent with separate development applications for lot 2 (SSD-58257960 MOD1, MOD 2 approval pending), Lot 8 (SSD-10448 MOD10 and SSD-60513208 MOD2) and Lot 6&7 (Penrith DA24/0264). As noted above, final rainwater tank sizing will be confirmed during detailed design to ensure that the minimum 80% non-potable water supply requirement has been met. As such, the above parameters may vary to suit final designs.

5.2.2. Retention Pond for Stormwater Harvesting and Reuse

As an interim measure to satisfy the stormwater flow volume targets for the AIE Site under Stage 2, Stage 3, Stage 4 and Stage 5 conditions, a temporary retention pond is proposed within the approved estate basin, to provide an effective means of reducing runoff volume from the Site. The interim retention pond is not required as part of Stage 1 – Phase 1 or Stage 1 – Phase 2. The Retention Pond can capture and store large quantities of stormwater runoff, while also being relatively easy to maintain.

Under Stage 2, Stage 3, Stage 4 and Stage 5, a retention pond will be incorporated into the approved estate detention basin between Mamre Road and proposed lot 1, for storage and transfer of stormwater for irrigation of the realigned Trunk Drainage Corridor adjacent to the northern boundary of the AIE Site. Inclusion of the proposed retention component within the estate basin does not require amendment to the size or configuration of the approved estate basin. Rather, only a temporary amendment to the estate detention basin discharge control device will be required. As outlined within this report, this interim measure still maintains the required on-site detention requirements for all Stages 1-5. Note, as of the writing of the subject MOD11, the interim retention pond approved as part of MOD8 has been constructed and is currently in operation.

Key parameters adopted for the interim retention pond are summarised below in **Table 6**. This interim retention pond will only be required as an interim measure until delivery of the regional stormwater scheme within Mamre Road Precinct.

Table 6: Interim retention pond parameters for Stage 2, Stage 3, Stage 4 and Stage 5

Parameter	Interim Retention Pond (within detention basin)
Inflow from:	Lot / Warehouses 1, 2, 3, 6, 7 (Incl. Café), 8 and 9 Estate Roads 1, 2, 3 and 4
Overflow to:	Realigned Trunk Drainage Corridor, approx. 100m upstream of culvert crossing of Mamre Road
Surface area (m^2)	3,500
Permanent pool volume (m^3)	3,500

Parameter	Interim Retention Pond (within detention basin)
Exfiltration rate (mm/hr)	0.01
Evaporation loss (% of PET)	100
Extended detention depth (m)	0.5
Outlet (equivalent pipe diameter)	50
Adopted reuse (kL/yr) (applied as Monthly Pattern as per *MUSIC Modelling Toolkit*)	20,190 [1]

[1] Reuse from Interim Retention Pond would require pumping to the irrigation areas at a rate equivalent to the peak monthly demand as defined in MUSIC.

Stored water from the Interim Retention Pond was used to irrigate the Realigned Trunk Drainage Corridor, which has a total area of approximately 3.365 hectares and assumes an average annual irrigation rate of 600mm/year. An interim stormwater pumping system has been installed within the vicinity of the Interim Retention Pond, to pump stormwater captured within the Interim Retention Pond to the irrigation area. The sizing of the pumps and discharge mains was determined during detailed design. The irrigation system has been installed and is operational. A schematic plan of the interim retention pond and irrigation strategy is provided within **Appendix D.**

The irrigation systems would need to incorporate a series of measures to demonstrate ongoing compliance with the stormwater flow controls and to mitigate potential risks associated with stormwater harvesting and reuse. The design and operation of these systems will comply with the principles and guidance outlined in the *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2); Stormwater harvesting and reuse* (Australian Government, 2009). As shown within plans included within Appendix D, the system incorporates the following:

- A pump system to transfer water from the Interim Retention Pond to the Realigned Trunk Drainage Corridor irrigation area.
- Stormwater treatment measures, which may include further filtration or other means. Any required treatment would be subject to detailed design, as well as consideration of the water reuse type, i.e., irrigation.
- Multi-channel irrigation controllers including inputs for flow meters, moisture sensors and weather stations may form part of the irrigation system to control, monitor and record irrigation system operation. It is expected that the controller would be a readily available “off-the-shelf” product and would be implemented and operated by the Proponent.

5.2.3. Gross Pollutant Traps

The proposed stormwater treatment train will consist of on-lot Gross Pollutant Traps (GPTs) as a means of primary stormwater treatment. GPT’s will be delivered on a staged basis as part of warehouses 1, 2, 3, 6, 7, 8 and 9. GPTs are designed to capture litter, debris, coarse sediment, as well as some oils and greases. GPTs will be installed on each lot prior to stormwater discharge to the estate-wide stormwater drainage network.

A high-flow bypass for the GPTs would nominally be equivalent to the 4 EY (3-month ARI) peak flow rate discharging to the GPT. Design flows for the GPTs and their final configuration would be confirmed at the detailed design phase.

5.2.4. Bio-retention System

The objective of biofiltration systems is to provide a filtering effect when stormwater runoff flows through a vegetation layer and sand and/or gravel filer media to remove pollutants from the runoff. Biofiltration systems generally consist of an open space containing landscaping of native grasses, shrubs and trees with an underlying filter media. The bio-retention system within the estate basin has been approved and installed.

Design plans for the completed bio-retention system as approved as part of the post-approval conditions under the Stage 2 Lot 9 SSD-46516461 consent are included within **Appendix E**.

The bio-retention system has been incorporated into the estate-wide basin located north of Access Road 1, between Mamre Road and proposed Lot 1, as approved under SSD-10448 (MOD8). MUSIC model parameters adopted for the proposed conventional bio-retention system are summarised in **Table 7**.

Table 7: Bio-retention system parameters

Parameter	Unit	Value
Basin filter area	m^2	1611
Basin surface area	m^2	1611
Extended detention depth	m	0.3
Unlined filter media perimeter	m	0.01
Saturated hydraulic conductivity	mm/hr	100
Filter depth	m	0.6
TN content of filter media	mg/kg	800
Orthophosphate content of filter media	mg/kg	40
Exfiltration rate	mm/hr	0
Base Lined?	-	Yes
Vegetation properties	-	Vegetated with effective nutrient removal plants
Overflow weir width	m	10 (overflow into detention basin)
Underdrain present	-	Yes
Submerged zone	-	No

The proposed bio-retention system will be lined with an impermeable clay liner, such that subsurface flow from the system will not permeate the underlying soils.

5.2.5. On-site Stormwater Detention (OSD) Design Parameters

OSD is required within the development to mitigate post developed flows to pre-developed flow rates for design storm events between the 50% AEP event (approximately equivalent to the 1.5-year ARI) and the 1% AEP event (equivalent to the 100-year ARI).

The majority of the site currently falls towards the north-west corner and runoff drains into existing culverts underneath Mamre Road. For the post-development case, it is proposed to maintain this outlet and ensure peak flow rates are not increased via the OSD basin and controlled outlets through the use of low flow orifices and high flow weirs. Refer to drawings 18-596-C1060 and 18-596-C1061 from the MOD-3 approved civil drawing package for the OSD basin details.

Consistent with the original SSD-10448 consent, the base of the approved OSD basin has been ameliorated with gypsum and compacted to minimise the potential for infiltration to the underlying sodic soils.

6. Performance Assessment

6.1. Hydrological and Hydraulic Modelling

DRAINS modelling software has been used to calculate the Hydraulic Grade Line (HGL) of the proposed estate-wide stormwater network, including pits, pipes, overland flow paths and detention basin. DRAINS is a software package used for designing and analysing urban stormwater drainage systems and catchments. It is widely accepted by Council's across NSW as the basis for stormwater design and has been confirmed by Penrith City Council as the preferred stormwater software analysis package.

A summary of the key hydrological and hydraulic design parameters adopted in DRAINS to develop a major and minor system drainage design for the proposed development are as follows:

- 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 flow path 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 m^2/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.
- Pipelines in roadways shall have a minimum diameter of 375mm.
- 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 within carriageways.
- 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 Cement (FRC) equivalent.
- Pipes discharging to an overland flow path shall adopt a minimum tailwater level equivalent to respective overland flow level.
- 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).
- Overland flow paths maintain a minimum of 300mm freeboard to all habitable floor levels.

6.2. Stormwater Quality Modelling

6.2.1. MUSIC Model Parameters

A MUSIC model of the proposed stormwater management strategy has been created to simulate post-development mean annual loads and treatment train effectiveness. MUSIC model parameters including rainfall and evaporation, rainfall-runoff and source node pollutant generation are consistent with the parameters adopted in the *MUSIC Modelling Toolkit – Wianamatta* (NSW DPIE, 2021).

6.2.2. Scenario Modelling

A cumulative MUSIC model for both AIE and EEP have been created and simulated for Stage 5 AIE of the proposed development, which will ultimately incorporate the development of AIE Lots 1, 2, 3, 6, 7 (incl. café), 8, 9 and, the proposed Stage 1A EEP SSDA (SSD-19618251), which includes EEP Lots 2 and 6. The MUSIC model layout is shown in **Figure 8.**

It should be noted that the existing farm dams within Stage 1 EEP are assumed to be removed to enable Stage 1 infrastructure works and the EEP Stage 2 existing farm dams are excluded in the MUSIC model. The Stage 2 EEP existing farm dams are assumed to be full and subsequently any stormwater inflows are directly discharged as outflow to the temporary evaporation basin. The MUSIC model and results in Section 6.3 are consistent with the Stage 1A EEP SSDA (SSD-19618251).

A detailed breakdown of the sub-catchment areas and key parameters of the stormwater management measures for the AIE Stage 5 scenario is included in **Appendix A**.

Catchment plans showing the sub-catchment breakdown are included in **Appendix B**.

Stormwater Management Plans showing the proposed locations of the stormwater management measures under the AIE Stage 5 scenario is included in **Appendix C**.

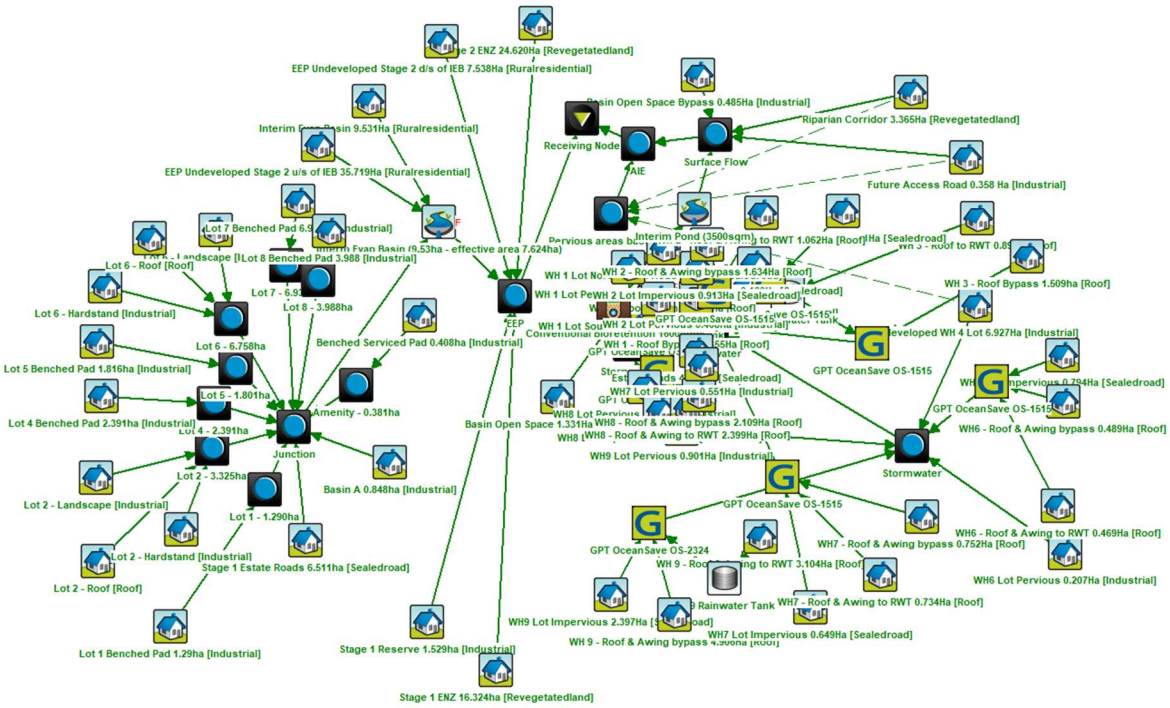


Figure 8: Post-development MUSIC model – MOD11 – AIE Stage 5 (AIE Lots 1, 3, 9, 2, 8, 6, 7 and café) + EEP Stage 1A SSDA (Lots 2 & 6)

6.3. Performance Against Stormwater Targets

6.3.1. Stormwater Quality

MUSIC model results presented as mean annual loads at the receiving node, including AIE Stage 5 (Development of Lots 1, 3, 9, 2, 8, 6, 7 and café) + EEP Stage 1A SSDA (Lots 2 & 6) is displayed below in **Table 8.**

Table 8: Summary of MUSIC modelling results against stormwater quality targets – Stage 5 (Lots 1, 3, 9, 2, 8, 6, 7 and café) + EEP Stage 1A SSDA (Lots 2 & 6)

Parameter	Sources Post-Development	Residual Load Post-Development	Reduction (%)	Complies with DCP Option 1 Target?	Mean annual load (kg/ha/yr)	Complies with DCP Option 2 Target?
TSS (kg/yr)	56600	11400	**79.8**	No	**61.8**	Yes
TP (kg/yr)	118	38.6	**67.4**	No	**0.21**	Yes
TN (kg/yr)	859	400	**53.4**	No	**2.17**	Yes
GP (kg/yr)	10300	114	**98.9**	Yes	**0.62**	Yes

The MUSIC model results presenting allowable mean annual loads demonstrate the proposed stormwater management measures under MOD11 will satisfy the Mamre Road Precinct DCP stormwater quality controls for the DCP Option 2 targets.

6.3.2. Stormwater Quantity

The assessment of the performance of stormwater quantity (peak flow rates) management for the AIE Site to ensure post development peak flow rates do not exceed pre-development peak flow rates (for the AIE site) has been undertaken for two post-development scenarios:

a) AIE Site under Stage 5 development conditions, with a modified detention basin outlet arrangement to accommodate the interim retention pond that is required to satisfy stormwater quality and flow volume targets (MARV and flow duration). Note this is currently consistent with the MOD8 approval.

b) AIE Site under Ultimate development conditions (entire AIE concept masterplan), with the detention basin outlet in its ultimate arrangement.

Table 9 indicates the pre-development and post-development peak flow rates on AIE for a range of design storm events between and including the 1-year ARI and 100-year ARI at the Mamre Road culverts. Note the modelling of the basin tailwater levels within the Mamre Road culverts have been incorporated based on flood modelling undertaken by Cardno and included as part of the SSD-10448 MOD3 consent.

Table 9: Pre-development and post-development flows at discharge point to Mamre Road culvert

Design Storm Event	Pre-Development Peak Flow Rate (m^3/s)	Post-Development Peak Flow Rate– Stage 5 (m^3/s)	Post Development Peak Flow Rate – Ultimate AIE Concept Masterplan (m^3/s)
1-Year ARI (63.2% AEP)	1.40	1.03	1.40
2-Year ARI (39.4% AEP)	4.34	2.20	2.97
5-Year ARI (18.1% AEP)	8.54	4.07	4.69
10-Year ARI (≈ 10% AEP)	10.1	5.17	5.98
20-Year ARI (≈ 5% AEP)	12.1	6.77	7.59
100-Year ARI (1% AEP)	15.7	9.37	10.1

The above DRAINS model results for AIE demonstrates that the post-development peak flow rates for both the ultimate AIE concept Masterplan and all interim stages up to and including Stage 5 would be less than or equal to pre-development peak flow rates for a range of storm events between (and including) the 1-year ARI and

100-year ARI design events. Therefore, the stormwater drainage system and detention basins as proposed would satisfy the development controls relating to stormwater quantity management.

Refer to the AT&L EEP Stage 1A SSDA Water and Stormwater Management Plan (REP005B-19-16-369-SSDA WSMP) for details on how the EEP Stage 1A works are compliant with the pre vs post development peak flow rates.

6.3.3. Stormwater Flow Volume (Marv and Flow Duration Curve)

MUSIC model results demonstrating performance of the proposed stormwater management measures against the stormwater flow targets are presented for MOD11 below in **Table 10.**

Table 10: Summary of MUSIC model results against stormwater flow targets – MOD11, AIE Stage 5 (Lots 1, 3, 9, 2, 8, 6, 7 and Café) + EEP Stage 1A SSDA (Lots 2 & 6)

Parameter	Result	DCP Target	Complies with DCP target	
			DCP Option 1 (MARV approach)	DCP Option 2 (Flow Duration Curve approach)
Mean annual runoff volume (ML/ha/yr)	1.37	2.0	Yes	n/a for this option
95%ile flow (L/ha/day)	14482	3000 to 15000	n/a for this option	Yes
90%ile flow (L/ha/day)	4727	1000 to 5000	Yes	Yes
75%ile flow (L/ha/day)	995.6	100 to 1000	n/a for this option	Yes
50%ile flow (L/ha/day)	40.7	5 to 100	Yes	Yes
10%ile flow (L/ha/day)	0.02	0	No**	n/a for this option
Cease to flow	14.1%*	10% to 30%	n/a for this option	Yes*

The resultant flow duration curve for the Stage 5 development scenario is presented in **Figure 9**.

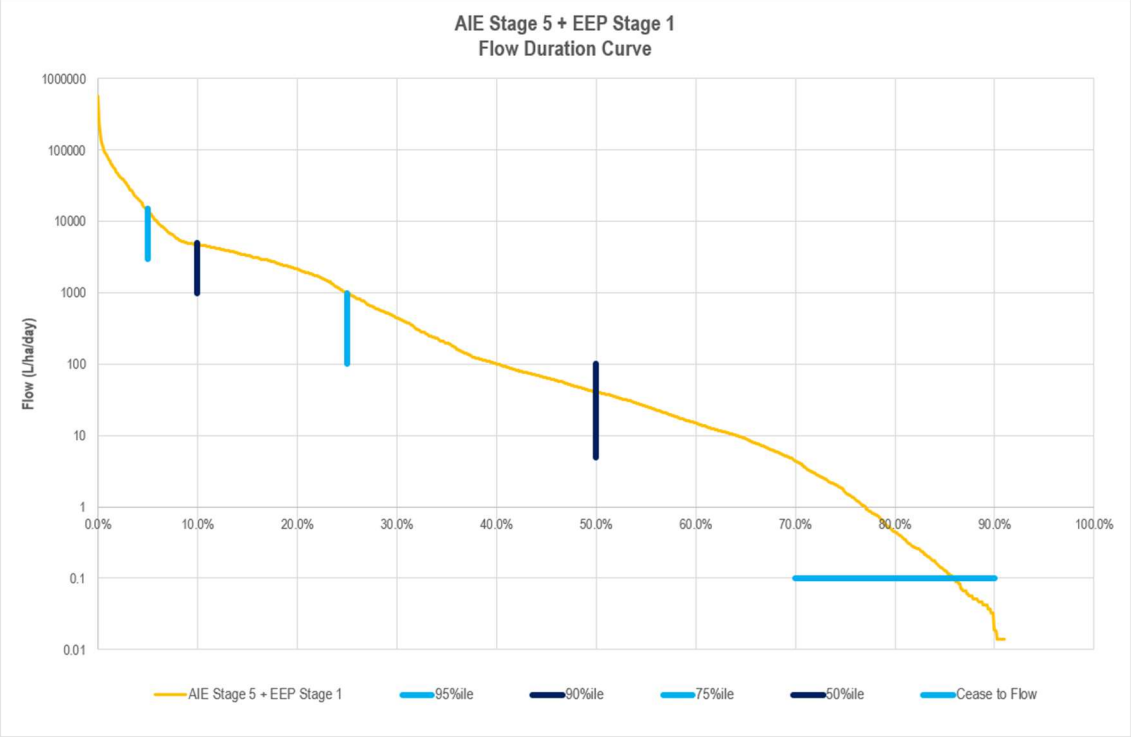


Figure 9: Flow duration curves for the proposed AIE Stage 5 + EEP Stage 1 water management measures

* Note that the MUSIC model for EEP Stage 1A with AIE Stage 5 rounds off at below 0.014L/ha/day, whereas the benchmark examples from the *Technical Guidance for Achieving Wianamatta-South Creek Stormwater Management Targets (DPE, Sep 2022)* show cease to flow occurring at 0.1L/ha/day. Using this benchmark, EEP Stage 1A with AIE Stage 5 achieves 14.1% cease to flow. The large amount of ENZ land downstream of the development and downstream of the stormwater management controls, naturally provide soil baseflows which extends the tail of the graph, and are not directly related to the development works themselves.

** Further discussion on the 10-percentile flow results is presented below:

- The 10-percentile values of up to 0.02 L/ha/day equates to a total runoff from the combined AIE and EEP Site of approximately 3.46 litres per day over the 184.4ha catchment area (equivalent to around 0.144 litres per hour). Whilst it is acknowledged the values that generate the flow duration curve represent a statistical probability of the exceedance of a particular flow value, in reality the calculated 10-percentile flow from the site represents a value too small to practically measure. To put this into perspective, a flow of 0.144 L/h is roughly equivalent to a slow tap drip—about one small droplet every two seconds. If you placed a bottle underneath it, it would take over two hours just to half-fill up a 600mm bottle of water. In practical terms, this represents a flow so minimal that it would be difficult to reliably observe or measure in the field. Another way to look at this, the 0.144 L/h flow rate at the discharge point is less than pouring a quarter full 600mL water bottle every hour for catchment area of approximately 260 soccer fields.
- Although the 10-percentile flow from the model exceeds the DCP target marginally by 0.02 L/ha/day, it is important to note that the stormwater management strategy is temporary only and will ultimately be replaced by the Sydney Water Regional Infrastructure, meaning that marginal exceedance, will only be applicable during this interim phase. The temporary condition, in addition to the significantly low flow discussed above will mean that the adverse impacts of this strict non-compliance, will be reliable.
- Existing approvals of the AIE SSDA (SSD-10448), specifically both the stormwater management strategies for AIE MOD4 and AIE MOD8 which are both approved, both included technical non-compliance with the Cease-to-Flow and/or 10-percentile flow targets. Both AIE MOD4 and AIE MOD8 incorporated the cumulative land use of AIE and EEP for the purposes of the approved stormwater management strategy. The existing approvals should be considered when assessing the cumulative stormwater strategy and results in this report. With reference to the AIE MOD 4 WSMP (REP008-08-18-596-MOD4 WSMP), the 10-percentile flow for the Stage 5 development (Lots 1, 2, 3, 9, 6, 7, 8, 9 and Café) was 0.08 L/ha/day. Similarly, reference to the AIE MOD 8 WSMP (REP016-03-18-596-MOD8 WSMP), the 10-percentile flow for the Stage 5 development (Lots 1, 2, 3, 9, 6, 7, 8, 9 and Café) was 0.09 L/ha/day. Comparatively, the cumulative stormwater strategy contemplated in EEP Stage 1A, provides a more favourable result with lower 10-percentile flows of 0.02 L/ha/day.
- The 10-percentile flow results indicate how often zero flows occur at the receiving node or outlet. Due to a limitation in MUSIC, smaller catchments tend to produce more zero-flow results because the model rounds very low flows down to zero when equivalent treatment controls are applied. In contrast, the Stage 1A EEP cumulative model, representing the combined AIE and EEP catchment area of approximately 184.4 ha, reports fewer zero-flow events simply because the larger catchment generates higher baseline flows than an equivalent model with a smaller catchment area and treatment train. As such, it is likely that a comparable smaller site, would achieve compliance, however, given the larger combined site area, rounding errors have possibly contributed to the non-compliance.
- Given the above discussion, AT&L consider the resultant 10%ile flow of 0.02L/ha/day to be effectively a zero flow result (the flows are effectively negligible), considering the significant catchment area, limitations of the MUSIC model and temporary timeline that this interim stormwater strategy will be in place for. As such, compliance with the DCP stormwater flow target Option 1 is also reached.

The flow duration curve presented in **Figure 9** represent the site under proposed developed conditions on the AIE Site without regional stormwater management measures in place. Based on the proposed Stormwater Scheme Plan proposed by Sydney Water, future wetlands and harvesting ponds west of Mamre Road will provide additional capacity for stormwater quality and flow volume management for the AIE Site. Ultimately, the combination of on-lot, estate-wide and regional measures will satisfy the waterway health objectives and controls adopted in the Mamre Road Precinct DCP.

7. Maintenance and Operations

All proposed water management measures that will be located within the AIE Site would be managed and maintained by the proponent. Inspection and Maintenance Plans have been separately prepared and lodged for each subsequent completed warehouse at AIE. Amendments to the Inspection and Maintenance Plan may be required as subsequent development stages are completed.

It is anticipated that the Inspection and Maintenance Plan would be prepared using current best practice guidance such as *Water sensitive urban design inspection and maintenance guidelines* (Blacktown City Council, 2019) and would describe:

- Each of the functional components of each water management measure
- Expertise required to inspect, maintain and (where necessary) repair or replace components
- Minimum required frequency of inspection, repair or replacement activities
- Inspection and maintenance forms that list all necessary activities and contain a record of activities completed.

8. Conclusion

The Aspect Industrial Estate is proposed to connect to the Mamre Road Precinct regional stormwater scheme once delivered. In advance of delivery of a regional stormwater scheme, this WSMP presents an interim WSUD Strategy that will satisfy the stormwater quality, quantity (peak flow attenuation) and flow volumes targets outlined in the Mamre Road Precinct DCP.

This WSMP MOD11 interim stormwater management strategy supports the following development on AIE in advance of delivery of a regional stormwater scheme within the Mamre Road Precinct:

- **Stages 1 to 3 (Warehouse 1, 3, 9, 2):** which are constructed and operational.
- **Stage 4 & 5 (Warehouse 8, 6, 7, adjacent Café):** which are currently under construction.

As the warehouses contemplated under Stage 4 and 5 are under construction, for the purposes of the MOD11 cumulative stormwater management strategy, we have only sought to demonstrate compliance with development at AIE for Stage 5, as Stage 5 builds upon and incorporates all prior stage stormwater management approaches.

Previously, under AIE SSDA 10448 MOD4 and MOD8, the Mirvac owned EEP site was previously included as undeveloped land only. MOD11 seeks to change the usage of the Mirvac EEP site through an alternative stormwater strategy which is described within the EEP Stage 1 SSDA Water and Stormwater Management Plan (REP005B-19-16-369-SSDA WSMP) which was submitted as part of SSD-19618251 for approval. Stage 2 lands at EEP will remain largely as undeveloped land, with the inclusion of the temporary evaporation basin. The MUSIC model and results for MOD11 are consistent with the Stage 1 EEP SSDA (SSD-19618251).

The MOD 11 WSMP incorporates the proposed development of EEP Stage 1A and the proposed interim stormwater management measures proposed as part of the EEP Stage 1A SSDA application (SSD-19618251). Refer to AT&L's Water and Stormwater Management Plan (REP005B-19-16-369-SSDA WSMP) for more details of the proposed interim stormwater management measures proposed to be implemented at the EEP site. A summary of the proposed water management measures is outlined below:

- Street trees – either passively or actively irrigated
- Evaporation Basin – with the potential for evaporative losses proposed within EEP Stage 2 land
- On-site stormwater detention (Basin A)

The existing farm dams within Stage 1 EEP are assumed to be removed as part of Stage 1A EEP infrastructure works and the Stage 2 EEP existing farm dams are excluded in the MUSIC model.

As discussed above, the cumulative interim stormwater management strategy was modelled using MUSIC. The results shown in Section 6.3 show that the stormwater quality, quantity and flow are generally in compliance with the WWH stormwater targets with the exception of the 10-percentile stormwater flow volume (0.02 L/ha/day). Whilst it is acknowledged the values that generate the flow duration curve represent a statistical probability of the exceedance of a particular flow value, in reality the calculated 10-percentile flow from the site represents a value too small to practically measure.

9. References

AT&L, *Aspect Industrial Estate SSD-10448 Modification 3, Water and Stormwater Management Plan*, Issue 03, February 2023

AT&L, *Aspect Industrial Estate SSD-10448 Modification 4, Water and Stormwater Management Plan*, Issue 07, December 2023

AT&L, *Aspect Industrial Estate SSD-10448 Modification 8, Water and Stormwater Management Plan*, Issue 02, October 2024

Blacktown City Council, *Water sensitive urban design inspection and maintenance guidelines*, Version 1.0, 2019, https://www.blacktown.nsw.gov.au/Plan-build/Stage-2-plans-and-guidelines/Developers-toolkit-for-water-sensitive-urban-design-WSUD/WSUD-inspection-and-maintenance-guidelines

Eco Logical Australia, *Aspect Industrial Estate State Significant Development Application - Riparian Assessment*, prepared for Mirvac Projects, 2020 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-10448%2120201110T053852.271%20GMT

NSW DPE, *Mamre Road Precinct Development Control Plan 2021*

NSW DPE, *Technical guidance for achieving Wianamatta-South Creek stormwater management targets*, September 2022

PSM, *788-904 Mamre Road, Kemps Creek, Result of Geotechnical Investigations*, reference PSM3739-004L Rev 6, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-10448%2120201110T053418.906%20GMT

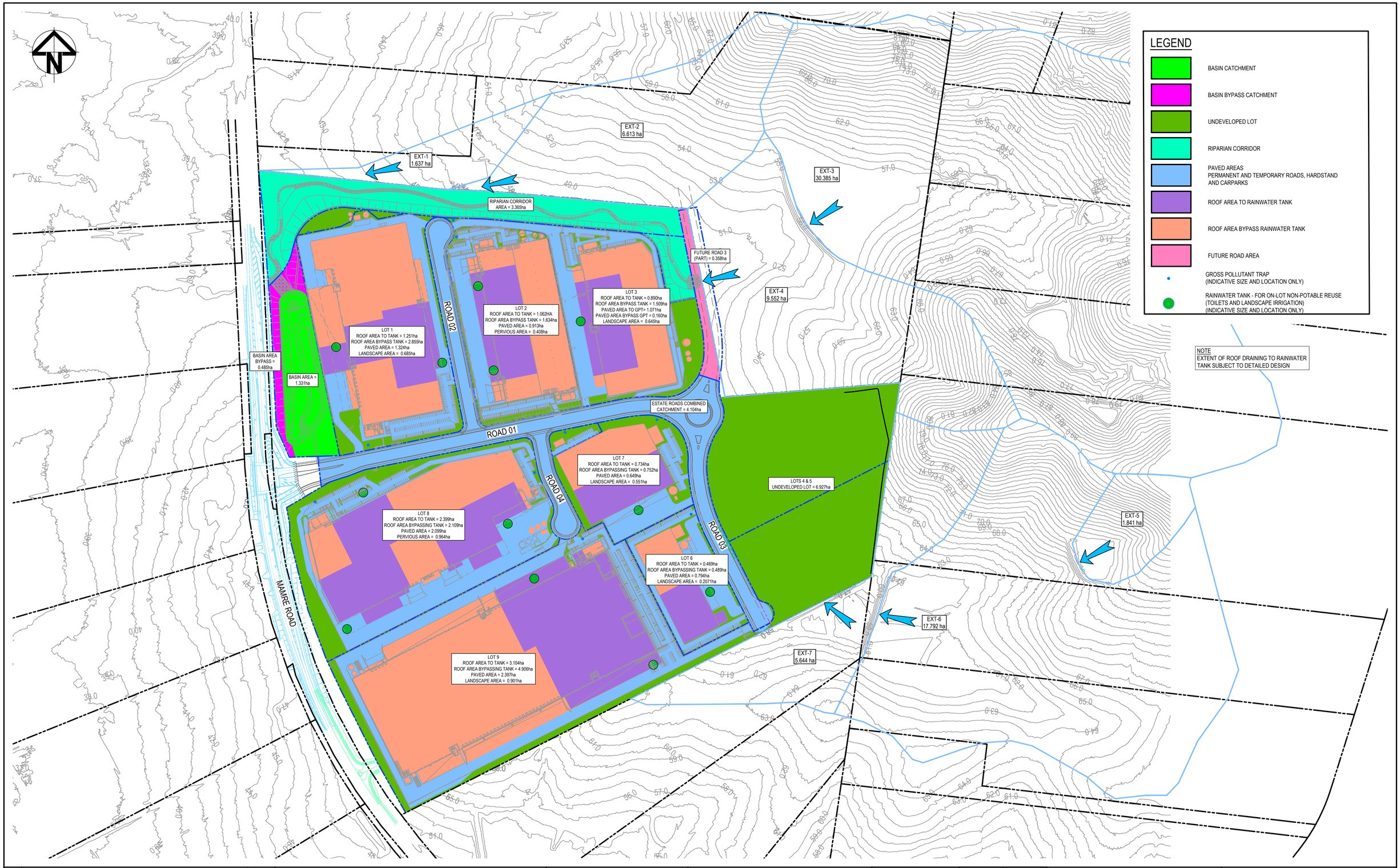
Appendix A –
Catchment and WSUD Parameters

AIE Stage 5 and EEP Stage 1

Catchments & WSUD Elements

Catchment ID	Total Area (ha)	Roof to Tank (ha) (100% impervious)	Roof to drain (ha) (100% impervious)	Paved (ha) (100% impervious)	Landscape (ha) (0% impervious)	Undeveloped (ha)	Estate Road (ha) (85% impervious)	Rainwater Tank			Bio-retention	Interim Retention Pond			Interim Evaporation Pond	
								Volume (kL)	Daily Demand (toilet flushing) (kL/day)	Annual Demand (landscape irrigation) (kL/year)	Filter Area (m^2)	Surface Area (m^2)	Volume (m^3)	Annual Demand (irrigation of undeveloped lots) (kL/year)	Surface Area (m^2)	Volume (m^3)
Aspect Industrial Estate (SSD-10448)																
AIE Lot 1	**6.115**	1.251	2.855	1.324	0.685			305	2.293	2055	1600	3500	3500	20190		
AIE Lot 2	**4.017**	1.062	1.634	0.913	0.408			80	1.506	1224					-	-
AIE Lot 3	**4.275**	0.890	1.509	1.231	0.645			250	1.603	1935						
AIE Lots 4 & 5	**6.927**					6.927										
AIE Lot 6	**1.959**	0.469	0.489	0.794	0.207				0.735	621						
AIE Lot 7	**2.686**	0.734	0.752	0.649	0.551				1.007	1653						
AIE Lot 8	**7.571**	2.399	2.109	2.099	0.964			220	2.839	2892					-	-
AIE Lot 9	**11.308**	3.104	4.906	2.397	0.901			200	4.241	2703						
Estate Roads 1, 2, 3 & 4	**4.104**						4.104									
Basin	**1.331**				1.331											
Future Estate Road 3	**0.358**						0.358									
Basin Bypass	**0.485**				0.485											
Riparian Corridor	**3.365**				3.365											
Sub-total - AIE	**54.501**															
Elizabeth Enterprise Precinct Stage 1 (SSD-19618251)																
EEP Lot 1	**1.290**					1.290										
EEP Lot 2	**3.321**		1.598	1.115	0.608											
EEP Lot 4	**2.391**					2.391										
EEP Lot 5	**1.816**					1.816										
EEP Lot 6	**7.062**		4.095	1.902	1.065											
EEP Lot 7	**6.937**					6.937									95,300	38,800
EEP Lot 8	**3.988**					3.988										
Future Café (Benched Serviced)	**0.408**					0.408										
Stage 1 Estate Roads	**6.511**						6.511									
Basin A	**0.848**				0.848											
Future SPS	**0.000**	**Area = 0.452ha, excluded from calculation (separate allotment)**														
Reserve	**1.529**					1.529										
Future extension of Elizabeth Dr	**0.000**	**Area = 1.671ha, excluded from calculation (separate allotment)**														
ENZ Zone in Stage 1	**16.324**					16.324										
Sub-total - EEP Stage 1	**52.425**															
Elizabeth Enterprise Precinct Stage 2 (subject to assessment and approval under future DA / SSDA)																
EEP Stage 2 Undeveloped to Evaporation Pond	**35.719**					35.719										
Evaporation basin	**9.531**				9.531											
Undev land below evap basin	**7.538**					7.538										
ENZ Zone in Stage 2	**24.620**					24.620										
Sub-total - EEP Stage 2	**77.408**															
TOTAL AREA - AIE + EEP	**184.334**															

Appendix B –
MUSIC Model Catchment Plans



Issue	Description	Date
P1	ISSUED FOR APPROVAL	23-09-24

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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

mirvac

Scales	1:2500
Grid	GDA2020
Height Datum	AHD
Drawn	MH
Designed	TM
Checked	DS/TM
Approved	DS/TM

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK

Title

MOD 8
STAGE 5
POST-DEVELOPMENT
CATCHMENT PLAN

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
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info@atl.net.au

Status
FOR APPROVAL ONLY
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.
18-596-SKC224F

Issue
P1

F:\18-596 Mamre Road\6.0 Drgs\Civil\Sketches\18-596-SKC224F MOD 8 STAGE 5 POST DEVELOPMENT CATCHMENT PLAN.dwg

LEGEND

- BENCHED PAD / EARTHWORKS EPP STAGE 1
- UNDEVELOPED LOT EPP STAGE 2
- LAND BELOW 1% AEP FLOOD LEVEL
- PAVED AREAS PERMANENT AND TEMPORARY ROADS, HARDSTAND AND CARPARKS
- ROOF AREA
- DETENTION BASIN FOR STORMWATER MANAGEMENT
- INTERIM EVAPORATION POND (TO BE REMOVED UPON DELIVERY OF REGIONAL STORMWATER SCHEME MEASURES BY SYDNEY WATER)
- PROPOSED CATCH DRAIN
- EXISTING BASIN CATCHMENT

DOWNSTREAM CATCHMENT STAGE 1 ENZ AREA 16.324ha

EXISTING 1% AEP FLOOD EXTENT *WIANAMATTA (SOUTH) CREEK FLOOD STUDY - EXISTING CONDITIONS (PREPARED BY ADVISIAN FOR INFRASTRUCTURE NSW, NOVEMBER 2020)* AS REFERRED TO WITHIN THE PHASE 2 DCP.

INDICATIVE SEWER PUMP STATION SUBJECT TO JUST TERMS ACQUISITION. LOCATION TBC. BULK EARTHWORKS PART OF THIS APPLICATION, THOUGH PUMP STATION SUBJECT TO SYDNEY WATER APPROVALS.

INDICATIVE SYDNEY WATER REGIONAL BASIN SC09 LAYOUT SHOWN IN ORANGE. SC09 FUTURE DEVELOPMENT WORKS INTENDED TO BE DELIVERED BY MIRVAC AS PART OF THE FUTURE STAGE 1B SSDA. BASIN SC09 IS NOT PART OF THIS SSDA.

LOT 100 DP 1283398

SYDNEY WATER REGIONAL BASIN SC09

WIANAMATTA-SOUTH CREEK

BASIN A 0.848ha

FUTURE SPS 0.452ha

RESERVE 1.529ha

SYDNEY WATER REGIONAL BASIN SC10

LOT 8 BENCHED, SERVICED PAD & RETAINING WALLS = 3.99ha

BENCHED, SERVICED PAD = 0.408ha

SYDNEY WATER REGIONAL BASIN SC11

BINYANG STREET (MC02)

MAGURA AVENUE (MC03)

LOT 4 DP 858141

LOT 2 DP 553886

LOT 1 DP 553886

LOT 12 DP 226448

LOT 11 DP 226448

LOT 10 DP 226448

DOWNSTREAM CATCHMENT STAGE 2 ENZ LAND 24.620 ha

EEP STAGE 2 UNDEVELOPED 7.538 ha

INTERIM EVAPORATION BASIN 9.531 ha

STAGE 1 ESTATE ROADS 6.511ha

LOT 7 BENCHED, SERVICED PAD & RETAINING WALLS = 6.94ha

LOT 5 BENCHED, SERVICED PAD & RETAINING WALLS = 1.816ha

ELIZABETH DRIVE

LOT 6 ROOF AREA = 4.095ha PAVED AREA = 1.902ha LANDSCAPE AREA = 1.065ha

LOT 4 BENCHED, SERVICED PAD & RETAINING WALLS = 2.39ha

WADIGU DRIVE (MC01)

MARTIN ROAD

SYDNEY WATER REGIONAL BASIN SC12

LOT 102 DP 1271336

EEP STAGE 2 UNDEVELOPED 35.719 ha

LOT 741 DP 810111

INDICATIVE ENDEAVOUR ENERGY ZONE SUBSTATION. LOCATION TBC. ZONE SUBSTATION INFRASTRUCTURE SUBJECT TO ENDEAVOUR ENERGY APPROVALS

FUTURE EXTENSION OF ELIZABETH DRIVE 1.651ha

PROPOSED SUBSTATION AREA = 1.25ha

LOT 2 ROOF AREA = 1.598ha PAVED AREA = 1.115ha LANDSCAPE AREA = 0.608ha

LOT 1 BENCHED, SERVICED PAD & RETAINING WALLS = 1.29ha

LOT 11 DP 860338

UNNAMED PENRITH CITY COUNCIL ROAD

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE NORTH

LOT 4 DP 860456

LOT 10 DP 860338

ALL WORKS WITHIN LOT 99 ARE TO BE COMPLETED BY OTHERS AND ARE NOT PART OF THIS PACKAGE. ZONE SUBSTATION UNDER CONSTRUCTION BY ENDEAVOUR ENERGY.

LOT 99 CATCHMENT CONSIDERED AS PART OF STAGE 1 EEP STORMWATER MANAGEMENT.

WORKS SHOWN IN GREY HAVE BEEN APPROVED AND ARE TO BE CONSTRUCTED UNDER DA24/0775. MINOR WORKS WITHIN WADIGU DRIVE AND BANA STREET, AS SHOWN, FORM PART OF THIS SSDA.

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE WEST

LOT 740 DP 810111

Issue	Description	Date
A10	ISSUED FOR APPROVAL	08-12-25
A9	ISSUED FOR APPROVAL	21-11-25
A8	ISSUED FOR APPROVAL	19-09-25
A7	ISSUED FOR APPROVAL	11-07-25
A6	ISSUED FOR APPROVAL	26-06-25
A5	ISSUED FOR APPROVAL	28-02-25
A4	ISSUED FOR APPROVAL	19-02-25
A3	ISSUED FOR APPROVAL	19-12-24
A2	ISSUED FOR APPROVAL	24-09-24

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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: mirvac

Scales	1:2500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

GDA2020

Project: ELIZABETH ENTERPRISE PRECINCT STAGE 1A BADGERYS CREEK

Title: STORMWATER DRAINAGE OVERALL CATCHMENT PLAN (POST-DEVELOPED)

Civil Engineers and Project Managers
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Level 10, 124 Walker Street
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E info@atl.net.au
www.atl.net.au
ABN 96 130 882 405

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

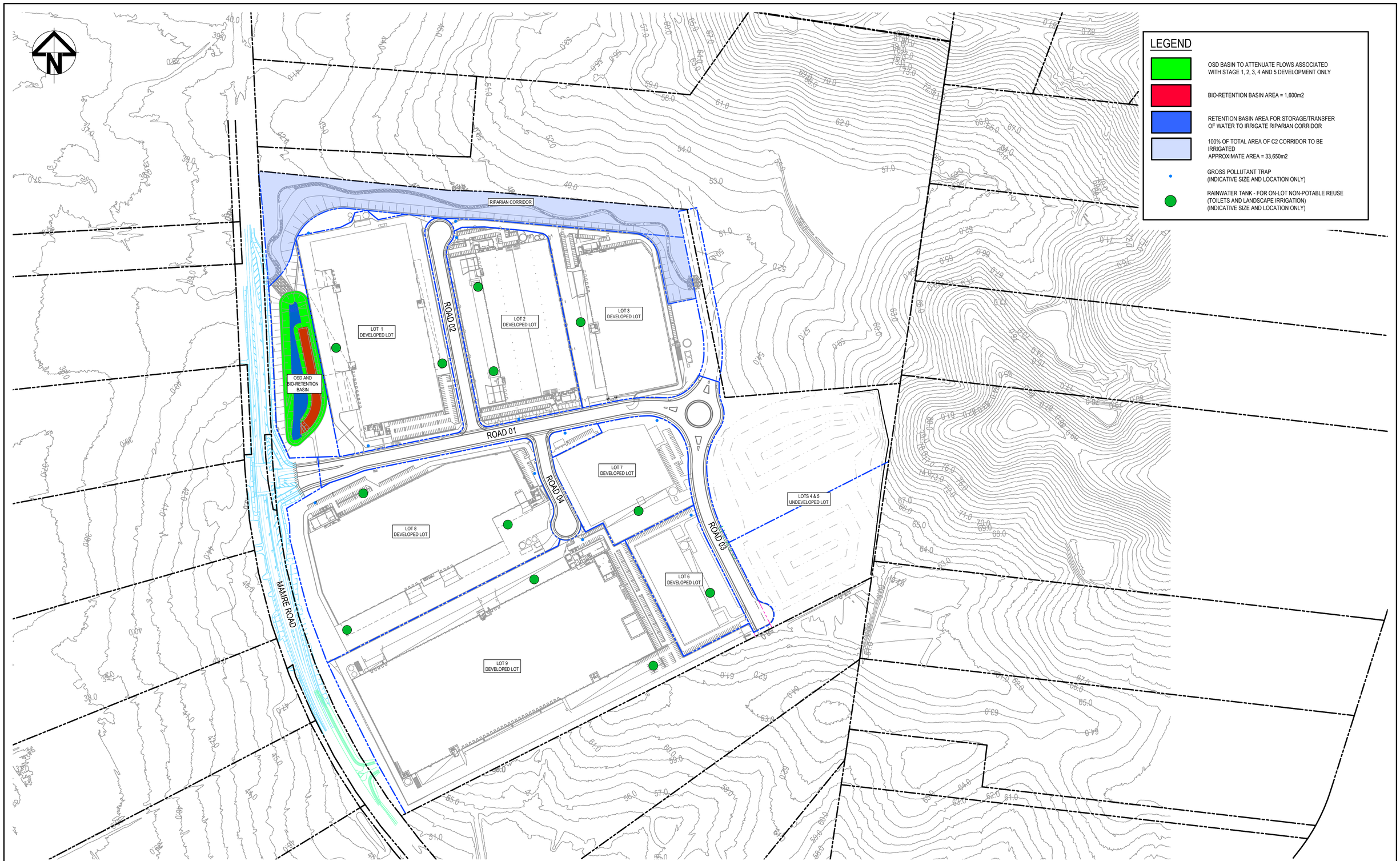
Project - Drawing No.: 16-369-C1133

Issue: A10

100mm on Original

F:\16-369 Kemps Creek\Drgs\Civil\Final\1000_Stage 1 SSD\16-369-C1133.dwg

Appendix C –
Stormwater Management Plans



P1	ISSUED FOR APPROVAL	23-09-24
Issue	Description	Date

100mm on Original

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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

mirvac

Scales	1:2500	Drawn	MH
		Designed	TM
Grid	GDA2020	Checked	DS/TM
Height Datum	AHD	Approved	DS/TM

GDA2020

Project

ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK

Title

MOD 8 STAGE 5
STORMWATER MANAGEMENT
PLAN

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
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info@atl.net.au

Status: FOR APPROVAL ONLY
NOT TO BE USED FOR CONSTRUCTION

A1

Project - Drawing No.: 18-596-SKC223F

Issue: P1

F:\18-596 Mamre Road\6.0 Drgs\Civil\Sketches\18-596-SKC223F Mod 8 Stage 5 Stormwater Management Plan.dwg

LEGEND

- INTERIM EVAPORATION POND (TO BE REMOVED UPON DELIVERY OF REGIONAL STORMWATER SCHEME MEASURES BY SYDNEY WATER)
- DETENTION BASIN FOR STORMWATER MANAGEMENT
- GROSS POLLUTANT TRAP (INDICATIVE SIZE AND LOCATION ONLY)
- PROPOSED CATCH DRAIN
- ENVIRONMENT AND RECREATION ZONE

NOTES:

- THIS PLAN PRESENTS TEMPORARY STORMWATER MANAGEMENT MEASURES THAT WOULD BE REQUIRED TO SATISFY STORMWATER QUALITY, QUANTITY AND FLOW TARGETS STIPULATED IN THE WESTERN SYDNEY AEROTROPOLIS DCP 2022 IN THE ABSENCE OF REGIONAL STORMWATER MANAGEMENT INTERVENTIONS. ONCE REGIONAL STORMWATER MANAGEMENT INTERVENTIONS ARE IN PLACE (SUBJECT TO TIMING) THIS PLAN MAY BE SUPERSEDED BY THE ULTIMATE STORMWATER MANAGEMENT PLAN PRESENTED ON DRAWING C1152 WITHOUT MODIFICATION TO THE SSDA APPROVAL.
- NO ON-LOT IRRIGATION WITHIN UNDEVELOPED LOT AREAS. ALL STORMWATER TO DISCHARGE TO TEMPORARY EVAPORATION BASIN.

PROPOSED EVAPORATION BASIN (INTERIM MEASURE ONLY, TO BE REMOVED UPON DELIVERY OF SYDNEY WATER REGIONAL SCHEME INFRASTRUCTURE)
AREA = 9.53ha
APPROX. VOLUME = 38.8ML
ENTIRE FOOTPRINT TO INCLUDE AN IMPERVIOUS LINER (SUBJECT TO DETAILED SALINITY AND SODICITY ASSESSMENT)

HATCHING SHOWS MAXIMUM INUNDATION AREA. MAXIMUM PONDING DEPTH OF 1M.

BASIN DEPTHS VS % OF TIME

0mm (EMPTY):	APPROXIMATELY 2% OF THE TIME
0-250mm MAX DEPTH:	APPROXIMATELY 10% OF THE TIME
250-500mm MAX DEPTH:	APPROXIMATELY 14% OF THE TIME
500-750mm MAX DEPTH:	APPROXIMATELY 26% OF THE TIME
750-1000mm MAX DEPTH:	APPROXIMATELY 47% OF THE TIME
> 1000mm MAX DEPTH:	APPROXIMATELY 1.3% OF THE TIME

DOWNSTREAM CATCHMENT STAGE 2 ENZ LAND 24.620 ha

EEP STAGE 2 UNDEVELOPED 7.538ha

OUTLET PIT WITH GRATE LEVEL AT RL 42.00 AND Ø750 OUTLET PIPE AT 1% FALL. ORIFICE PLATE WITH Ø705 ORIFICE TO BE INSTALLED TO THE OUTLET PIPE INLET. OUTLET PIPE TO DISCHARGE BEYOND THE BERM VIA HEADWALL.

SYDNEY WATER REGIONAL BASIN SC11

SYDNEY WATER REGIONAL BASIN SC10

TEMPORARY BERM TO CREATE EVAPORATION BASIN. REQUIRED TO MEET WATERWAY HEALTH REQUIREMENTS IN ADVANCE OF DELIVERY OF SYDNEY WATER REGIONAL STORMWATER BASINS.
HEIGHT = 1.5m (RL 42.5)
TOP WIDTH = 3m
INTERNAL AND EXTERNAL BATTERS 1:4 (MAX)

SYDNEY WATER REGIONAL BASIN SC12

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE NORTH

NO EXTERNAL CATCHMENTS FLOW THROUGH SITE FROM THE WEST

LOT 102 DP 1271336

LOT 741 DP 810111

LOT 740 DP 810111

101 C1165

102 C1165

103 C1165

DOWNSTREAM CATCHMENT STAGE 1 ENZ AREA 16.324ha

EXISTING 1% AEP FLOOD EXTENT *WIANAMATTA (SOUTH) CREEK FLOOD STUDY - EXISTING CONDITIONS (PREPARED BY ADVISIAN FOR INFRASTRUCTURE NSW, NOVEMBER 2020)* AS REFERRED TO WITHIN THE PHASE 2 DCP.

DETENTION BASIN (APPROX. 15ML) OVERFLOW INTO INTERIM EVAPORATION POND

INDICATIVE SEWER PUMP STATION SUBJECT TO JUST TERMS ACQUISITION. LOCATION TBC. BULK EARTHWORKS PART OF THIS APPLICATION, THOUGH PUMP STATION SUBJECT TO SYDNEY WATER APPROVALS.

INDICATIVE SYDNEY WATER REGIONAL BASIN SC09 LAYOUT SHOWN IN ORANGE. SC09 FUTURE DEVELOPMENT WORKS INTENDED TO BE DELIVERED BY MIRVAC AS PART OF THE FUTURE STAGE 1B SSDA. BASIN SC09 IS NOT PART OF THIS SSDA.

LOT 100 DP 1283398

BASIN A 0.882ha

FUTURE SPS 0.419ha

SYDNEY WATER REGIONAL BASIN SC09

WIANAMATTA-SOUTH CREEK

LOT 8 BENCHED, SERVICED PAD & RETAINING WALLS = 3.99ha

BENCHED, SERVICED PAD = 0.38ha

ROAD (MC02)

ROAD (MC03)

LOT 7 BENCHED, SERVICED PAD & RETAINING WALLS = 6.94ha

LOT 5 BENCHED, SERVICED PAD & RETAINING WALLS = 1.60ha

LOT 6 ROOF AREA = 4.095ha PAVED AREA = 1.900ha LANDSCAPE AREA = 1.060ha

LOT 4 BENCHED, SERVICED PAD & RETAINING WALLS = 2.39ha

ROAD (MC01)

PROPOSED SUBSTATION AREA = 1.25ha

LOT 2 ROOF AREA = 1.596ha PAVED AREA = 1.120ha LANDSCAPE AREA = 0.609ha

LOT 1 BENCHED, SERVICED PAD & RETAINING WALLS = 1.29ha

UNNAMED PENRITH CITY COUNCIL ROAD

LOT 4 DP 860456

INDICATIVE ENDEAVOUR ENERGY ZONE SUBSTATION. LOCATION TBC. ZONE SUBSTATION INFRASTRUCTURE SUBJECT TO ENDEAVOUR ENERGY APPROVALS

ALL WORKS WITHIN LOT 99 ARE TO BE COMPLETED BY OTHERS AND ARE NOT PART OF THIS PACKAGE. ZONE SUBSTATION UNDER CONSTRUCTION BY ENDEAVOUR ENERGY.

LOT 99 CATCHMENT CONSIDERED AS PART OF STAGE 1 EEP STORMWATER MANAGEMENT.

WORKS SHOWN IN GREY HAVE BEEN APPROVED AND ARE TO BE CONSTRUCTED UNDER DA24/0775. MINOR WORKS WITHIN WADIGU DRIVE AND BANA STREET, AS SHOWN, FORM PART OF THIS SSDA.

ELIZABETH DRIVE

MARTIN ROAD

LOT 4 DP 858141

LOT 2 DP 553886

LOT 1 DP 553886

LOT 12 DP 226448

LOT 11 DP 226448

LOT 10 DP 226448

LOT 11 DP 860338

LOT 10 DP 860338

Issue	Description	Date
A10	ISSUED FOR APPROVAL	08-12-25
A9	ISSUED FOR APPROVAL	21-11-25
A8	ISSUED FOR APPROVAL	19-09-25
A7	ISSUED FOR APPROVAL	11-07-25
A6	ISSUED FOR APPROVAL	26-06-25
A5	ISSUED FOR APPROVAL	28-02-25
A4	ISSUED FOR APPROVAL	19-02-25
A3	ISSUED FOR APPROVAL	19-12-24
A2	ISSUED FOR APPROVAL	24-09-24

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

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Client: mirvac

Scales	1:2500	Drawn	JB
		Designed	JB
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

GDA2020

Project: ELIZABETH ENTERPRISE PRECINCT STAGE 1A BADGERYS CREEK

Title: STORMWATER MANAGEMENT PLAN INTERIM ARRANGEMENT

Civil Engineers and Project Managers
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NSW 2060
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E info@atl.net.au
www.atl.net.au
ABN 96 130 882 405

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

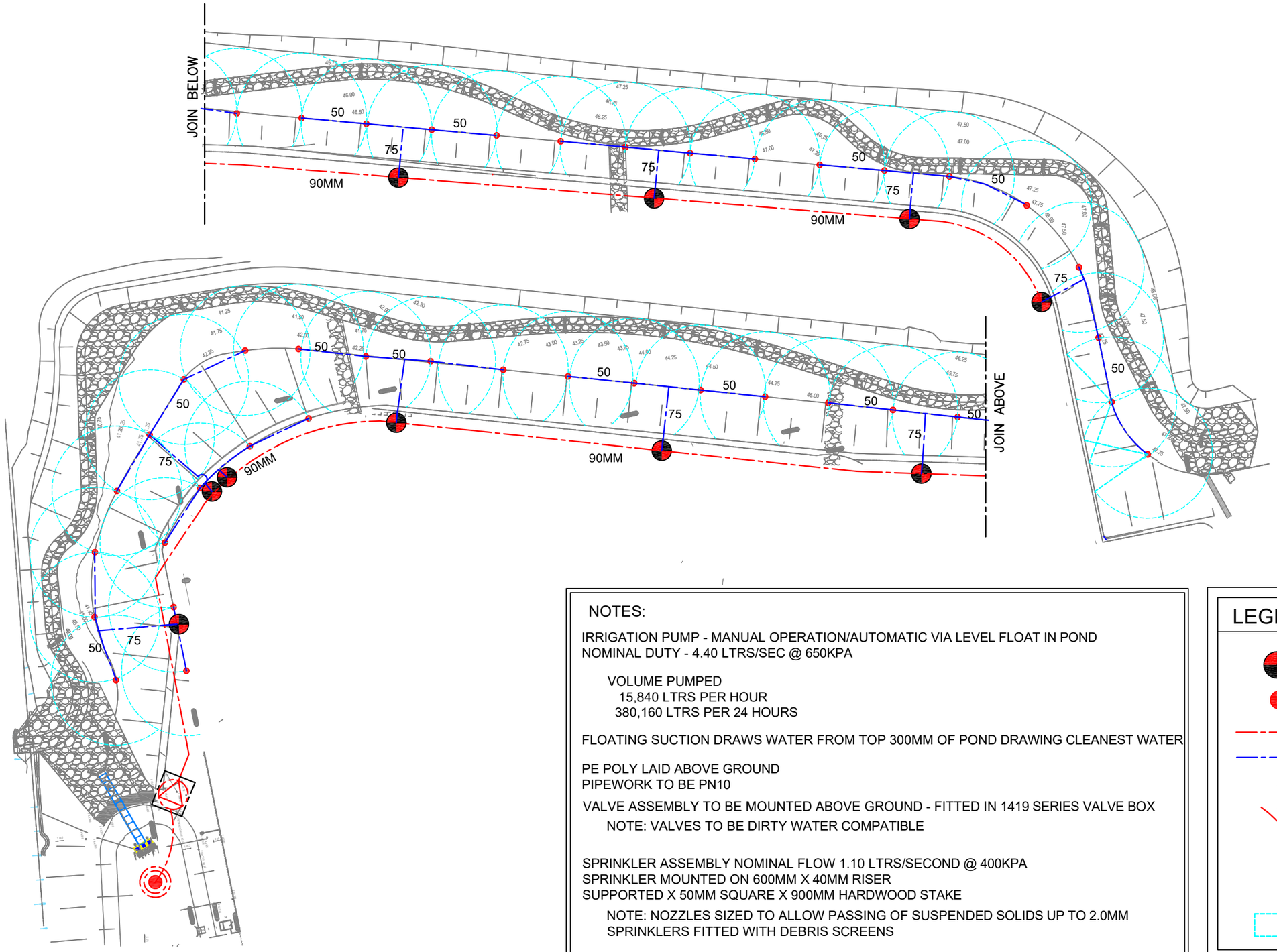
Project - Drawing No.: 16-369-C1151

Issue: A10

100mm on Original

F:\16-369 Kemps Creek\Drgs\Civil\Final\1000_Stage 1 SSD\16-369-C1151.dwg

Appendix D –
Interim Retention Pond and Realigned Trunk Drainage Corridor Irrigation Schematic Plans



NOTES:

IRRIGATION PUMP - MANUAL OPERATION/AUTOMATIC VIA LEVEL FLOAT IN POND
NOMINAL DUTY - 4.40 LTRS/SEC @ 650KPA

VOLUME PUMPED
15,840 LTRS PER HOUR
380,160 LTRS PER 24 HOURS

FLOATING SUCTION DRAWS WATER FROM TOP 300MM OF POND DRAWING CLEANEST WATER

PE POLY LAID ABOVE GROUND
PIPEWORK TO BE PN10

VALVE ASSEMBLY TO BE MOUNTED ABOVE GROUND - FITTED IN 1419 SERIES VALVE BOX

NOTE: VALVES TO BE DIRTY WATER COMPATIBLE

SPRINKLER ASSEMBLY NOMINAL FLOW 1.10 LTRS/SECOND @ 400KPA
SPRINKLER MOUNTED ON 600MM X 40MM RISER
SUPPORTED X 50MM SQUARE X 900MM HARDWOOD STAKE

NOTE: NOZZLES SIZED TO ALLOW PASSING OF SUSPENDED SOLIDS UP TO 2.0MM
SPRINKLERS FITTED WITH DEBRIS SCREENS

LEGEND

- CONTROL VALVE 50MM
- IMPACT SPRINKLER ON RISER 18 MTR RADIUS 1.10 LTRS/SEC
- IRRIGATION MAINLINE 90MM PE
- IRRIGATION LATERAL 50/75MM PE
- IRRIGATION PUMP 4.40 LTRS/SEC @ 650KPA
- FLOATING SUCTION 110MM PE 4.40 LTRS/SEC @ 650KPA
- IRRIGATION ZONE

Aquadec Commercial Irrigation

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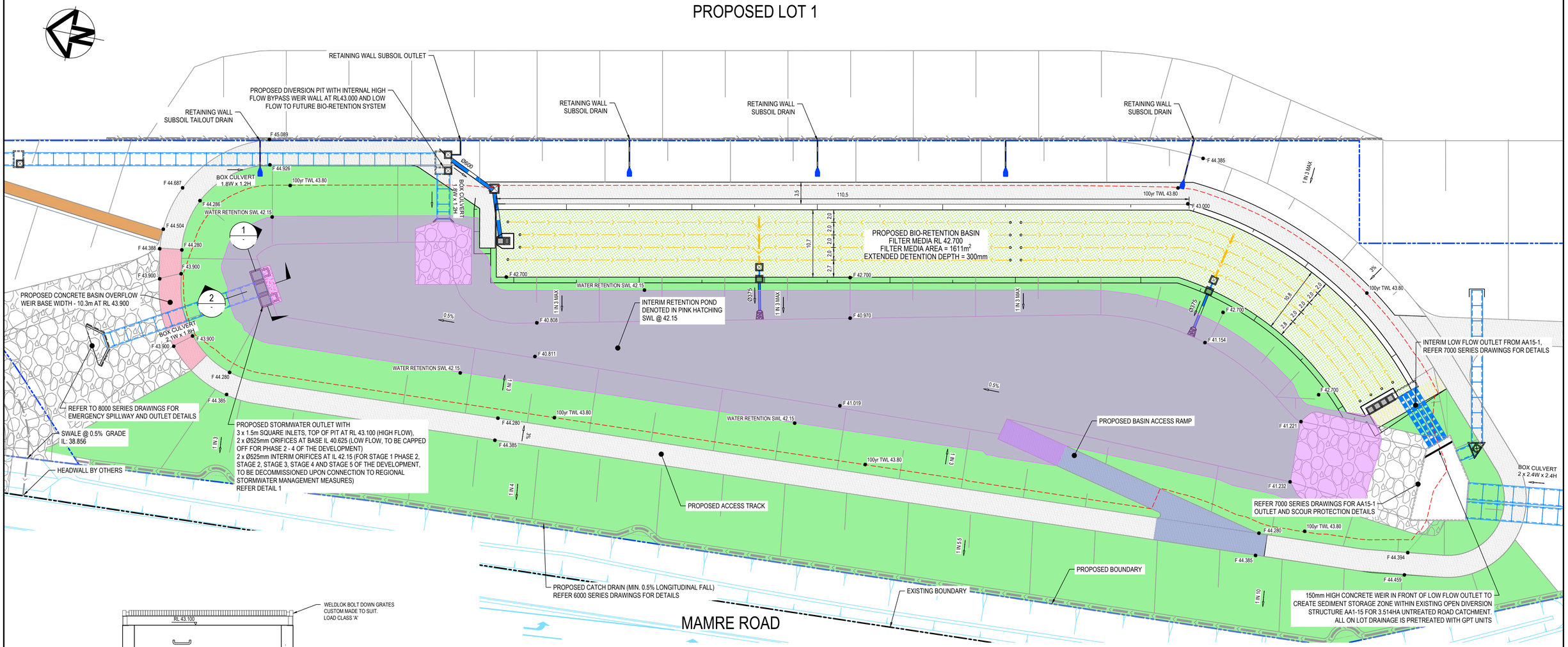
W: aquadec.com.au
P: 02 4647 4670
ACN: 075 518 277

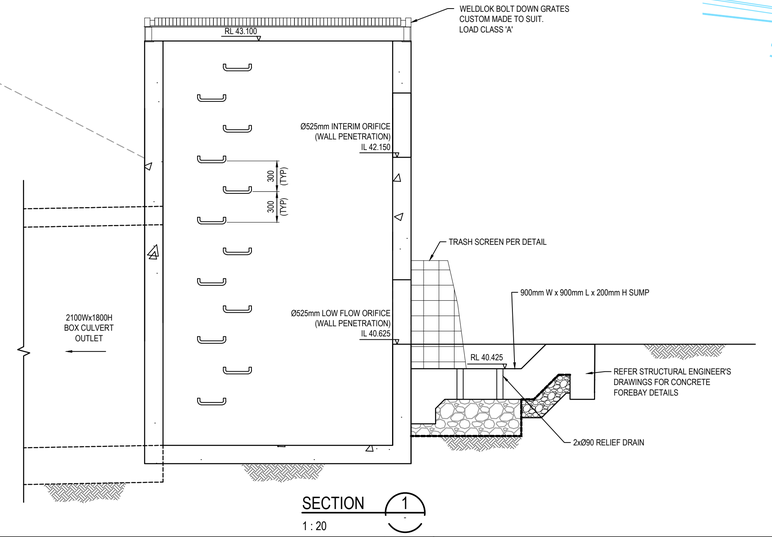
PROJECT ASPECT INDUSTRIAL ESTATE

DRAWN BY: DFR	FILE No: IRR01–REV4	DATE: 06.11.2023	RIPARIAN ZONE IRRIGATION SCHEMATIC DRAWING
DESIGN BY: DFR		SCALE: NTS	

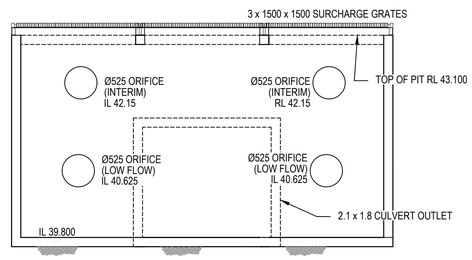
Appendix E –
Bio-Retention Basin Schematic Plans

PROPOSED LOT 1





SECTION 1
1 : 20



SECTION 2
1 : 50

LEGEND

- BASIN ACCESS TRACK
- REINFORCED CONCRETE WEIR
- CONCRETE RAMP WITH TOOLED GROOVES
- REINFORCED CONCRETE SLAB
- LANDSCAPE TREATMENT
- SCOUR PROTECTION
- INTERIM RETENTION POND SWL (STILL WATER LEVEL) @ RL 42.15
- BIO-RETENTION BASIN FILTER MEDIA

NOTE

PER AT&L MOD 4 WATER AND STORMWATER MANAGEMENT STRATEGY, LOW FLOW ORIFICES ARE TO BE TEMPORARILY CAPPED FOR STAGE 1 PHASE 2, STAGE 2, STAGE 3, STAGE 4 AND STAGE 5 OF THE DEVELOPMENT UNTIL CONNECTION TO THE REGIONAL STORMWATER MANAGEMENT MEASURES ARE MADE. THE MODIFIED INTERIM BASIN OUTLET ARRANGEMENT TO ACCOMMODATE THE INTERIM RETENTION POND IS AS BELOW -

STAGE 1 PHASE 1
LOW FLOW ORIFICES @RL 40.625 (ACTIVATED)
INTERIM ORIFICES @RL42.15 (NOT USED, TEMPORARILY CAPPED)

STAGE 1 PHASE 2
LOW FLOW ORIFICES @RL 40.625 (TEMPORARILY CAPPED)
INTERIM ORIFICES @RL42.15 (ACTIVATED, CAPS TO BE REMOVED)

STAGES 2-5
LOW FLOW ORIFICES @RL 40.625 (TEMPORARILY CAPPED)
INTERIM ORIFICES @RL42.15 (ACTIVATED)

ULTIMATE DEVELOPMENT
LOW FLOW ORIFICE @RL 40.625 (ACTIVATED, CAPS TO BE REMOVED)
INTERIM ORIFICES @RL42.15 (DECOMMISSIONED, TO BE PERMANENTLY CAPPED)

REFER TO AT&L MOD 4 WSMP FOR FURTHER DETAILS.

Issue	Description	Date
P1	ISSUED FOR INFORMATION	23-11-23

100mm on Original

Bar Scales

0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

0 1000 2000 3000 4000mm
1 : 40 @ A1 1 : 80 @ A3

0 6.25 12.5 18.75 25 31.25m
1 : 312.5 @ A1 1 : 625 A3

Key Plan

Client

mirvac

Scales	1:312.5 @A1
Grid	GDA2020
Height Datum	AHD
Drawn	JB/MH
Designed	JB/MH
Checked	DS
Approved	DS

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GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK
STAGE 1B

Title
INTERIM RETENTION POND, DETENTION BASIN AND BIORETENTION SYSTEM LAYOUT PLAN

Civil Engineers and Project Managers
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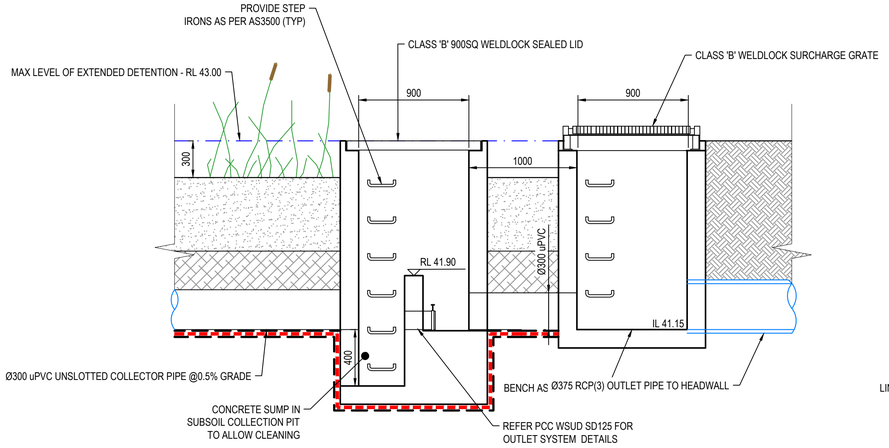
info@atl.net.au

Status: FOR INFORMATION
A1

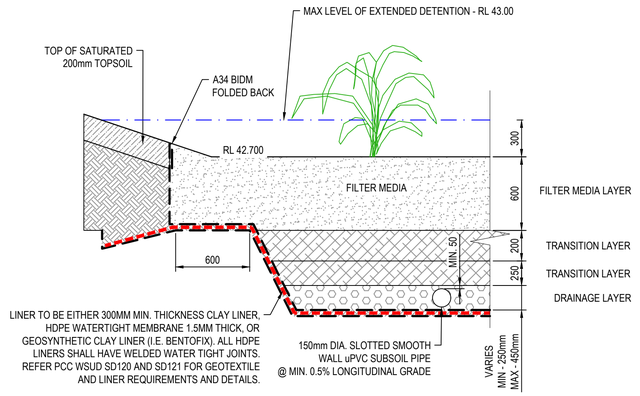
Project - Drawing No.: 18-596-SKC199
Issue: P1

F:\18-596 Mamre Road\6.0 Drgs\Civil\Sketches\18-596-SKC199 INTERIM RETENTION POND, DETENTION BASIN AND BIORETENTION SYSTEM LAYOUT PLAN.dwg



BIO-RETENTION OUTLET ARRANGEMENT - CC2-1, CC2-2, CC3-1 AND CC3-2

SCALE 1:25



BIO-RETENTION LINER DETAIL

NTS

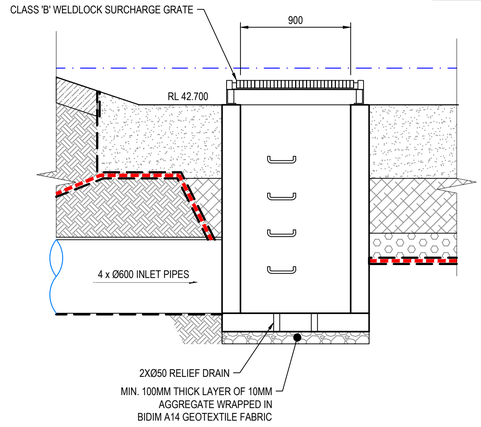
STAGING OF BIO-RETENTION BASIN (PER PCC WSUD SD 105)

STAGE 1
TEMPORARY SEDIMENT BASIN PER CURRNET ONSITE ESCP PREPARED BY CPESC.

STAGE 2
FUNCTIONAL INSTALLATION OF SACRIFICIAL BIORETENTION - ONCE UPSTREAM CATCHMENTS BULK EARTHWORKS ARE COMPLETE AND ROADS AND TRUNK DRAINAGE COMPLETED A SACRIFICIAL FILTER SYSTEM SHALL BE CONSTRUCTED. THIS INCLUDES:
- REMOVAL OF TEMPORARY ROCK DISSIPATOR AT SYSTEM INLET HEADWALL.
- REMOVAL OF ALL SEDIMENT
- INSTALLATION OF GEOTEXTILE AND LINERS UNDER
- INSTALLATION OF SUBSOIL DRAINS AND DRAINAGE LAYERS. TEMPORARY SUPPORT FLUSHING POINTS
- INSTALLATION OF 250MM OF TRANSITION LAYER
- INSTALLATION OF TEMPORARY GEOTEXTILE AND 150MM MEDIA OR COARSE SAND LAYER INSTALLATION OF WASHED TURF OVER THE SACRIFICIAL MEDIA LAYER

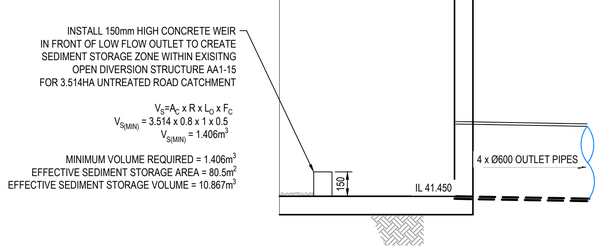
STAGE 3
COMPLETION OF BIORETENTION ONCE 90% DEVELOPMENT HAS OCCURRED-REMOVAL OF TURF, SACRIFICIAL MEDIA LAYER AND TEMPORARY GEOTEXTILE INSTALLATION OF:
- SEDIMENT FOREBAY
- UPPER 200MM OF TRANSITION LAYER
- FILTER MEDIA LAYER
- PLANTING
- REMOVAL OF ALL SEDIMENT FROM PIPES, INLETS AND OUTLETS.

STAGE 4
- ESTABLISHMENT OF BIORETENTION SYSTEM FOR MONTHS 0 - 12 AFTER COMPLETION:
- OPERATION OF AUTOMATIC IRRIGATION SYSTEM
-TEMPORARY BLOCKAGE OF DIVERSION
- ESTABLISHMENT OF BIORETENTION SYSTEM FOR MONTHS 13-36 AFTER COMPLETION: WEEDING
- PLANT REPLACEMENT AS REQUIRED.



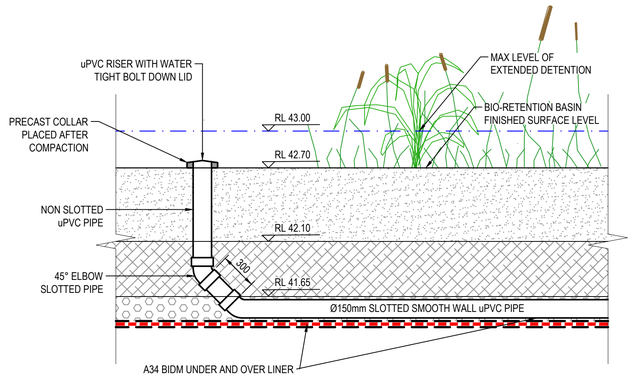
INLET STRUCTURE CC1-1

SCALE 1:25



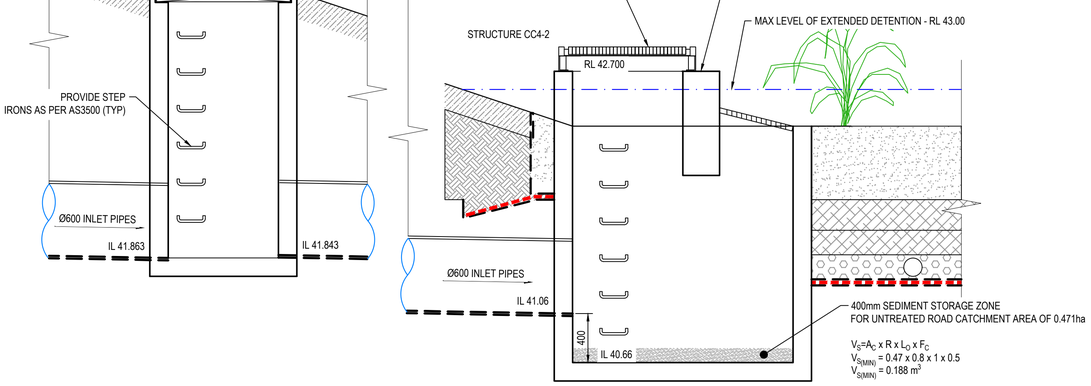
EXISTING STRUCTURE AA-15

SCALE 1:25



FLUSHING POINT DETAIL

SCALE 1:25



INLET STRUCTURES CC4-1 AND CC4-2

SCALE 1:25

Issue	Description	Date
P2	ISSUED FOR APPROVAL	24-11-23
P1	ISSUED FOR APPROVAL	26-07-23

Bar Scales

0 0.5 1 1.5 2 2.5m

1 : 25 @ A1 1 : 50 @ 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: mirvac

Scales	1:25
Drawn	MH
Designed	MH
Grid	GDA2020
Checked	DS/TM
Height Datum	AHD
Approved	DS/TM

GDA2020

Project
ASPECT INDUSTRIAL ESTATE
MAMRE ROAD,
KEMPS CREEK

Title
PROPOSED BIO-RETENTION BASIN 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 ONLY | A1

Project - Drawing No.: 18-596-SKC171 | Issue: P2

100mm on Original

F:\18-596 Mamre Road\6.0 Drgs\Civil\Sketches\18-596-SKC171 PROPOSED BIO-RETENTION BASIN DETAILS.dwg

NORTH SYDNEY
LEVEL 7
153 WALKER STREET
NORTH SYDNEY NSW 2060
02 9439 1777
INFO@ATL.NET.AU

PARRAMATTA
SUITE 4 LEVEL 4
17-21 MACQUARIE STREET
PARRAMATTA NSW 2150
02 9068 8517
INFO@ATL.NET.AU

BRISBANE
SUITE A1 LEVEL 20
127 CREEK STREET
BRISBANE QLD 4000
07 3211 9581
INFO-QLD@ATL.NET.AU

MELBOURNE
LEVEL 24
570 BOURKE STREET
MELBOURNE VIC 3000
INFO-VIC@ATL.NET.AU

atl.net.au

APPENDIX G – Sydney Water Stormwater Infrastructure Services Agreement

(Sydney Water, December 2023)

Stormwater Infrastructure Servicing Agreement

PARTIES

Sydney Water	Name	Sydney Water Corporation
	ABN	49 776 225 038
	Address	1 Smith Street, Parramatta 2150 NSW
Developer	Name	Mirvac Projects Pty Ltd
	ABN/ACN	001 069 245
	Address	Level 28, 200 George St, Sydney 2000 NSW

DETAILS

Case Number	208537
Development	means the development approved under Development Consent SSD-10448
Address of Development	Lots 54-58 DP 259135, 788-882 Mamre Road, Kemps Creek NSW 2178
SMS Payment	$400,000
SMS Security Amount	$400,000
IC Security Amount	$800,000 per hectare of developable land that forms part of the Development, calculated pro rata.
Notice of Requirements	means the notice issued by Sydney Water under section 74 of the Sydney Water Act on 15 December 2023 for the Case Number.
Recitals	The Developer has requested that Sydney Water issue a Compliance Certificate for the Development on the basis that it: (i) provides financial security to Sydney Water to secure the completion of all on-site stormwater servicing requirements under the Notice of Requirements; and (ii) provides financial security to Sydney Water to secure payment of the Infrastructure Contribution once the Development Servicing Plan is registered, in satisfaction of the Notice of Requirements. Sydney Water accepts the Developer's request and agrees to issue the Compliance Certificate on the terms of this Stormwater Infrastructure Servicing Agreement.

GENERAL TERMS

1. DEFINITIONS AND INTERPRETATION

1.1. Definitions

In this Agreement the definitions in the Details and this clause apply:

Agreement means this agreement including all Schedules to it.

Approvals means all relevant approvals, consents and licenses that are required to be obtained under any law, statute or other regulatory instrument.

Business Day means a day that is not a Saturday, Sunday or public holiday in the state of New South Wales.

Commencement Date is the date that both parties are signed this Agreement.

Compliance Certificate means a compliance certificate issued by Sydney Water under section 73 of the Sydney Water Act.

Development Servicing Plan means either or both (as the context requires) of:

(a) Sydney Water's recycled water development servicing plan for the Mamre Road Precinct; and

(b) Sydney Water's stormwater development servicing plan for the Mamre Road Precinct.

Final Design means the final design of the Stormwater Management Solution as identified in clause 3.2(b)(B).

IC Security has the meaning given to it in clause 6.1(a).

Infrastructure Contribution means the infrastructure contribution amount calculated in accordance with the Development Servicing Plan.

Schedule means a schedule to this Agreement.

Stormwater Management Solution means an on-lot stormwater management solution for the Development that will meet the Stormwater Flow & Quality Targets to Sydney Water's satisfaction, as further described in clause 3.1(a).

Stormwater Flow & Quality Targets means the mean annual runoff volume (MARV) and water quality targets set out in the table below (or any changes to those targets proposed by the Developer, and agreed by Sydney Water in writing at Sydney Water's sole discretion, within 30 days after the Commencement Date):

Item	Target
Flow retention (ML/year)	0.7
Total Suspended Solids (kg/year)	1049.6
Total Phosphorus (kg/year)	1.5
Total Nitrogen (kg/year)	2.8

Sydney Water Act means the *Sydney Water Act 1994* (NSW).

Water Servicing Coordinator or **WSC** means a listed provider on Sydney Water's website who is listed as a water servicing coordinator, as referred to in the Notice of Requirements.

SMS Payment Amount has the meaning given in the Details and represents the cost for Sydney Water to deliver additional infrastructure within its regional stormwater scheme as an alternative to a Stormwater Management Solution.

SMS Security has the meaning given to it in clause 4.1(a).

1.2. Unless the context requires otherwise, in this Agreement:

(a) a reference to any statute, regulation, rule or similar instrument includes any consolidations, amendments or re-enactments of it, any replacements of it, and any regulation or other statutory instrument issued under it;

(b) a reference to an agreement, deed or other document is a reference to that agreement, deed or other document as varied, novated, assigned or replaced;

(c) a reference to a party or a person includes that party's or person's executors, legal personal representatives, successors, liquidators, administrators, trustees in bankruptcy and similar officers;

(d) a reference to an agreement, deed or other document is a reference to that document as varied, novated, assigned or replaced;

(e) person includes a firm, corporation, body corporate, a partnership, a trust, a joint venture (whether incorporated or unincorporated), unincorporated association and a governmental authority, and, in the case of a trustee, includes a substituted or an additional trustee;

(f) a reference to the singular includes the plural number and vice versa;

(g) includes means includes but without limitation;

(h) where a word or expression has a defined meaning, its other grammatical forms have a corresponding meaning;

(i) a reference to doing something includes an omission, statement or undertaking (whether or not in writing) and includes executing a document;

(j) a reference to time is to the time in the place where a thing is to be done, unless specified otherwise;

(k) a reference to dollars or $ is to Australian currency; and

(l) a heading is for reference only. It does not affect the meaning or interpretation of this Agreement.

2. CONDITIONS FOR ISSUE OF COMPLIANCE CERTIFICATE

Sydney Water will issue the Compliance Certificate to the Developer when the Developer has met all of the following conditions:

2.1. the Developer has executed this Agreement and provided a copy to Sydney Water;

2.2. the Developer has given Sydney Water the SMS Security as required under clause 4.1 of this Agreement;

2.3. the Developer has given Sydney Water the IC Security as required under clause 6.1 of this Agreement; and

2.4. the Developer has met all other requirements as stated in the Notice of Requirements to Sydney Water's satisfaction.

3. STORMWATER MANAGEMENT SOLUTION

3.1. Within 60 days of the Commencement Date, the Developer must either:

(a) prepare and submit to Sydney Water a design for the Stormwater Management Solution; or

(b) notify Sydney Water in writing that it will pay the SMS Payment Amount to Sydney Water in accordance with clause 3.3.

3.2. If the Developer submits a design under clause 3.1(a):

(a) the Developer acknowledges and agrees that it is responsible for designing and delivering the Stormwater Management Solution in accordance with this Agreement at its cost, and will be the owner and responsible for the ongoing operation of the Stormwater Management Solution;

(b) within 10 Business Days of its receipt Sydney Water must either:

(A) provide written comments to the Developer on the design, in which case the Developer must address those comments in the design and resubmit the design under clause 3.1(a) within 10 Business Days of receipt of Sydney Water's comments; or

(B) confirm in writing that the design will meet the Stormwater Flow & Quality Targets to Sydney Water's satisfaction, in which case this design becomes the Final Design.

(c) the Developer must obtain all relevant Approvals for the Final Design and must construct and complete the Stormwater Management Solution in accordance with those Approvals and the Final Design as soon as reasonably practicable making all reasonable efforts;

(d) on written request by Sydney Water, the Developer must provide, within 5 Business Days of the request, written documentation to Sydney Water demonstrating the efforts the Developer has made to comply with clause 3.2(c); and

(e) the Developer must notify Sydney Water in writing when the Developer considers it has completed the delivery of the Stormwater Management Solution, and provide photos of the completed solution. If Sydney Water elects to inspect the Stormwater Management Solution, the parties must use best endeavours to enable Sydney Water to undertake that inspection within 1 month of receipt of the notification from the Developer (or such longer period as agreed between the parties).

3.3. If the Developer submits a notification to Sydney Water in accordance with clause 3.1(b) then:

(a) Sydney Water is to issue an invoice to the Developer for the SMS Payment Amount as soon as practicable after the earlier of:

(A) the registration of the Development Servicing Plan; and

(B) a date elected by the Developer; and

(b) the Developer must pay the SMS Payment Amount in full in accordance with the terms of the invoice issued under clause 3.3(a).

4. SMS SECURITY

4.1. Provision of SMS Security

(a) The Developer must provide security in the amount of the SMS Security Amount and which must be either:

(i) an unconditional guarantee from a financial institution accepted by Sydney Water and in the form set out in Schedule 1; or

(ii) a cash bond lodged with Sydney Water in accordance with Schedule 2,

(**SMS Security**).

(b) The SMS Security must be submitted to Sydney Water as identified in Schedules 1 or 2 (as applicable).

(c) The SMS Security will be subject to the terms of this Agreement.

4.2. **Calling on the SMS Security**

(a) Sydney Water may call upon or draw down on the SMS Security in full without further notice if the Developer:

(i) fails to comply with clauses 3.1, 3.2(b)(A) (if that clause applies), or 3.2(e);

(ii) fails to demonstrate to Sydney Water's satisfaction that it has meet the obligations in clause 3.2(c); or

(iii) fails to pay the SMS Payment Amount in accordance with clause 3.3(b).

(b) If Sydney Water calls upon or draws down on the SMS Security, Sydney Water may use the money:

(i) towards its stormwater and/or recycled water systems; and/or

(ii) to compensate Sydney Water for any costs Sydney Water incurs arising in relation to this Agreement, including any administrative costs.

(c) The Developer must not take any steps whatsoever to prevent or injunct, or attempt to prevent or injunct, the issuer of the SMS Security or Sydney Water in dealing with the SMS Security.

(d) Sydney Water does not hold any amount called on or drawn down on the SMS Security, on trust for the Developer and is not obliged to pay the Developer interest on that amount.

(e) If Sydney Water calls on or draws down on the SMS Security and it is later established that Sydney Water was not entitled to draw down on the SMS Security, Sydney Water must return that amount to the Developer.

4.3. **Release of the SMS Security**

Sydney Water must release the SMS Security, less any amount called on or drawn on the SMS Security under this Agreement, on the earlier of:

(a) 10 Business Days after Sydney Water receiving payment of the SMS Payment Amount under clause 3.3(b);

(b) if Sydney Water elects to inspect the Stormwater Management Solution under clause 3.2(e), 10 Business Days after the date that Sydney Water confirms that the Stormwater Management Solution is constructed in accordance with the Final Design; and

(c) if Sydney Water does not elect to inspect the Stormwater Management Solution under clause 3.2(e), 1 month after the date that Sydney Water receives the notification from the Developer under clause 3.2(e) that the Stormwater Management Solution is complete.

5. PAYMENT OF INFRASTRUCTURE CONTRIBUTION

5.1. On registration of each Development Servicing Plan, Sydney Water will issue the Developer an invoice for the payment of the Infrastructure Contribution for the Development in respect of the relevant Development Servicing Plan.

5.2. The Developer must pay the Infrastructure Contribution to Sydney Water within 30 days after the date of the invoice issued under clause 5.1.

5.3. If the Developer requires more time to make payment under clause 5.2 the Developer must apply to Sydney Water in writing. Sydney Water may grant an extension of time at its sole discretion.

5.4. The Developer acknowledges and agrees that the Infrastructure Contributions (each on its own, or in the aggregate) may be greater or lesser than the IC Security Amount, and the Developer's liability to Sydney Water is not limited by the IC Security Amount.

6. IC SECURITY

6.1. Provision of IC Security

(a) The Developer must provide financial security in the amount of the IC Security Amount and which must be either:

(i) an unconditional guarantee from a financial institution accepted by Sydney Water and in the form set out in Schedule 1; or

(ii) a cash bond lodged with Sydney Water in accordance with Schedule 2,

(**IC Security**).

(b) The IC Security must be submitted to Sydney Water as identified in Schedules 1 or 2 (as applicable).

(c) The IC Security will be subject to the terms of this Agreement.

6.2. Calling on the IC Security

(a) Sydney Water may call upon or draw from the IC Security without further notice if Sydney Water has not received full payment of an Infrastructure Contribution as required under clause 5.

(b) If Sydney Water draws upon the IC Security, Sydney Water may use the money:

(i) towards payment of any outstanding amount of an Infrastructure Contribution; and/or

(ii) to compensate Sydney Water for any costs Sydney Water incurs arising in relation to this Agreement, including any administrative costs.

(c) If Sydney Water draws on the IC Security and the IC Security Amount is less than any outstanding amount of the Infrastructure Contributions, the difference in those amounts will be a debt due from the Developer to Sydney Water.

(d) The Developer must not take any steps whatsoever to prevent or injunct, or attempt to prevent or injunct, the issuer of the IC Security or Sydney Water in dealing with the IC Security.

(e) If Sydney Water draws down on the IC Security, Sydney Water does not hold any amount drawn down on trust for the Developer and is not obliged to pay the Developer interest on that amount.

(f) If Sydney Water draws down on the IC Security and it is later established that Sydney Water was not entitled to draw down an amount on the IC Security, Sydney Water must return that amount to the Developer within 15 Business Days of receipt of a written request from the Developer.

6.3. Release of the IC Security

(a) Sydney Water must release the IC Security, less any amount drawn on the IC Security under this Agreement, within 10 Business Days after Sydney Water has received full payment of the Infrastructure Contributions.

(b) If the Developer has paid an Infrastructure Contribution in full under clause 5, Sydney Water may agree to reduce the IC Security Amount by not more than the amount paid under clause 5. If this requires new IC Security to be provided to Sydney Water, that new IC Security must comply with the requirements of this Agreement and must be provided to Sydney Water before the existing IC Security can be released by Sydney Water.

7. WARRANTIES

The Developer warrants that it is the developer of the Development and is the applicant for the Compliance Certificate for the Development.

8. GENERAL TERMS

8.1. This Agreement has no effect until executed by both parties.

8.2. This Agreement may be executed in counterparts. All counterparts together will be taken to constitute one instrument.

8.3. Neither party may assign or novate its rights and obligations under this Agreement without the other party's prior written consent.

8.4. This Agreement cannot be amended except in writing signed by a duly authorised representative of each party.

8.5. If any provision of this Agreement is prohibited by law or judged by a court to be unlawful, void or unenforceable, the provision shall, to the extent required, be severed from this Agreement and rendered ineffective as far as possible with-out modifying the remaining provisions of this Agreement and shall not in any way affect any other circumstances of or the validity or enforcement of this Agreement.

8.6. This Agreement is governed by the laws of New South Wales and the parties agree to submit to the non-exclusive jurisdiction of the court of New South Wales.

9. DISPUTE RESOLUTION

9.1. A party must not commence any court proceedings relating to a dispute unless it complies with this clause 9.

9.2. A party claiming that a dispute has arisen under or in relation to this deed must give written notice to the other party specifying the nature of the dispute.

9.3. On receipt of notice under clause 9.2, the parties must endeavour in good faith to resolve the dispute expeditiously using informal dispute resolution processes such as mediation, expert evaluation or other methods agreed by them.

9.4. If the parties do not agree within 21 Business Days of receipt of notice under clause 9.2 (or any further period agreed in writing by them) as to:

(a) the dispute resolution technique and procedures to be adopted;

(b) the timetable for all steps in those procedures; or

(c) the selection and compensation of the independent person required for such technique,

the parties must mediate the dispute in accordance with the Mediation Program of the Law Society of New South Wales as published on its website and as varied from time to time. The parties must request the president of the Law Society of NSW or the president's nominee to select the mediator and determine the mediator's remuneration.

9.5. If the dispute is not resolved within 60 Business Days after notice is given under clause 9.2 then any party which has complied with the provisions of this clause 9 may in writing terminate any dispute resolution process undertaken under this clause and may then commence court proceedings in relation to the dispute.

SCHEDULE 1: UNCONDITIONAL GUARANTEE

1. If the Developer is obtaining an unconditional guarantee as its form of IC Security or SMS Security, it must be in the form set out in this Schedule.

2. The Developer referenced in the Unconditional Guarantee must be the same Developer that entered into this Agreement.

3. The Developer is to lodge the unconditional guarantee with Sydney Water together with this Agreement (signed by the Developer), either directly to the Sydney Water case manager, or the Developer's WSC.

Form of Unconditional Guarantee

DETAILS

Guarantor	Name	#insert issuing institution's name#
	ABN/ACN/ARBN	#insert#
	Address	#insert issuing institution's address in NSW#
Beneficiary	Name	Sydney Water Corporation
	ABN	49 776 225 038
	Address	1 Smith Street Parramatta NSW 2150
Developer	Name	#insert developer's name#
	ABN/ACN/ARBN	#insert#
	Address	#insert developer's address#
Agreement	Stormwater Infrastructure Servicing Agreement between the Beneficiary and the Developer re Case Number ###	
Security Name	[insert "SMS Security" or "IC Security"]	
Maximum Amount	A$##	
Issue Date	##	

GENERAL TERMS

1 Benefit

This guarantee is made by the Guarantor in favour of the Beneficiary.

2 Guarantee

At the request of the Developer, and in consideration of the Beneficiary acting in reliance on this guarantee in connection with the Agreement, the Guarantor, as debtor and not as a surety, irrevocably and unconditionally agrees to pay on demand from the Beneficiary an amount or amounts not exceeding the Maximum Amount in total.

3 Demands

Any demand under this guarantee must be:

(a) in writing and signed by, or on behalf of, the Beneficiary; and

(b) received by the Guarantor at the address specified in the Details before this guarantee is cancelled.

4 Payments

The Guarantor agrees to make any payment under this guarantee to the Beneficiary or as the Beneficiary directs. If the Beneficiary directs the Guarantor to pay a particular person or in a particular manner, the Guarantor is taken to have satisfied its obligation to the Beneficiary by paying in accordance with the direction.

The Guarantor agrees to make any payment under this guarantee without set off or counterclaim, and without reference to the Developer. This applies:

(a) even if the Developer or any other person has asked the Guarantor not to make payment; and

(b) irrespective of the performance or non-performance by the Developer or the Beneficiary of the Agreement.

5 Cancellation and expiry

This guarantee can only be cancelled:

(a) by the Beneficiary if the Beneficiary:

(i) returns the guarantee to the Guarantor for cancellation; or

(ii) notifies the Guarantor in writing that it no longer requires this guarantee.

(b) by the Guarantor by paying to the Beneficiary:

(i) the Maximum Amount less the sum of any amounts it has previously paid under this guarantee; or

(ii) any lesser amount specified by the Beneficiary.

6 Dealing with rights

The Beneficiary may not assign or otherwise deal with its rights under this guarantee or allow any interest in them to arise or be varied, in each case, without the Guarantor's written consent.

7 Governing law and jurisdiction

This guarantee is governed by the law in force in New South Wales. The Guarantor and the Beneficiary (on acceptance of this guarantee) submit to the non-exclusive jurisdiction of the courts of that place.

SCHEDULE 2: CASH BOND

If the Developer is providing a cash bond as its form of IC Security or SMS Security, it is to follow the instructions below.

1. Complete the **Lodgement Form** on the following page.
2. Contact Sydney Water's **Accounts Receivable/Sundry debtors** (Business Connect) **via email** and attach a copy of this Agreement (with the Lodgement Form completed) and signed by the Developer, to **businessconnect@sydneywater.com.au**.
3. Advise your WSC that you have initiated this step and provide the Service Request (SR) number for any enquiries.
4. Sydney Water will issue you a BPAY invoice for the IC Security Amount or SMS Security Amount (as applicable) within approximately 3 Business Days, for you to complete the transaction for the cash bond.
5. Make payment in accordance with the BPAY invoice.
6. Email a copy of the payment confirmation to your Sydney Water case manager or your WSC.

If you are unable to pay via BPAY, please inform Sydney Water's Accounts Receivable contact at point 2, and they may approve another payment method.

LODGEMENT FORM for cash bond

Case Number: **Date:**

Security Name: (circle applicable one) IC Security SMS Security

Service Type: Stormwater

Developer Name:

Developer ABN:

Developer Address:

Email:

Contact Name: **Phone No:**

WSC Company Name: **Customer No. (FMIS):**

WSC Company Address:

WSC ABN:

WSC Email:

WSC Phone No:

WSC Contact Name:

Other: (if security deposit not lodged by the Developer)

Payer Name:

Address:

Contact Name: Phone No:

Email:

Cash bond refund details

Bank details for refund of cash bond under the Agreement.

Refund bank account details	
Payee Name:	
Bank Name:	
BSB:	
Account Number:	

END

EXECUTION PAGE

Executed as an agreement

Where Developer is an Individual or Partnership: *The witness must be a person over the age of 18 years who is prepared to give their full name and who is not a parent of or child of or sibling to any signatory.*

Executed by:

Signature	Print Name of Person Signing

In the presence of:

Witness Signature	Print Name of Witness

Date signed: _____

Where Developer is a company: *signed by* ***either*** *2 Directors* ***OR*** *1 Director & Company Secretary* ***OR*** *1 Director if company has only 1 Director who is also Company Secretary* ***OR*** *Any duly authorised Attorney under a Power of Attorney (insert details of the Power of Attorney)*

Executed by or on behalf of **Mirvac Projects Pty Ltd:**

Option 1	Signature of **director**	Name of director	Date signed
	Signature of **director** / **company secretary**	Name of director/ company secretary	Date signed
Option2	Signature of attorney signing under Power of Attorney dated 6 June 2023 with registered no. Ref Bk 4912 NO 800	STUART PENKLIS	19 Dec 23
	Signature of witness	Stephen Foster	

Name of Attorney

Date signed

Name of witness

EXECUTED on behalf of **Sydney Water Corporation** by its authorised representative:

LUBNA THALIB
Name of authorised representative

Signature of authorised representative

ACCOUNT MANAGER
Role of authorised representative

19/12/23
Date signed

APPENDIX H – AT&L Technical Memo AIE + EEP Stage 1A SMS

(AT&L, March 2026)

TECHNICAL MEMORANDUM

Project:	18-596 Aspect Industrial Estate	**Our Ref:**	MEM001-03-18-596 AIE+EEP Stage 1A MUSIC
RE:	Review of SEED Stage 1A MUSIC model for AIE SSA Changes	**Date:**	26 March 2026
		Rev:	04

Technical Memorandum MEM001

Introduction

This technical memorandum has been prepared to support State Significant Development Application (SSD-98407710) for the development of Lot/Warehouse 4 at 99 Berriwerri Drive, Kemps Creek within the Aspect Industrial Estate (AIE).

This technical memo assesses the impact of the removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and inclusion of AIE Lot 4 as developed in the AIE Stage 5 + EEP Stage 1A MUSIC model.

Mirvac have received the Sydney Water Stormwater Scheme Served Area (SSA) allocation letter dated 23/03/26, which provides sufficient SSA allocation to cover AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 (approximately 36.48ha), therefore no longer requiring AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 to be included within the cumulative stormwater management strategy. As defined by Sydney Water; *The SSA is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/quantity infrastructure, excluding those that are required specifically in the DCP (i.e. gross pollution traps, on-site detention and construction phase sediment and erosion controls).*

With the delivery of the Regional Basin 7A by the Gibb Group, Sydney Water will credit Mirvac with SSA with a portion of the liberated Net Developable Area (NDA) as Mirvac have paid their regional stormwater Infrastructure Contribution charges applicable for AIE. As per the SSA letter, AIE will obtain SSA credits for 36.478ha of NDA, which represents the exclusion of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04.

Per the Sydney Water SSA letter, Regional Basin 7A will ultimately provide a total SSA allocation area of approximately 42.4ha. The construction of Basin 7A has been approved under Gibb Groups SSD-30871587 for 805-817 Mamre Road, Kemps Creek. Basin 7A is required to be delivered prior to first occupancy certificate for that development as per condition B36 of the Gibb Group consent (SSD-30871587). Gibb Group are in the process of completing the detailed design for Basin 7a, which is likely to be built by the end of 2026 calendar year, depending on Gibb completing the design, commercial agreements, and delivery of the basin.

A recent modification to the AIE development consent (SSD-10448), known as MOD 11, has been submitted and seeks approval for an amended cumulative stormwater management strategy, to align with cumulative stormwater management which has been submitted for approval under a separate SSDA for works at the EEP site, notably the EEP Stage 1A SSDA (SSD-19618251). The modification supports the development of AIE Stage 5 (Lots 1, 2, 3, 6, 7, 8, 9) and EEP Stage 1A, which includes infrastructure works and the development of Warehouse 2 and Warehouse 6 at EEP.

With the proposed SSA offsets to AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04, the cumulative stormwater management strategy submitted as part of EEP Stage 1A and AIE MOD 11 may be required to be amended to exclude AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 catchment areas and include the AIE Lot 4 proposed warehouse.

If deemed required, a proposed modification to both the EEP Stage 1A SSDA (SSD-19618251) (this will be known as EEP MOD1) and AIE (SSD-10448) (this will be known as AIE MOD12) will be prepared and submitted to

incorporate the removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and inclusion of AIE Lot 4 as developed in the cumulative MUSIC model.

Proposed Stormwater Management Measures – EEP MOD1

The proposed stormwater management measures for EEP Stage 1A remain unchanged with the removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and inclusion of AIE Lot 4 to the cumulative MUSIC model.

Refer to AT&Ls EEP Stage 1 SSDA Water and Stormwater Management Plan (REP005B-23-16-369-SSDA WSMP) for details of the proposed stormwater management measures proposed to be implemented as part of the Stage 1A EEP SSDA development. A summary of the proposed water management measures is outlined below:

- Street trees – either passively or actively irrigated
- Evaporation Basin – with the potential for evaporative losses proposed within SEED Stage 2 lands
- On-site stormwater detention (Basin A)
- Onlot GPTs

Proposed Stormwater Management Measures – AIE MOD12

The exclusion of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 (all predominately developed and operational) and changing Lot/Warehouse 4 to a developed state, does **not** impact on any residual stormwater management measures that have already been implemented at AIE.

Simply, the changes to the AIE model relate to the removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and any onlot stormwater management measures that were included in those lots.

The onlot management measures which were removed from the model are summarised in the table below.

Lot/Warehouse	Onlot Stormwater Management Measures Removed
1	▪ 305kL rainwater tank ▪ 2 x OceanSave OS-1515 GPT
2	▪ 1 x OceanSave OS-1515 GPT
3	▪ 250kL rainwater tank ▪ 2 x OceanSave OS-1515 GPT
8	▪ 1 x OceanSave OS-2318 GPT
9	▪ 220kL rainwater tank ▪ OceanSave OS-2324 GPT

With respect to the inclusion of Lot 4 as a developed lot, two OceanSave OS-1612 GPTs have been included in the model for AIE Warehouse 4 consistent with the AT&L Lot 4 civil DA drawing package. No rainwater tanks are proposed for AIE WH4.

Stormwater Quality Modelling

The cumulative MUSIC model taken from the proposed Stage 1A EEP SSDA (SSD-19618251), has been modified to exclude AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 developed catchment area and including AIE Lot 4 as developed. The revised MUSIC model layout is shown below.

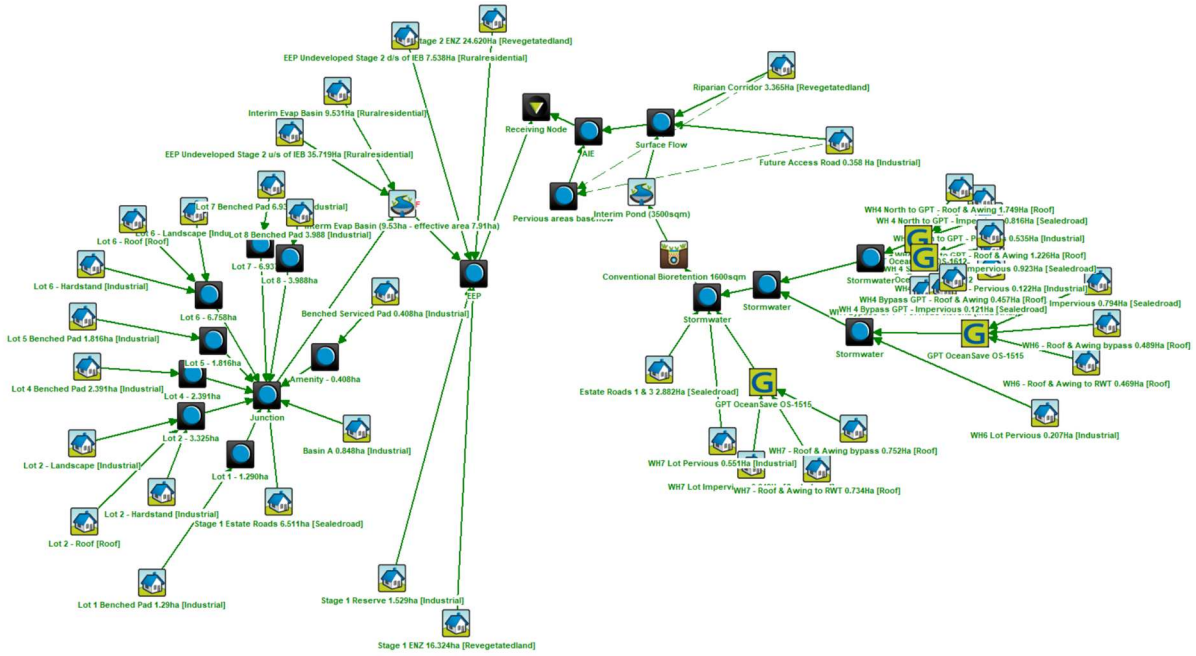


Figure 1: Post-development MUSIC model – AIE Stage 6 (AIE Lots 4, 6, 7) + EEP Stage 1A SSDA (Lots 2 & 6)

With the removal of AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04, the overall AIE catchment area for the purpose of MUSIC modelling has been reduced to 18.18 ha. The total catchment area at EEP Stage 1 & 2 remain unchanged.

The total cumulative catchment area has reduced to a total catchment area of 148.01ha.

Refer to **Appendix A** for the catchment table summary.

Performance Against Stormwater Targets

Stormwater Quality

MUSIC model results presented as mean annual loads at the receiving node, which now exclude AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and include AIE Lot 4 as developed, including EEP Stage 1A SSDA (Lots 2 & 6) is displayed below in **Table 1**.

Table 1: Summary of MUSIC modelling results against stormwater quality targets – Stage 6 (Lots 4, 6, 7) + EEP Stage 1A SSDA (Lots 2 & 6)

Parameter	Sources Post-Development	Residual Load Post-Development	Reduction (%)	Complies with DCP Option 1 Target?	Mean annual load (kg/ha/yr)	Complies with DCP Option 2 Target?
TSS (kg/yr)	39700	4010	89.9	No	27.1	Yes
TP (kg/yr)	78.9	14.7	81.4	Yes	0.10	Yes
TN (kg/yr)	541	158	70.9	Yes	1.07	Yes
GP (kg/yr)	6310	108	98.3	Yes	0.73	Yes

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The MUSIC model results presenting allowable mean annual loads demonstrate the proposed stormwater management measures excluding AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and changing AIE Lot 4 to developed satisfy the Mamre Road Precinct DCP stormwater quality controls for DCP Option 2 targets.

Stormwater Flow Volume (Marv and Flow Duration Curve)

MUSIC model results demonstrating performance of the proposed stormwater management measures against the stormwater flow targets are presented below in **Table 2.**

Table 2: Summary of MUSIC model results against stormwater flow targets – AIE Stage 6 (Lots 4, 6, 7) + EEP Stage 1A SSDA (Lots 2 & 6)

Parameter	Result	DCP Target	Complies with DCP target	
			DCP Option 1 (MARV approach)	DCP Option 2 (Flow Duration Curve approach)
Mean annual runoff volume (ML/ha/yr)	0.78	2.0	Yes	n/a
95%ile flow (L/ha/day)	5817	3000 to 15000	n/a	Yes
90%ile flow (L/ha/day)	2702	1000 to 5000	Yes	Yes
75%ile flow (L/ha/day)	231.9	100 to 1000	n/a	Yes
50%ile flow (L/ha/day)	25.9	5 to 100	Yes	Yes
10%ile flow (L/ha/day)	0.02	0	No**	n/a
Cease to flow	15.3%*	10% to 30%	n/a	Yes*

The resultant flow duration curve excluding AIE Lots 1, 2, 3, 8, 9, detention basin, Road 02 and Road 04 and changing AIE Lot 4 to developed is presented in **Figure 2**. The stormwater flow results from **Table 2** above, show compliance with DCP Option 2.

* Note that the MUSIC model for EEP Stage 1A with AIE Stage 5 rounds off at below 0.0175L/ha/day, whereas the benchmark examples from the *Technical Guidance for Achieving Wianamatta-South Creek Stormwater Management Targets (DPE, Sep 2022)* show cease to flow occurring at 0.1L/ha/day. Using this benchmark, EEP Stage 1A with AIE Stage 5 achieves 15.3% cease to flow. The large amount of ENZ land downstream of the development and downstream of the stormwater management controls, naturally provide soil baseflows which extends the tail of the graph, and are not directly related to the development works themselves.

** Further discussion on the 10-percentile flow results is presented below:

- The 10-percentile values of up to 0.02 L/ha/day equates to a total runoff from the combined AIE and EEP Site of approximately 2.59 litres per day over the 148.01ha catchment area (equivalent to around 0.108 litres per hour). Whilst it is acknowledged the values that generate the flow duration curve represent a statistical probability of the exceedance of a particular flow value, in reality the calculated 10-percentile flow from the site represents a value too small to practically measure. To put this into perspective, a flow of 0.108 L/h is roughly equivalent to a slow tap drip—about one small droplet every two seconds. If you placed a bottle underneath it, it would take over two hours just to half-fill up a 600mm bottle of water. In practical terms, this represents a flow so minimal that it would be difficult to reliably observe or measure in the field. Another way to look at this, the 0.108 L/h flow rate at the discharge point is less than pouring a quarter full 600mL water bottle every hour for catchment area of approximately 207 soccer fields.
- Although the 10-percentile flow from the model exceeds the DCP target marginally by 0.02 L/ha/day, it is important to note that the stormwater management strategy is temporary only and will ultimately be

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replaced by the Sydney Water Regional Infrastructure, meaning that marginal exceedance, will only be applicable during this interim phase. The temporary condition, in addition to the significantly low flow discussed above will mean that the adverse impacts of this strict non-compliance, will be reliable.

- Existing approvals of the AIE SSDA (SSD-10448), specifically both the stormwater management strategies for AIE MOD4 and AIE MOD8 which are both approved, both included technical non-compliance with the Cease-to-Flow and/or 10-percentile flow targets. Both AIE MOD4 and AIE MOD8 incorporated the cumulative land use of AIE and EEP for the purposes of the approved stormwater management strategy. The existing approvals should be considered when assessing the cumulative stormwater strategy and results in this report. With reference to the AIE MOD 4 WSMP (REP008-08-18-596-MOD4 WSMP), the 10-percentile flow for the Stage 5 development (Lots 1, 2, 3, 9, 6, 7, 8, 9 and Café) was 0.08 L/ha/day. Similarly, reference to the AIE MOD 8 WSMP (REP016-03-18-596-MOD8 WSMP), the 10-percentile flow for the Stage 5 development (Lots 1, 2, 3, 9, 6, 7, 8, 9 and Café) was 0.09 L/ha/day. Comparatively, the cumulative stormwater strategy contemplated in above, provides a more favourable result with lower 10-percentile flows of 0.02 L/ha/day.
- The 10-percentile flow results indicate how often zero flows occur at the receiving node or outlet. Due to a limitation in MUSIC, smaller catchments tend to produce more zero-flow results because the model rounds very low flows down to zero when equivalent treatment controls are applied. In contrast, the Stage 1A EEP cumulative model, representing the combined AIE and EEP catchment area of approximately 148.01 ha, reports fewer zero-flow events simply because the larger catchment generates higher baseline flows than an equivalent model with a smaller catchment area and treatment train. As such, it is likely that a comparable smaller site, would achieve compliance, however, given the larger combined site area, rounding errors have possibly contributed to the non-compliance.
- Given the above discussion, AT&L consider the resultant 10%ile flow of 0.02L/ha/day to be effectively a zero flow result (the flows are effectively negligible), considering the significant catchment area, limitations of the MUSIC model and temporary timeline that this interim stormwater strategy will be in place for. As such, compliance with the DCP stormwater flow target Option 1 is also reached.

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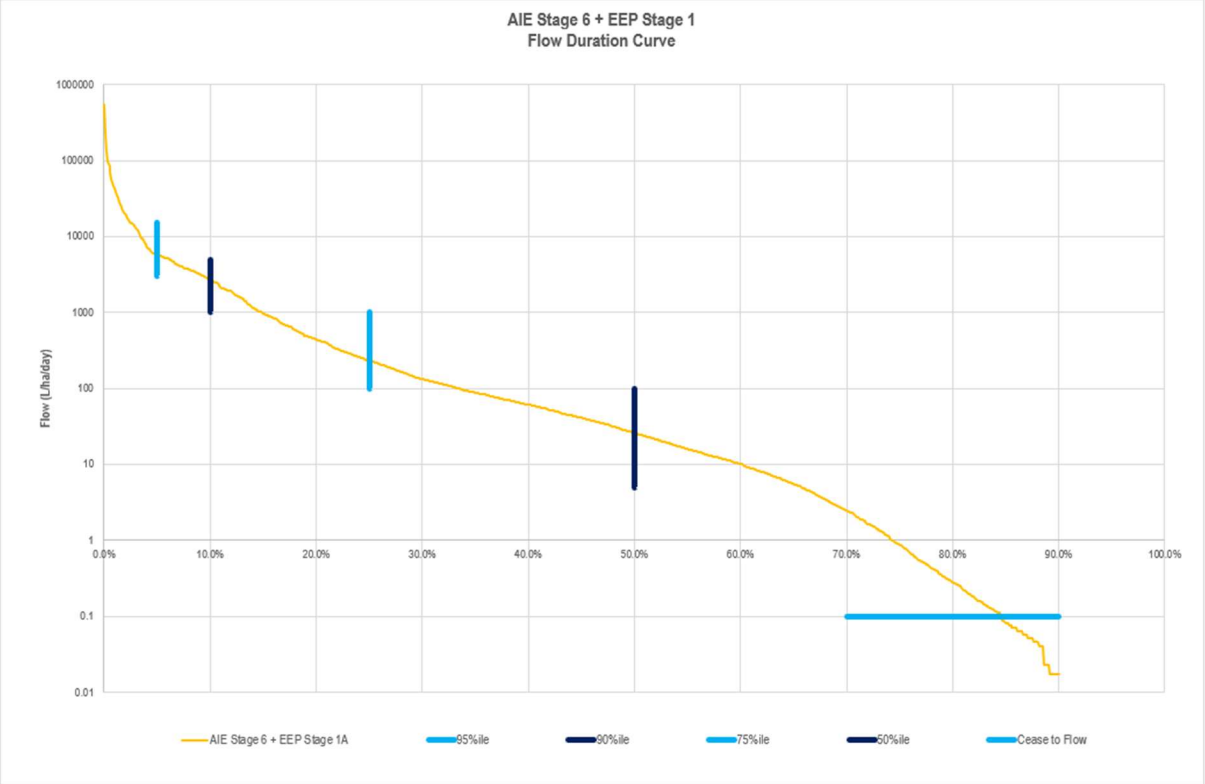


Figure 2: Flow duration curves for the proposed AIE Stage 6 (Lot 4, 6, 7) + EEP Stage 1A water management measures

Should you have any questions, please don't hesitate to contact the undersigned.

Yours sincerely,

Dane Segail
Associate Director – Civil Engineer
02 9439 1777

Appendix A – Catchment Table

AIE Stage 6 and EEP Stage 1A

Catchments & WSUD Elements

Catchment ID	Total Area (ha)	Roof to Tank (ha) (100% impervious)	Roof to drain (ha) (100% impervious)	Paved (ha) (100% impervious)	Landscape (ha) (0% impervious)	Undeveloped (ha)	Estate Road (ha) (85% impervious)	Rainwater Tank			Bio-retention	Interim Retention Pond			Interim Evaporation Pond	
								Volume (kL)	Daily Demand (toilet flushing) (kL/day)	Annual Demand (landscape irrigation) (kL/year)	Filter Area (m^2)	Surface Area (m^2)	Volume (m^3)	Annual Demand (irrigation of undeveloped lots) (kL/year)	Surface Area (m^2)	Volume (m^3)
Aspect Industrial Estate (SSD-10448)																
AIE Lot 1		Area = 6.115ha, excluded from calculation														
AIE Lot 2		Area = 4.017ha, excluded from calculation													-	-
AIE Lot 3		Area = 4.275ha, excluded from calculation														
AIE Lot 4	**6.927**		3.432	1.86	1.635											
AIE Lot 6	**1.959**	0.469	0.489	0.794	0.207						1600					
AIE Lot 7	**2.686**	0.734	0.752	0.649	0.551							3500	3500	20190		
AIE Lot 8		Area = 7.571ha, excluded from calculation													-	-
AIE Lot 9		Area = 11.308ha, excluded from calculation														
Estate Roads 1 & 3	**2.882**						2.882									
Estate Road 2		Area = 0.792ha, excluded from calculation														
Estate Road 4		Area = 0.430ha, excluded from calculation														
Basin		Area = 1.331ha, excluded from calculation														
Future Estate Road 3	**0.358**						0.358									
Basin Bypass		Area = 0.485ha, excluded from calculation														
Riparian Corridor	**3.365**				3.365											
Sub-total - AIE	**18.177**															
Elizabeth Enterprise Precinct Stage 1 (SSD-19618251)																
EEP Lot 1	**1.290**					1.290										
EEP Lot 2	**3.321**		1.598	1.115	0.608											
EEP Lot 4	**2.391**					2.391										
EEP Lot 5	**1.816**					1.816										
EEP Lot 6	**7.062**		4.095	1.902	1.065										95,300	38,800
EEP Lot 7	**6.937**					6.937										
EEP Lot 8	**3.988**					3.988										
Future Café (Benched Serviced)	**0.408**					0.408										
Stage 1 Estate Roads	**6.511**						6.511									
Basin A	**0.848**				0.848											
Future SPS	**0.000**	Area = 0.452ha, excluded from calculation (separate allotment)														
Reserve	**1.529**					1.529										
Future extension of Elizabeth Dr	**0.000**	Area = 1.671ha, excluded from calculation (separate allotment)														
ENZ Zone in Stage 1	**16.324**					16.324										
Sub-total - EEP Stage 1	**52.425**															
Elizabeth Enterprise Precinct Stage 2 (subject to assessment and approval under future DA / SSDA)																
EEP Stage 2 Undeveloped to Evaporation Pond	**35.719**					35.719										
Evaporation basin	**9.531**				9.531											
Undev land below evap basin	**7.538**					7.538										
ENZ Zone in Stage 2	**24.620**					24.620										
Sub-total - EEP Stage 2	**77.408**															
TOTAL AREA - AIE + EEP	**148.010**															

APPENDIX I – Sydney Water Letter of SSA for AIE

(Sydney Water, March 2026)

23 March 2026

Russell Hogan
Mirvac Industrial Developments Pty Ltd
Level 28, 200 George Street
Sydney, NSW, 2000

Reference: SSA_004/Case numbers 208537, 215823, 207995, 215824, 315305, 206750

Letter of Scheme Services Area Allocation for Mirvac Aspect Industrial Estate, 788-882 Mamre Road, Kemps Creek

Dear Mr Hogan,

Sydney Water provides this letter to Mirvac Industrial Developments Pty Limited (**Mirvac**) to include in its future, or modifications to existing, development application for Aspect Industrial Estate (AIE), 788-882 Mamre Road, Kemps Creek.

Sydney Water is the regional stormwater authority for the Mamre Road Precinct.

To develop AIE, Mirvac will need to meet waterway health requirements for the Wianamatta-South Creek System in accordance with Part 2.4 of the Mamre Road Precinct Development Control Plan (**DCP**).

Currently, to meet these requirements within AIE, Mirvac has a mix of on-lot interim stormwater measures and is using their Elizabeth Enterprise Precinct (EEP) land within Aerotropolis Precincts as a pervious offset, referred to as a coupled approach. To reduce the reliance on the coupled approach, Mirvac is seeking to receive Scheme Service Area (SSA) credits once Sydney Water Regional Stormwater Basin 7a (**Basin 7a**) is built by Gibb Group Pty Ltd in 805 Mamre Road, Kemps Creek.

This letter is evidence that Mirvac and Sydney Water have agreed in principle that Mirvac will receive a portion of the SSA once Gibb Group have delivered Basin 7a to contribute to requirements of the DCP in the form of Net Developable Area (**NDA**) in the Wianamatta Creek sub-catchment.

Further information about this arrangement can be provided to consent authorities considering future development applications.

Sydney Water notes that:

- Mirvac has already developed a large portion of the AIE with lots 1, 2, 3, 6, 7, 8, and 9 built or in the process of finalising construction, and lot 4 and 5 is in the process of approval via SSD-98407710 (Mod 12).
- At the time of writing this letter, Mirvac has paid their Infrastructure Contribution Charge for the Integrated Stormwater scheme for lots 1, 2, 3, 6, 7, 8, and 9.
- Gibb Group are in the process of completing the detailed design for Basin 7a, which is likely to be built by the end of 2026 calendar year, depending on Gibb completing the design, commercial agreements, and delivery of the basin.
- The construction of basin 7a will not liberate enough SSA to fully credit the AIE site and decouple it from the EEP site. **This letter does not provide a full decoupling.**

This letter also sets out how the SSA will be allocated, the status of the sub-catchment and expected timeframes/milestones for delivery relating to the SSA allocation.

SSA Approach

The SSA approach is used to ensure the NSW Government's waterway health requirements for the Wianamatta-South Creek catchment are achieved (see section 2.4 of the Mamre Road DCP).

The SSA approach has been developed by Sydney Water in conjunction with NSW Government Agencies, including the Department of Climate Change, Energy, the Environment and Water (DCCEEW) - Conservation Programs, Heritage and Regulation Group (CPHR) and is explained in more detail in the SSA factsheet (Appendix E).

In general, the approach allows:

- for the delivery of regional infrastructure to be fast tracked, whilst still allowing for the waterway health targets to be achieved at all times on a sub-catchment basis;
- developers who are delivering a regional stormwater basin, as per the Integrated Stormwater Scheme Plan, to be able to use the SSA NDA to develop their site up to that amount without, or by reducing the need for, on-lot temporary interim stormwater measures; and
- any remaining SSA NDA to be distributed to other developments or projects within the sub-catchment at Sydney Water's discretion.

Additional NDA above the SSA value proposed in this letter may only be developed if further regional stormwater basins are constructed and a further SSA allocation letter from Sydney Water is provided.

Sydney Water review of key development information

Sydney Water has assessed key information from modelling and information provided by Mirvac relating to the Aspect Industrial Estate development and identified that the Wianamatta–South Creek operational phase stormwater management (quality and quantity (flow)) and Sydney Water general stormwater planning requirements will be met.

Sydney Water retains its right to revoke the SSA allocation prior to development approval if substantial changes are made to the milestones, to the development or to the documents considered in Table 1 below which would lead to non-compliance or excessive delay to delivery of the regional scheme.

Component	Key outcome	Reference
Proposed development footprint and timing	The total Net Development Area (NDA) for the Aspect Industrial Estate is 55.865 ha. The whole proposed development drains to Basin 7. **Currently Approved in the Wianamatta Creek:** The Site only has SSD's for lot 1, 2, 3, 6, 7, 8, and 9 (stages 1 to 5) approved, with the majority already occupied. AIE relies on a mix of interim stormwater works and coupling the development to EEP, required to meet the Wianamatta–South Creek operational phase stormwater management (quality and quantity (flow)) requirements. All the interim stormwater measures implemented on AIE are to remain until both DPHI and Sydney Water inform Mirvac they can be removed. **Future development** The only lot remaining is lot 4 and 5 (stage 6), of which is being proposed to be combined into 1 as part of SSD-10448 (MOD 12). The SSD-10448 (MOD 12) and Lot 6 and 7 are not included as receiving any SSA Allocation as part of this letter and will need to continue to rely on interim stormwater measures and the EEP coupling, until more SSA can be created.	See Appendix A
Catchment plan analysis	The catchment plan has been reviewed by internal subject matter experts and is consistent with Sydney Water's assumptions.	See Appendix B
MUSIC model	The model has been reviewed by internal subject matter experts and is compliant with Sydney Water's scheme MUSIC model and with the Wianamatta stormwater Targets.	See Appendix C
Completion of Concept Design	The design has been completed by Gibb Group and reviewed by internal subject matter experts and is consistent with Sydney Water's scheme plan.	See Appendix D

Table 1 – Key documents reviewed and endorsed by Sydney Water

SSA allocation

The following information outlines the SSA NDA that Sydney Water will allocate in respect of Basin 7a to Mirvac for the Aspect Industrial Estate within the Wianamatta Creek Sub-catchment. Basin 7a is to be delivered by Gibb Group of which they receive their associated SSA. Based on the detail of allocation in the SSA factsheet, Sydney Water will then credit Mirvac with SSA with a portion of the liberated NDA as per the table below. This is because part of the AIE have paid their regional stormwater Infrastructure Contribution charges.

Basin	SSA created by basin delivery (Ha of NDA)	SSA proposed to be used by developer delivering basin (Ha of NDA)	Remaining SSA once basin delivered (Ha of NDA)
7a	42.406	Gibb (805 Mamre Road) = 4.944 ha	Aspect Industrial Estate to use 36.478 ha Additional 0.984 ha to be allocated

Table 2 – SSA generated by delivery of Basin 7a to scheme plan design.

Of the 42.406 ha generated by the construction of Basin 7a, 4.944 is required for the Gibb Group 805 Mamre Road development and it is Sydney Water's intention to allocate the required 36.478 ha to the AIE. A further remaining 0.984 ha will remain unallocated in the Wianamatta sub-catchment and allocated at Sydney Water's discretion.

Sydney Water makes no guarantees as to the timing of the finalisation of the basin 7a project by Gibb Group and the eventual allocation of SSAs to the Mirvac site. Once Basin 7a receives practical completion Sydney Water will formally notify the developers receiving SSA and the consent authorities of the SSA allocation being activated.

SSA milestones to be met by Development

To ensure the timely delivery of basin infrastructure and eligibility for SSA allocation, Sydney Water have determined delivery milestones with Gibb Group. However, Mirvac has no control over when the basin is delivered and there are no milestones required as part of this SSA Allocation letter.

As indicated in the SSA Factsheet (Appendix E), despite the delivery of the basin, Mirvac is still required to deliver on lot works identified by the relevant DCP such as:

- Pervious targets
- Construction phase erosion and sediment control basins
- Other stormwater drainage outcomes including gross pollutant traps, street trees and detention requirements.

These components are to be delivered by Mirvac as per their development consent.

Sydney Water and Mirvac will need to work together to ensure the stormwater reuse required to meet the Wianamatta–South Creek operational phase stormwater management (quality and quantity (flow)) targets is implemented. This may require keeping existing/proposed interim measures and/or allocation of additional irrigation or stormwater reuse within their development footprint/s. Once the full regional scheme is implemented (that is the recycled water scheme is operational) these measures may be removed with Sydney Water's consent.

Approval from Sydney Water

At the time of writing this letter, Sydney Water confirms, to the best of its knowledge, that all information provided by Mirvac meets the agreed requirements set out in the SSA factsheet and requirements discussed with DPHI and Penrith City Council.

Yours sincerely,

Paul Higham

Head of Business Development

Cc: Department of Planning, Housing and Infrastructure

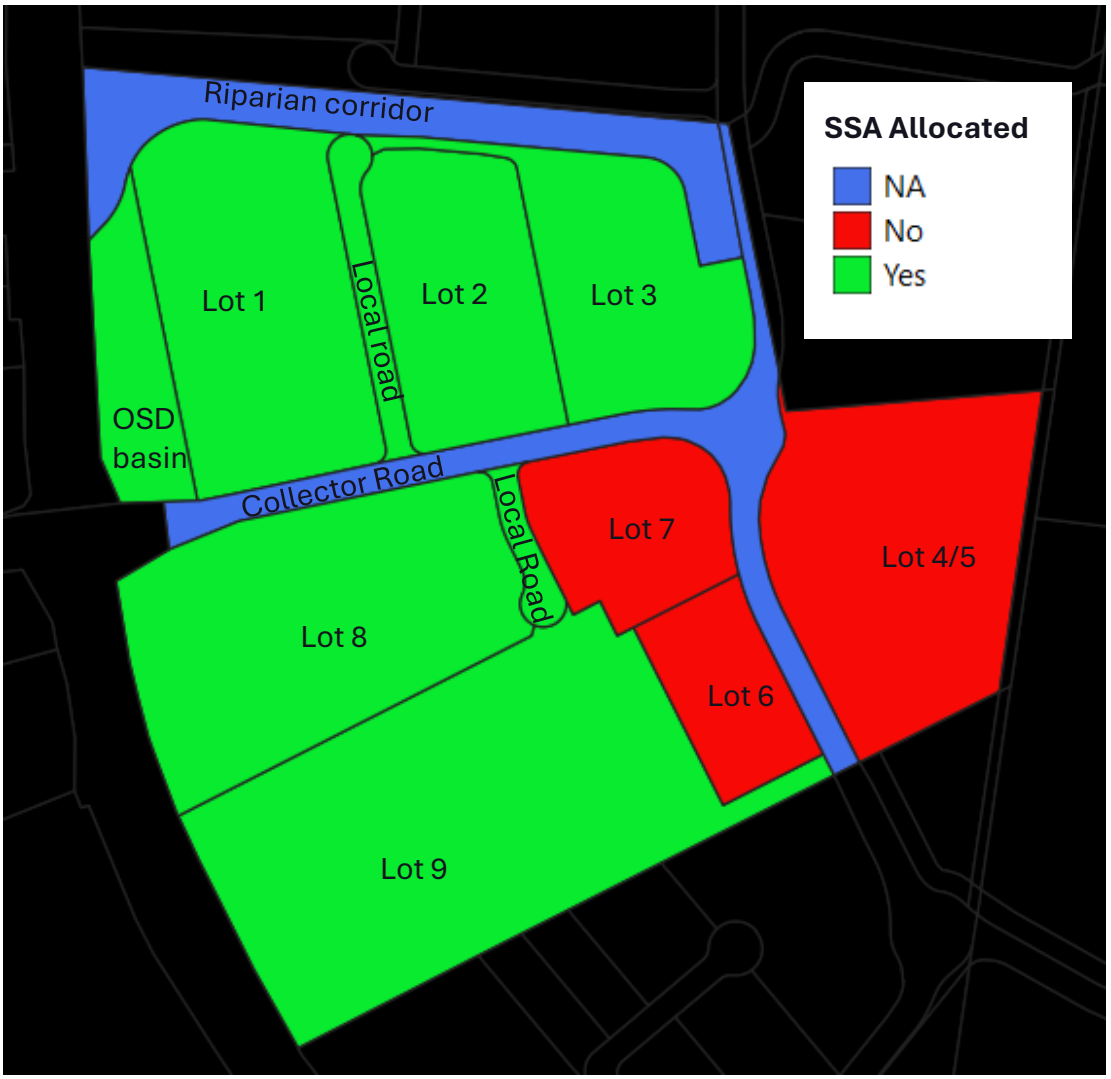
Appendix A - Proposed development footprint

Figure 1 - Development plan for Aspect Industrial Estate

Table 3 – information on the AIE development footprint and SSA Allocation

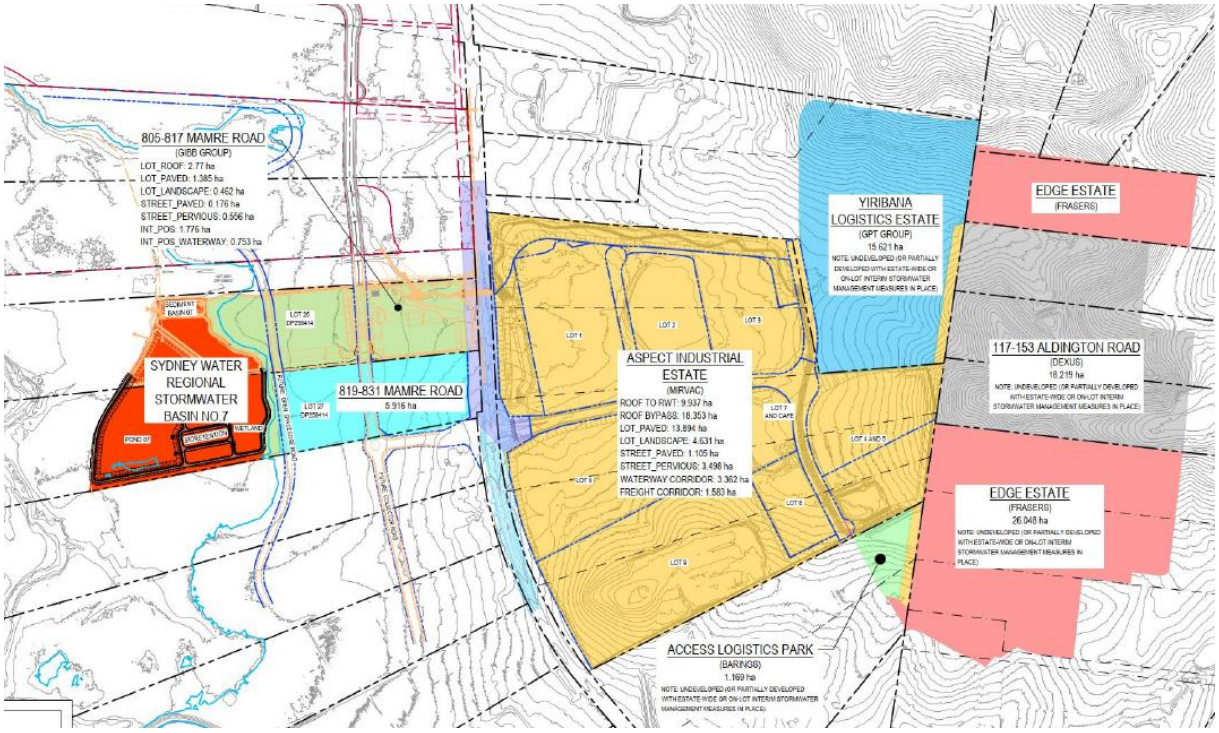
Stage Lot	Area (ha)	NDA (ha)	Approval status	Operational Date (anticipated)	Interim SW scheme	SSA Allocated
Stage 1 Lots 1 and 3	10.39	10.39	Approved	Occupied	Yes	Yes
Stage 1 Stormwater Basin, Roads, Waterways	6.334	3.069	Approved	NA	Yes	Yes (not waterway)
Stage 2 Lot 9	11.406	11.406	Approved	Occupied	Yes	Yes
Stage 3 Lot 2	4.017	4.017	Approved	Occupied	Yes	Yes
Stage 4 Lot 8	7.596	7.596	Approved	Occupied	Yes	Yes
Stage 5 Lot 6 and 7	4.672	4.672	Approved	Occupied	Yes	No
Stage 6 Lot 4 and 5	6.655	6.655	SSD Sears	Late 2026/ early 2027	Yes	No
Collector Road	3.062	0	Approved	NA	NA	No
Total	**54.132**	**47.805**				**36.478**
SSA NDA generated by 7a		**42.406**				
SSA NDA Allocation to Gibb		**4.944**				
SSA NDA Allocation to Mirvac		**36.478**				
SSA NDA remaining		**0.984**				

Figure 2 – Lots within AIE that will received SSA



Appendix B - Catchment plan analysis

Figure 1 – sub-catchment plan for Aspect Industrial Estate/basin 7



Appendix C - MUSIC model for Basin 7a

A. Overview

MUSIC modelling was undertaken by Sydney Water considering the development timeline proposed in Table 1 Appendix A and other anticipated development within the sub-catchment. It is assumed that the construction of Basins 7a will be completed in 2026, prior to the approval of any lot that uses SSA. A Section 73 certificate will only be issued once Basin 7a is delivered to ensure compliance with the Waterway Health Targets.

B. Overall outcome

Table 1 provides an overall outcome of the MUSIC modelling, which indicates the Wianamatta Creek sub-catchment is compliant to both the quality and quantity (flow reduction) targets per year up until the reservoir is operational.

Year	2026		2027		2028	
Component	Water quality	MARV	Water quality	MARV	Water quality	MARV
Wianamatta Creek	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant

Table 1: Wianamatta Creek Sub-catchment and Mamre Road Precinct Compliance Overview Table

C. Wianamatta Creek Sub-catchment detailed analysis

This section provides the detailed results from the MUSIC model per year.

1. 2026

a. Water quality

	Pre Development	Post Development	Results (kg/ha/yr)	Target (kg/ha/yr)
Total Suspended Solids (kg/yr)	1.07E+05	2.16E+04	60.26	80
Total Phosphorus (kg/yr)	220	73.3	0.20	0.3
Total Nitrogen (kg/yr)	1.52E+03	8.00E+02	2.23	4.5
Gross Pollutants (kg/yr)	1.94E+04	3.63E+03	10.13	16

b. MARV

Stormwater Quantity (flow) Targets Option 1 - MARV			
Indices	**Result**	**Comply**	**Target**
MARV (ML/ha/yr)	1.34	Yes	< 2
90%ile	3,113	Yes	1000 to 5000 L/ha/day
50%ile	89	Yes	5 to 100 L/ha/day
10%ile	0	No	0 L/ha/day

2. 2027

a. Water quality

	Pre Development	**Post Development**	**Results (kg/ha/yr)**	**Target (kg/ha/yr)**
Total Suspended Solids (kg/yr)	1.30E+05	2.31E+04	64.45	80
Total Phosphorus (kg/yr)	265	79	0.22	0.3
Total Nitrogen (kg/yr)	1.84E+03	8.62E+02	2.4	4.5
Gross Pollutants (kg/yr)	2.39E+04	3.62E+03	10.10	16

b. MARV

Stormwater Quantity (flow) Targets Option 1 - MARV			
Indices	**Result**	**Comply**	**Target**
MARV (ML/ha/yr)	1.91	Yes	< 2
90%ile	4,877	Yes	1000 to 5000 L/ha/day
50%ile	95	Yes	5 to 100 L/ha/day
10%ile	0	No	0 L/ha/day

3. **2028**

a. **Water quality**

	Pre Development	Post Development	Results (kg/ha/yr)	Target (kg/ha/yr)
Total Suspended Solids (kg/yr)	1.68E+05	1.12E+04	35.83	80
Total Phosphorus (kg/yr)	358	56.1	0.18	0.3
Total Nitrogen (kg/yr)	2.51E+03	6.03E+02	1.93	4.5
Gross Pollutants (kg/yr)	3.08E+04	2.34E+02	0.75	16

b. **MARV**

Stormwater Quantity (flow) Targets Option 1 - MARV			
Indices	**Result**	**Comply**	**Target**
MARV (ML/ha/yr)	1.79	Yes	< 2
90%ile	4986	Yes	1000 to 5000 L/ha/day
50%ile	51	Yes	5 to 100 L/ha/day
10%ile	0	No	0 L/ha/day

D. **Sign off**

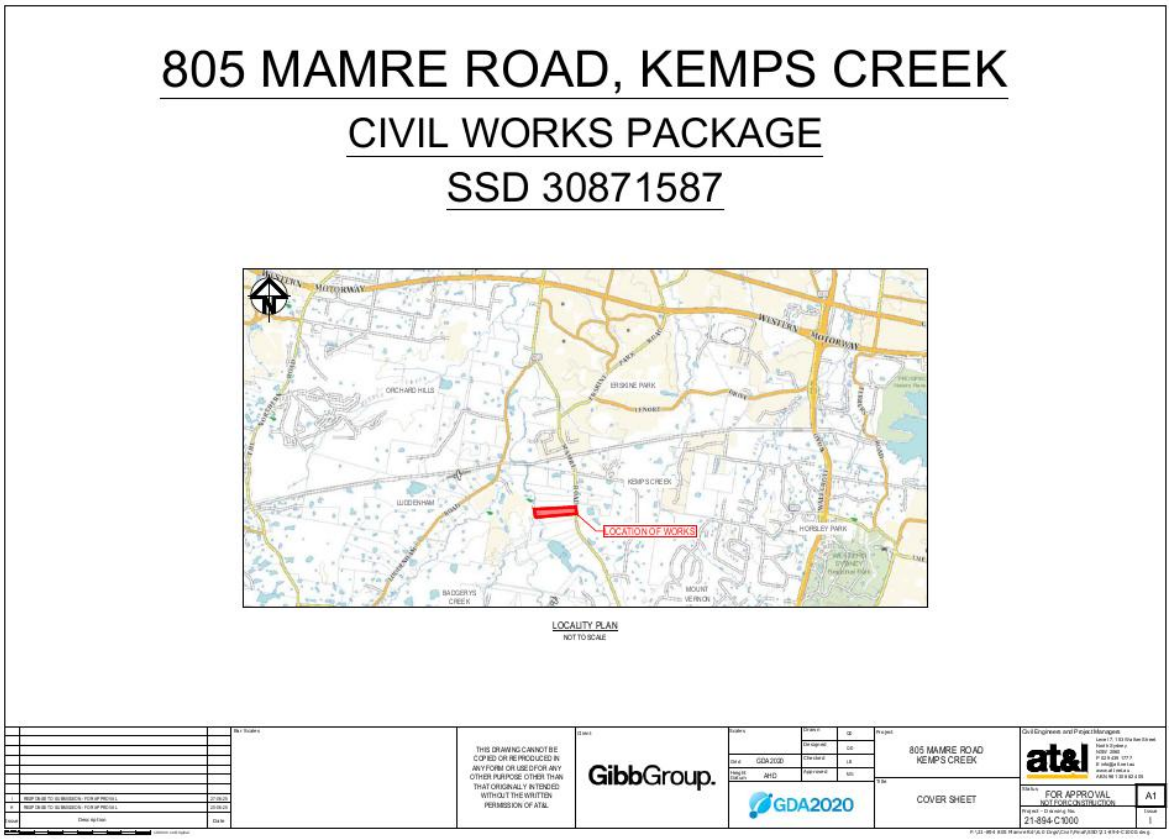
This MUSIC modelling was undertaken as per the Wianamatta Technical guidelines. The sign off indicates the modelling has been undertaken to the guidelines and the information used is accurate at the time of development.

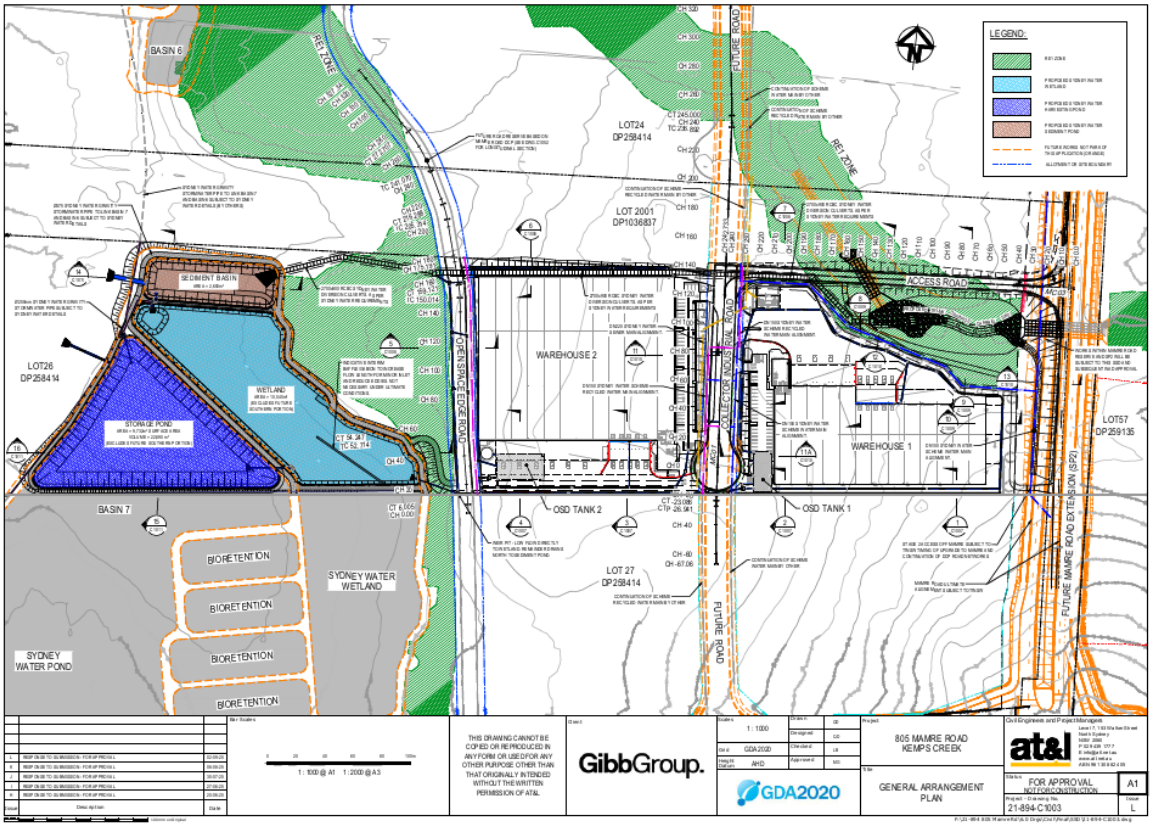
Darren Galia

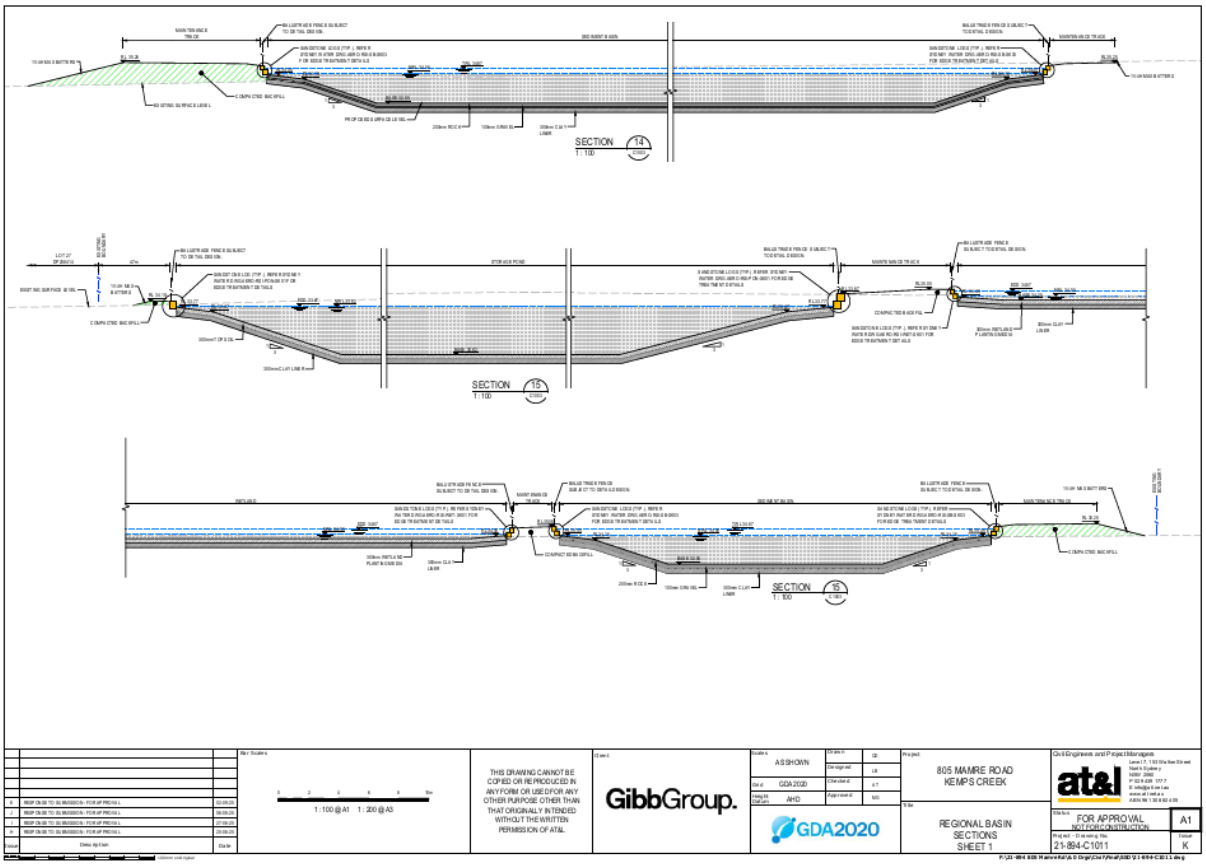
Senior Stormwater Planner (B.eng (Civil), CPENG, NER)

05/03/2026

Appendix D - Concept Design of basin



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KEMPS CREEK
REGIONAL BASIN
SECTIONS
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FOR APPROVAL
NOT FOR CONSTRUCTION
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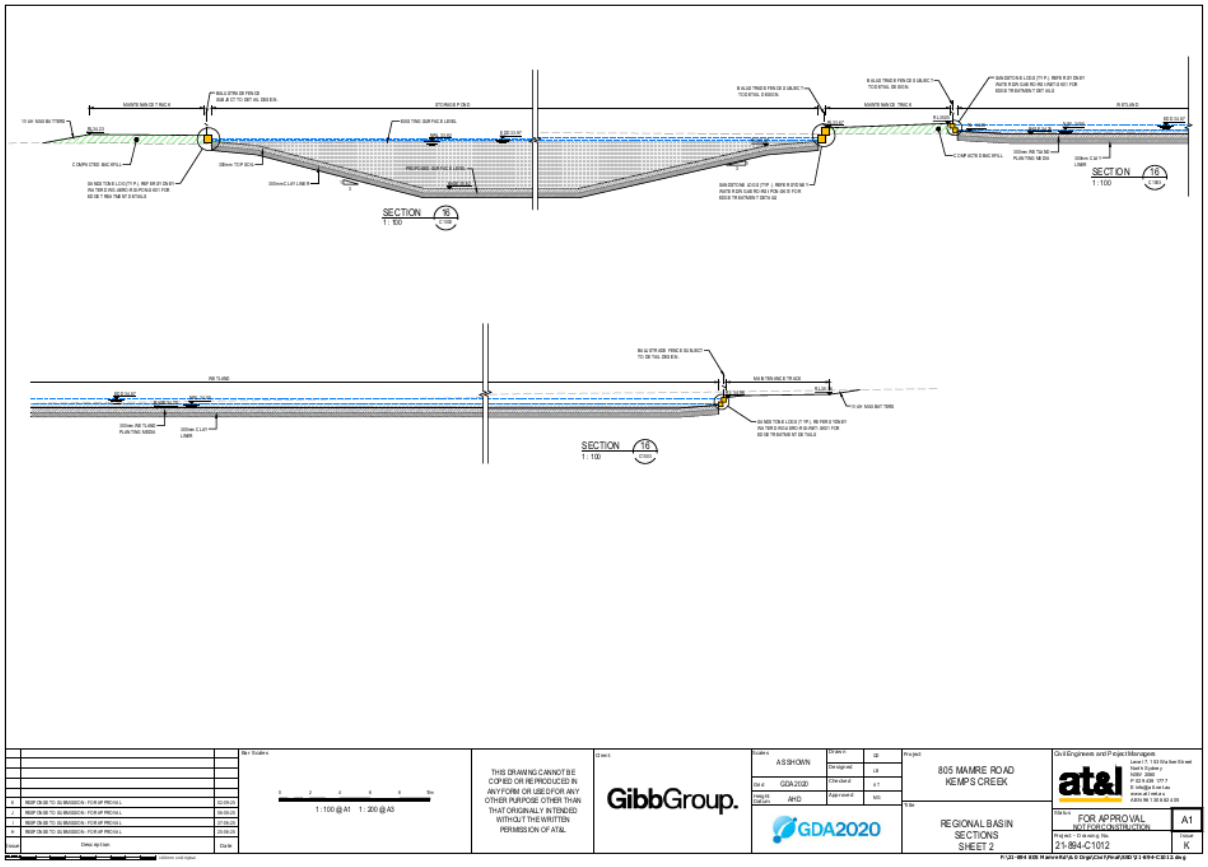
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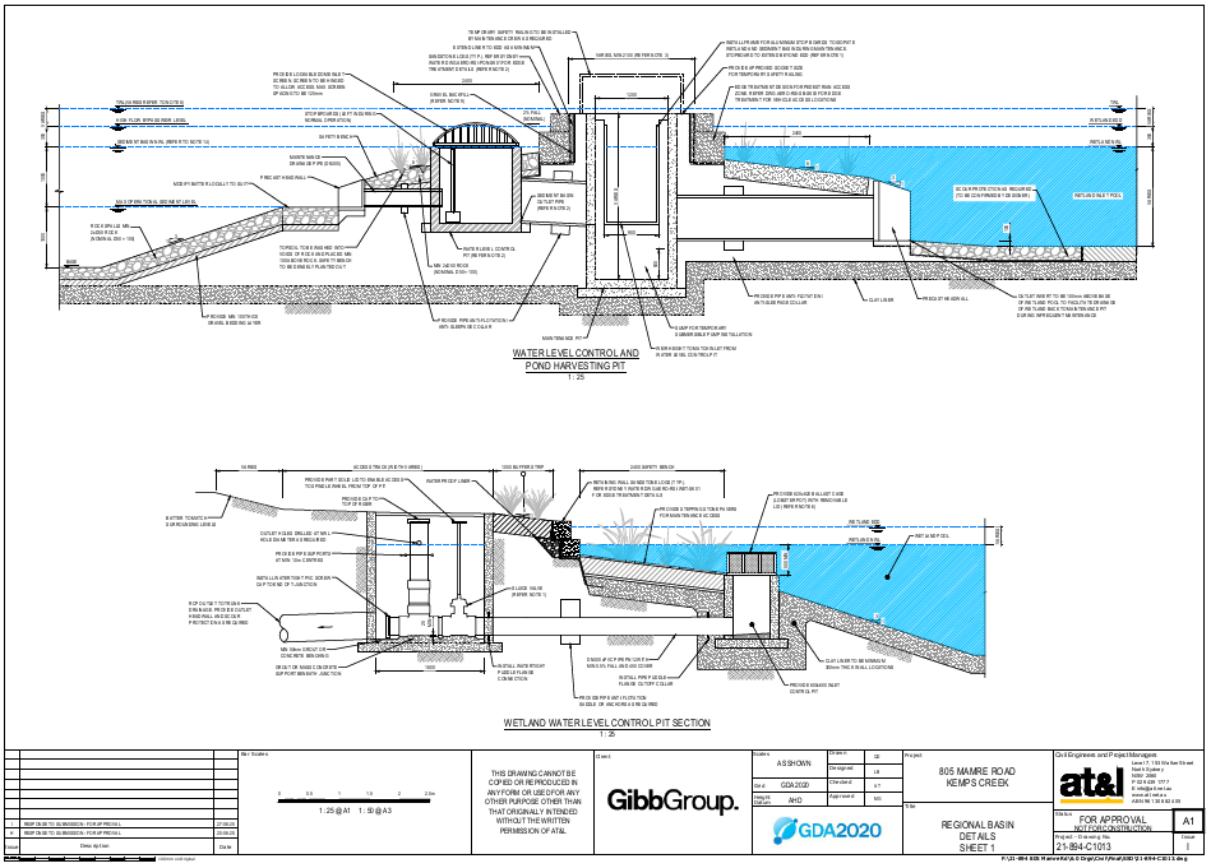
WATER LEVEL CONTROL AND POND HARVESTING PIT
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WETLAND WATER LEVEL CONTROL PIT SECTION
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REGIONAL BASIN DETAILS SHEET 1
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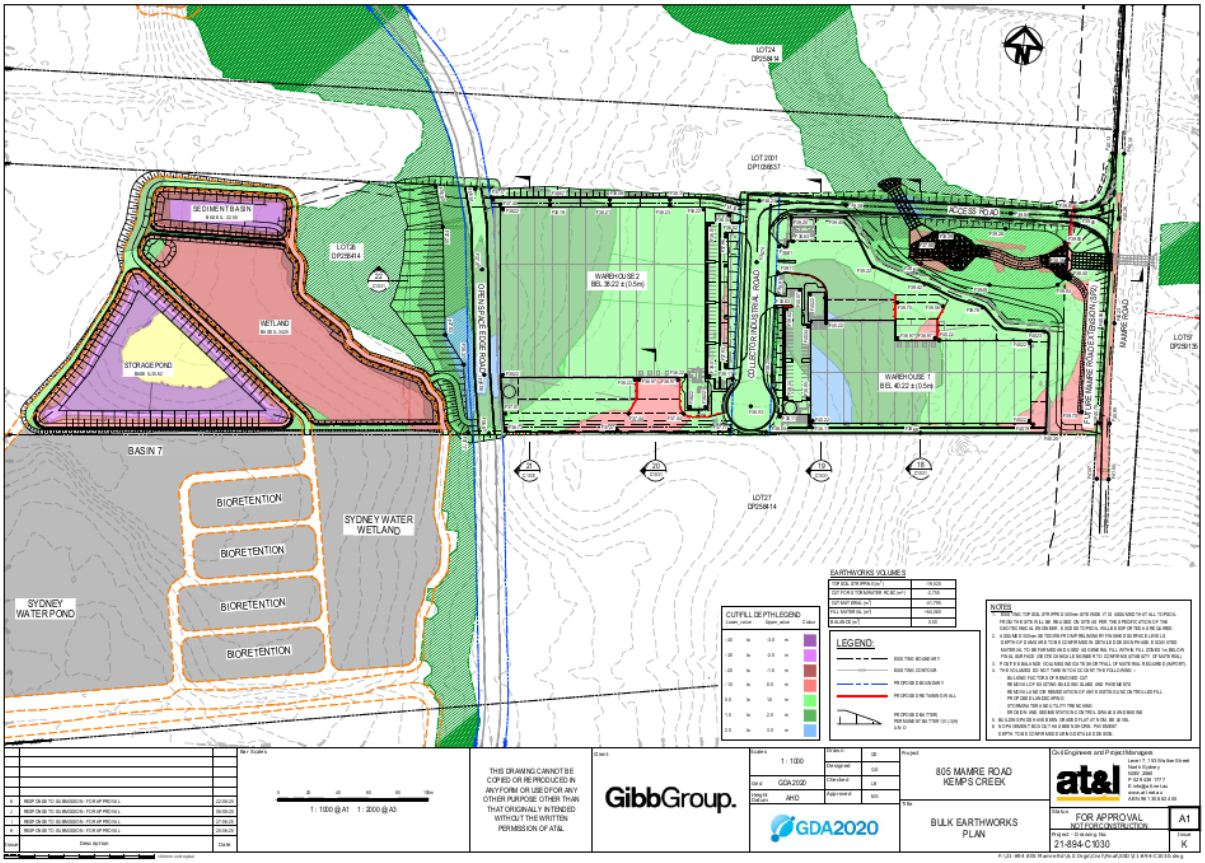
SEDIMENT BASIN
WETLAND
STORAGE POND
BASIN 7
BIORETENTION
BIORETENTION
BIORETENTION
BIORETENTION
SYDNEY WATER WETLAND
SYDNEY WATER POND
WAREHOUSE 2
WAREHOUSE 1
ACCESS ROAD
OBERON ADVANCE ROAD
QUEENSTOWN EXTRA ROAD
EXT. OF MAMRE ROAD EXTENSION (SPR)
MAMRE ROAD
LOT 2001 DP1208837
LOT24 DP258814
LOT27 DP258814
LOT28 DP258814
LOT5F DP259135
EARTHWORKS VOLUMES
CUT/FILL DEPTH LEGEND
LEGEND
NOTES
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Appendix E - SSA factsheet

Stormwater Scheme Serviced Area

This document provides an explanation of the Stormwater Scheme Serviced Area (SSA), including guiding principles and how it is applied within the Mamre Road and Aerotropolis Initial Precincts.

- Sydney Water is the Regional Stormwater Authority for the Mamre Road and Aerotropolis Initial Precincts
- Sydney Water are to achieve the Wianamatta stormwater quality/flow targets of the relevant DCP's by implementing regional stormwater treatment and harvesting infrastructure
- Sydney Water has developed the SSA to fast track the delivery of regional infrastructure and minimise the need for temporary on-lot works.

Current on-lot approach to meet stormwater targets

Development that precedes the delivery of regional stormwater infrastructure must meet the DCP requirements within the development using interim infrastructure. This approach generates several issues:

- An additional cost to the developer through:
  - Designing, modelling, constructing, operating, and managing the interim solution
  - Sterilising developable land until the Sydney Water regional approach is operational (approximately 25-30% of each development would be allocated to meet the controls)
  - Decommissioning of interim infrastructure once the regional scheme is operational.
- a burden on both State Government and Councils for assessing, conditioning, approving and ensuring compliance of interim on-lot systems.

Proposed solution to reduce on-lot controls

To progress to the regional scheme assets, Sydney Water has developed an accounting approach with the following objectives:

1. Provide a robust solution that can be deployed in line with development and achieve the waterway health targets at all times
2. Optimisation of the overall integrated stormwater scheme cost (the "Development Service Plan" – DSP)
3. Incentivise construction of the regional stormwater basins by developers
4. Facilitate development and approvals of employment lands.
5. Be efficient and effective as possible by undertaking regular reviews and when required update the approach.

Sydney WATER

Principles of SSA accounting scheme

The following principles have been developed to achieve the above objectives and to ensure consistency and transparency.

Definition: The Stormwater Scheme Serviced Area is an area of land that can be developed without the need for interim/temporary on-lot stormwater quality/ quantity infrastructure, excluding those that are required specifically in the DCP, such as gross pollution traps, on-site detention, passively watered street trees, erosion and sediment control and sediment basins (refer 13).

Key principles of SSA

1. Stormwater management targets (including both the adopted water quality and water quantity targets) will be met at all times.
2. The targets will be assessed on a sub-catchment basis (as shown in Figure 1 for the Mamre Road Precinct). Sub-catchments have been determined to be consistent with discharge into the receiving waterway and align with more recent published Stormwater Scheme Music models. For further detail on the MUSIC models, please contact Sydney Water.

Generation of SSA

3. SSA will be generated at the practical completion of construction of stormwater basins (when 'practical completion' is awarded by Sydney Water).
4. The 'currency' will be net developable area (NDA) as per Sydney Water's net developable area factsheet
5. The amount of area available for development without requiring interim temporary on-lot infrastructure (generally a temporary bioretention or pond with a dedicated irrigation area) to meet the waterway health targets will be based on the following formula:

$$\text{SSA} = \left(\frac{\text{(Constructed basin footprint)}}{\text{(Total subcatchment basin footprint)}} \right) \text{X NDA of Subcatchment}$$

6. The formula used assumes the delivered basin will achieve the modelled flow reductions via harvesting/ re-use. If the proposed harvesting does not achieve the required flow reductions in the period until the regional recycled water network is operational additional measures will be required.
7. The basin footprints will be based on the values in the most recent published MUSIC models.
8. The above formula is not applicable for the Aerotropolis Initial Precincts as there is no finalised scheme plan at the time of writing. Sydney Water will negotiate with developers on a case-by-case basis until the scheme plan is complete.

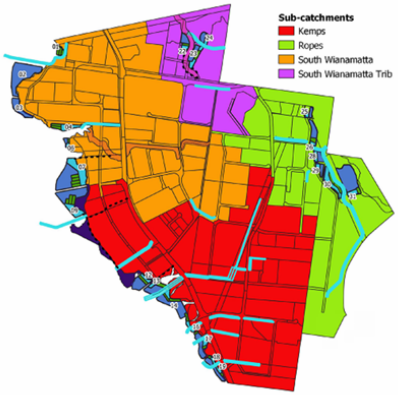


Figure 1 – Mamre Road Precinct sub-catchment for SSA allocation. Note for the sub-catchment and basins per sub-catchments is as follows:

- Wianamatta is basins 1 to 7,
- Kemps is basins 9 to 19,
- Wianamatta Trib. is basins 22 to 24, and
- Ropes is basins 25 to 31.

Allocation of Scheme Serviced Area

9. SSA will be allocated by Sydney Water via a SSA Allocation Letter that can be included in the DA/ SSDA documentation. The letter will outline:
   a. the amount of SSA being awarded to the developer
   b. the developments/land where the developer can use the SSA which will be based on the land that the developer currently owns within the sub-catchment
   c. processes/requirements/timeframes for the developer to implement ensuring SSA will be appropriately used
10. SSA can **only** be used in the sub-catchment in which they are generated and cannot be transferred between sub-catchments (see point 2)
11. SSA cannot be traded as a commodity in any form.
12. SSA will be allocated by Sydney Water in the following order as a guide but is at Sydney Waters discretion:
    a. Firstly, to the specific land parcel on which the basin sits, regardless of ownership, provided this land sits within the same sub-catchment to which the basin services

b. Secondly, to enable development in the landholding/s, within the same sub-catchment and at the time of agreement, of the proponent who has entered into an agreement and constructed the basin. If multiple developers build one basin the allocation of SSA between the parties will need to be agreed prior to approval. If a proponent acquires land in the sub-catchment after the agreement is formed, it will not be eligible to add to this SSA allocation.

c. Any SSA remaining after allocations from a and b above, will be allocated to the developments in that sub-catchment that have already paid the Infrastructure Contribution.

d. Sydney Water will need to determine the removal of any on-lot interim works as part of this allocation.

e. Once point c above is exhausted, Sydney Water will look to allocate any residual SSA to developments at the SSD/DA submission stage on a first case basis.

13. It should be noted that sub-arterial, arterial and collector roads and other infrastructure have already been accounted for as part of the MUSIC modelling and therefore do not require any additional allocation.

SSA recipient requirements:

14. Recipients of SSA will be required to meet the construction phase IWCM controls (i.e. stormwater targets) in the relevant DCP for their site. Unless otherwise advised by Sydney Water, sediment basins are to be provided and operated by the developer within the development with a minimum storage volume of 250 m³/hectare. Consistent with the Technical Guidelines, these sediment basins are to remain active until the regional basin becomes operational or until notified by Sydney Water that they can be removed.
    a. This can generally be achieved by a combined sediment basin and on-site detention system at the lowest area of the development. The staging of development must ensure the sediment basin can stay active until notified by Sydney Water.
15. Recipients of SSA must meet any on-site stormwater detention requirements of Council as outlined in the DCP or as required for floodplain management within the development.
16. The SSA allocation letter will provide timeframes for expected milestones to be achieved to ensure timely delivery of the regional basin/s. If the developer can not meet these timeframes Sydney Water and the consent authority will need to be consulted. Sydney Water has the right to remove the SSA allocation from a developer if they are not able to achieve these timeframes, especially if there is another developer who can.

Accounting scheme manager

17. Sydney Water will manage the SSA accounting process and be responsible for and certify that the Stormwater targets are being achieved by Scheme Infrastructure at all times.
18. Sydney Water will provide quarterly reporting on the status of the accounting approach including for each sub-catchment:
    a. details of basin stage including functional design, detailed design, under construction, practical completion, establishment, and full operation
    b. total SSA generated
    c. total SSA allocated
    d. total net developed area to determine what SSA's have been used and remain
    e. total impervious and pervious areas
    f. certification/compliance with the stormwater targets based on MUSIC models.
19. As part of the quarterly reporting Sydney Water will provide details of active sediment basins within development sites.
20. Once a regional basin is built to practical completion, it is at Sydney Water's discretion as to when the components of the basin (i.e. sediment basin, wetland, bioretention, or pond) will become operational. As indicated in note 14 Sydney Water will ensure the waterway health targets are achieved at all times and this might require some infrastructure be operational at different times. Generally, the bioretention and wetland component can take up to 24 months to be fully operational, however the sediment basin and pond will likely be operational at practical completion.

Site works not covered by this SSA approach

21. Development sites must still meet the stormwater requirements identified by the relevant DCP not directly associated with the regional stormwater targets, including:

- On lot Gross Pollutant Traps
- On site detention
- Passively Irrigated Street Trees
- Naturalised Trunk Drainage Channels and existing waterways
- Other stormwater drainage outcomes.

Illustrative example 1 (hypothetical example only)

Basins 28 and 29 are within the Ropes Creek catchment. Developer A owns 66 ha land of which 36 ha draining to and including Basins 28 and 29, and the remaining 28 ha of NDA drains to Kemps Creek.

Developer A already has approval to develop stage 1 (11 ha) which includes interim on-lot stormwater measures and an irrigation area (pink area in map). However, the developer wants to develop stage 2 (16 ha) via constructing Basins 28 and 29 and has received an SSA Allocation Letter indicating 20 ha of NDA will be allocated and the requirements and timeframes for construction of the basins.

As the SSA (20 ha) is less than the total NDA required (36 ha) by the developer there is no excess SSA.

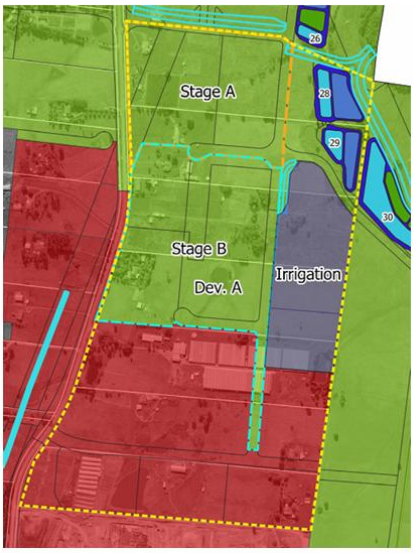
Developer A constructs Basins 28 and 29 and operates the harvesting components to meet the stormwater targets generating approximately 20 ha of SSA that can be used for the stage 2 works but still needs to keep the stage 1 interim measures (includes the irrigation area) to meet stage 1 requirements.

Due to the shortfall of SSA, Developer A must either:

- construct additional basins within Ropes Creek sub-catchment or;
- wait until any available excess SSA can be provided from other future basin constructions by other developers or Sydney Water, or
- provide additional interim on-lot measures for any future development.

The SSA generated by Basin 28 and 29 cannot be used by Developer A for NDA draining to the Kemps Creek sub-catchment (areas in red on the southern portion of development) as it's in a separate sub-catchment.

Sydney Water to provide ongoing certification that stormwater targets are achieved.



Basins 28 and 29 are constructed by Dev A generating 20 ha of SSA to be allocated in accordance with note 12.

Illustrative example 2 (hypothetical example only)

Developer Z has developed within the Kemps Creek sub-catchment based on interim on-lot assets but now needs to remove those measures to free up space for a stage 2.

Developer Z approaches Sydney Water to deliver Basin 9 which will generate 99 ha of SSA within the sub-catchment. However, the proposed basin is located on privately owned land on a lot that also has 12 ha of developable IN1 land

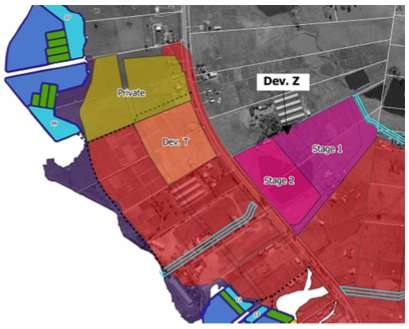
Sydney Water agrees to work with Developer Z to design, approve (via part 5), and deliver basin 9. Land acquisition must be resolved prior to any significant design/approval works occurring or proposed SSD/DA's being allocated via the letter of SSA allocation.

Once resolved, Developer Z can submit the letter as part of the SSD for stage 2 to remove any interim on-lot stormwater measures for their site.

Based on the prioritisation process, when the basin is delivered the allocation of SSA will be provided to allow:

- 12 ha of NDA on the lot which the basin is located if the land acquisition included this area and there was no subdivision.
- 18 ha to the developer Z that delivers the basin, 11 ha to stage 1 and 7 ha to stage 2.
- 69 ha is excess (99-12-18 ha) for Sydney Water to allocate. Developer T is the only other developer in that sub-catchment that has developed and paid an infrastructure charge on a 7 ha development.
- This then leaves 62 ha that can be allocated to future developments that will submit a DA/SSD within this sub-catchment.

Sydney Water to provide ongoing certification that stormwater targets are achieved.



Basin 9 is constructed by Developer Z generating 65 ha of SSA.

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