



INTEGRATED WATER MANAGEMENT PLAN

250415 - LANE COVE NORTH SOCIAL AND AFFORDABLE HOUSING

Contents

DOCUMENT SUMMARY	3
1 INTRODUCTION	4
1.1 PURPOSE	4
1.2 DESIGN LEGISLATIONS & GUIDELINES	4
2 SITE ASSESSMENT	4
2.1 EXISTING SITE	4
2.2 PROPOSED DEVELOPMENT	4
3 PREVIOUS ASSESMENT	5
4 STORMWATER QUANTITY	5
5 STORMWATER QUALITY	6
6 STORMWATER DIVERSION	8
7 CONCLUSION	9
APPENDIX A	10
APPENDIX B	11
APPENDIX C	12

DOCUMENT SUMMARY

Project Number: 250415
Project Name: Lane Cove North Social and Affordable Housing
Prepared For: Link Wentworth
Date Prepared: 16.04.2026
XK Project Director: Duncan Marshall

Status	Issue	Date	Prepared By	Approved By
For S4.55 Approval	1	16.04.2026	Evan Legg	Duncan Marshall

1 INTRODUCTION

1.1 PURPOSE

This report has been prepared to support the S.45 application at 618 – 624 Mowbray Road West and 25-29 Mindarie Street, Lane Cove North to provide comment on the design of the stormwater system and how the previously achieved requirements are affected.

1.2 DESIGN LEGISLATIONS & GUIDELINES

The following design standards and guidelines have been used as reference in the preparation of this report.

- AS/NZS 3500.3 Plumbing and Drainage Part 3: Stormwater drainage
- Lane Cove Council DCP Part O Stormwater Management
- Australian Rainfall & Runoff (AR&R) 2019

2 SITE ASSESSMENT

2.1 EXISTING SITE

The site currently falls from north to south from Mowbray Road West to Mindarie Street, with the highest and lowest elevation of approximately RL 50.6 and RL 40.8 mAHD respectively. There are several structures with large pervious areas and multiple trees covering the site, which are to be demolished and removed during construction, Figure 1.

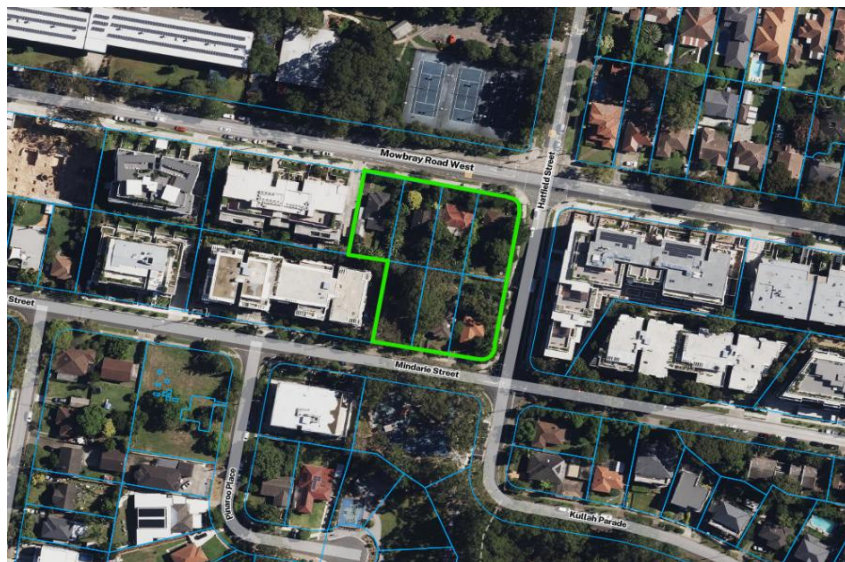


Figure 1 - EXISTING SITE CONDITIONS

2.2 PROPOSED DEVELOPMENT

This stage of the development will include the demolition of seven single story residential buildings, clearing of trees and the decommissioning of underground services. Excavation will be undertaken to facilitate a partial underground basement and trenching to alter the existing sewer and stormwater infrastructure.

3 PREVIOUS ASSESMENT

In March of 2025, WSP were engaged to complete a Stormwater Management and Flood Impact and Risk assessment report for the site at 618-624 Mowbray Road. This report was part of the previous SSDA application in response to Secretary's Environmental Assessment Requirements. The conditions included the *details the proposed drainage design (stormwater and wastewater) for the site including any on-site treatment, reuse and detention facilities, water quality management measures and nominated discharge point.*

Section 3 of this report provided the design requirements of the On-site Detention (OSD) and Water Sensitive Urban Design (WSUD) which led to the design of the stormwater system as shown in the civil plans of Appendix A. These calculations are now to be revised due to the design progressing and changing, the following sections cover these revised calculations. Section 3 of the report has been provided in Appendix B.

4 STORMMATER QUANTITY

To provide comment on the detention requirements for the site, the WPS team followed Lane Cove Councils DCP guide to calculate the Permissible Site Discharge Rate (PSD) and Site Storage Requirement (SSR). Table 1 shows this values applied to calculate the PSD and SSR to be adopted into the site.

Table 1 - WSP OSD Requirements as per the DCP

Criteria	Value	Impervious Area	Site Requirements
PSD	140L/s/ha	0.2373ha	33.22L/s
SSR	0.025m ³ /m ²	2,046m ²	51.15m ³

Since the SSDA determination, the design has further developed leading to changes in the imperious and pervious areas. To ensure these changes do not impact OSD design as assessed by WPS, a DRAINS model was created independently to the WPS model.

The arrangement of nodes in the DRAINS model (Figure 2) was to create a tailwater condition accurate to what would occur with the diversion flows around the site connection at the same pit.

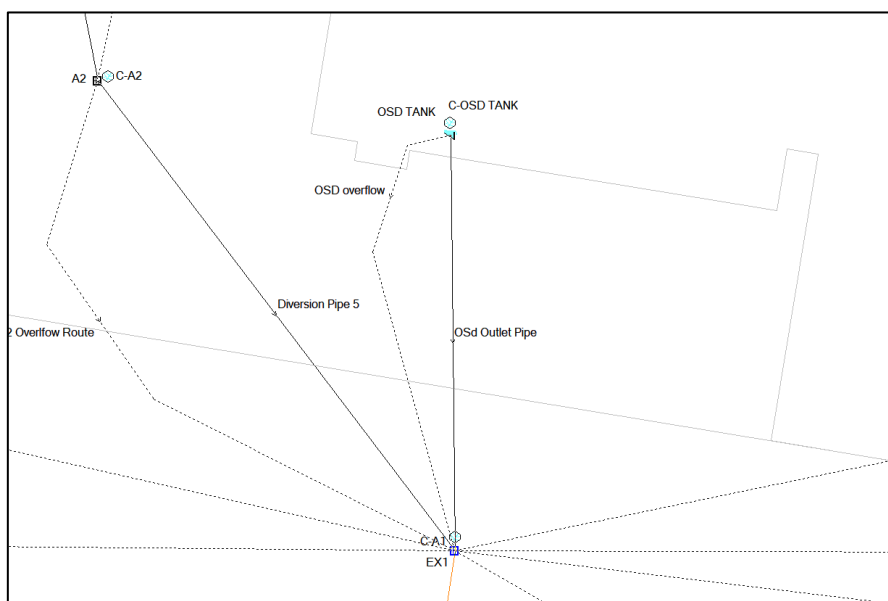


Figure 2 - DRAINS Model (XK)

The model was able to show that with the increased impervious area, the OSD size and orifice plate were suitable to maintain the discharge rate when compared with the WPS assessment. A summary of the achieved stormwater requirements is in Table 2.

Table 2 - DRAINS Results

	Requirement*	Achieved
Max. Permissible site discharge	33.22 L/s	29 L/s
Min. Site storage requirement	51.15 m ³	210 m ³

*Requirement values taken from WSP Report Dated March 2025

5 STORMWATER QUALITY

To assess the water quality, WSP's report developed a MUSIC model with targets following the Australian Runoff Quality guide were adopted as Lane Cove Council do not have treatment targets as part of the DCP standard. This targets and the achieved reductions have been provided in Table 3 with the full report provided in Appendix B.

Table 3 - WPS MUSIC Model Results

	Requirement*	Achieved
Total Suspended Solids	80%	80%
Total Phosphorus	45%	75.4%
Total Nitrogen	45%	48.2%
Litter and coarse sediment	Retention of litter >50mm for flows up to the 3 month ARI peak flow. Retention of sediment coarser than 0.125mm for flows up to the 3-month ARI peak flow.	100%

The design progressed with inclusion of a rainwater tank and changes to catchment areas resulting in a review of the treatment methods. Using the simulation software MUSIC, the pollutants generated from the development were assessed by XK. The MUSIC model (Figure 3) treatment train has 5 x PSORB Filters within the chamber with a OceanGuard Basket intercepting the runoff from a section of the podium area. The roof runoff is directed to the rainwater tank before entering the WSUD chamber. As the site is within a Sydney water drinking catchment, the rainwater has had a reuse factor of 36.3kL per year applied for external irrigation use, in accordance Using MUSIC in the Sydney Drinking Water Catchment guide.

A section of the landscaping bypasses the WSUD chamber due to level difference, so an additional OceanGuard Basket within the boundary pit (Pit B1) will provide treatment for these flows.

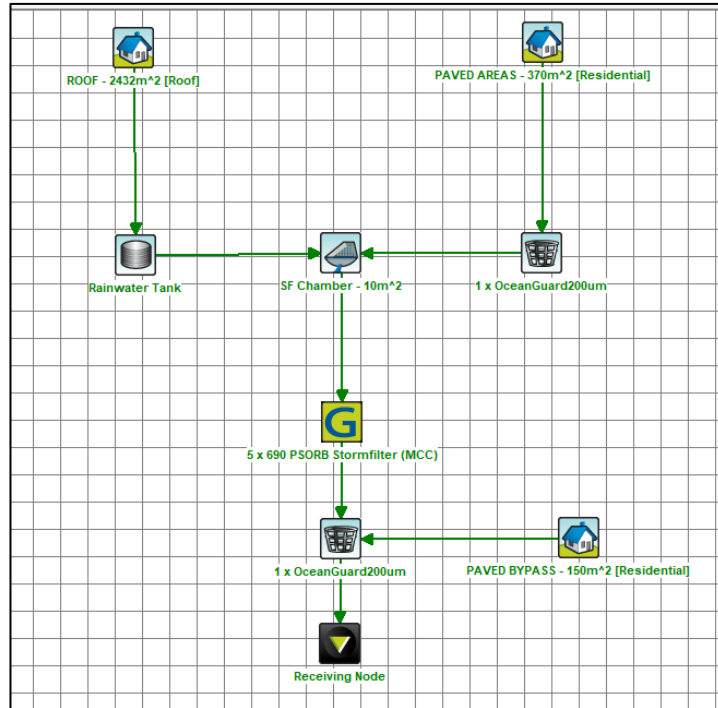


Figure 3 - MUSIC Model Layout

With this arrangement, the results in Table 4 were achieved.

Table 4 - MUSIC Results (XK)

	Requirement*	Achieved
Total Suspended Solids	80%	93%
Total Phosphorus	45%	84.2%
Total Nitrogen	45%	62.7%
Litter and coarse sediment	Retention of litter >50mm for flows up to the 3 month ARI peak flow. Retention of sediment coarser than 0.125mm for flows up to the 3-month ARI peak flow.	100%

*Requirement values taken from WSP Report Dated March 2025

As there are no specific Lane Cove Council treatment targets to achieve, the above reductions shown a beneficial outcome and improved result when compared to the initial WSP assessment.

6 STORMWATER DIVERSION

There is an existing 525mm stormwater piping passing through the subject site from north to south. There is also an existing sewer line crossing at multiple points heading the same direction. Both of these pipes are proposed to be redirected around the excavation required for the basement level. Due to limited space between the structure and western boundary, the two services run closely together, sharing an easement.

The pipe is proposed to be upgraded to a 600mm reinforced concrete pipe. This will assist with offsetting any hydraulic losses due to the several changes in direction to suit the new alignment. The larger pipe also improves the overall piped system capacity which help in alleviating some of the flooding on Mowbray Road West. The stormwater diversion starts with the reconstruction of the existing junction pit in Mowbray Road West, then continues south along the western boundary. The new pipe alignment runs across the site, ensuring to avoid any potential impacts to existing trees proposed to be retained where possible. The pipe then connects into an existing kerb inlet pit in Mindarie Street which will be reconstructed to suit the larger pipe diameter. A 2.50m wide easement will also be established over the pipe to provide Council with a Positive Covenant to access the stormwater assets within the site to carry out maintenance and replacement works as necessary.

The sewer system diversion follows a similar alignment to the proposed stormwater diversion, crossing the stormwater pipe close to the northern boundary. These design of both pipes was prepared in close coordination with the hydraulic engineer to ensure clearances were achieved in accordance with Sydney Water's requirements. The design of the sewer line can be reviewed in the documentation completed by Intrax.

The DRAINS model was completed of both the pre and post development systems to compare the flow rates, hydraulic grade lines and downstream impact. The longitudinal sections produced in DRAINS can be reviewed on sheets SCK05201 & SCK05201 of Appendix A which shows the hydraulic grade line after the development has reduced at the existing inlet.

The civil engineering drawings and DRAINS model of the diversion were provided to Council for review and discussion. Xavier Knight received confirmation from Council that the design is satisfactory as per the correspondence provided in Appendix C of this report.

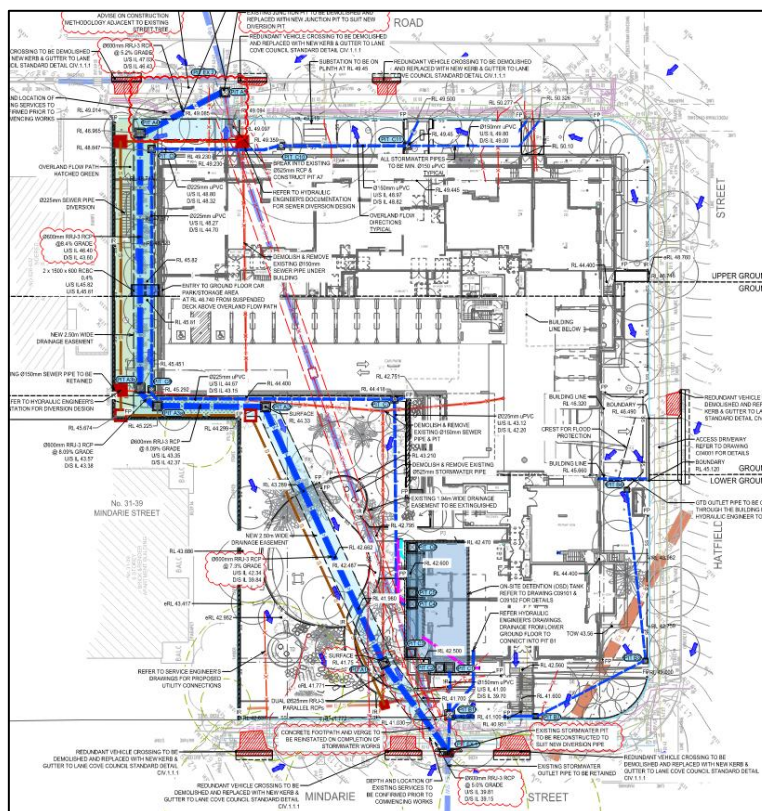


Figure 4 - Plan showing proposed stormwater diversion

7 CONCLUSION

The design of the stormwater quantity and quality systems have been prepared following the same design intent as per the WSP report prepared for SSDA application. A review of the developed design system also demonstrates compliance with Council's DCP. The design of the stormwater diversion has been prepared in coordination with the hydraulic engineer and endorsement of the design have been received from Council.

This report has been prepared based on information available at the time of writing. Should new information become available, elements of the civil and stormwater strategy will need to be updated as part of the design development.

Kind Regards,



Duncan Marshall
CIVIL GROUP LEADER & PRINCIPAL
BEng (Civil) (Hons) MIEAust CPEng (Civil) NER

APPENDIX A

Civil and Stormwater Plans

LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING

618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

CIVIL ENGINEERING PLANS



LOCALITY PLAN
SOURCE: NEARMAPS - NOT TO SCALE

DRAWING INDEX	
SHEET No.	SHEET TITLE
C00000	COVER SHEET
C00001	GENERAL NOTES
C02001	SEDIMENT & EROSION CONTROL PLAN
C02101	SEDIMENT EROSION CONTROL DETAILS
C02201	BULK EARTHWORKS PLAN
C03001	CIVIL WORKS PLAN
C07201	DRIVEWAY - VEHICLE VERTICAL CLEARANCE
C09001	DETAILS - SHEET 1
C09002	DETAILS - SHEET 2

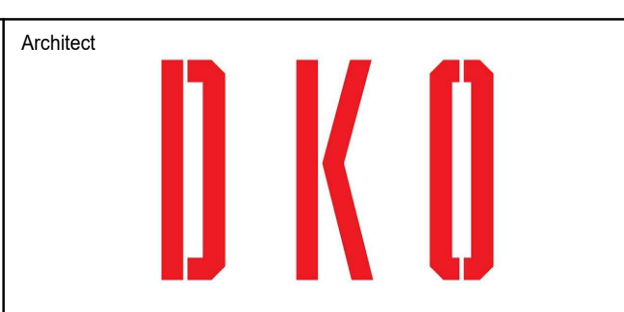
PRINTING NOTE:
THIS DRAWING TO BE PRINTED IN COLOUR.



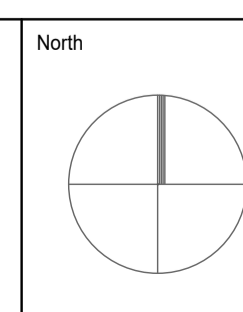
NOT TO BE USED FOR CONSTRUCTION

PRELIMINARY

Rev	Description	Eng	Draft	Date
3	70% DETAILED DESIGN	AH	AH	06.11.2025
2	50% DETAILED DESIGN	AH	AH	19.09.2025
1	50% DETAILED DESIGN	AH	AH	29.08.2025



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Project	LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING 618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE
Sheet Subject	COVER SHEET

Scale at A1	Drawn	Approved
N.T.S.	AH	FC
Job No	Drawing No	Revision
250415	C00000	3

GENERAL

- ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE IN MILLIMETERS AND ALL LEVELS ARE IN METRES (U.N.O.).
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING OF THESE DRAWINGS. USE FIGURED DIMENSIONS ONLY.
- SETTING OUT DIMENSIONS AND LEVELS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS, INCLUDING AMENDMENTS OF THE RELEVANT STANDARDS AND CODES OF PRACTICE EXCEPT AS VARYED BY THE CONTRACT DOCUMENTS AND THE LAWS AND REQUIREMENTS OF THE STATUTORY AUTHORITIES.
- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH ALL THE WORKCOVER REQUIREMENTS AND OCCUPATIONAL HEALTH AND SAFETY ACT REGULATIONS
- WHERE THE ENGINEERS ARE ENGAGED FOR INSPECTIONS AND/OR SUPERVISION A MINIMUM OF 24 HOURS NOTICE SHALL BE GIVEN.
- DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER-STRESSED. TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, TEMPORARY BRACING, SHORING AND THE LIKE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONSTRUCTION USING THESE DRAWINGS SHALL NOT COMMENCE UNTIL A CONSTRUCTION CERTIFICATE IS ISSUED BY THE PRINCIPAL CERTIFYING AUTHORITY

GROUND PREPARATION:

- EXCAVATION AND GROUND PREPARATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION FOLLOWING THE RECOMMENDATIONS OF THE GEOTECHNICAL REFERENCES AND ANY ADDITIONAL INSTRUCTIONS THAT MAY BE PROVIDED BY A GEOTECHNICAL ENGINEER DURING THE COURSE OF THE PROJECT.

STORMWATER DRAINAGE

- SELECTION AND INSTALLATION OF PITS, PIPES, TANKS AND TRENCHES SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS/NZS3500, LOCAL AND STATUTORY REQUIREMENTS (U.N.O.)
- THE CONTRACTOR SHALL IDENTIFY AND LOCATE ALL SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- SEDIMENT AND EROSION CONTROLS TO BE PROVIDED IN ACCORDANCE WITH ALL LOCAL AND STATUTORY REGULATIONS.
- WHERE REQUIRED, STORMWATER EASEMENTS SHALL BE OBTAINED BY THE OWNER. ALL NEGOTIATIONS/COMPENSATION PAYMENTS AND THE INTEGRATION OF ANY EASEMENTS INTO THE TITLE DOCUMENTS SHALL BE BY THE OWNER UNLESS AGREED OTHERWISE.
- REFER TO ARCHITECT FOR BUILDING AND DRIVEWAY SETOUT.
- PIPE POSITIONS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON-SITE AND SHALL CONFORM WITH THE INTENT OF THE DESIGN.
- THE ENGINEER SHALL BE ADVISED IF ANY EXISTING STRUCTURES ARE WITHIN THE ZONE OF INFLUENCE OF AN EXCAVATION. ANY REQUIRED UNDER-PINNING OR PIERING SHALL BE PROVIDED.
- WHERE EXCAVATING ADJACENT TO BOUNDARIES, ADEQUATE SHORING SHALL BE PROVIDED.
- THE CONTRACTOR SHALL ENSURE THAT ALL NEW STRUCTURES ARE FOUNDED BELOW THE ZONE OF INFLUENCE OF ANY EXCAVATIONS WHETHER THEY BE FOR PIPELINES, TANKS OR OTHER DRAINAGE FACILITIES.
- UNLESS NOTED OTHERWISE, THE MAXIMUM DEVIATION FROM NOMINATED LEVELS SHALL BE ±10mm, EXCEPT IN INSTANCES WHERE SUCH A DEVIATION COULD HAVE ADVERSE EFFECTS, IN WHICH CASE THE ENGINEER SHALL BE CONSULTED.
- LOAD CLASS FOR COVERS/GRATES SHALL BE IN ACCORDANCE WITH AS3996 - 2019. COMMON CASES ARE SUMMARISED IN THE FOLLOWING TABLE:-

CLASS	LOADING	DESCRIPTION
A	10kn	INACCESSIBLE TO VEHICLES, PEDESTRIAN TRAFFIC ONLY
B	80kn	FOR USE ON FOOTWAYS WHERE IT IS POSSIBLE FOR LIGHT VEHICLES OR LIVESTOCK TO USE THE PEDESTRIAN FACILITY
C	150kn	FOR USE IN PEDESTRIAN ACCESS INCLUDING OCCASIONAL MOTOR VEHICLES WITH WHEEL LOADS NOT EXCEEDING 3.7 TONNES OR FOR USE IN MINOR RESIDENTIAL ROADS & CUL-DE-SACS CARRYING SLOW MOVING COMMERCIAL VEHICLES (GENERATING NO IMPACT LOADING) WHERE WHEEL LOADS WILL NOT EXCEED 7.5 TONNES
D	210kn	FOR USE IN CARRIAGEWAYS OF ROADS WHICH CARRY FAST MOVING HEAVY VEHICLES WITH WHEEL LOADS NOT EXCEEDING 5.2 TONNES OR FOR USE IN AREAS TRAFFICKED BY SLOW MOVING HEAVY VEHICLES WITH WHEEL LOADS NOT EXCEEDING 10.5 TONNES

- UNTIL COMPLETION OF ALL WORKS, THE CONTRACTOR SHALL FIRSTLY FILTER ALL STORMWATER IN ACCORDANCE WITH APPROVED DETAILS TO ENSURE THE REMOVAL OF ALL CONCRETE AND PLASTERING FINES, AND OTHER BUILDING SITE POLLUTANTS.
- THE CONTRACTOR SHALL SEEK DIRECTION BEFORE COMMENCING ANY EXCAVATION THAT MAY RESULT IN DAMAGE TO ANY EXISTING TREES.
- RETAINING STRUCTURES SHALL BE PROVIDED AS REQUIRED IN ORDER TO ACHIEVE THE LEVELS NOMINATED ON THE DRAWINGS. THESE STRUCTURES SHALL COMPLY WITH ALL LOCAL AND STATUTORY REGULATIONS, AND MAY REQUIRE DESIGN BY AN ENGINEER.
- UNLESS NOTED OTHERWISE, WHERE A PIT INVERT IS BELOW THE INVERT OF THE LOWEST OUTLET PIPE, THE CONTRACTOR SHALL EITHER PROVIDE DRAINAGE HOLES IN THE BASE OF THE PIT OR ELSE FILL THE BASE OF THE PIT WITH MASS CONCRETE TO THE INVERT OF THE LOWEST OUTLET PIPE.
- WHERE REQUIRED BY REGULATIONS, STEP IRONS IN ACCORDANCE WITH AS1657 SHALL BE INSTALLED IN DEEP PITS/TANKS TO ALLOW ACCESS FOR MAINTENANCE. PIT COVERS OVER DEEP PITS SHALL BE 'CHILD-PROOFED' BY BOLTING THEM DOWN, EXCEPT WHERE THE COVER WEIGHS OVER 30kg.
- ALL IMPERVIOUS SURFACES SHALL BE GRADED SUCH THAT THEY ARE FREE DRAINING.
- YARD PITS SHALL BE PROVIDED AS REQUIRED. YARDS SHALL BE GRADED TO FALL TO PITS UNLESS INDICATED OTHERWISE (eg. BY DESIGN CONTOURS, SPOT LEVELS OR A NOTE).

STORMWATER DRAINAGE CONTINUED

- WHERE REQUIRED BY THE PRINCIPAL CERTIFIER, WORK-AS-EXECUTED DETAILS SHALL BE PREPARED BY A REGISTERED SURVEYOR/CHARTERED PROFESSIONAL ENGINEER VERIFYING THAT THE DRAINAGE SYSTEM HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE DRAWINGS. ANY DEVIATIONS FROM THE APPROVED PLANS SHALL BE NOTED AND BROUGHT TO THE ATTENTION OF THE ENGINEER. ADEQUATE INSPECTIONS SHOULD BE CARRIED OUT DURING THE COURSE OF CONSTRUCTION.
- WHERE AN ENGINEER'S CERTIFICATE WILL BE REQUIRED, THE ENGINEER SHALL BE CALLED ON TO INSPECT THE WORKS PRIOR TO ANY CONCRETE POURS, PRIOR TO BACKFILLING AROUND ANY TANKS, AND AT THE COMPLETION OF WORKS. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE BEFORE AN INSPECTION IS REQUIRED.
- ANY PROPOSED ALTERATIONS TO THE DETAILS SHOWN ON THE DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- LEAF SCREENS, SILT CONTROLS AND ANY OTHER POLLUTANT CONTROL DEVICES SHALL BE REGULARLY SERVICED TO ENSURE THAT THE DRAINAGE SYSTEM REMAINS UNBLOCKED AND OPERATES AS ORIGINALLY INTENDED.
- OVERLAND FLOW PATHS SHALL BE REGULARLY MAINTAINED AND KEPT FREE OF OBSTRUCTIONS TO THE FLOW OF WATER. SUBSOIL DRAINAGE LINES SHALL BE PROVIDED BEHIND RETAINING WALLS AND OTHER AREAS AS REQUIRED TO RELIEVE HYDROSTATIC PRESSURE AND DRAIN GROUND WATERS. CONNECT INTO THE DRAINAGE SYSTEM IN SUCH A WAY AS TO AVOID BACKFLOW OF STORMWATER INTO THE SUBSOIL DRAINAGE LINE. IF IN DOUBT REFER TO ENGINEER.
- NEW FENCES, RETAINING WALLS AND OTHER LANDSCAPING ITEMS SHALL BE DETAILED IN SUCH A WAY SO AS TO AVOID IMPOUNDING OR DIVERTING SURFACE WATERS ON TO ADJOINING PROPERTIES.
- UPON COMPLETION, PIPE/PIT EXCAVATIONS SHALL BE BACKFILLED WITH SUITABLE COMPACTED MATERIAL IN ACCORDANCE WITH NOTES BELOW.
- ALL PVC PIPES ARE TO BE:-
 - SEWER GRADE (U.N.O.)
 - INSTALLED AND BACKFILLED IN ACCORDANCE WITH AS2566.1
- CONCRETE PIPES ARE TO BE:-
 - STRENGTH LOAD CLASS 4 (U.N.O.)
 - INSTALLED AND BACKFILLED IN ACCORDANCE WITH AS3725 WITH CLASS H2 BEDDING SUPPORT.
- PIPES ARE TO BE INSTALLED WITH 450mm MINIMUM COVER (U.N.O.). WHERE ADEQUATE COVER CANNOT BE PROVIDED PIPES SHALL BE ENCASED IN CONCRETE, REFER TO ENGINEER FOR DETAILS.
- CONTRACTOR SHALL ADEQUATELY SHIELD PIPES AGAINST CONSTRUCTION AND PERMANENT LOADS.
- PIPES HAVE BEEN DESIGNED TO WITHSTAND SM1600 TRAFFIC LOADING IN ACCORDANCE WITH AS5100

EXISTING SERVICES

- UTILITY INFORMATION SHOWN ON THE PLANS IS NOT INTENDED TO DEPICT MORE THAN THE PRESENCE OF ANY SERVICES. ACTUAL LOCATIONS SHOULD BE VERIFIED BY HAND EXCAVATION PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS.
- THE CONTRACTOR SHALL ENSURE THAT SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED AT ALL TIMES. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING WHERE REQUIRED. ONCE THE WORKS ARE COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD ALL DISTURBED AREAS.

EROSION CONTROL

- TEMPORARY PROTECTION FROM WIND AND WATER EROSION WILL BE UNDERTAKEN ON LANDS WHERE WORKS ARE UNLIKELY TO PROCEED FOR PERIODS OF AT LEAST TWO MONTHS AND FINAL SHAPING HAS NOT BEEN COMPLETED (eg. TOPSOIL STOCKPILES). THIS MAY BE ACHIEVED WITH A VEGETATIVE COVER. A RECOMMENDED LISTING OF PLANT SPECIES FOR TEMPORARY COVER IS AS FOLLOWS:-
SEPTEMBER - MARCH SOWING - JAPANESE MILLET @ 50 KG/HA
APRIL - AUGUST SOWING - OATS/IRYECORN @ 50 KG/HA
- TETILA RYE @ 5 KG/HA
FOOT AND VEHICULAR TRAFFIC SHOULD BE KEPT AWAY FROM ANY REHABILITATED AREAS WHERE PRACTICAL.
- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS ARE TO BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER FOR DUST CONTROL.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN ON EACH PRECINCT/AREA AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

LAND DISTURBANCE

- THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE AND PRACTICAL. TO THIS END, WORKS IS TO BE UNDERTAKEN IN THE FOLLOWING GENERAL SEQUENCE:-
 - CONSTRUCTION OF SEDIMENT AND EROSION CONTROLS PRIOR TO ANY WORK COMMENCING.
 - REHABILITATION OF ANY DISTURBED LANDS WITHIN 20 WORKING DAYS.
 - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
- THE SITE MANAGER (PRINCIPAL CONTRACTOR) IS TO INFORM ALL CONTRACTORS AND SUBCONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
- TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED IS TO BE STRIPPED AND STOCKPILED AT THE NOMINATED LOCATION.
- CUT AND FILL BATTER GRADIENTS TO BE 1 VERTICAL (MAX) : 2 HORIZONTAL (MIN).

INSPECTION AND MAINTENANCE:

- THE SITE MANAGER (PRINCIPAL CONTRACTOR) WILL ENSURE THAT ALL SEDIMENT AND EROSION CONTROL WORKS ARE LOCATED AS INSTRUCTED IN THIS SPECIFICATION OR IN ANY SUBSEQUENT SITE INSTRUCTION
- ALL BUILDERS AND SUB-CONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES BY THE SITE MANAGER (PRINCIPAL CONTRACTOR) IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.
- RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER ARE TO BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT AND GENERALLY OFF SITE.
- AT LEAST WEEKLY, THE CONTRACTOR SHALL INSPECT THE SITE AND ENSURE THAT:-
 - DRAINS OPERATE EFFECTIVELY AND INITIATE REPAIR OR MAINTENANCE AS REQUIRED.
 - SPILLED SOIL (OR OTHER MATERIAL) IS REMOVED FROM HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, GUTTERS, PAVED AREAS AND DRIVEWAYS.
 - SEDIMENT IS REMOVED FROM BASINS AND/OR TRAPS WHEN LESS THAN 20m OF TRAPPING CAPACITY REMAIN PER 1000m OF DISTURBED LANDS, AND/OR LESS THAN 500mm DEPTH REMAINS IN THE SETTLING ZONE. ANY COLLECTED SEDIMENT WILL BE DISPOSED IN AREAS WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS IS UNLIKELY.
 - REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND INITIATE UPGRADING OR REPAIRS AS APPROPRIATE.
- THE CONTRACTOR SHALL PROVIDE A DETAILED 'LOG BOOK' RECORDING INFORMATION & DATA WITH RESPECT TO THE SEDIMENT & EROSION CONTROL PLAN AND TO ENSURE SEDIMENT CONTROL DEVICES ARE FUNCTIONING PROPERLY. THIS IS TO BE KEPT ON SITE AT ALL TIMES AND UPDATED DAILY. INFORMATION RECORDED MUST INCLUDE:-
 - RAINFALL EVENTS
 - RAINFALL IN MILLIMETRES
 - RESULTS OF ANY INSPECTIONS

SEDIMENT CONTROL

- THE ARRANGEMENT OF SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN ARE INDICATIVE ONLY AND RELATE TO A PARTICULAR STAGE OF THE CONSTRUCTION WORKS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN, CONSTRUCT AND MAINTAIN ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED FOR THE CONTRACTOR'S CONSTRUCTION METHODOLOGIES, IN ORDER TO MEET ALL CONDITIONS AND REQUIREMENTS IMPOSED BY ANY STATUTORY AUTHORITY.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO ANY SITE DISTURBANCE.
- STOCKPILES ARE NOT TO BE LOCATED WITHIN 2m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS. WHERE THEY ARE BETWEEN 2m AND 5m FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION OF DOWNSLOPE WATERWAYS (eg. THROUGH INSTALLATION OF SEDIMENT FENCING).
- WATER IS TO BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
- A STRIP OF TURF 600mm WIDE IS TO BE PLACED IMMEDIATELY BEHIND THE KERB ON ALL NEW ROADS TO ACT AS A FILTER TRAP.
- ALL EXPOSED FILL AREAS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS OPERATION.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) IS TO BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS AFTER PLACEMENT.
- TEMPORARY SEDIMENT AND EROSION CONTROL STRUCTURES ARE TO BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED AND WHEN REMOVAL IS APPROVED BY THE SITE SUPERINTENDENT.

UTILITIES

- LOCATE ALL PIPES, DUCTS, CABLES, RETAINING WALLS AND EXCAVATIONS OUTSIDE A 1:2 (VERTICAL-HORIZONTAL) ZONE OF INFLUENCE FROM THE BOTTOM EDGE OF THE FOOTING.
- THE CONTRACTOR MUST TAKE EVERY PRECAUTION TO PROTECT EXISTING GAS, WATER, STORMWATER, SEWERAGE, ELECTRICITY, TELEPHONE CONDUITS AND OTHER EXISTING WORKS AND SERVICES.
- CIVIL WORKS REQUIRED TO PROTECT EXISTING SERVICES IS TO BE AT THE FULL COST OF THE CONTRACTOR.

PAVEMENTS

- WHERE NEW WORKS ARE TO MATCH EXISTING, THE LEVELS GIVEN ARE APPROXIMATE ONLY. ALL NEW WORKS MUST NEATLY JOIN IN WITH EXISTING LEVELS.
- PRIOR TO THE CONSTRUCTION OF NEW ROAD PAVEMENTS, THE SUBGRADE CBR SHALL BE CONFIRMED.
- ADJUST SERVICE COVERS AS NECESSARY TO SUIT PROPOSED LEVELS PROVIDED ON ENGINEERING DRAWINGS.
- ALL JUNCTIONS BETWEEN NEW AND EXISTING PAVEMENT/KERB AND GUTTER WORKS SHALL BE NEATLY SAW CUT.

EARTHWORKS

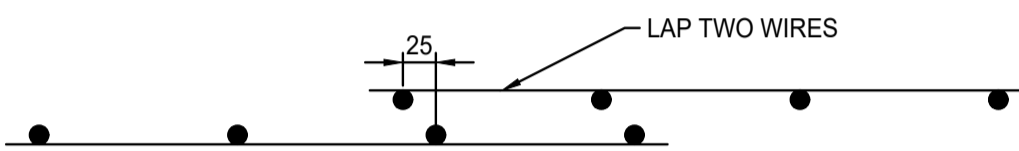
- ALL TREES AND SHRUBS (UNLESS NOTED TO BE PROTECTED ON THE LANDSCAPE PLANS), RUBBLE, EXISTING PAVEMENT AND EXISTING STRUCTURES WITHIN THE SITE SHALL BE REMOVED AND REUSED OR RECYCLED WHERE POSSIBLE. WHERE NOT POSSIBLE, THIS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF AS PART OF THE CONTRACT.
- ANY TREES WITHIN THE WORKS AREA WHICH, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, ARE UNSOUND OR WOULD CONSTITUTE A DANGER, SHALL BE CUT DOWN AND REMOVED (EXCEPT THOSE IDENTIFIED AS BEING PROTECTED). ALL STUMPS OF TREES CUT DOWN WITHIN THE BOUNDS OF THE CONSTRUCTION AREA WHICH ARE LARGER THAN 250mm IN GIRTH, SHALL BE COMPLETELY REMOVED.
- ALL ROOTS SHALL BE REMOVED FOR A DEPTH OF 1m. CAVITIES FORMED BY THE REMOVAL OF ROOTS SHALL BE BACKFILLED AND COMPACTED.
- AFTER CLEARING AND GRUBBING ARE COMPLETE, THE CONTRACTOR SHALL STRIP AND STOCKPILE TOPSOIL FROM THE CLEARED AREA (INCLUDING AREAS THAT HAVE BEEN CLEARED AND GRUBBED). REMOVAL OF TOPSOIL FROM ANY SECTION OF THE WORKS SHALL ONLY COMMENCE AFTER SEDIMENT AND EROSION CONTROLS HAVE BEEN IMPLEMENTED.
- TOPSOIL SHALL BE STRIPPED FROM WITHIN THE FORMATION AREAS OF ROADS, PATHWAYS, BUILDING PADS AND MISCELLANEOUS PAVEMENTS, INCLUSIVE OF BATTERS, AND IS TO BE CONSERVED FOR THE TOP-DRESSING OF FORMED FOOTWAYS, BERMS AND BATTERS TO THE SPECIFIED DEPTH, OR WHERE NO DEPTH IS SPECIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DETERMINED ON-SITE.
- EXCAVATED FILL MATERIAL NOT SUITABLE FOR REUSE ON-SITE MUST BE REMOVED OFF-SITE OR OTHERWISE USED IN LANDSCAPING AREAS WHERE AGREED IN ADVANCE WITH ENGINEER.
- EROSION AND SEDIMENT CONTROL MUST BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL CITY COUNCIL DCP, DA AND CC CONDITIONS, AND BE INSTALLED TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO LIMIT THE CREATION OF DUST NUISANCE, WHICH MIGHT ARISE DURING THE EXECUTION OF THE WORKS.
- FILL MATERIAL MUST BE PLACED IN MAXIMUM LAYERS OF 200mm (LOOSE) AND COMPACTED TO THE LEVELS AS SPECIFIED ON THE DRAWINGS.
- COMPACTED FILL MUST BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AS3798 AND AS GIVEN IN THE CIVIL SPECIFICATION.
- THE DESIGN CONTOURS AND LEVELS SHOWN ON THE EARTHWORKS DRAWINGS ARE THE FINISHED SURFACE LEVELS UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL PROOF ROLL THE PREPARED SUBGRADE AND EXCAVATED SURFACES IN THE PRESENCE OF THE CONTRACT ADMINISTRATOR. PROOF ROLLING SHALL COMPRISE 6 PASSES OF A MINIMUM 12 TONNE DEADWEIGHT ROLLER. THE FINAL PASS IS TO BE WITNESSED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER. THERE SHALL BE NO VISIBLE DEFLECTION OF THE SURFACE BEING PROOF ROLLED.

REINFORCEMENT:

- FIX REINFORCEMENT AS SHOWN ON THE DRAWINGS. THE TYPE AND GRADE IS INDICATED BY THE SYMBOL AS SHOWN BELOW ON THE DRAWINGS. THIS IS FOLLOWED BY A NUMERAL WHICH INDICATES A SIZE IN MILLIMETRES OF THE REINFORCEMENT.
N - HOT-ROLLED DEFORMED BAR (GRADE D500N)
R - PLAIN ROUND BAR (GRADE R250N)
SL - SQUARE MESH (GRADE 500L)
RL - RECTANGULAR MESH (GRADE 500L)
- PROVIDE BAR SUPPORTS OR SPACERS TO GIVE CONCRETE COVER TO ALL REINFORCEMENT.
- WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- SPICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPICES WHERE THE LAP LENGTH IS NOT SHOWN.
- CLEAR CONCRETE COVER TO REINFORCEMENT IS AS FOLLOWS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

ELEMENT	BOTTOM (mm)	SIDES (mm)	TOP (mm)
ALL (U.N.O.)	40	40	40

- COVER TO REINFORCEMENT ENDS TO BE 50mm (U.N.O.).
- PROVIDE N12-450 SUPPORT BARS TO TOP REINFORCEMENT AS REQUIRED, LAP 450 (U.N.O.)
- HOOKS, BENDS, SPICES AND LAPS TO BE IN ACCORDANCE WITH AS3600.
- AT SPICES FABRIC SHALL BE LAPPED AS FOLLOWS:



- LAPS IN REINFORCEMENT SHALL BE MADE ONLY WHERE SHOWN ON THE DRAWINGS UNLESS OTHERWISE APPROVED. LAP LENGTHS AS PER THE TABLE BELOW.

BAR SIZE	TENSION LAPS		COMPRESSION LAPS
	TOP BARS IN BANDS & BEAMS	ALL OTHER BARS	
N12	570	480	450
N16	800	700	640
N20	1150	950	800
N24	1500	1250	960
N28	1850	1500	1120
N32	2250	1800	1280
N36	2700	2100	1440

CONCRETE:

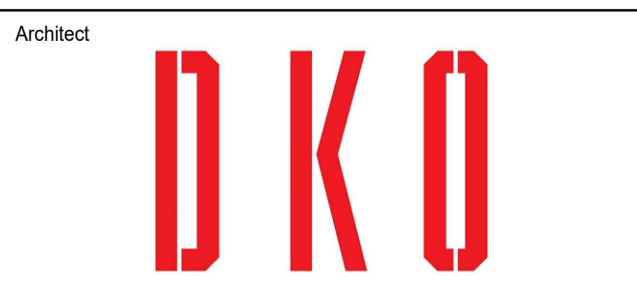
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARYED BY THE CONTRACT DOCUMENTS.
- ALL CONCRETE TO BE MANUFACTURED AND SUPPLIED ACCORDING TO AS1379.
- USE TYPE 'GP' CEMENT UNLESS OTHERWISE SPECIFIED.
- CONCRETE QUALITY SHALL CONFORM TO THE FOLLOWING (U.N.O.):

ELEMENT	SLUMP (mm)	MAX. SIZE AGGREGATE (mm)	STRENGTH (MPa)	SHRINKAGE STRAIN μ (MAX.)
EXTERNAL	80	20	S32MPa	650
FOOTPATH	80	20	S32MPa	650
BLOCKWORK COREFILLING	-	-	S32MPa	-

- ALL CONCRETE SHALL BE SUBJECT TO PROJECT ASSESSMENT AND TESTING TO AS1379.
- CONSOLIDATE ALL CONCRETE BY MECHANICAL VIBRATION. CURE ALL CONCRETE SURFACES AS DIRECTED IN THE SPECIFICATION. (IF NO SPECIFICATION, IN ACCORDANCE WITH AS3600).
- FOR ALL FALLS IN SLAB, DRIP GROOVES, REGLETs, CHAMFERS ETC REFER TO ARCHITECT'S DRAWINGS AND SPECIFICATION.
- NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- CONSTRUCTION JOINTS WHERE NOT SHOWN ON DRAWINGS SHALL BE LOCATED SUBJECT TO THE APPROVAL OF THE ENGINEER.
- CONCRETE THICKNESSES SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- BEAM DEPTHS ARE NOTED FIRST AND INCLUDE SLAB THICKNESSES, IF ANY.
- FORMWORK: THE DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK, FALSEWORK AND BACKPROPPING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE PROPOSED METHOD OF INSTALLATION AND REMOVAL OF FORMWORK IS TO BE SUBMITTED TO THE SUPERINTENDENT FOR COMMENT PRIOR TO WORK BEING CARRIED OUT.

PRINTING NOTE:
THIS DRAWING TO BE PRINTED IN COLOUR.

Rev	Description	Eng	Draft	Date
3	70% DETAILED DESIGN	AH	AH	06.11.2025
2	50% DETAILED DESIGN	AH	AH	19.09.2025
1	50% DETAILED DESIGN	AH	AH	29.08.2025



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North

Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

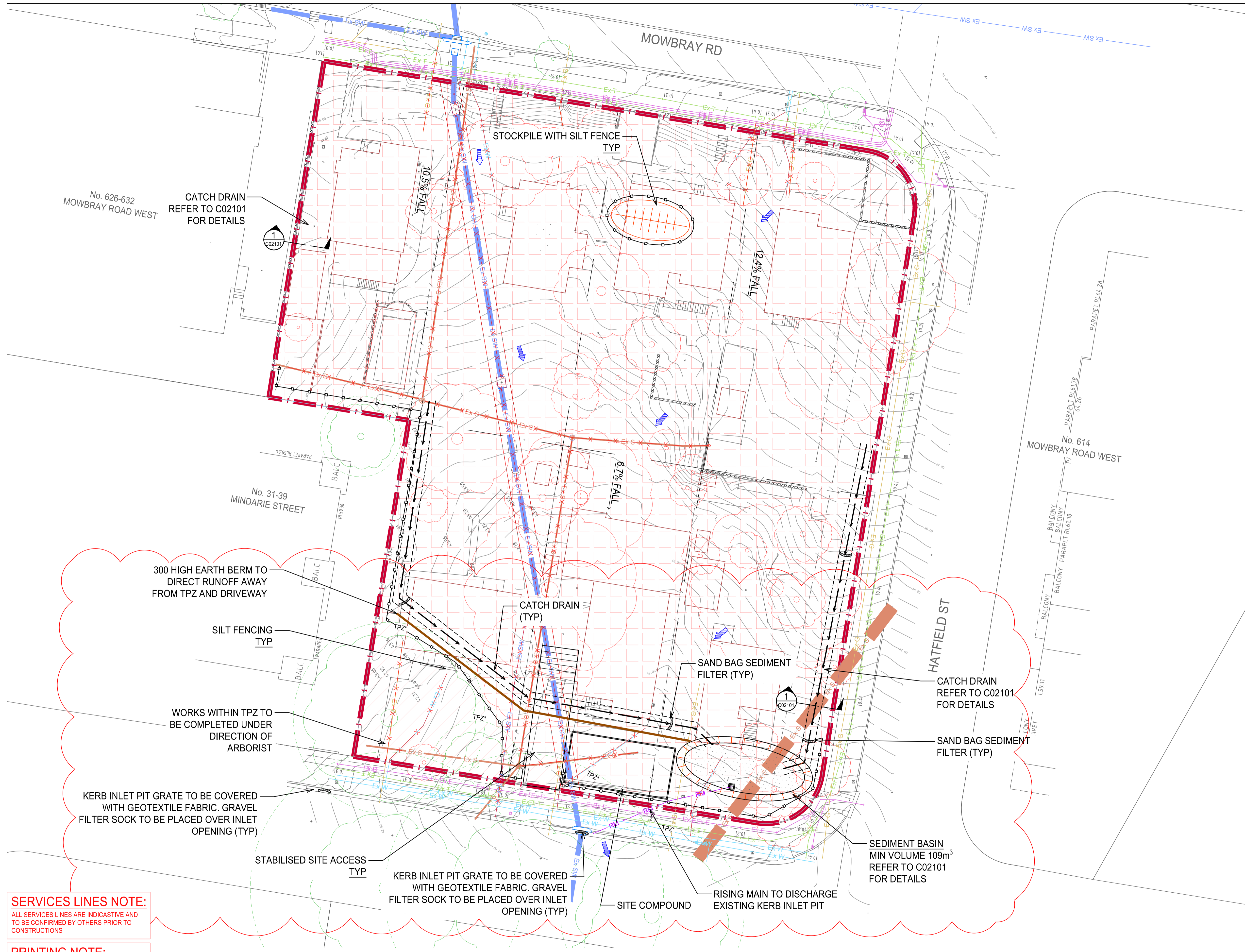
Sheet Subject
GENERAL NOTES

Scale at A1	Drawn	Approved
N.T.S.	AH	FC
Job No	Drawing No	Revision
250415	C00001	3



NOT TO BE USED FOR CONSTRUCTION

PRELIMINARY



LEGEND

- SITE BOUNDARY
- SEDIMENT FENCE
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- EXISTING SEWER LINE
- EXISTING PIPE TO BE REMOVED
- STRUCTURES TO BE DEMOLISHED
- SAND BAG
- PROPOSED STABILISED SITE ACCESS
- FLOW DIRECTION
- CATCH DRAIN REFER TO DETAILS ON SHEET C12201
- PROPOSED RISING MAIN
- PROPOSED 300mm HIGH BERM
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED WITH TPZ*
- EXISTING GAS MAIN
- EXISTING WATER MAIN
- EXISTING POWER LINE
- EXISTING COMMUNICATION LINE
- EXISTING CONTOUR

- NOTES:**
1. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
 2. ALL REDUCED LEVELS ARE IN mAHD.
 3. SURVEY INFORMATION WAS OBTAINED FROM "NORTON SURVEY PARTNERS" REF: 22223 DET DATED 06.06.24.
 4. UNDERGROUND SERVICES DETERMINED BY BEFORE YOU DIG INFORMATION SHOW INDICATIVELY LOCATION ONLY. TO BE CONFIRMED ONSITE BY CONTRACTOR
 5. REFER TO XAVIER KNIGHT INTERNAL CIVIL PACKAGE SERIES FOR ALL WORKS INSIDE SITE BOUNDARY.
 6. *TREE PROTECTION ZONES INDICATIVE ONLY. ARBORIST TO CONFIRM ONSITE
 7. ALL TREES AND SHRUBS (UNLESS NOTED TO BE PROTECTED ON THE LANDSCAPE PLANS), RUBBLE, EXISTING PAVEMENT AND EXISTING STRUCTURES WITHIN THE SITE SHALL BE REMOVED AND REUSED OR RECYCLED WHERE POSSIBLE. WHERE NOT POSSIBLE, THIS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF AS PART OF THE CONTRACT.
 8. ANY TREES WITHIN THE WORKS AREA WHICH, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, ARE UNSOUND OR WOULD CONSTITUTE A DANGER, SHALL BE CUT DOWN AND REMOVED (EXCEPT THOSE IDENTIFIED AS BEING PROTECTED). ALL STUMPS OF TREES CUT DOWN WITHIN THE BOUNDS OF THE CONSTRUCTION AREA WHICH ARE LARGER THAN 250mm IN GIRTH, SHALL BE COMPLETELY REMOVED.
 9. ALL ROOTS SHALL BE REMOVED FOR A DEPTH OF 1m. CAVITIES FORMED BY THE REMOVAL OF ROOTS SHALL BE BACKFILLED AND COMPACTED.

SERVICES LINES NOTE:
ALL SERVICES LINES ARE INDICATIVE AND TO BE CONFIRMED BY OTHERS PRIOR TO CONSTRUCTIONS

PRINTING NOTE:
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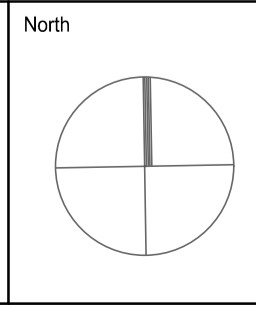


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FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
1	50% DETAILED DESIGN	EL	EL	29.08.2025
2	ISSUED FOR APPROVAL	EL	EL	09.09.2025
3	50% DETAILED DESIGN	AH	AH	19.09.2025
4	70% DETAILED DESIGN	AH	AH	06.11.2025
A	FOR CONSTRUCTION	EL	EL	22.01.2026



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Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

Sheet Subject
SEDIMENT & EROSION CONTROL PLAN


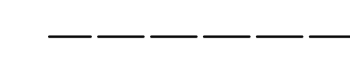


Scale at A1	Drawn	Approved
1:200	EL	FC
Job No	Drawing No	Revision
250415	C02001	A


















MOWBRAY

ROAD

WEST

LEGEND

-  SITE BOUNDARY
-  BULK CONTOUR MAJOR 1.0m
-  BULK CONTOUR MINOR 0.5m
-  TREE PROTECTION ZONE

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	-6.00	-5.50	0.00	
2	-5.50	-5.00	0.00	
3	-5.00	-4.50	19.86	
4	-4.50	-4.00	107.00	
5	-4.00	-3.50	105.91	
6	-3.50	-3.00	93.37	
7	-3.00	-2.50	102.71	
8	-2.50	-2.00	138.78	
9	-2.00	-1.50	225.31	
10	-1.50	-1.00	424.60	
11	-1.00	-0.50	435.72	
12	-0.50	0.00	1083.01	
13	0.00	0.50	736.50	
14	0.50	1.00	249.62	
15	1.00	1.50	180.18	
16	1.50	2.00	89.33	
17	2.00	2.50	15.09	

NOTES:

- SURVEY INFORMATION HAS BEEN OBTAINED FROM NORTON SURVEY PARTNERS, DATED 6.06.24
- ALL DIMENSIONS ARE IN m UNLESS NOTED OTHERWISE.
- ALL REDUCED LEVELS ARE IN mAHD.
- CONTRACTOR TO CONFIRM DEPTHS OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORKS.
- REFER TO ARCHITECT FOR SET-OUT DIMENSIONS.
- PROPOSED WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH STAGING PLAN.
- ALL WORKS OUTSIDE THE PROPERTY BOUNDARY FALL UNDER SEPARATE SECTION 138 WORKS AND APPROVAL.
- NO WORKS TO BE UNDERTAKEN OUTSIDE THE SITE BOUNDARY

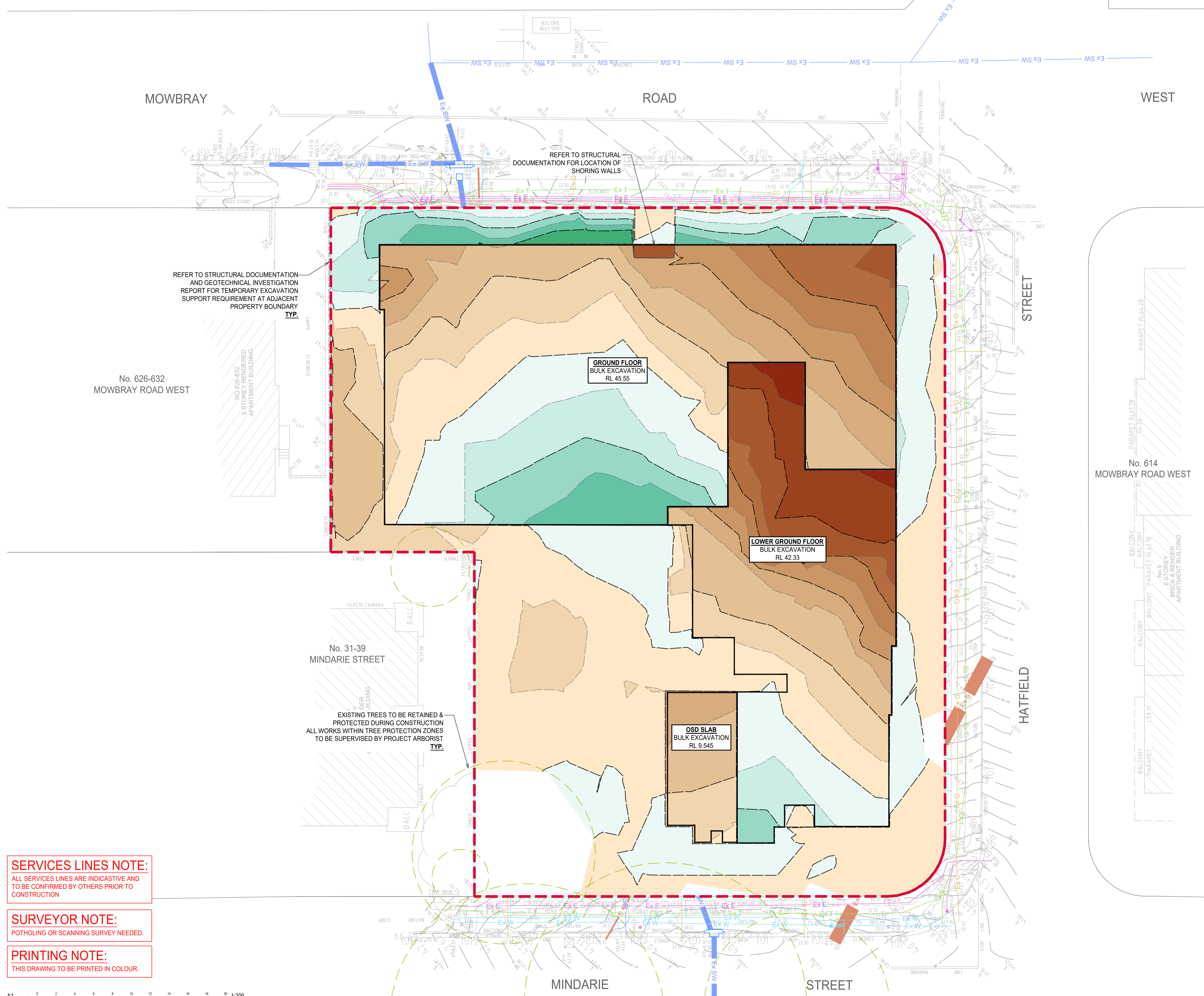
BULK EARTHWORKS SUMMARY:

TOPSOIL STRIPPING	
SURFACE AREA	4,198m ²
TOPSOIL STRIPPING VOLUME	630m ³ (ASSUMING 150mm TOPSOIL STRIPPING)
BULK DESIGN	
TOTAL CUT	3,293m ³
TOTAL FILL	749m ³
NET CUT	2544m³

PROPOSED EXCAVATION SUMMARY:

OSD SLAB	
SSL	RL 41
150mm THICK SLAB	
100mm THICK BEDDING	
BULK EXCAVATION	RL 40.75
LOWER GROUND FLOOR SLAB	
SSL	RL 42.58
150mm THICK SLAB	
100mm THICK BEDDING	
BULK EXCAVATION	RL 42.33
GROUND FLOOR SLAB	
SSL	RL 45.80
150mm THICK SLAB	
100mm THICK BEDDING	
BULK EXCAVATION	RL 45.55

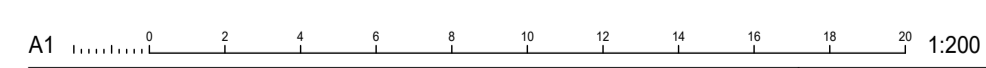
PROPOSED LANDSCAPING AREA
300mm DEEP EXCAVATION FOR PAVEMENT & LANDSCAPING AREA OUTSIDE THE BUILDING



SERVICES LINES NOTE:
ALL SERVICES LINES ARE INDICATIVE AND TO BE CONFIRMED BY OTHERS PRIOR TO CONSTRUCTION

SURVEYOR NOTE:
POTHOLING OR SCANNING SURVEY NEEDED.

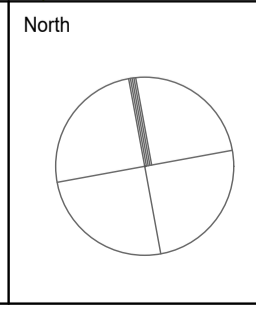
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Rev	Description	Eng	Draft	Date
1	70% DETAILED DESIGN	AH	AH	06.11.2025



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Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

Sheet Subject
BULK EARTHWORKS PLAN

Scale at A1	Drawn	Approved
1:200	AH	FC
Job No	Drawing No	Revision
250415	C02201	1

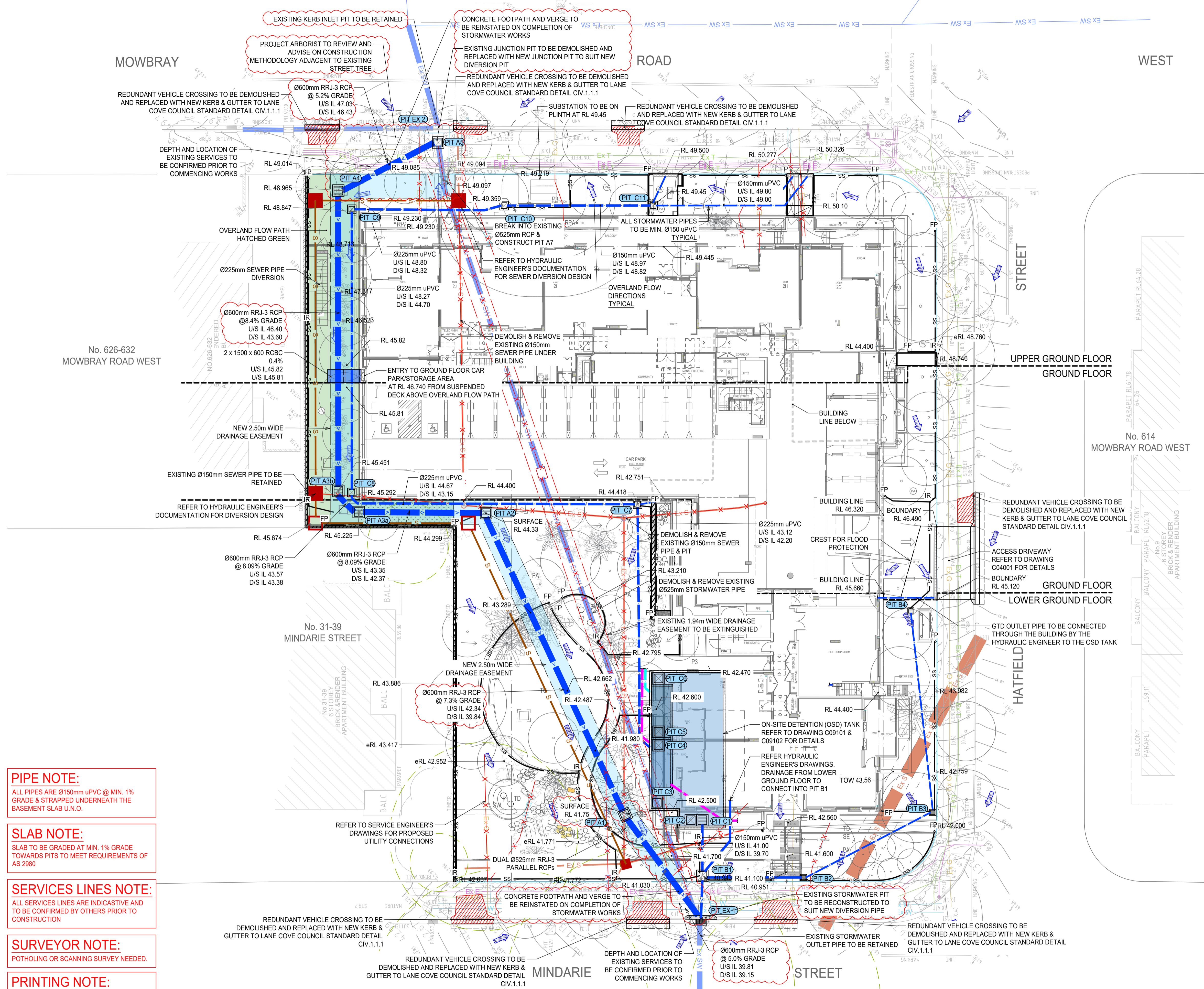


NOT TO BE USED FOR CONSTRUCTION

PRELIMINARY

LEGEND

- SITE BOUNDARY
- Ex SW EXISTING STORMWATER PIPE
- LOWER LEVEL OUTLINE
- PROPOSED DRAINAGE PIPE
- SS PROPOSED SUBSOIL PIPE
- ===== PROPOSED GRATED DRAIN
- [Symbol] PROPOSED ACCESS PIT WITH HEEL-SAFE GRATED COVER
- [Symbol] PROPOSED JUNCTION PIT
- [Symbol] PROPOSED FLUSHING POINT
- [Symbol] PROPOSED INSPECTION RISER
- [Symbol] FLOW DIRECTION
- [Symbol] PROPOSED DRIVEWAY CROSSING
- [Symbol] EXISTING DRIVEWAY CROSSING TO BE REMOVED
- Ex G EXISTING GAS MAIN
- Ex W EXISTING WATER MAIN
- Ex E EXISTING POWER LINE
- Ex T EXISTING COMMUNICATION LINE
- [Symbol] TREE PROTECTION ZONE



PIT SCHEDULE - TRUNK DRAINAGE			
PIT ID	PIT TYPE	INVERT LEVEL (mAHD)	DEPTH TO INVERT (m)
EX1	PIT TO BE RECONSTRUCTED KERB INLET PIT WITH 2.4m SAG LINTEL, CLASS D GRATE	39.12	1.20
A1	900 x 900 CLASS B HEEL SAFE GRATED INLET	39.84	1.91
A2	900 x 900 CLASS B HEEL SAFE GRATED INLET	42.34	1.99
A3a	900 x 900 CLASS B HEEL SAFE GRATED INLET	43.35	1.88
A3b	900 x 900 CLASS B HEEL SAFE GRATED INLET	43.57	1.88
A4	900 x 900 CLASS B HEEL SAFE GRATED INLET	46.40	2.55
A5	900 x 900 JUNCTION PIT WITH CLASS B SEALED LID	47.03	1.9

PIT SCHEDULE - INTERNAL DRAINAGE			
PIT ID	PIT TYPE	INVERT LEVEL (mAHD)	DEPTH TO INVERT (m)
B1	900 x 900 JUNCTION PIT WITH CLASS B SEALED LID	39.60	1.36
B2	450 x 450 CLASS B HEEL SAFE GRATED INLET PIT	40.43	0.6
B3	450 x 450 CLASS B HEEL SAFE GRATED INLET PIT	41.34	0.5
B4	450 x 450 CLASS B HEEL SAFE GRATED INLET PIT	44.87	0.5
C1	900 x 900 CLASS B HEEL SAFE GRATED ACCESS LID	42.90	-
C2	900 x 900 CLASS B SEALED ACCESS LID	42.90	-
C3	900 x 900 CLASS B SEALED ACCESS LID	42.65	-
C4	900 x 900 CLASS B SEALED ACCESS LID	42.65	-
C5	900 x 900 CLASS B SEALED ACCESS LID	42.65	-
C6	900 x 900 CLASS B SEALED ACCESS LID	42.65	-
C7	450 x 450 JUNCTION PIT WITH CLASS B SEALED LID	43.12	1.00
C8	450 x 450 JUNCTION PIT WITH CLASS B SEALED LID	44.67	0.61
C9	450 x 450 JUNCTION PIT WITH CLASS B SEALED LID	48.6	0.53
C10	450 x 450 JUNCTION PIT WITH CLASS B SEALED LID	48.8	53
C11	450 x 450 JUNCTION PIT WITH CLASS B SEALED LID	48.97	0.63

PIPE NOTE:
ALL PIPES ARE Ø150mm uPVC @ MIN. 1% GRADE & STRAPPED UNDERNEATH THE BASEMENT SLAB U.N.O.

SLAB NOTE:
SLAB TO BE GRADED AT MIN. 1% GRADE TOWARDS PITS TO MEET REQUIREMENTS OF AS 2980

SERVICES LINES NOTE:
ALL SERVICES LINES ARE INDICATIVE AND TO BE CONFIRMED BY OTHERS PRIOR TO CONSTRUCTION

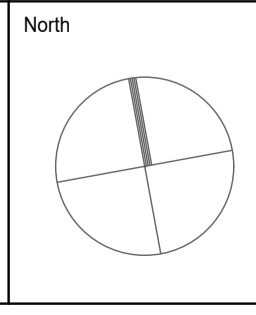
SURVEYOR NOTE:
POTHOLES OR SCANNING SURVEY NEEDED.

PRINTING NOTE:
THIS DRAWING TO BE PRINTED IN COLOUR.

Rev	Description	Eng	Draft	Date
7	REVISED AS CLOUDED	TR	EL	19.01.2026
6	70% DETAILED DESIGN	DM	DM	02.12.2025
5	FOR INFORMATION	TR	TR	17.11.2025
4	70% DETAILED DESIGN	AH	AH	06.11.2025
3	ISSUE FOR COORDINATION	AH	AH	21.10.2025
2	50% DETAILED DESIGN	AH	AH	19.09.2025
1	50% DETAILED DESIGN	AH	AH	29.08.2025



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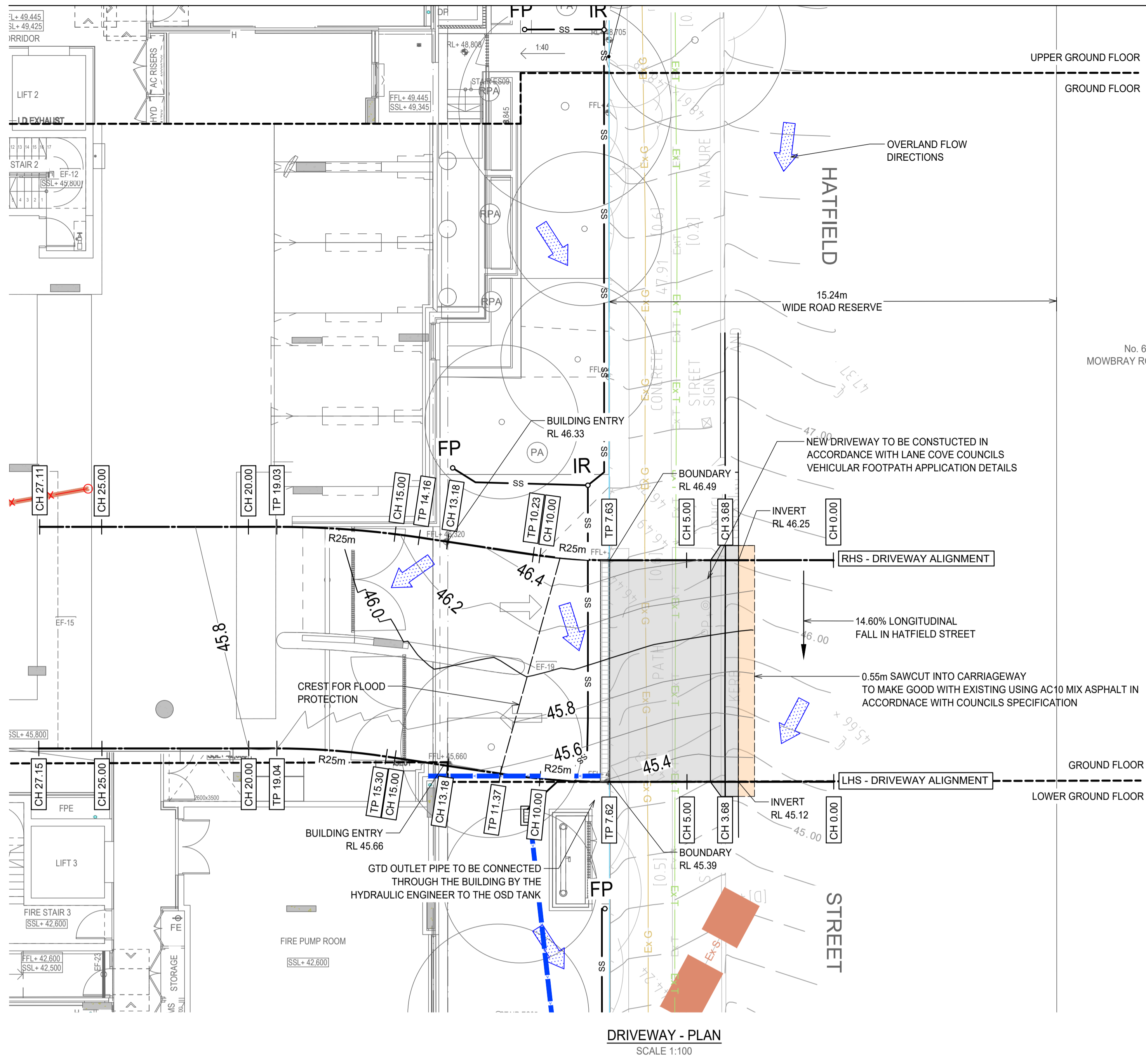
Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

Sheet Subject
CIVIL WORKS PLAN

Scale at A1	Drawn	Approved
1:200	AH	FC
Job No	Drawing No	Revision
250415	C03001	7



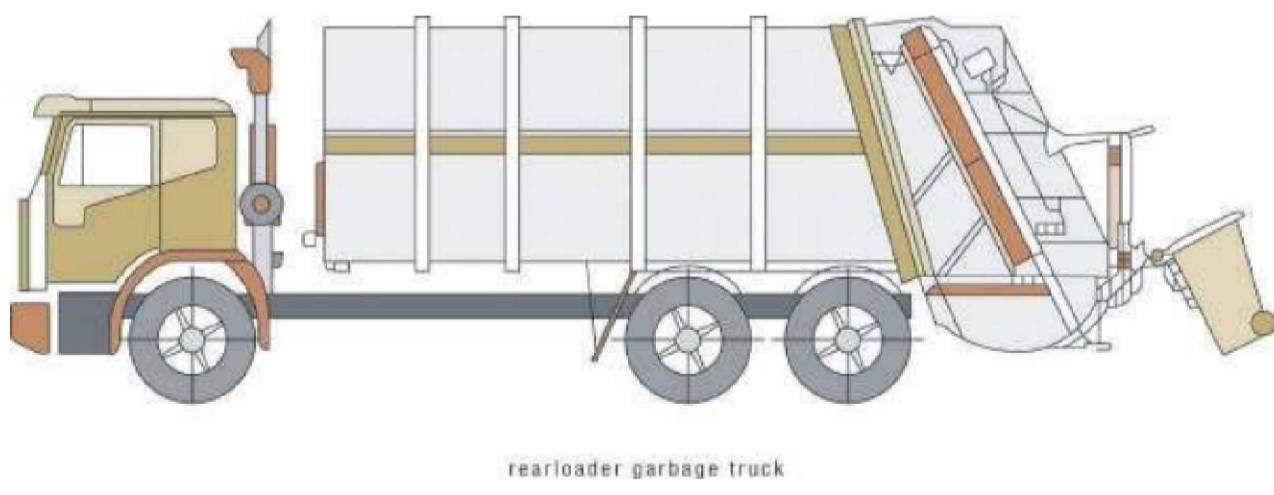
NOT TO BE USED FOR CONSTRUCTION
PRELIMINARY



DRIVEWAY - PLAN
SCALE 1:100

Small Garbage Truck used for Domestic Waste Collection – Rear Load

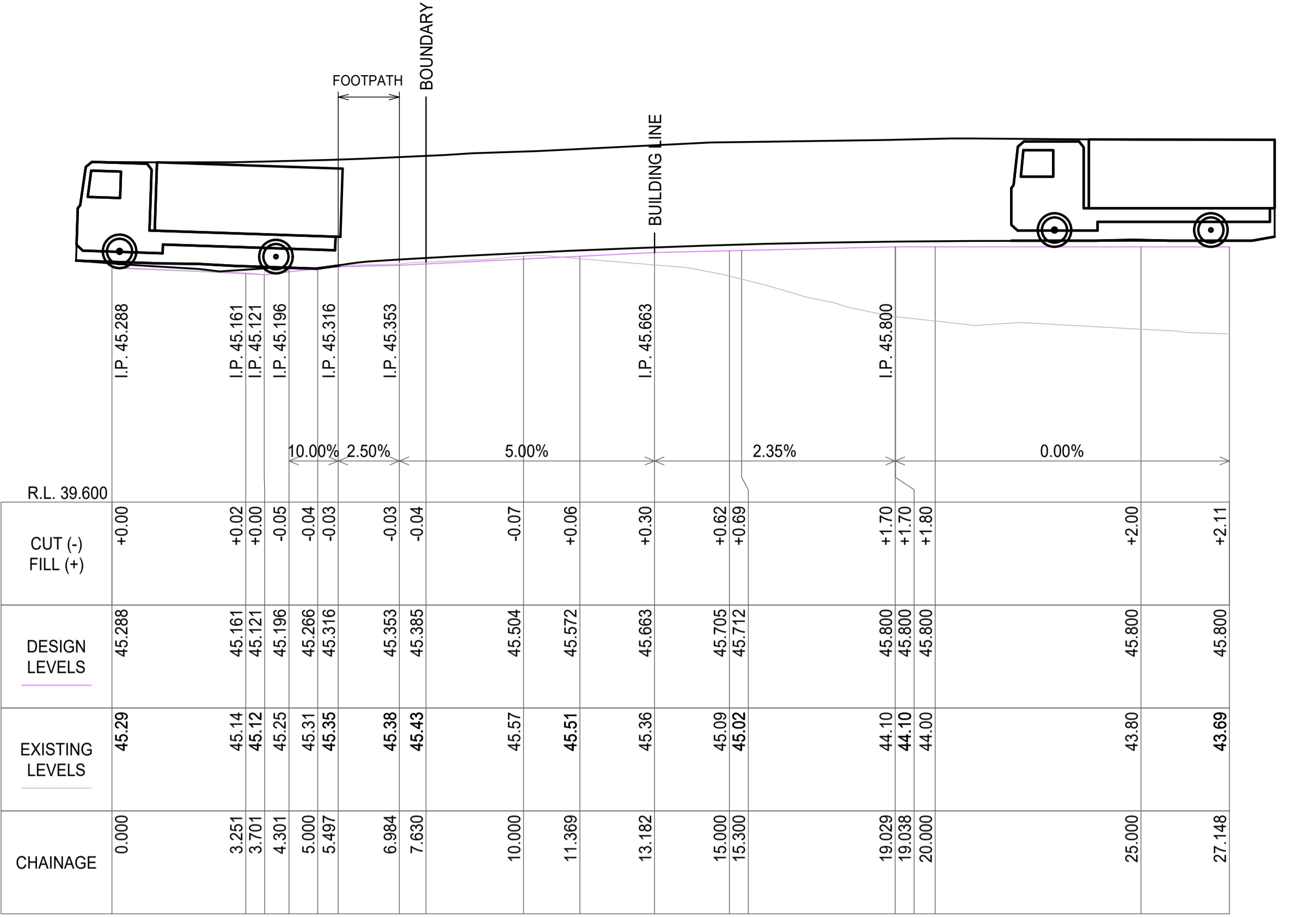
- Length overall 6.64 metres
- Width overall 2.37 metres
- Operational height 2.40 metres
- Travel height 2.60 metres
- Weight (vehicle and load) 7.50 tonnes
- Weight (vehicle only) 5.48 tonnes
- Turning Circle 10.70 metres



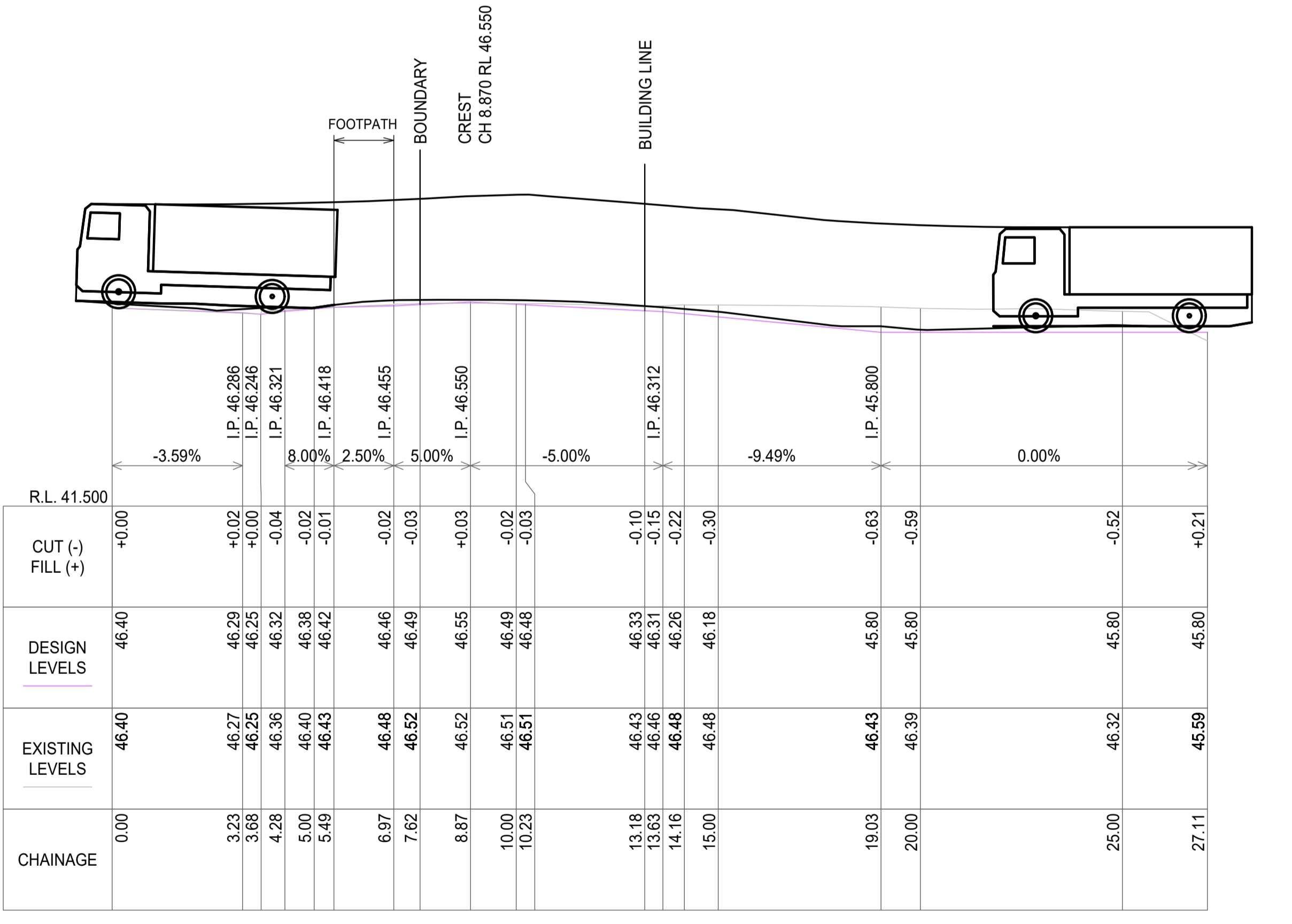
rearloader garbage truck

Lane Cove Development Control Plan Part Q – Waste Management & Minimisation

PRINTING NOTE:
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FROM CH0.000 TO 27.148
SCALE: 1:100
LHS DRIVEWAY

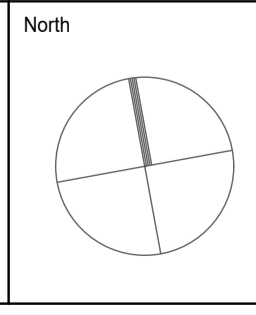


FROM CH0.000 TO 27.105
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RHS DRIVEWAY

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2	50% DETAILED DESIGN	AH	AH	19.09.2025
1	50% DETAILED DESIGN	AH	AH	29.08.2025



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Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
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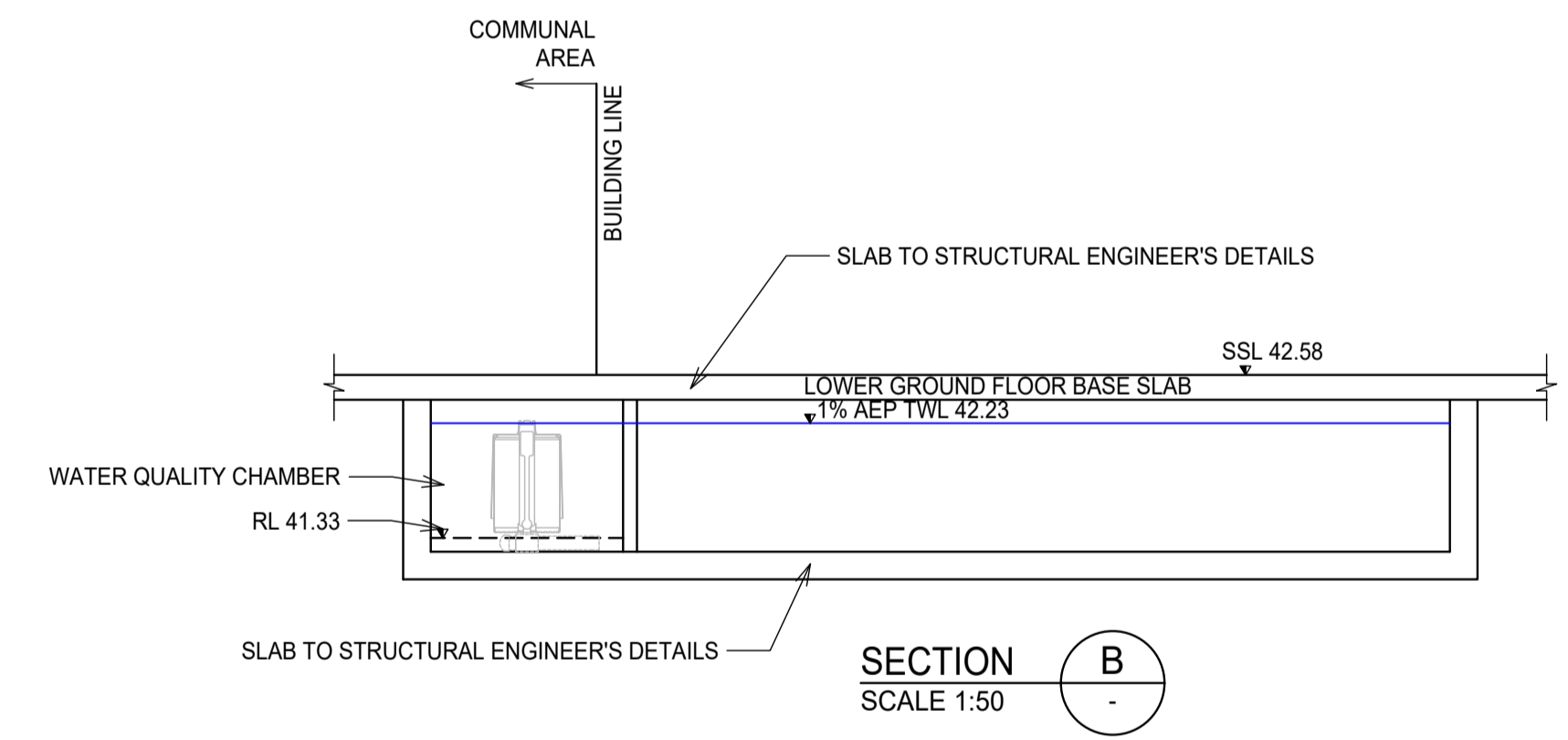
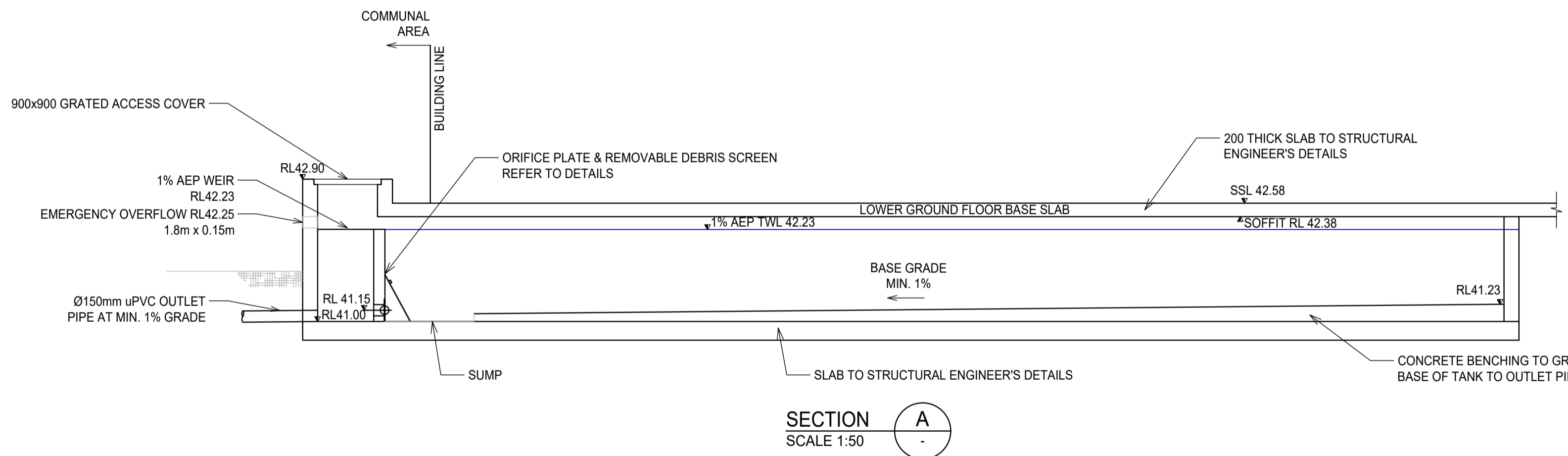
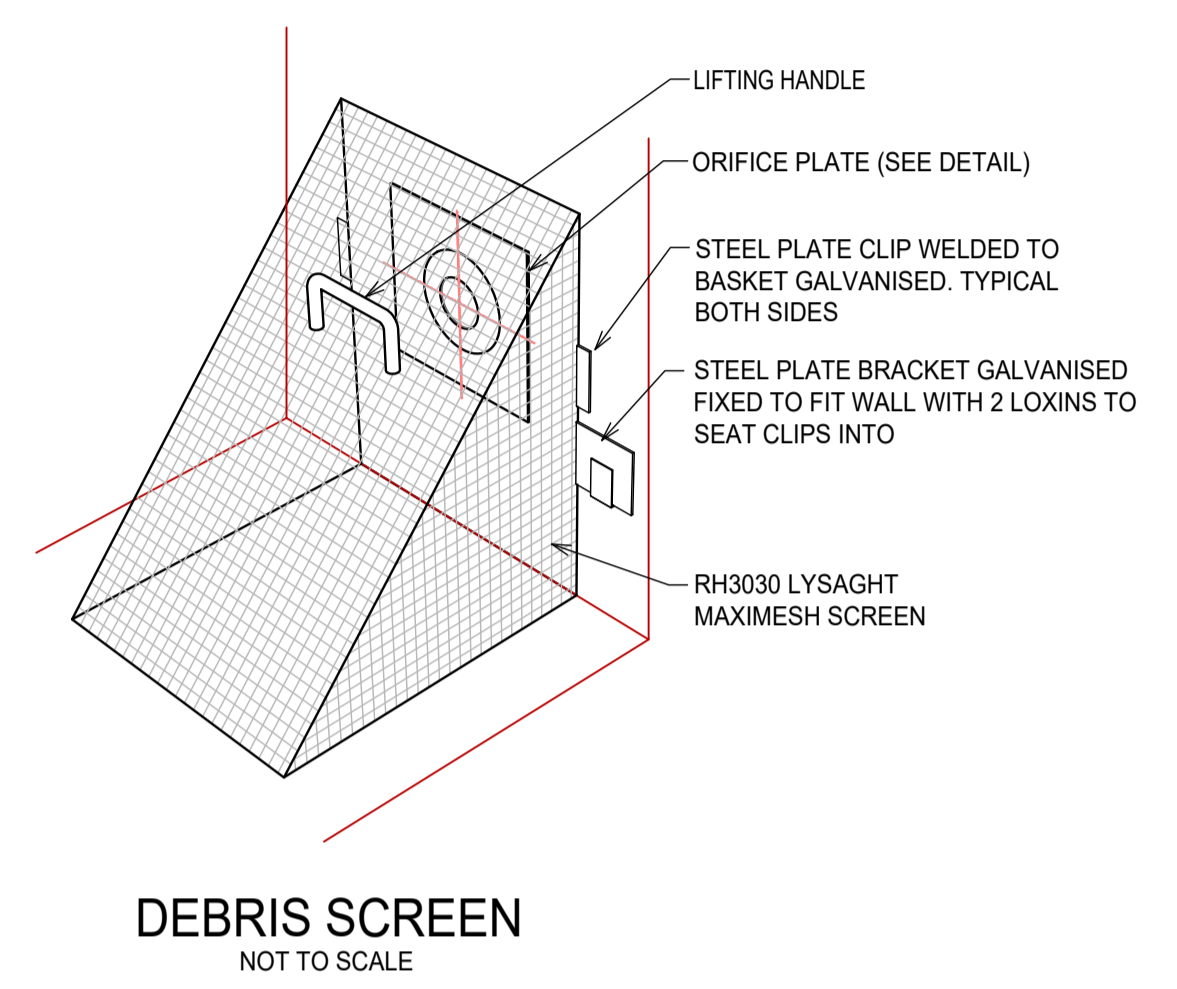
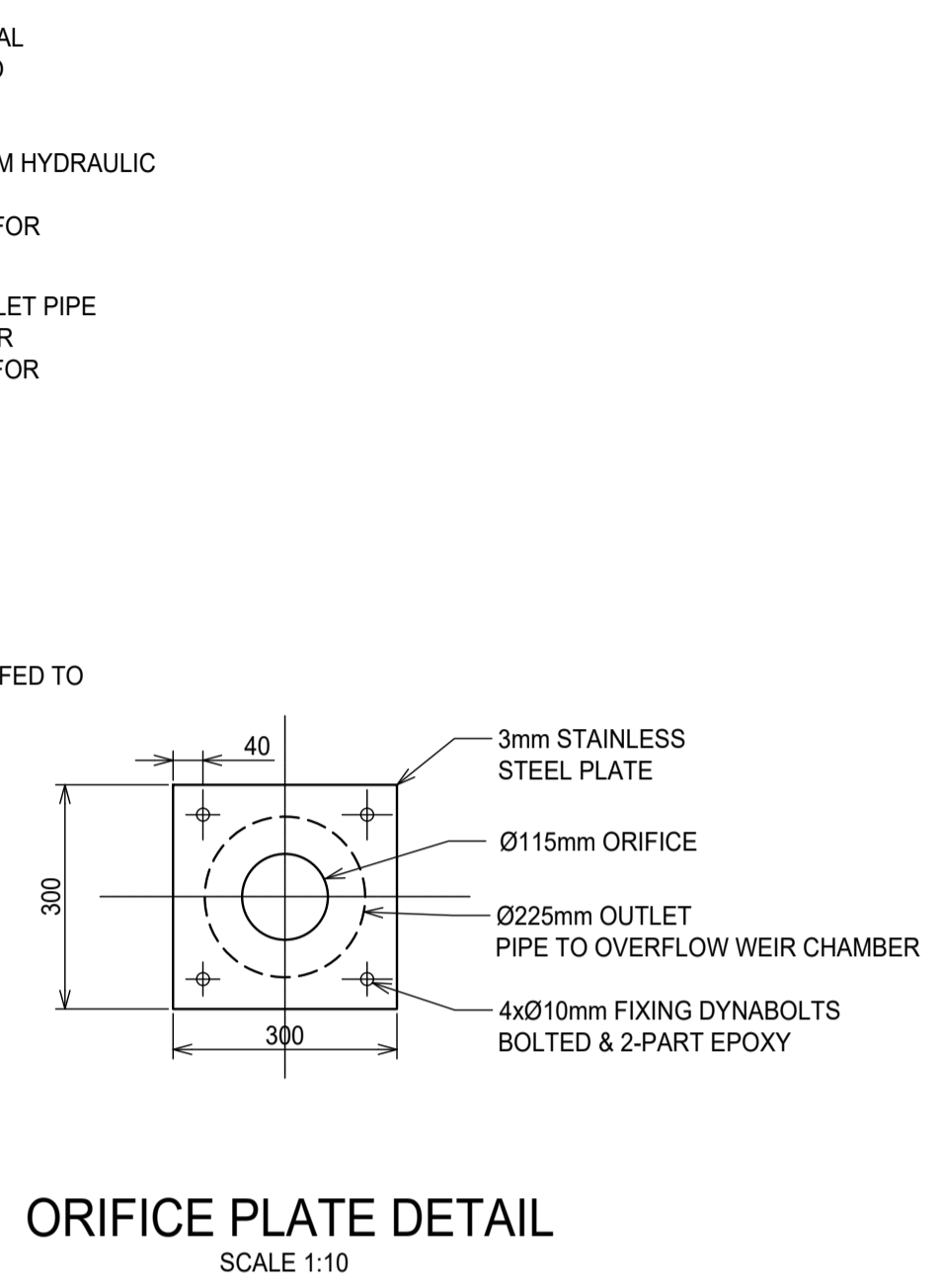
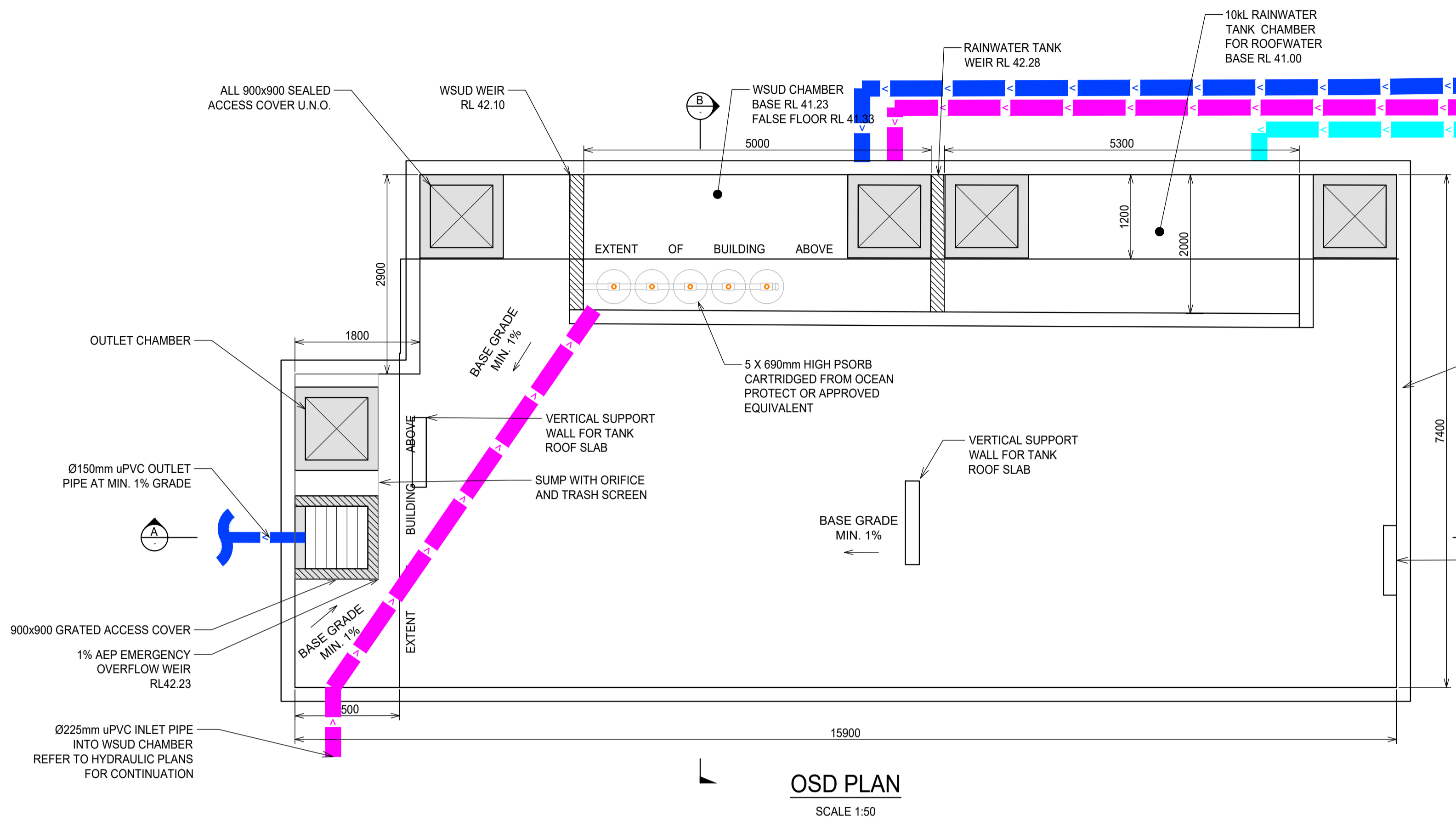
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Job No	Drawing No	Revision
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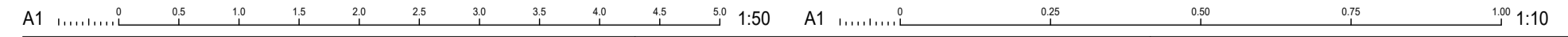


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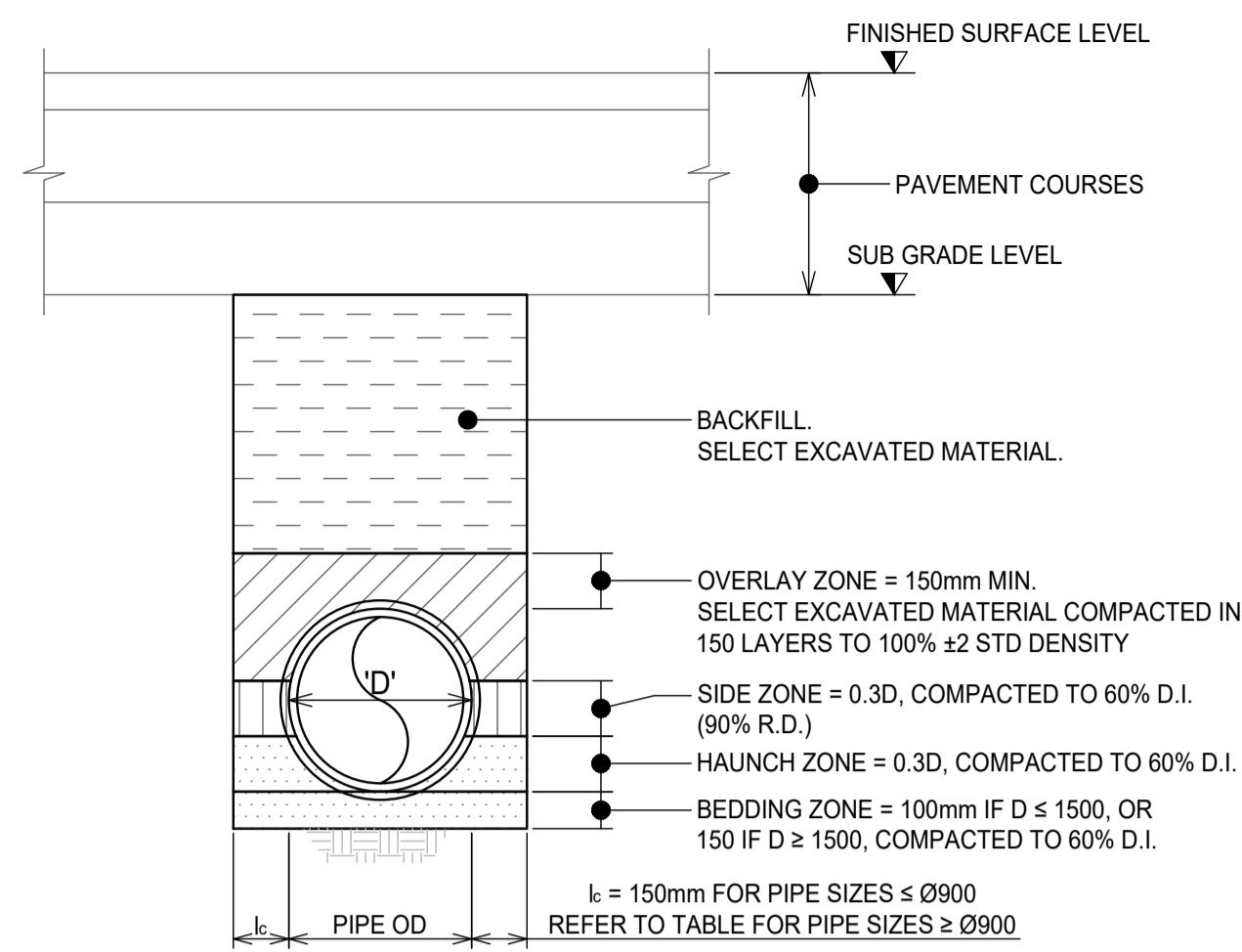
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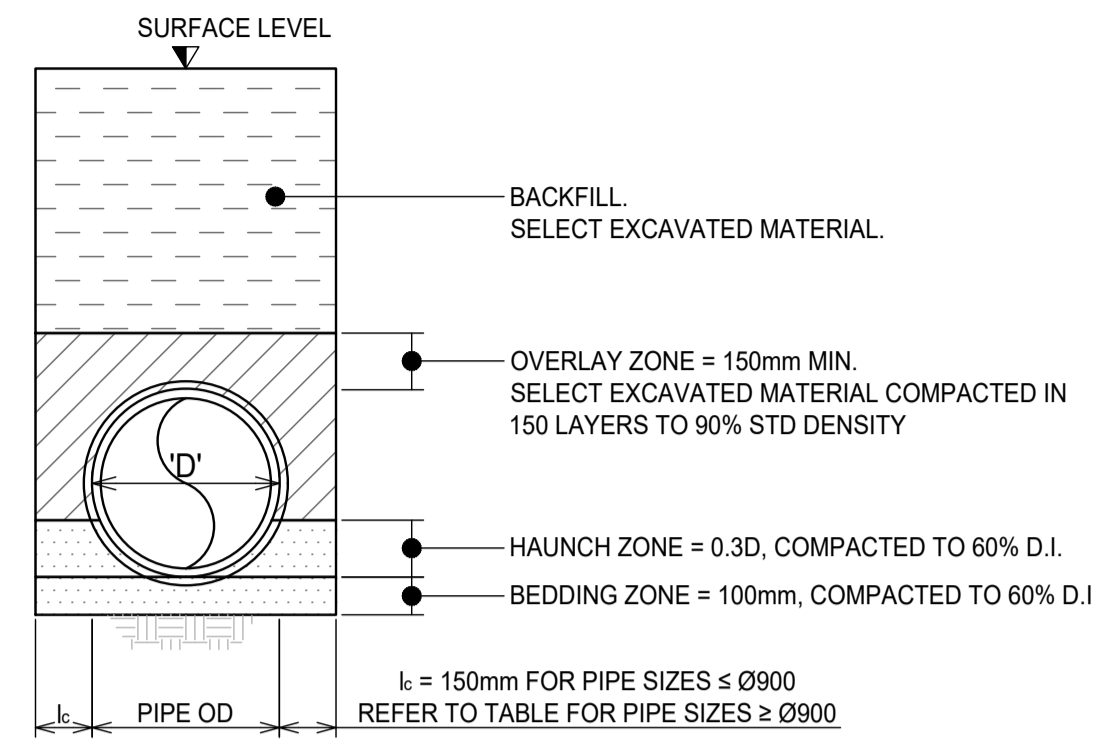
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Scale at A1 AS SHOWN	Drawn TR
Sheet Subject DETAILS - SHEET 1	Approved FC
Job No 250415	Drawing No C09001
	Revision 3

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TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D ≥ 1350, MAX FILL = 3.0m

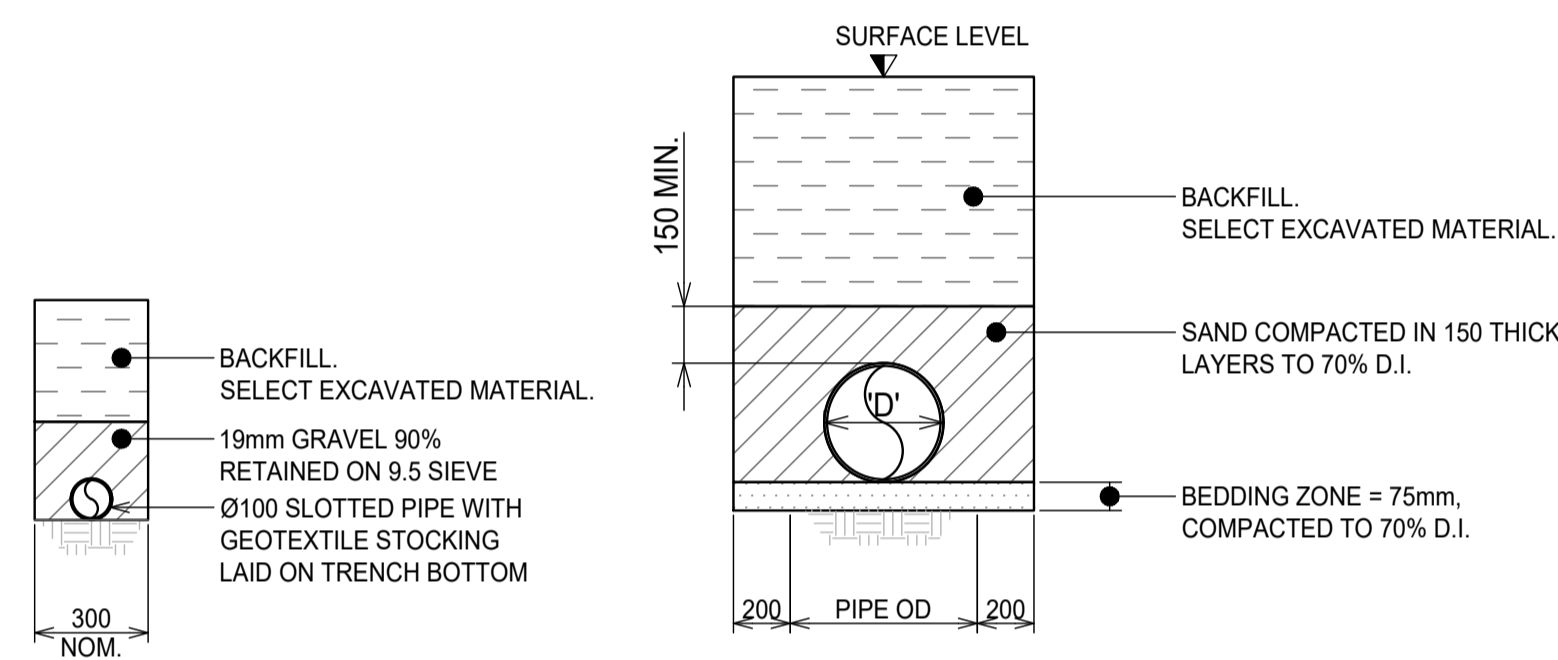


TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPE AREAS

SCALE 1:20

PIPE LAYING DETAILS

SCALE 1:20



SUPPORT TO SUBSOIL PIPE

SCALE 1:20

SUPPORT TO uPVC PIPES

SCALE 1:20

BEDDING AND HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19	100
2.36	100 - 50
0.60	90 - 20
0.30	60 - 10
0.15	25 - 0
0.075	10 - 0

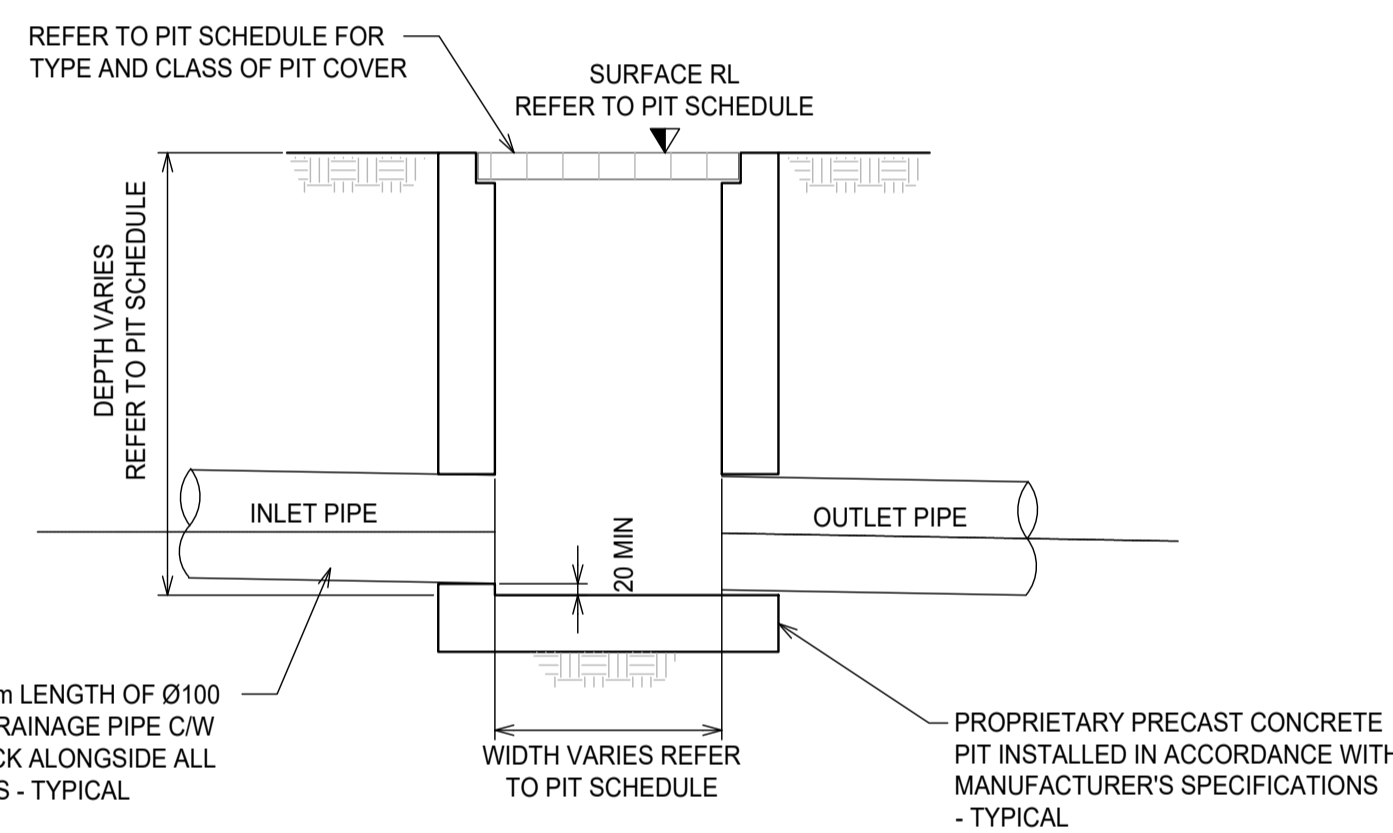
SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75	100
9.5	100 - 50
2.36	100 - 30
0.60	50 - 15
0.075	25 - 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l _c (mm)
≤ Ø900	150
Ø1050	175
Ø1200	200
Ø1350	225
Ø1500	250
Ø1650	275
Ø1800	300

NOTE: REFER TO ENGINEER TO TRENCH WIDTHS FOR PIPE SIZES > Ø1800

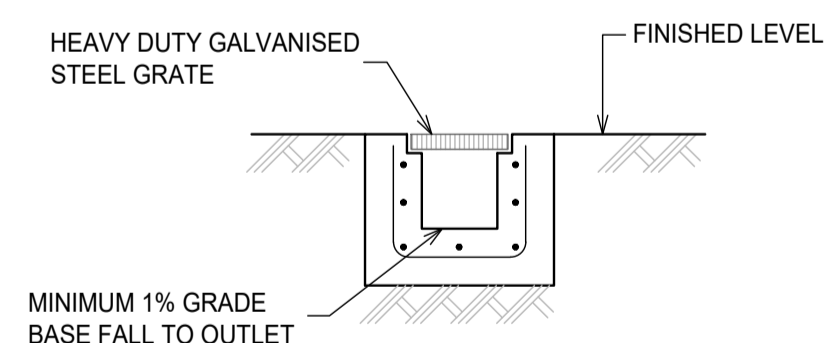
NOTE: SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 OF AS 3725

NOTE: ALL ROCKS LARGER THAN 150mm IN OVERLAY ZONES ARE TO BE REMOVED. A MAXIMUM OF 20% OF MATERIAL TO BE 75-150mm PARTICLE SIZE.



STORMWATER DRAINAGE PIT - PRECAST PIT

SCALE 1:20



GRATED TRENCH DRAIN DETAIL

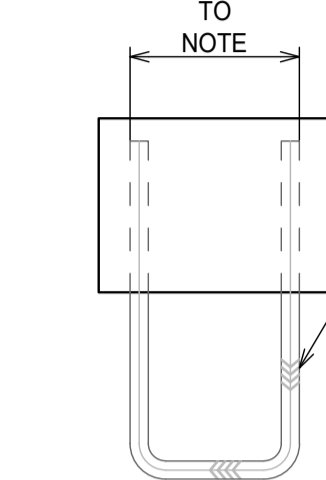
SCALE 1:20

DRILL 30mm DIA HOLE x 120mm DEEP AND EPOXY INTO WALL WITH EPOXY MORTAR EQUAL TO EPIREX 663 (NON SAG) - IN PRECAST PIT DEPTHS OF EMBEDDED TO BE IN ACCORDANCE WITH PIT MANUFACTURES DETAILS

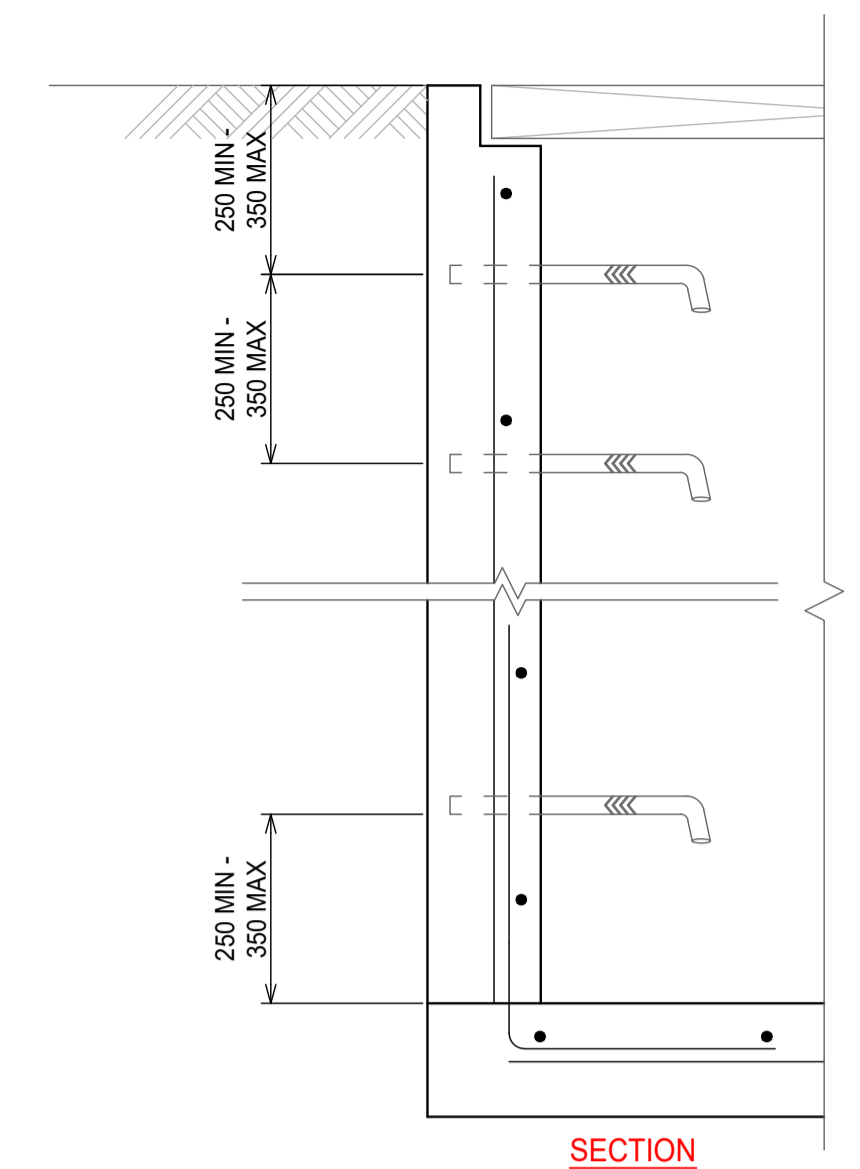
FRONT ELEVATION

SIDE ELEVATION

REFER TO NOTE



FRONT ELEVATION



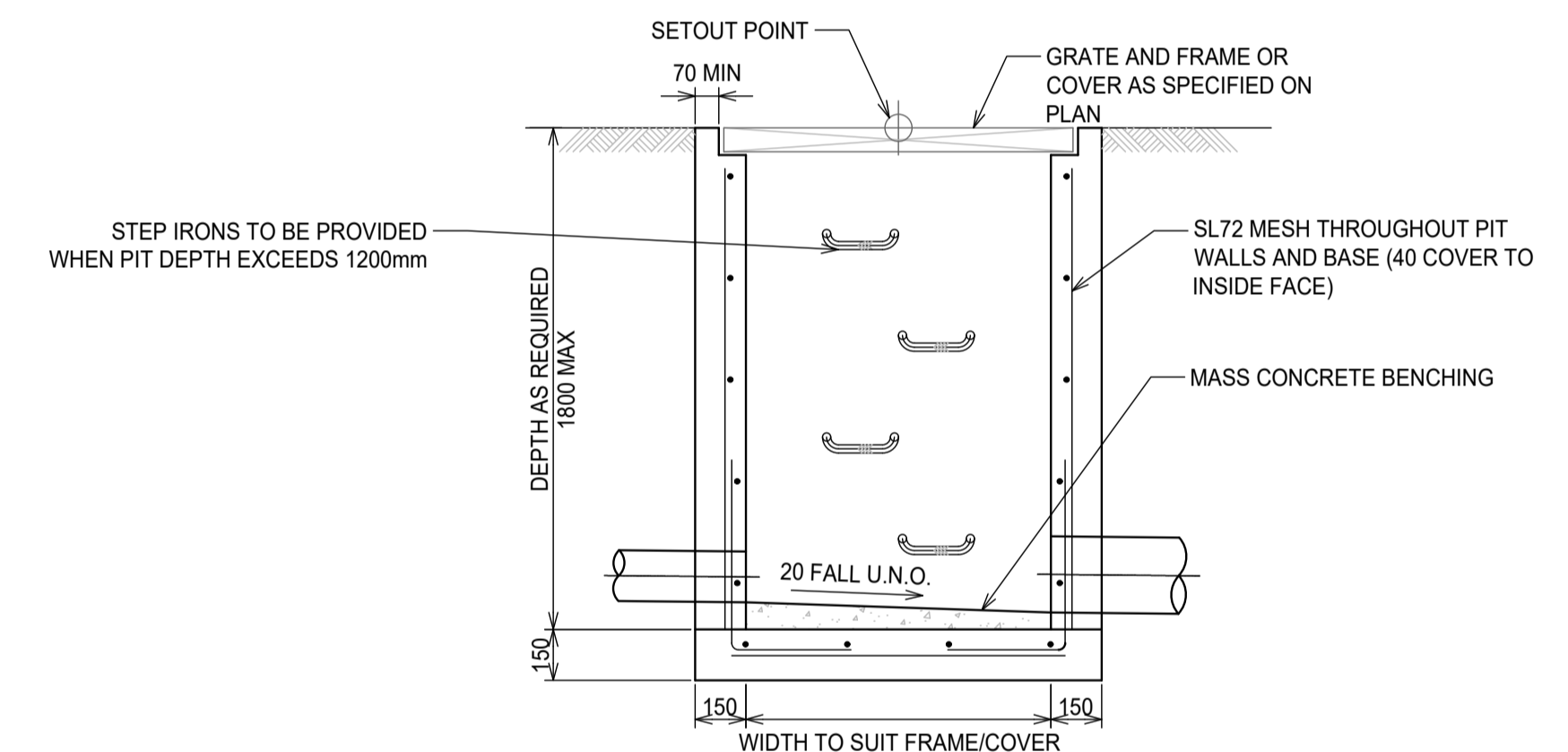
SECTION

NOTE

1. WHEN POSITIONED IN STRAIGHT ALIGNMENT, STEP TO BE 400mm WIDE
2. STAGGERED STEPS TO BE 200mm WIDE, STEPS TO BE STAGGERED 200mm CENTER TO CENTER FOR ALTERNATIVE STEPS
3. SPACING OF STEPS TO BE UNIFORM TO WITHIN ± 8mm IN EACH PIT

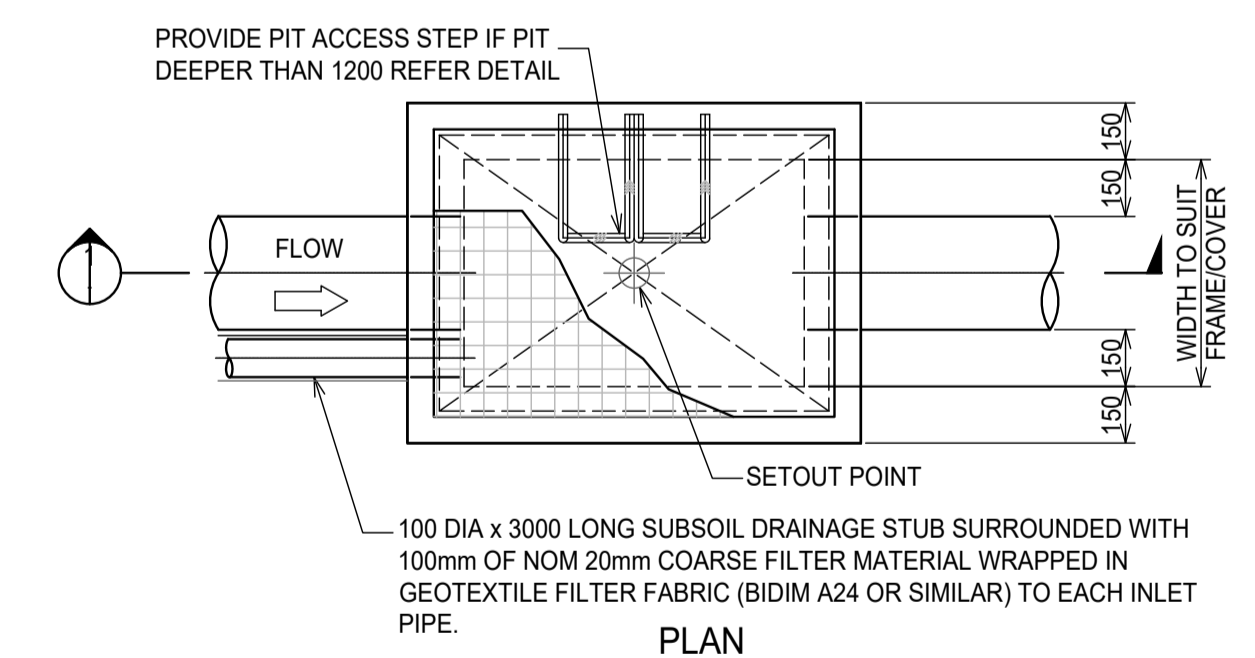
PIT ACCESS STEP DETAIL

SCALE 1:10



SECTION 1

SCALE 1:20



GRATED PIT DETAIL

SCALE 1:20

SURVEYOR NOTE:
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PIPE NOTE:
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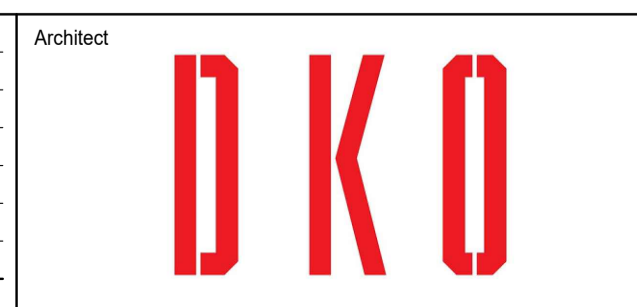


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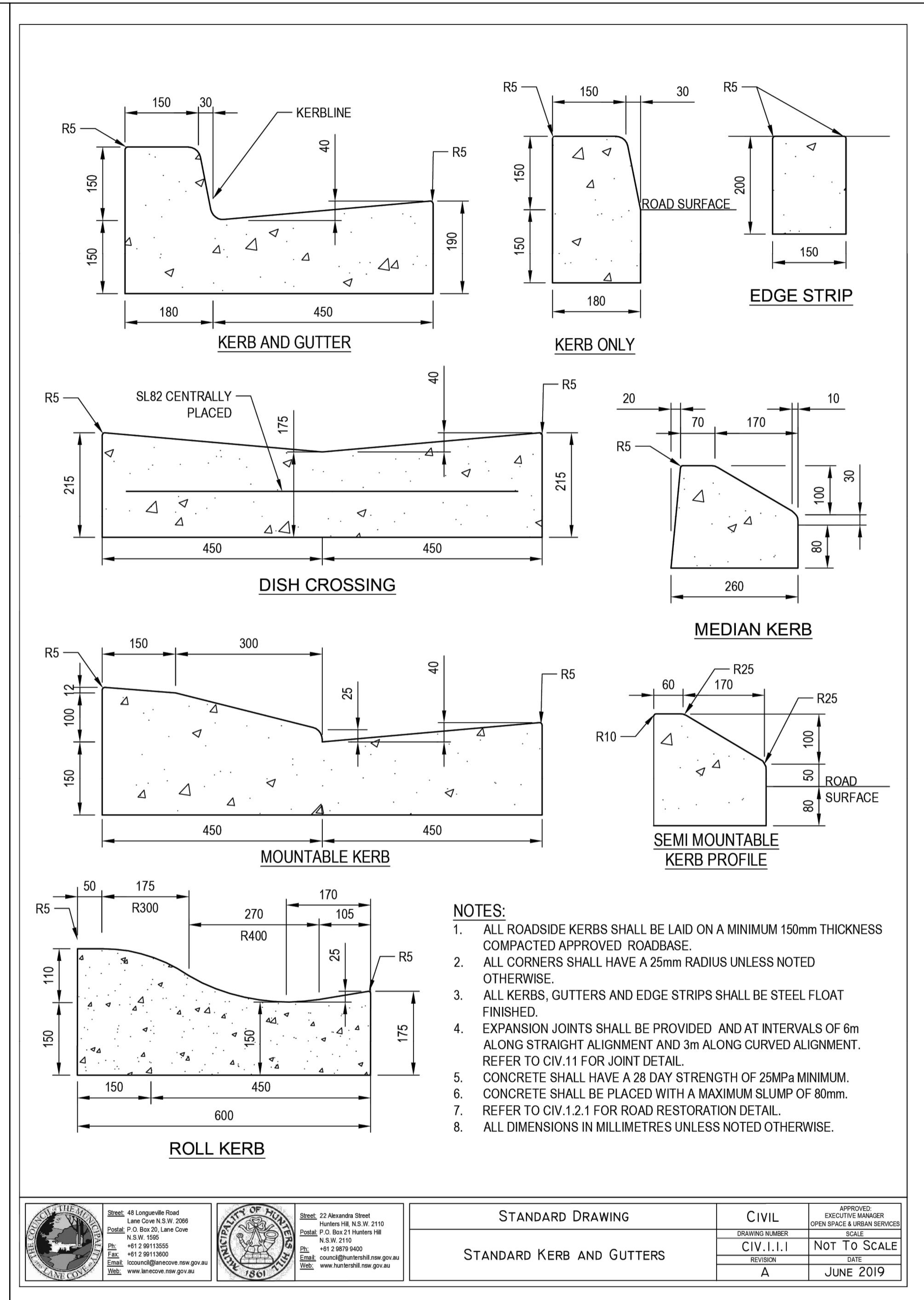
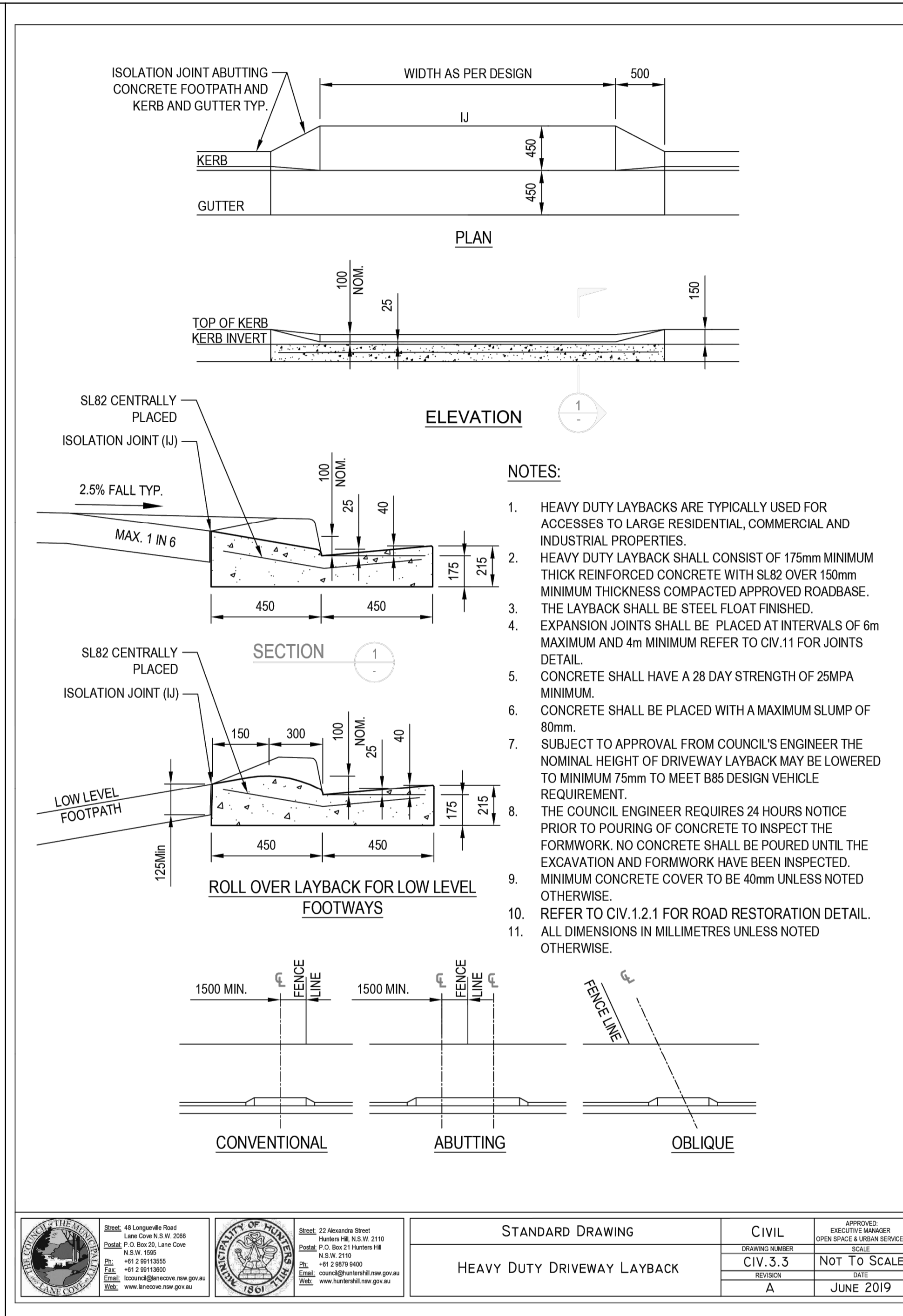
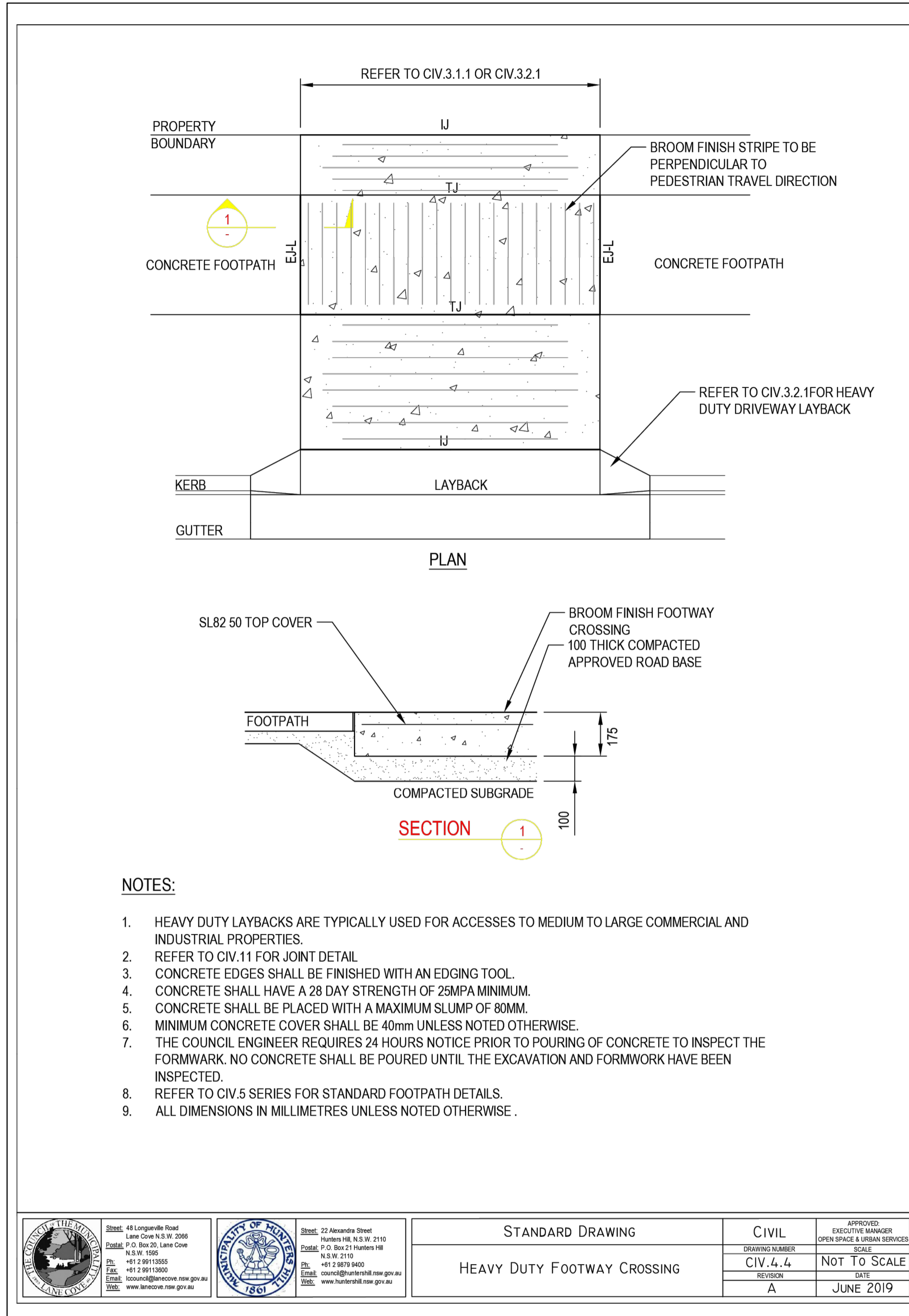
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North

Project
LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE

Sheet Subject
DETAILS - SHEET 2

Scale at A1	Drawn	Approved
AS SHOWN	AH	FC
Job No	Drawing No	Revision
250415	C09002	3



	Street: 48 Longwell Road Lane Cove N.S.W. 2086 Postal: P.O. Box 21, Lane Cove N.S.W. 1585 Tel: +61 2 96113300 Fax: +61 2 96113300 Email: council@lanecove.nsw.gov.au www.lanecove.nsw.gov.au		Street: 22 Alexandra Street Hornsby N.S.W. 2110 Postal: P.O. Box 21, Hornsby Hill N.S.W. 2110 Tel: +61 2 9619 9400 Fax: +61 2 9619 9400 Email: council@hornsby.nsw.gov.au www.hornsby.nsw.gov.au	STANDARD DRAWING CIVIL CIV. 4.4 A JUNE 2019	APPROVED EXECUTIVE MANAGER OPEN SPACE & URBAN SERVICES SCALE NOT TO SCALE REVISION DATE A JUNE 2019
	HEAVY DUTY FOOTWAY CROSSING				

	Street: 48 Longwell Road Lane Cove N.S.W. 2086 Postal: P.O. Box 21, Lane Cove N.S.W. 1585 Tel: +61 2 96113300 Fax: +61 2 96113300 Email: council@lanecove.nsw.gov.au www.lanecove.nsw.gov.au		Street: 22 Alexandra Street Hornsby N.S.W. 2110 Postal: P.O. Box 21, Hornsby Hill N.S.W. 2110 Tel: +61 2 9619 9400 Fax: +61 2 9619 9400 Email: council@hornsby.nsw.gov.au www.hornsby.nsw.gov.au	STANDARD DRAWING CIVIL CIV. 3.5 A JUNE 2019	APPROVED EXECUTIVE MANAGER OPEN SPACE & URBAN SERVICES SCALE NOT TO SCALE REVISION DATE A JUNE 2019
	HEAVY DUTY DRIVEWAY LAYBACK				

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	STANDARD KERB AND GUTTERS				

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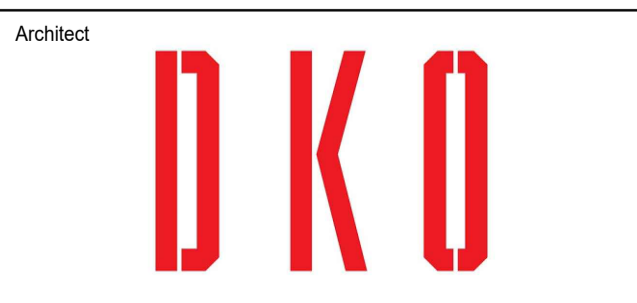
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A1 2 5 10 15 20 1:20

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1	70% DETAILED DESIGN	AH	EL	06.11.2025
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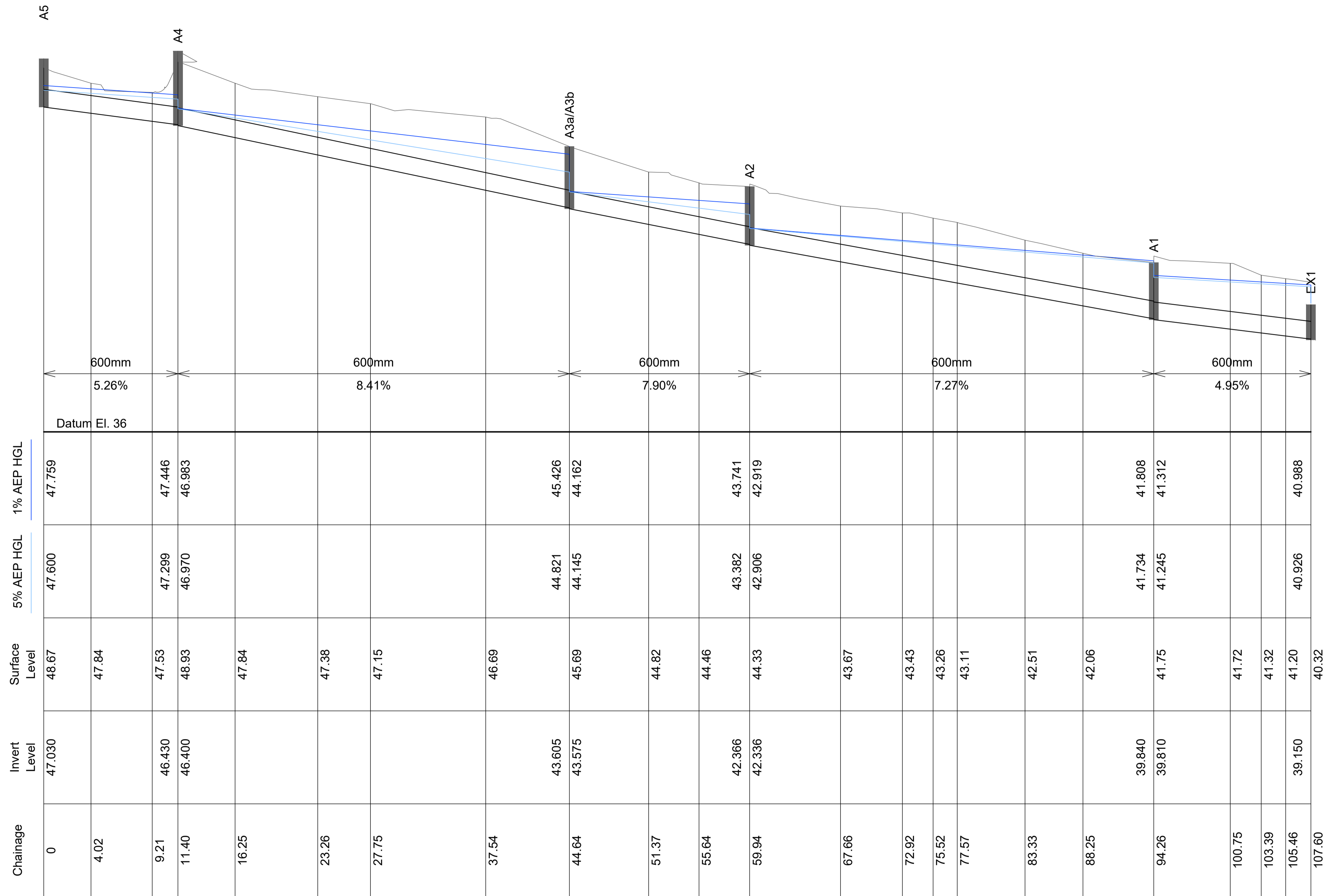
Project
 LANE COVE NORTH SOCIAL & AFFORDABLE HOUSING
 618-624 MOWBRAY ROAD WEST & 25-29 MINDARIE STREET, LANE COVE
 Sheet Subject
 DETAILS - SHEET 3

Scale at A1	Drawn	Approved
NTS	EL	FC
Job No	Drawing No	Revision
250415	C09003	1



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PROPOSED STORMWATER DIVERSION - LONGITUDINAL SECTION
SCALE H1:200, V1:100

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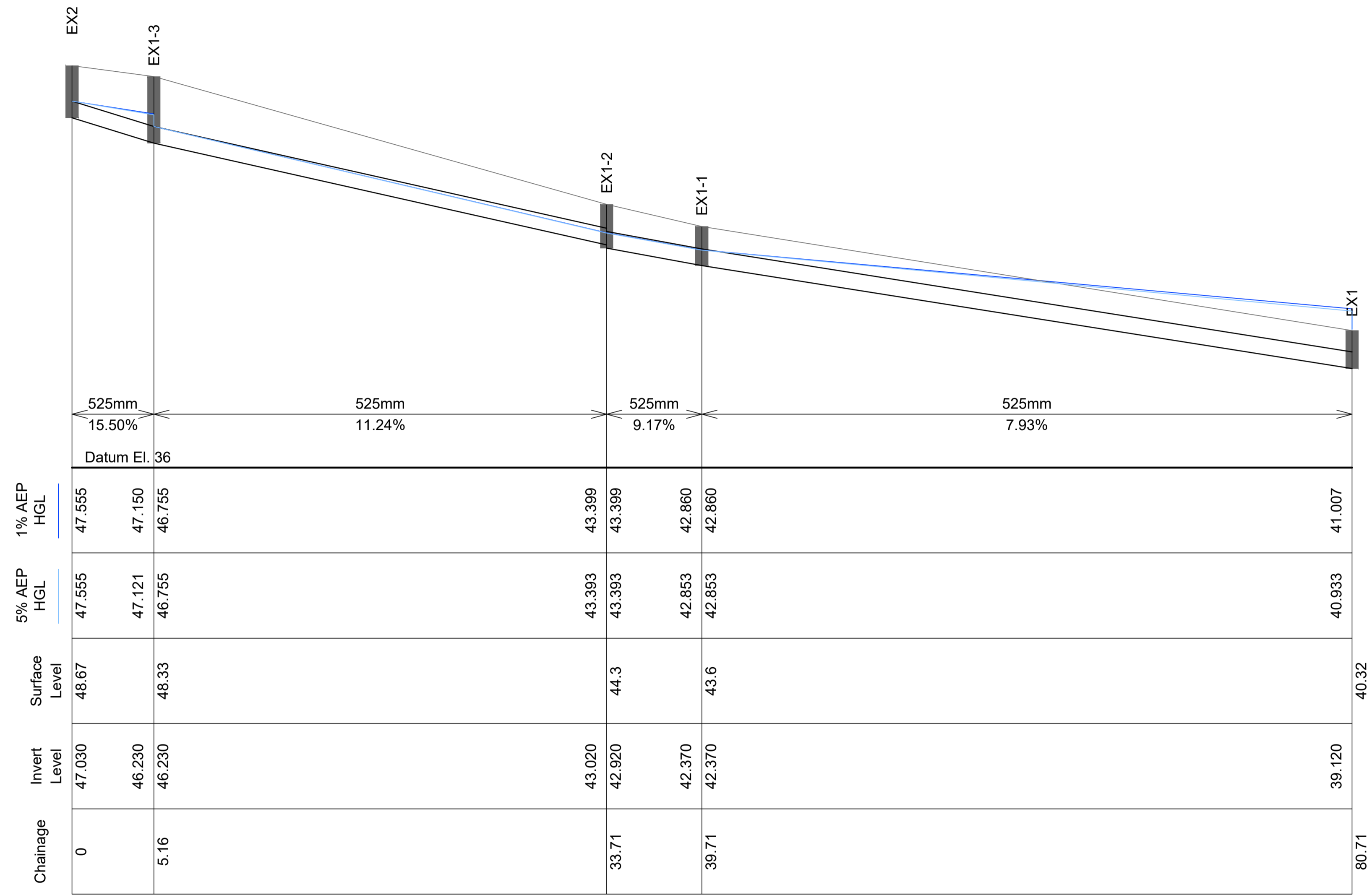
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Rev	Description	Eng	Draft	Date
1	CONCEPT FOR INFORMATION ONLY	AH	AH	03.02.2026



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	Sheet Subject	Job No	Drawing No	Revision
	STORMWATER DIVERSION LONGITUDINAL SECTION	250415	SKC05201	1



EXISTING STORMWATER PIPE - LONGITUDINAL SECTION
SCALE H1:200, V1:100

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Rev	Description	Eng	Draft	Date
1	CONCEPT FOR INFORMATION ONLY	AH	AH	03.02.2026



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Sheet Subject	EXISTING STORMWATER - LONGITUDINAL SECTION

Scale at A1	1:200	Drawn	AH	Approved	
Job No	250415	Drawing No	SKC05202	Revision	1

APPENDIX B

Section 3 of the Stormwater Management Report and FIRA prepared by WSP, dated 24 March 2025

3 Stormwater Management

3.1 Stormwater Drainage Design

The stormwater design must be in accordance with Australian Standards, Lane Cove Council's DCP, and Australian Rainfall and Runoff (2019).

In general, drainage is to be designed to ensure that site facilities are available for residents and visitors to use in all weather conditions up to a 1% AEP storm event. All new roof stormwater will be collected in roof gutters and downpipes and conveyed to the in-ground pipe system to be directed to the OSD tank. Surface stormwater will be collected in pits. The in-ground stormwater will be connected to water quality controls.

Pipes and pits will need to be designed to satisfy the minimum provisions of AS 3500.3. They must be designed to convey, at least, the 10% Annual Exceedance Probability (AEP) flows. Where pipe capacity is exceeded i.e., greater than 10% AEP, stormwater will be conveyed as overland flow. In general, overland flow paths are to be designed to convey at the minimum 1% AEP stormwater flows with a Velocity x Depth to be less than 0.4m²/s. In the case of the major overland flow path, best practise has been used for the design.

Class B, C and D pits are to be used in accordance with AS 3996.

3.2 On-site Stormwater Detention (OSD)

In accordance with the DCP, Section O.7: Stormwater Management, as the site is a multi-dwelling residency with a proposed impervious area of over 35%, OSD is required. The DCP states OSD is required for the site to limit stormwater discharge from the development to pre-development conditions. OSD is to be designed to ensure there is no increase in discharges from a site for rainfall events having a 100-Year Average Recurrence Interval (ARI). The OSD should include three main components:

- Temporary storage,
- Discharge control pit, and
- Overflow structure.

The DCP outlines the Permissible Site Discharge (PSD) and Site Storage Requirements (SSR) for the required OSD at the site. These requirements are to ensure sufficient storage is provided to ensure peak flowrates at any point within the downstream drainage system do not increase because of the development during storms from the 5-Year ARI to 100-Year ARI storm events. The requirements for the site, as per the DCP, are shown in Table 5.

It was deemed unfeasible to route the stormwater runoff from the pervious areas of the development through the OSD tank as these areas provide a major overland flow path. Consequently, only the proposed impervious areas, such as the building and driveway, were used to determine the PSD and SSR for the site. The proposed OSD requirements for the site are described in Table 5 below. The proposed OSD requirements will meet Council's objective of ensuring peak flowrates at any point within the downstream drainage system do not increase because of the development whilst ensuring the OSD tank can perform properly without interference with additional flows from upstream properties.

Table 5: OSD Requirements as per the DCP

Criteria	Value	Impervious Area	Site Requirements
PSD	140L/s/ha	0.2373ha	33.22L/s
SSR	0.025m ³ /m ²	2,046m ²	51.15m ³

The stormwater drainage design will reflect the design criteria for OSD presented in the DCP. Stormwater runoff from over ~97% of the proposed impervious area will be routed through the OSD system, and where impractical, stormwater runoff from pervious area will bypass the OSD. Additionally, runoff entering the site from any upstream properties will bypass the OSD.

3.2.1 DRAINS Modelling

A DRAINS model has been created to ensure the post-development discharge rate from the impervious areas do not exceed the PSD of 33.22L/s. Additionally, the DRAINS model is used to compare the pre-development site discharge rate with the post-development site discharge rate with the addition of an approximately 130m³ OSD tank with a 115mm orifice plate.

The impervious areas inputted into DRAINS for the site catchment pre- and post- development have been calculated from the design plans and existing survey. That is, the pre-development site has been inputted with 34% impervious area and the post-development site has been inputted based on the architectural and landscape plans. Table 6 below compares the pre-development and post-development discharge rates from the site. Additionally, the table presents the discharge rate from the proposed impervious areas, highlighting the PSD of 33.22L/s for the impervious areas is not exceeded.

Table 6: Pre- and Post- Development Discharge Rate Comparison

Storm Event	Pre-development Discharge Rate	Post-development Discharge Rate	Post-development Impervious Area Discharged Rate (PSD = 33.22L/s)
5-Year ARI	113L/s	74L/s	23L/s
10-Year ARI	145L/s	90L/s	25L/s
20-Year ARI	167L/s	104L/s	27L/s
50-Year ARI	198L/s	121L/s	30L/s
100-Year ARI	231L/s	134L/s	33L/s

3.3 Stormwater Drainage Line Redirection

The existing 525mm diameter stormwater line spanning the development site is to be redirected as a part of the development works. Information regarding the existing pipes and pits can be found in Section 1.1.2.

The proposed building lies directly over the stormwater line. Additionally, the stormwater pipes pass directly through two Tree Protections Zones (TPZ). It is unknown whether the mature trees have impacted the stormwater pipes. There is a high probability that the tree roots have impacted the pipe, or will do so in the future, creating a maintenance risk should the existing line be retained. Hence, the stormwater line is to be redirected around the proposed building.

The stormwater pipes are to be upgraded to 600mm diameter and a new easement is to be sought over the pipes. The proposed system is shown in Figure 9 and has been coordinated with the proposed sewer diversions, while also minimising any impact on the tree protection zones and eliminating 90° bends where possible.

3.4 Water Sensitive Urban Design (WSUD)

Water Sensitive Urban Design typically includes water reuse, pollutant removal via natural systems, and the minimisation of hard structures to control stormwater and improve aesthetic and recreational appeal.

Where open space exists, an attempt to incorporate WSUD principles into the stormwater design has been made. Although, as standing water poses waterborne health risk and open area without obstruction is limited on the site, only some components of WSUD are incorporated where appropriate.

3.4.1 Stormwater Quality

Lane Cove Council does not currently outline stormwater quality targets within their engineering guidelines, or elsewhere. In lieu of specific Council targets, the pollutant reduction targets outlined in the Australian Runoff Quality guide to WSUD are to be targeted. These pollutant reduction targets, shown in Table 7, represent achievable targets using best practice.

Table 7: Stormwater Treatment Objectives for New South Wales and Victoria (ARQ Guide to WSUD)

Pollutant	Stormwater Treatment Objective
<i>Total Suspended Solids (TSS)</i>	80% retention of average annual load
<i>Total Phosphorus (TP)</i>	45% retention of average annual load
<i>Total Nitrogen (TN)</i>	45% retention of average annual load
<i>Litter and Coarse Sediment</i>	Retention of litter >50mm for flows up to the 3-month ARI peak flow. Retention of sediment coarser than 0.125mm for flows up to the 3-month ARI peak flow.

As the site is identified in a regulated catchment, being the Sydney Harbour Catchment the controls outlined in Part 6.2, Division 2 of the Biodiversity and Conservation SEPP 2021 apply.

The provision of rainwater capture and re-use, stormwater quality treatment, and stormwater detention all provide a positive impact on stormwater quality and quantity compared to the existing conditions on site.

3.4.2 MUSIC Modelling

A MUSIC model has been prepared to estimate the treatment train effectiveness to installing filter cartridges in the OSD tank. The model found that 5x 690mm Psorb Stormfilters supplied by Ocean Protect can treat stormwater to meet the requirements presented in Table 7. The model output is shown in Figure 23. Further refinements will be made to the model when details of rainwater capture, storage and re-use are better defined, noting the site aims to achieve a neutral or beneficial effect on the stormwater quality in accordance with the Biodiversity and Conservation SEPP 2021.

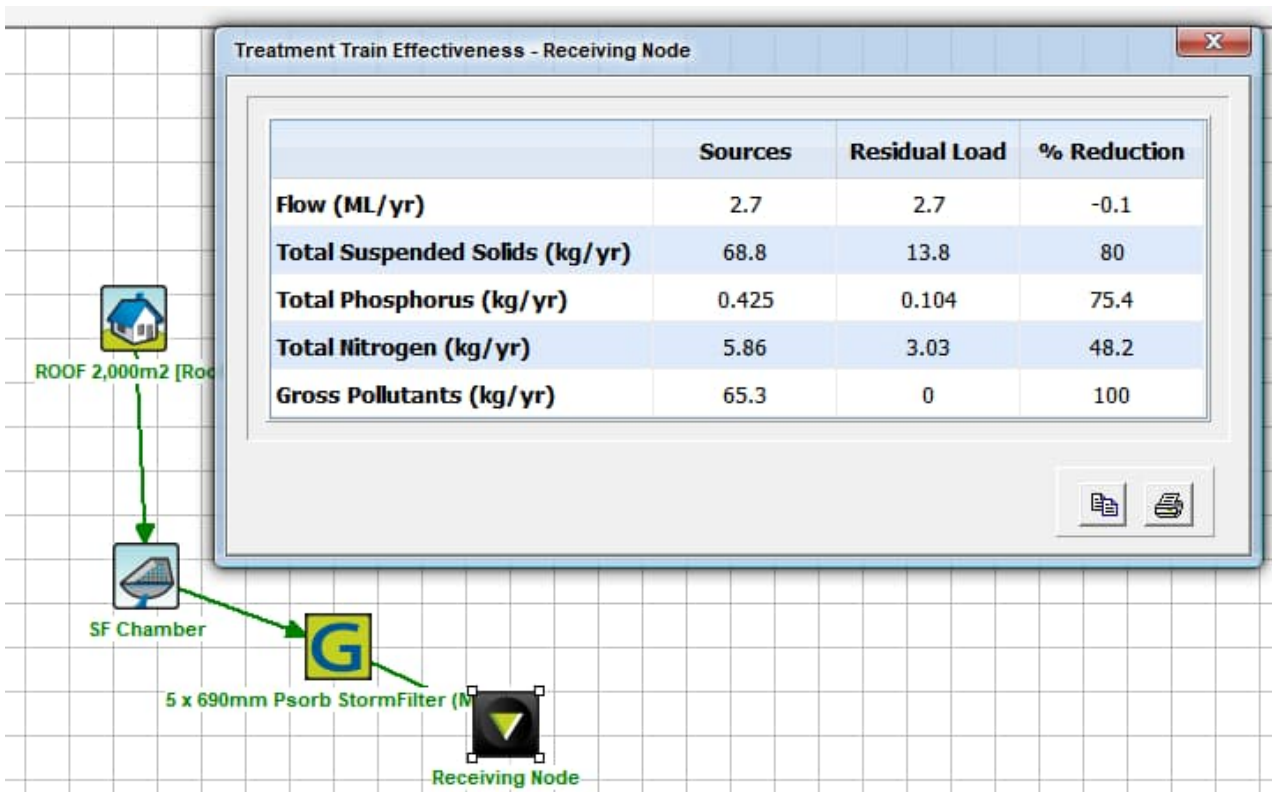


Figure 23 MUSIC model results

APPENDIX C

Correspondence with Lane Cove Council

Duncan Marshall | XAVIER KNIGHT

From: Maran Muthiah <MMuthiah@lanecove.nsw.gov.au>
Sent: Friday, 6 February 2026 2:32 PM
To: Duncan Marshall | XAVIER KNIGHT; Martin Terescenko; Sebastian Szewcow; Katherine Battah; Matt Langshaw; Matt James; Pedro Pan
Cc: Pradip Lamichhane
Subject: Stormwater Diversion at 618-624 Mowbray Rd west and 25-29 Mindarie St, Lane Cove North

Hi Duncan

Thank you for sending Drains file and updated plan for drainage relocation through 618-624 Mowbray Rd west and 25-29 Mindarie St, Lane Cove North.

The stormwater drainage diversion plan prepared by Xavier Knight, reference Number: 250415, revision: 7 and dated 19/01/26 is satisfactory.

You need to have an approval from Council for this construction works on Council's property under section 138 of the Road Act 1993.

You can request this Section 138 approval as part of the DA after DA approved.

Thanks
Maran Muthiah



Maran Muthiah
Development Engineer
48 Longueville Road Lane Cove
MMuthiah@lanecove.nsw.gov.au

From: Duncan Marshall | XAVIER KNIGHT <duncan@xavierknight.com.au>
Sent: Wednesday, 4 February 2026 6:42 PM
To: Maran Muthiah <MMuthiah@lanecove.nsw.gov.au>; Martin Terescenko <MTerescenko@lanecove.nsw.gov.au>; Sebastian Szewcow <SSzewcow@lanecove.nsw.gov.au>; Katherine Battah <katherineb@gj.com.au>; Matt Langshaw <mattl@gj.com.au>; Matt James <matt@arcturussolutions.com.au>; Pedro Pan <pedro.pan@linkwentworth.org.au>
Cc: Pradip Lamichhane <PLamichhane@lanecove.nsw.gov.au>
Subject: RE: Placeholder - SSD-71687208 - Mowbray Road, Lane Cove Affordable Housing - Stormwater Diversion

Hi Maran,

Please find link below to DRN file and Excel of results – note our DRAINS model has been prepared in the latest version of DRAINS using Full Unsteady.

[260204 - Stormwater Diversion Information](#)

This folder also includes relevant drawings to the stormwater diversion.

Let us know if you need any further information.

Regards,

DUNCAN MARSHALL | Principal Civil Engineer

M 0468 874 829

O 02 8810 5800

E duncan@xavierknight.com.au

X XAVIER KNIGHT

From: Maran Muthiah <MMuthiah@lanecove.nsw.gov.au>

Sent: Wednesday, 4 February 2026 3:31 PM

To: Duncan Marshall | XAVIER KNIGHT <duncan@xavierknight.com.au>; Martin Terescenko

<MTerescenko@lanecove.nsw.gov.au>; Sebastian Szewcow <[SSzewcow@lanecove.nsw.gov.au](mailto:sszewcow@lanecove.nsw.gov.au)>; Katherine Battah <katherineb@gj.com.au>; Matt Langshaw <mattl@gj.com.au>; Matt James <matt@arcturussolutions.com.au>; Pedro Pan <pedro.pan@linkwentworth.org.au>

Cc: Pradip Lamichhane <PLamichhane@lanecove.nsw.gov.au>

Subject: RE: Placeholder - SSD-71687208 - Mowbray Road, Lane Cove Affordable Housing - Stormwater Diversion

Hi Duncan

Thank you for your email.

Could you please email the Drains data file and any supporting documents?

Regards

Maran Muthiah



Maran Muthiah

Development Engineer

48 Longueville Road Lane Cove

MMuthiah@lanecove.nsw.gov.au

From: Duncan Marshall | XAVIER KNIGHT <duncan@xavierknight.com.au>

Sent: Tuesday, 3 February 2026 11:24 AM

To: Maran Muthiah <MMuthiah@lanecove.nsw.gov.au>; Martin Terescenko <MTerescenko@lanecove.nsw.gov.au>;

Sebastian Szewcow <[SSzewcow@lanecove.nsw.gov.au](mailto:sszewcow@lanecove.nsw.gov.au)>; Katherine Battah <katherineb@gj.com.au>; Matt Langshaw

<mattl@gj.com.au>; Matt James <matt@arcturussolutions.com.au>; Pedro Pan <pedro.pan@linkwentworth.org.au>

Cc: Pradip Lamichhane <PLamichhane@lanecove.nsw.gov.au>

Subject: RE: Placeholder - SSD-71687208 - Mowbray Road, Lane Cove Affordable Housing - Stormwater Diversion

Hi Maran and LCC team,

Please find attached updated Stormwater Diversion Plan and Longitudinal Sections for Council Approval.

Below is some supporting commentary to the updated design.

Mowbray Road West

- Based on the as-built plans and markup provided by Council, we have adjusted this connection to instead provide a 600mm RCP pipe from the existing junction pit in the street to Pit A5 within our site. We are proposing to reconstruct the existing Junction Pit behind the kerb inlet pit to allow for the new 600mm pipe.
- These works will also involve reinstatement of the footpath pavement and verge

Mindarie Street

- As per Council preference we have replaced the 2 x 525mm pipes with 1 x 600mm RCP pipe. Services investigations and potholing with confirm the location of service prior to construction works.
- These works will require the reconstruction of the existing kerb inlet pit, footpath and verge
- Council had previously requested that Pit A1 is shifted closer to the southern site boundary to allow for maintenance access, however placing a new pit close to boundary results in surcharging flows out of the grated cover. A sealed pit is also not preferred as there is a risk the lid may become dislodged or fail over time. The current pit location ensures flows are contained within the system during rain events up to the 5% AEP.

Hydraulic Performance

- We have reviewed the final design compared to the existing scenario as shown in the attached longitudinal sections. Similar to our previous iterations, we can confirm the upgraded diversion provides a greater piped capacity. This in turn assists with relieving flooding issues on Mowbray West Road and reduces surcharging flows in Mindarie Street

We trust this is satisfactory for Council's endorsement of the stormwater diversion, if you require any further information to support these drawings then please do not hesitate to contact.


Regards,

DUNCAN MARSHALL | Principal Civil Engineer

M 0468 874 829

O 02 8810 5800

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 XAVIER KNIGHT

From: Maran Muthiah <MMuthiah@lanecove.nsw.gov.au>

Sent: Friday, 9 January 2026 11:46 AM

To: Duncan Marshall | XAVIER KNIGHT <duncan@xavierknight.com.au>; Martin Terescenko <MTerescenko@lanecove.nsw.gov.au>; Sebastian Szewcow <[SSzewcow@lanecove.nsw.gov.au](mailto:sszewcow@lanecove.nsw.gov.au)>; Katherine Battah <katherineb@gj.com.au>; Matt Langshaw <mattl@gj.com.au>; Matt James <matt@arcturusolutions.com.au>

Cc: Pradip Lamichhane <PLamichhane@lanecove.nsw.gov.au>

Subject: RE: Placeholder - SSD-71687208 - Mowbray Road, Lane Cove Affordable Housing - Stormwater Diversion

Hi Duncan

Thank you for your email.

The pit in Mowbray Rd is wider pit with a junction closed pit between footpath and kerb. Please see the photos attached.

Council wants to start this pipe diversion from this closed junction pit as marked in photos. This is clearly shown in the markup (black line) plan attached below.

Thanks
Maran Muthiah