

						Client:				Engineer: Structural Civil Traffic Façade		Project: WAHROONGA ESTATE STAGE 3 RESIDENTIAL DEVELOPMENT		Drawing Title: GENERAL COVER SHEET		<table border="1"> <thead> <tr> <th colspan="2">Scale at A1</th> <th colspan="2">Drawn</th> <th colspan="2">Designed</th> <th colspan="2">Approved</th> </tr> <tr> <th colspan="2">NTS</th> <th colspan="2">LW</th> <th colspan="2">LW</th> <th colspan="2">TM</th> </tr> <tr> <th>Project No</th> <th>Originator</th> <th>Zone</th> <th>Type</th> <th>Role</th> <th>Sheet No.</th> <th>Re</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="8">231292-TTW-00-DR-CI-00001-C</td> </tr> <tr> <td colspan="8">07.05.2025 3:22 PM</td> </tr> </tbody> </table>						Scale at A1		Drawn		Designed		Approved		NTS		LW		LW		TM		Project No	Originator	Zone	Type	Role	Sheet No.	Re		231292-TTW-00-DR-CI-00001-C								07.05.2025 3:22 PM							
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GENERAL

- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE REPORTED TO THE SUPERINTENDENT.
- STRIP ALL TOPSOIL FROM THE CONSTRUCTION AREA. ALL STRIPPED TOPSOIL SHALL BE DISPOSED OF OFF-SITE UNLESS DIRECTED OTHERWISE.
- MAKE SMOOTH CONNECTION WITH ALL EXISTING WORKS.
- COMPACT SUBGRADE UNDER BUILDINGS AND PAVEMENTS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.1.1. COMPACTION UNDER BUILDINGS TO EXTEND 2M MINIMUM BEYOND BUILDING FOOTPRINT.
- ALL WORK ON PUBLIC PROPERTY, PROPERTY WHICH IS TO BECOME PUBLIC PROPERTY, OR ANY WORK WHICH IS TO COME UNDER THE CONTROL OF THE STATUTORY AUTHORITY, THE CONTRACTOR IS TO ENSURE THAT THE DRAWINGS USED FOR CONSTRUCTION HAVE BEEN APPROVED BY ALL RELEVANT AUTHORITIES PRIOR TO COMMENCEMENT SITE.
- ALL WORK ON PUBLIC PROPERTY, PROPERTY WHICH IS TO BECOME PUBLIC PROPERTY, OR ANY WORK WHICH IS TO COME UNDER THE CONTROL OF THE STATUTORY AUTHORITY IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT AUTHORITY. THE CONTRACTOR SHALL OBTAIN THESE REQUIREMENTS FROM THE AUTHORITY. WHERE THE REQUIREMENTS OF THE AUTHORITY ARE DIFFERENT TO THE DRAWINGS AND SPECIFICATIONS, THE REQUIREMENTS OF THE AUTHORITY SHALL BE APPLICABLE.
- FOR ALL TEMPORARY BATTERS REFER TO GEOTECHNICAL RECOMMENDATIONS.

BOUNDARIES AND EASEMENTS

- THE PROPERTY BOUNDARY AND EASEMENT LOCATIONS SHOWN ON TAYLOR THOMSON WHITTING DRAWING'S HAVE BEEN BASED ON INFORMATION RECEIVED FROM : SURVEYOR
- TAYLOR THOMSON WHITTING MAKES NO GUARANTEES THAT THE BOUNDARY OR EASEMENT INFORMATION SHOWN IS CORRECT. TAYLOR THOMSON WHITTING WILL ACCEPT NO LIABILITIES FOR BOUNDARY INACCURACIES. THE CONTRACTOR/BUILDER IS ADVISED TO CHECK/CONFIRM ALL BOUNDARIES IN RELATION TO ALL PROPOSED WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. BOUNDARY INACCURACIES FOUND ARE TO BE REPORTED TO THE SUPERINTENDENT PRIOR TO CONSTRUCTION STARTING.

SURVEY

- ORIGIN OF LEVELS:
DATUM OF LEVELS:
COORDINATE SYSTEM:
SURVEY PREPARED BY:
SETOUT POINTS:

PM44905 RL 166.262
AHD
MGA94
RPS
POINTS
- TAYLOR THOMSON WHITTING DOES NOT GUARANTEE THAT THE SURVEY INFORMATION SHOWN ON THESE DRAWINGS IS ACCURATE AND WILL ACCEPT NO LIABILITY FOR ANY INACCURACIES IN THE SURVEY INFORMATION PROVIDED TO US FROM ANY CAUSE WHATSOEVER.

UNDERGROUND SERVICES - WARNING

- THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ON TAYLOR THOMSON WHITTINGS DRAWINGS HAVE BEEN PLOTTED FROM DIAGRAMS PROVIDED BY SERVICE AUTHORITIES. THIS INFORMATION HAS BEEN PREPARED SOLELY FOR THE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
- THE POSITION OF SERVICES AS RECORDED BY THE AUTHORITY AT THE TIME OF INSTALLATION MAY NOT REFLECT CHANGES IN THE PHYSICAL ENVIRONMENT SUBSEQUENT TO INSTALLATION.
- THE CONTRACTOR MUST CONFIRM THE EXACT LOCATION AND EXTENT OF SERVICES PRIOR TO CONSTRUCTION AND NOTIFY ANY CONFLICT WITH THE DRAWINGS IMMEDIATELY TO THE ENGINEER/SUPERINTENDENT.
- THE CONTRACTOR IS TO GET APPROVAL FROM THE RELEVANT STATE SURVEY DEPARTMENT, TO REMOVE/ADJUST ANY SURVEY MARK. THIS INCLUDES BUT IS NOT LIMITED TO: STATE SURVEY MARKS (SSM), PERMANENT MARKS (PM), CADASTRAL REFERENCE MARKS OR ANY OTHER SURVEY MARK WHICH IS TO BE REMOVED OR ADJUSTED IN ANY WAY.
- TAYLOR THOMSON WHITTING PLANS DO NOT INDICATE THE PRESENCE OF ANY SURVEY MARK. THE CONTRACTOR IS TO UNDERTAKE THEIR OWN SEARCH.

DIAL BEFORE YOU DIG (DBYD)

- PUBLIC SERVICE UTILITY INFORMATION SHOWN ON PLAN HAS BEEN COMPLIED FROM INFORMATION RECEIVED FROM DIAL BEFORE YOU DIG INQUIRY, REFERENCE NUMBER 35622690. OBTAINED ON 06.12.2023 UNLESS SPECIFICALLY SHOWN OTHERWISE, THIS LOCATION AND DEPTH OF SERVICES SHOWN ON THIS PLAN HAVE NOT BEEN VERIFIED.
- THE LOCATION OF SERVICES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED AS ACCURATELY AS POSSIBLE FROM DIAGRAMS PROVIDED BY SERVICE AUTHORITIES AND SHOULD BE CONFIRMED BY SITE INSPECTION."

SITE WORKS

- ALL BASECOURSE MATERIAL TO COMPLY WITH RMS SPECIFICATION NO 3051 AND COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH AN APPROVED SELECT MATERIAL AND COMPACTED TO A MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1

PUBLIC DOMAIN WORKS

- PUBLIC DOMAIN WORKS ARE NOT TO COMMENCE UNTIL THESE DRAWINGS ARE STAMPED AS APPROVED.

SAFETY IN DESIGN

CONTRACTOR TO REFER TO APPENDIX B OF THE CIVIL SPECIFICATION FOR THE CIVIL RISK AND SOLUTIONS REGISTER.

- EXISTING SERVICES
CONTRACTOR TO BE AWARE EXISTING SERVICES ARE LOCATED WITHIN THE SITE. LOCATION OF ALL SERVICES TO BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORKS. CONTRACTOR TO CONFIRM WITH RELEVANT AUTHORITY REGARDING MEASURES TO BE TAKEN TO ENSURE SERVICES ARE PROTECTED OR PROCEDURES ARE IN PLACE TO DEMOLISH AND/OR RELOCATE.
- EXISTING STRUCTURES
CONTRACTOR TO BE AWARE EXISTING STRUCTURES MAY EXIST WITHIN THE SITE. TO PREVENT DAMAGE TO EXISTING STRUCTURE(S) AND/OR PERSONNEL, SITE WORKS TO BE CARRIED OUT AS FAR AS PRACTICABLY POSSIBLE FROM EXISTING STRUCTURE(S).
- EXISTING TREES
CONTRACTOR TO BE AWARE EXISTING TREES EXIST WITHIN THE SITE WHICH NEED TO BE PROTECTED. TO PREVENT DAMAGE TO TREES AND/OR PERSONNEL, SITE WORKS TO BE CARRIED OUT AS FAR AS PRACTICABLY POSSIBLE FROM EXISTING TREES. ADVICE NEEDS TO BE SOUGHT FROM ARBORIST AND/OR LANDSCAPE ARCHITECT ON MEASURES REQUIRED TO PROTECT TREES.
- GROUNDWATER
CONTRACTOR TO BE AWARE GROUND WATER LEVELS ARE CLOSE TO EXISTING SURFACE LEVEL. TEMPORARY DE-WATERING MAY BE REQUIRED DURING CONSTRUCTION WORKS.
- EXCAVATIONS
DEEP EXCAVATIONS DUE TO STORMWATER DRAINAGE WORKS IS REQUIRED. CONTRACTOR TO ENSURE SAFE WORKING PROCEDURES ARE IN PLACE FOR WORKS. ALL EXCAVATIONS TO BE FENCED OFF AND BATTERS ADEQUATELY SUPPORTED TO APPROVAL OF GEOTECHNICAL ENGINEER.
- GROUND CONDITIONS
CONTRACTOR TO BE AWARE OF THE SITE GEOTECHNICAL CONDITIONS. REFER TO GEOTECHNICAL REPORT BY
 - DOUGLAS PARTNERS.
 - REPORT ON GEOTECHNICAL INVESTIGATION, DATED 16.08.2024.
- HAZARDOUS MATERIALS
EXISTING ASBESTOS PRODUCTS & CONTAMINATED MATERIAL MAY BE PRESENT ON SITE. CONTRACTOR TO ENSURE ALL HAZARDOUS MATERIALS ARE IDENTIFIED PRIOR TO COMMENCING WORKS. SAFE WORKING PRACTICES AS PER RELEVANT AUTHORITY TO BE ADOPTED AND APPROPRIATE PPE TO BE USED WHEN HANDLING ALL HAZARDOUS MATERIALS. REFER TO GEOTECHNICAL/ENVIRONMENTAL REPORT BY
 - DOUGLAS PARTNERS.
 - REPORT ON PRELIMINARY SITE (CONTAMINATION) INVESTIGATION, DATED 10.08.2024.
- CONFINED SPACES
CONTRACTOR TO BE AWARE OF POTENTIAL HAZARDS DUE TO WORKING IN CONFINED SPACES SUCH AS STORMWATER PITS, TRENCHES AND/OR TANKS. CONTRACTOR TO PROVIDE SAFE WORKING METHODS AND USE APPROPRIATE PPE WHEN ENTERING CONFINED SPACES.
- MANUAL HANDLING
CONTRACTOR TO BE AWARE MANUAL HANDLING MAY BE REQUIRED DURING CONSTRUCTION. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ENSURE MANUAL HANDLING PROCEDURES AND ASSESSMENTS ARE IN PLACE PRIOR TO COMMENCING WORKS.
- WATER POLLUTION
CONTRACTOR TO ENSURE APPROPRIATE MEASURES ARE TAKEN TO PREVENT POLLUTANTS FROM CONSTRUCTION WORKS CONTAMINATING THE SURROUNDING ENVIRONMENT.
- SITE ACCESS/EGRESS
CONTRACTOR TO BE AWARE SITE WORKS OCCUR IN CLOSE PROXIMITY TO FOOTPATHS AND ROADWAYS. CONTRACTOR TO ERECT APPROPRIATE BARRIERS AND SIGNAGE TO PROTECT SITE PERSONNEL AND PUBLIC.
- VEHICLE MOVEMENT
CONTRACTOR TO SUPPLY AND COMPLY WITH TRAFFIC MANAGEMENT PLAN AND PROVIDE ADEQUATE SITE TRAFFIC CONTROL INCLUDING A CERTIFIED TRAFFIC MARSHALL TO SUPERVISE VEHICLE MOVEMENTS WHERE NECESSARY.

BOUNDARIES

EXISTING	REMOVED	PROPOSED	
			BLOCK BOUNDARY
			BLOCK BOUNDARY EXTINGUISHED

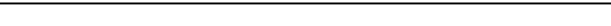
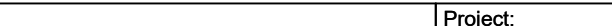
BUILDINGS

EXISTING	REMOVED	PROPOSED	
			BUILDING ENVELOPE
			FUTURE BUILDING ENVELOPE
			BASEMENT OUTLINE
			BUILDING AWNING
			BUILDING DOUBLE DOOR ENTRY
			BUILDING SINGLE DOOR ENTRY
			BUILDING SLIDING DOOR ENTRY

LANDSCAPE

EXISTING	REMOVED	PROPOSED	
			FENCE LINE
			FENCE LINE ON BOUNDARY
			PROPERTY ACCESS GATE
			BUILDING SLIDING DOOR ENTRY TREE REPRESENTATION MAY VARY BASED ON LANDSCAPE CONSULTANT OR SURVEY INFORMATION
			PAVEMENT
			SOFT LANDSCAPE
			TREE PROTECTION ZONE
			STRUCTURAL ROOT ZONE

NOT FOR CONSTRUCTION

																														Project: WAHROONGA ESTATE STAGE 3 RESIDENTIAL DEVELOPMENT										Drawing Title: GENERAL NOTES AND LEGEND SHEET 1										Scale at A1 NTS Drawn LW Designed LW Approved TM									
																				612 6285 1766 Level 5, 224 Bunda St, Canberra City, ACT 2601																																							
B ISSUE FOR DA GC LW 31.10.2024																																																											
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Rev Description Eng Draft Date										Rev Description Eng Draft Date										Rev Description Eng Draft Date																																							

ALIGNMENT

CONTROL LINE



STRING NOTATION



ROAD ALIGNMENT CONTROL 1



KERB RETURN CONTROL 1



DRIVEWAY CENTER CONTROL 1



DRIVEWAY LEFT EDGE CONTROL 1



DRIVEWAY RIGHT RIGHT CONTROL 1



PATH CONTROL 1



RETAINING WALL CONTROL 1



NOISE WALL CONTROL 1



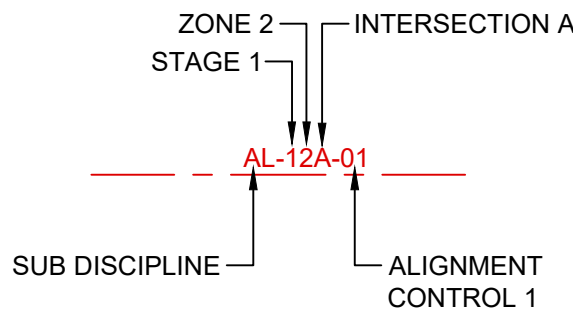
OPEN DRAINAGE CHANNEL CONTROL 1

GEOMETRIC ANNOTATIONS

CH	CHAINAGE
TP	TANGENTIAL POINT
R	RADIUS
RL	REDUCE LEVEL
eRL	EXISTING REDUCED LEVEL
FFL	FINISHED FLOOR LEVEL
TOW	TOP OF WALL LEVEL
BOW	BOTTOM OF WALL LEVEL

NOTE

GEOMETRY NOTES AND LEGEND IS TO READ IN CONJUNCTION WITH GENERAL NOTES AND LEGEND. REFER DRAWING No. 00002



SAMPLE STRING NAMING FOR STAGED PROJECTS

HORIZONTAL GEOMETRY

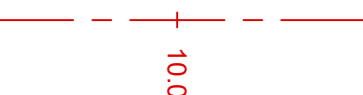
CONTROL LINE



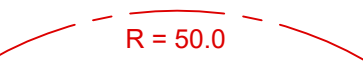
STRING NOTATION



TANGENTIAL POINT DUMBBELL AT 12.345m



CHAINAGE TICK AT 10.0m



RADIUS IS EQUAL TO 50.0m

SURFACE

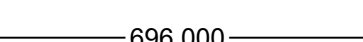
EXISTING



eRL 123.000

2.0%

PROPOSED



CONTOUR

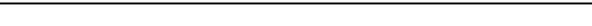
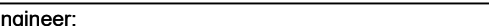
RL 456.000

SPOT LEVEL

2.0%

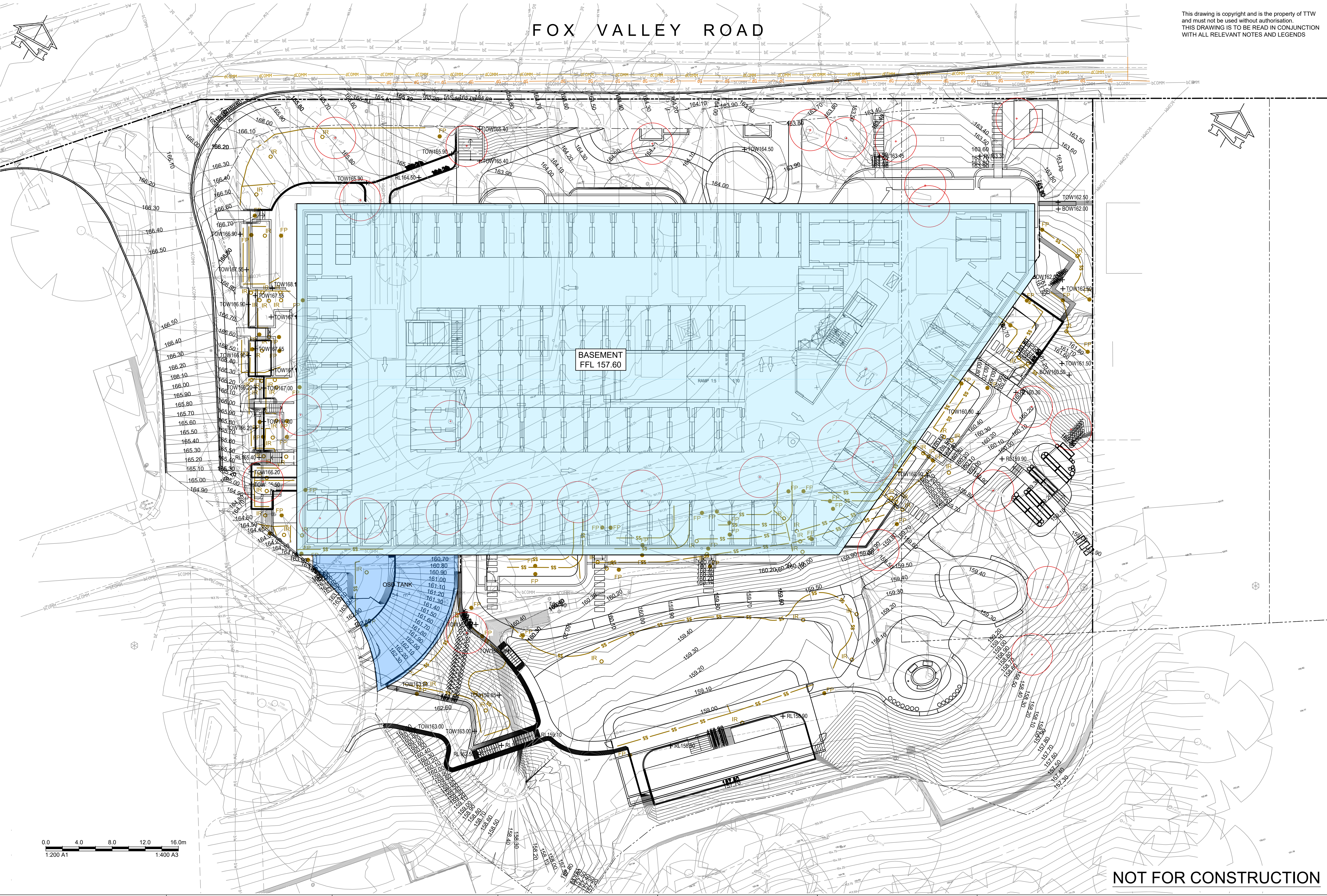
2.0% CROSS FALL GRADE ARROW

NOT FOR CONSTRUCTION

										Client:										Engineer:										Project:										Drawing Title:										Scale at A1										Drawn										Designed										Approved																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			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FOX VALLEY ROAD

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NOT FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
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Engineer
TTW
612 6285 1766 | Level 5, 224 Bunda St, Canberra City, ACT 2601

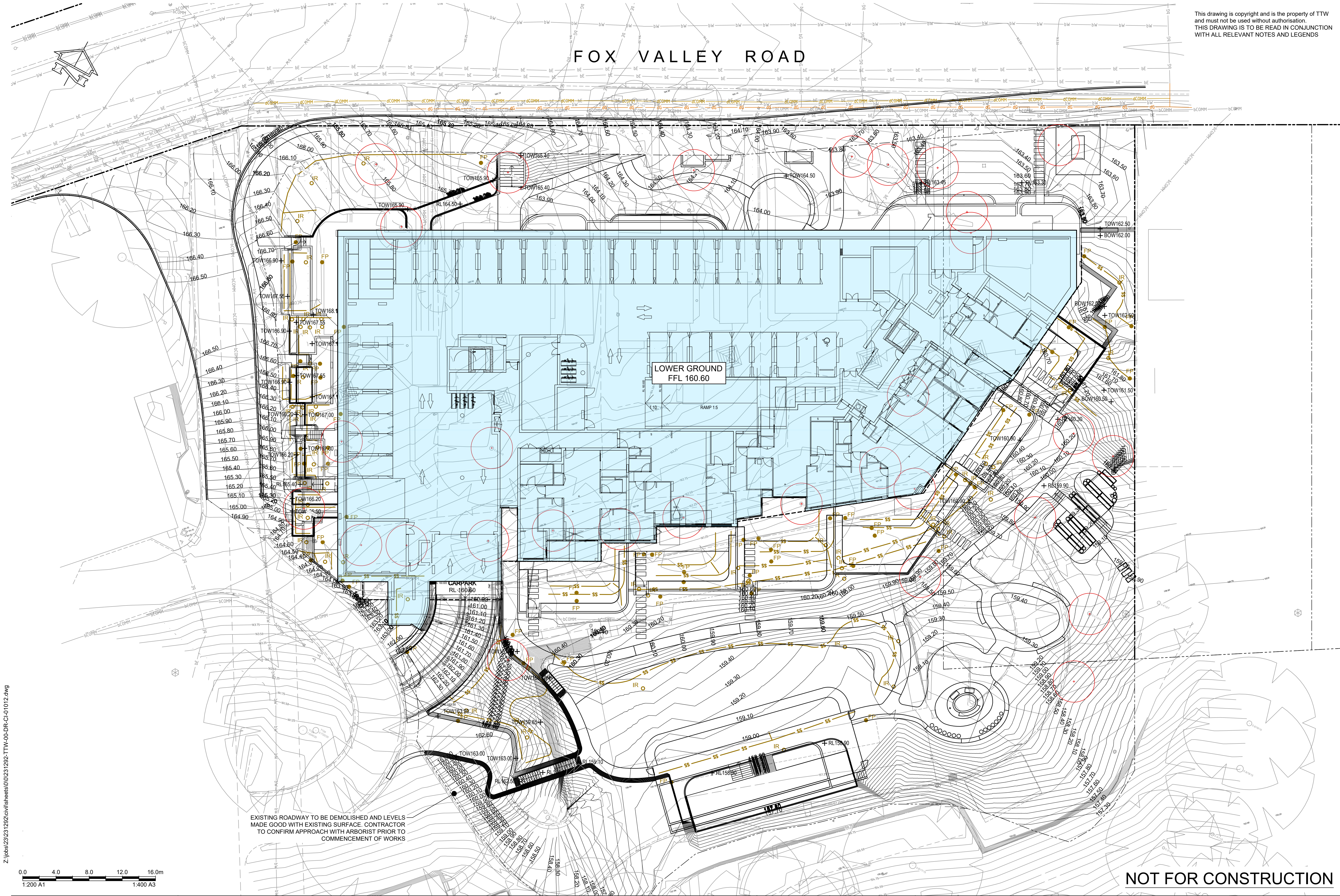
**Structural
Civil
Traffic
Façade**

Project:
**WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT**

Drawing Title:
**GEOMETRY
ALIGNMENT CONTROL
AND GRADING PLAN
BASEMENT**

Scale at A1	Drawn	Designed	Approved			
1:200	LW	LW	TM			
Project No	Originator	Zone	Type	Role	Sheet No.	Rev
231292-TTW-00-DR-CI-01011-C						
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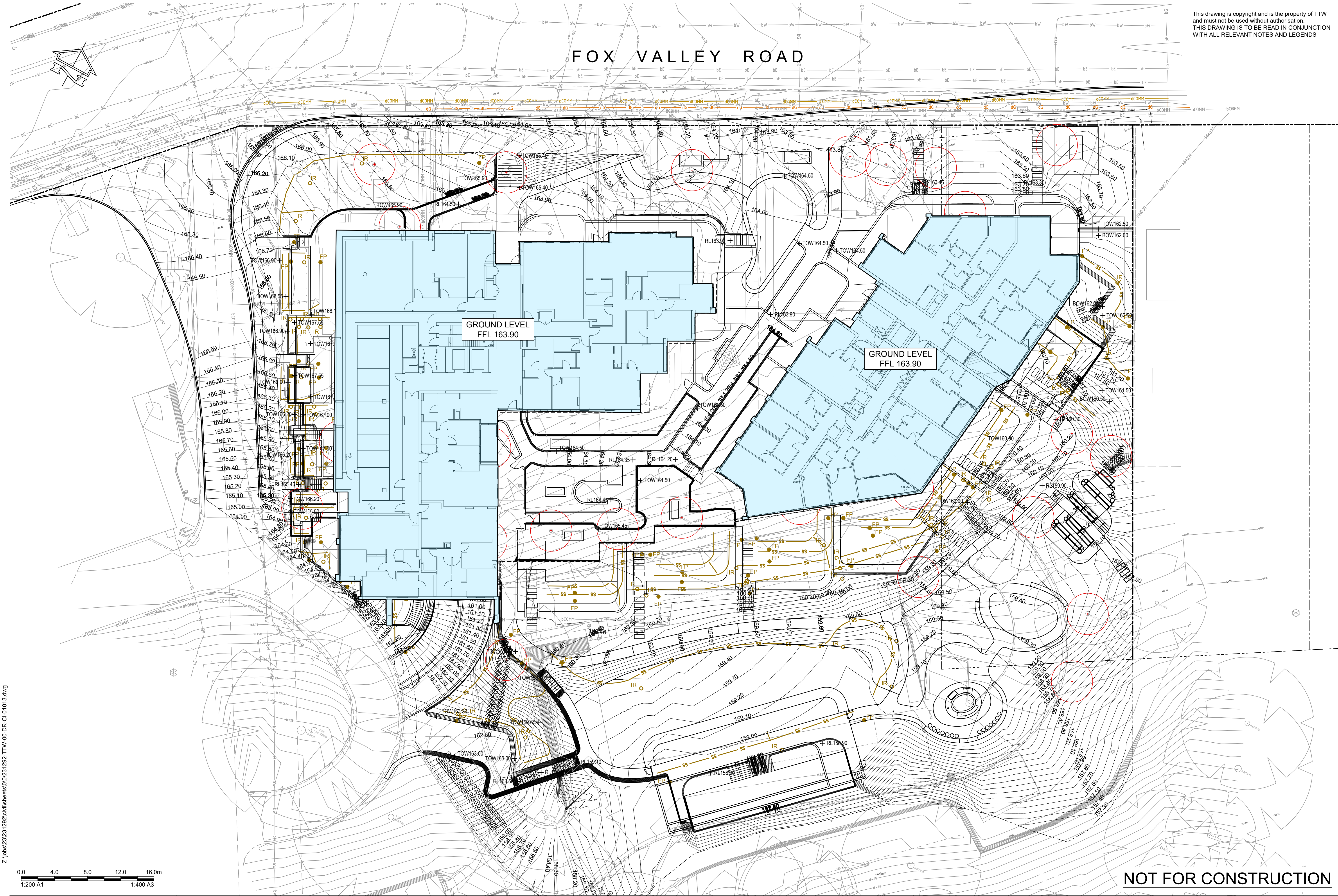


Client: WAHROONGA ESTATE
Project: STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title: GEOMETRY
ALIGNMENT CONTROL
AND GRADING PLAN
LOWER GROUND

Scale at A1	Drawn	Designed	Approved
1:200	LW	LW	TM
Project No	Originator	Zone	Role
231292-TTW-00-DR-CI-01012-C	07.05.2025	5:43 PM	

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NOT FOR CONSTRUCTION

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1:200 A1 1:400 A3

Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
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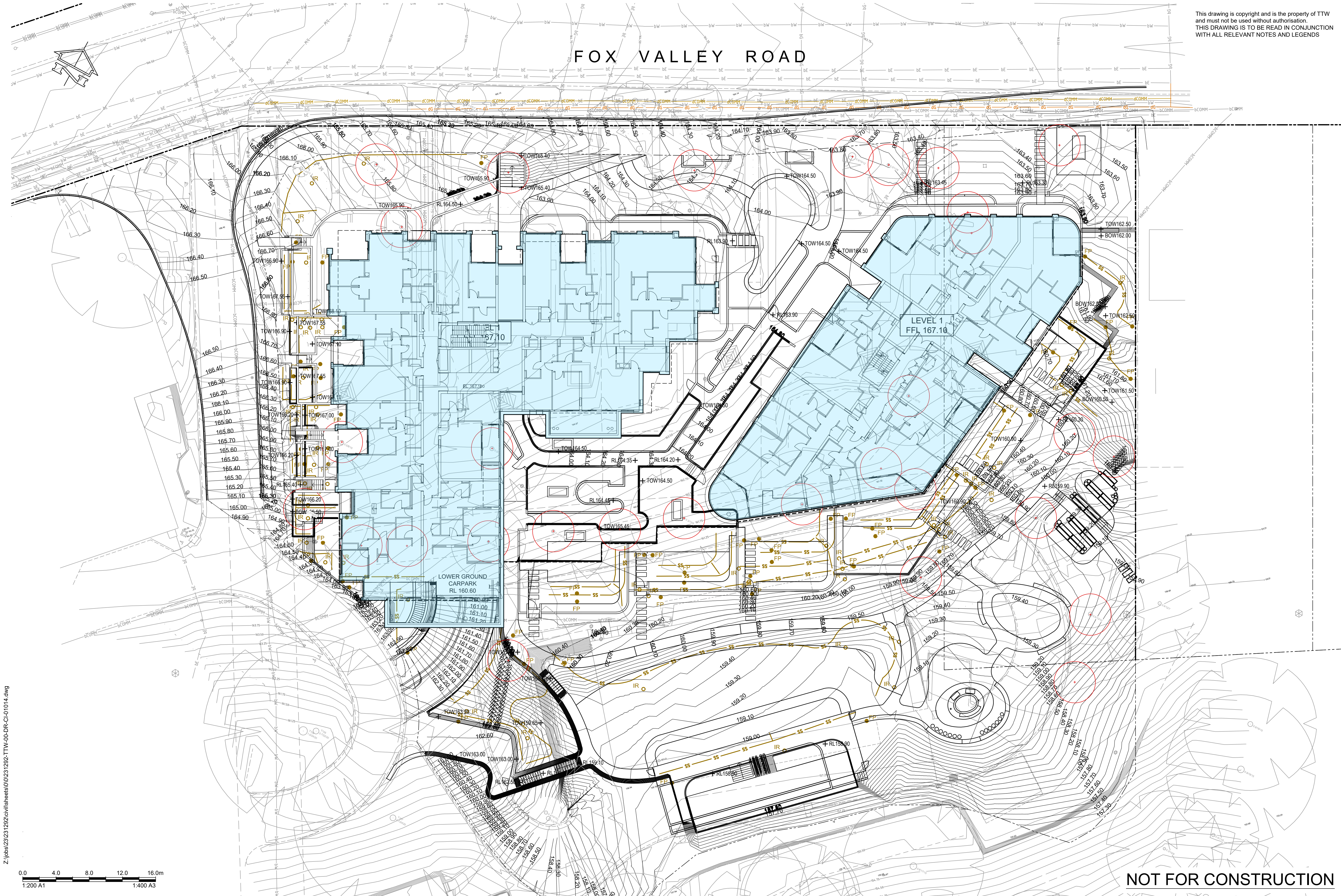
Project: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title:
GEOMETRY
ALIGNMENT CONTROL
AND GRADING PLAN
GROUND

Scale at A1	Drawn	Designed	Approved			
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07.05.2025 3:25 PM						

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FOX VALLEY ROAD



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Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
C	ISSUE FOR DA	GC	JHH	07.05.2025										
B	ISSUE FOR DA	GC	LW	31.10.2024										
A	PRELIMINARY ISSUE	GC	LW	13.06.2024										



Client: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title: GEOMETRY
ALIGNMENT CONTROL
AND GRADING PLAN
LEVEL 01

Scale at A1	Drawn	Designed	Approved			
1:200	LW	LW	TM			
Project No	Originator	Zone	Type	Role	Sheet No.	Rev
231292-TTW-00-DR-CI-01014-C						
07.05.2025 5:43 PM						

BULK EARTHWORKS (02000 SERIES DRAWINGS)

1.

ALL BULK EARTHWORKS SETOUT FROM GRID LINES U.N.O.
2.

ALL BATTERS AT A SLOPE OF 1:2 U.N.O.
3.

EXCAVATED MATERIAL MAY BE USED AS STRUCTURAL FILL PROVIDED: -

-

IT COMPLIES WITH THE SPECIFICATION REQUIREMENTS FOR FILL MATERIAL.

-

THE PLACEMENT MOISTURE CONTENT COMPLIES WITH THE GEOTECHNICAL CONSULTANTS REQUIREMENTS, AND ALLOWS FILLING TO BE PLACED AND PROOF ROLLED IN ACCORDANCE WITH THE SPECIFICATION. WHERE NECESSARY THE CONTRACTOR MUST MOISTURE CONDITION THE EXCAVATED MATERIAL TO MEET THESE REQUIREMENTS.
4.

ALL SUBGRADE MATERIAL TO BE PLACED AND COMPACTED AT OPTIMUM MOISTURE CONTENT (OMC) IN ACCORDANCE WITH AS 1289.5.1.1 TO THE FOLLOWING STANDARD DRY DENSITIES: -

LOCATION	COMPACTION	TOLERANCE
BENEATH PAVEMENTS AND BUILDINGS	98%	± 2%
BENEATH LANDSCAPED AREAS	95%	± 2%

5.

BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH A 10 TONNE MINIMUM ROLLER TO TEST SUBGRADE AND THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 3mm MOVEMENT UNDER ROLLER). SOFT SPOTS TO BE REPLACED WITH GRANULAR FILL U.N.O.
6.

CONTRACTOR SHALL PLACE SAFETY BARRIERS AROUND EXCAVATIONS IN ACCORDANCE WITH RELEVANT SAFETY REGULATIONS.
7.

FOR INTERPRETATION OF BULK EARTHWORKS FOOT PRINT LINE SHOWN ON THE BULK EARTHWORKS DRAWINGS REFER TO THE BULK EARTHWORKS CONSTRUCTION LEGEND.
8.

BULK EARTHWORK DRAWINGS ARE NOT TO BE USED FOR DETAILED EXCAVATION.
9.

REFER TO GEOTECHNICAL REPORT PREPARED BY: -

-

DOUGLAS PARTNERS.

-

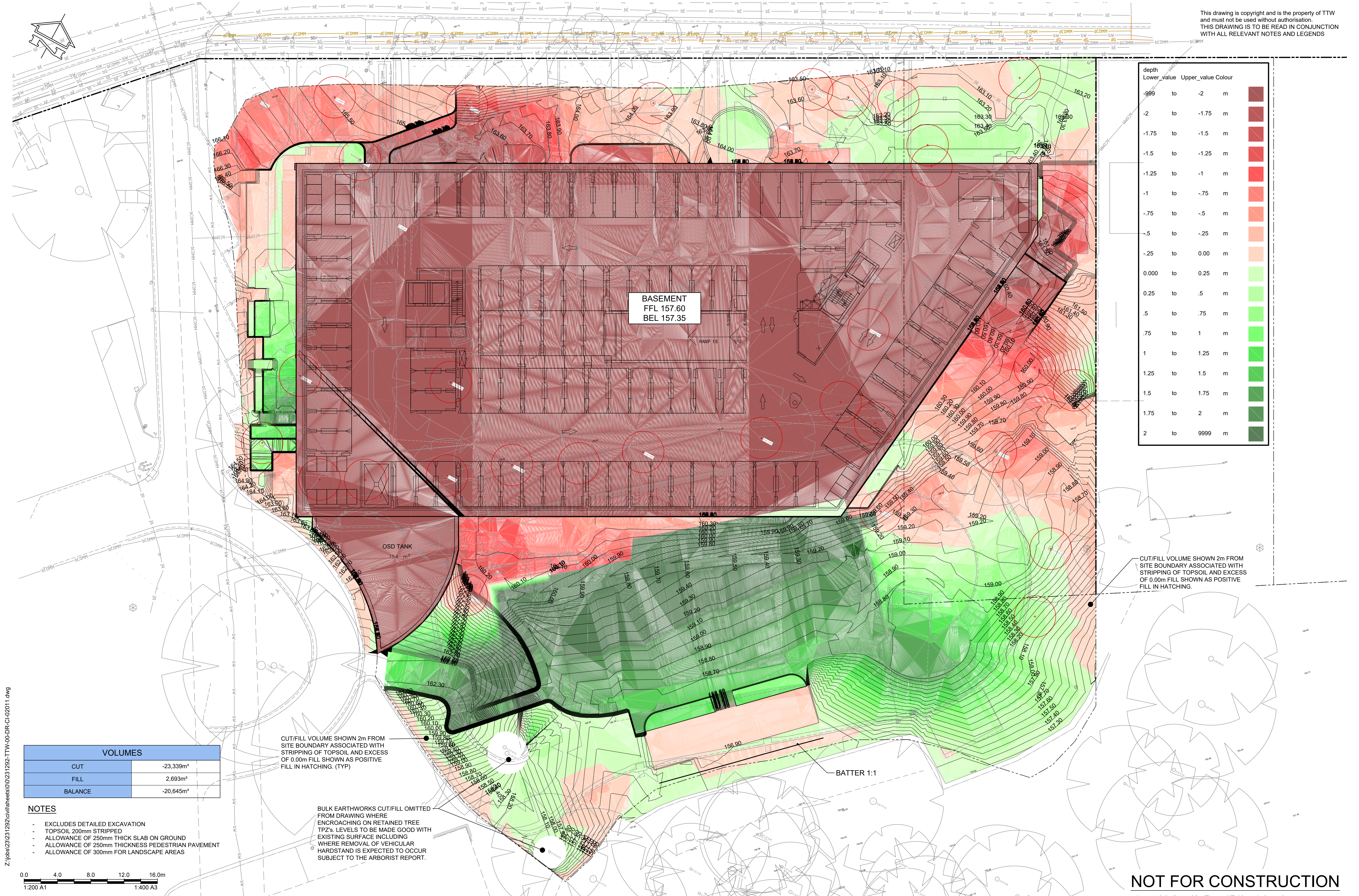
REPORT ON GEOTECHNICAL INVESTIGATION, DATED 16.08.2024.

depth				
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-1.75	to	-1.5	m	
-1.5	to	-1.25	m	
-1.25	to	-1	m	
-1	to	-.75	m	
-.75	to	-.5	m	
-.5	to	-.25	m	
-.25	to	0.00	m	
0.000	to	0.25	m	
0.25	to	.5	m	
.5	to	.75	m	
.75	to	1	m	
1	to	1.25	m	
1.25	to	1.5	m	
1.5	to	1.75	m	
1.75	to	2	m	
2	to	9999	m	

NOT FOR CONSTRUCTION

			Client:			Engineer:			Project:			Drawing Title:			Scale at A1			Drawn			Designed			Approved		
									WAHROONGA ESTATE			EARTHWORKS			NTS			LW			LW			TM		
C ISSUE FOR DA GC JHH 07.05.2025									STAGE 3						Project No			Originator			Zone			Type		
B ISSUE FOR DA GC LW 31.10.2024									RESIDENTIAL						231292-TTW-00-DR-CI-02001-C			Rev			Role			Sheet No.		
A PRELIMINARY ISSUE GC LW 13.06.2024									DEVELOPMENT						07.05.2025 3:27 PM											
Rev	Description	Eng Draft	Date	Rev	Description	Eng Draft	Date	Rev	Description	Eng Draft	Date															





depth			
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-2	to	-1.75	m
-1.75	to	-1.5	m
-1.5	to	-1.25	m
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-1	to	-.75	m
-.75	to	-.5	m
-.5	to	-.25	m
-.25	to	0.00	m
0.000	to	0.25	m
0.25	to	.5	m
.5	to	.75	m
.75	to	1	m
1	to	1.25	m
1.25	to	1.5	m
1.5	to	1.75	m
1.75	to	2	m
2	to	9999	m

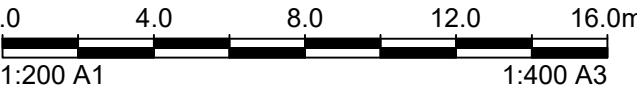
VOLUMES	
CUT	-23,339m³
FILL	2,693m³
BALANCE	-20,645m³

- NOTES
- EXCLUDES DETAILED EXCAVATION
 - TOPSOIL 200mm STRIPPED
 - ALLOWANCE OF 250mm THICK SLAB ON GROUND
 - ALLOWANCE OF 250mm THICKNESS PEDESTRIAN PAVEMENT
 - ALLOWANCE OF 300mm FOR LANDSCAPE AREAS

CUT/FILL VOLUME SHOWN 2m FROM SITE BOUNDARY ASSOCIATED WITH STRIPPING OF TOPSOIL AND EXCESS OF 0.00m FILL SHOWN AS POSITIVE FILL IN HATCHING. (TYP)

BULK EARTHWORKS CUT/FILL OMITTED FROM DRAWING WHERE ENCROACHING ON RETAINED TREE TPZ's. LEVELS TO BE MADE GOOD WITH EXISTING SURFACE INCLUDING WHERE REMOVAL OF VEHICULAR HARDSTAND IS EXPECTED TO OCCUR SUBJECT TO THE ARBORIST REPORT.

CUT/FILL VOLUME SHOWN 2m FROM SITE BOUNDARY ASSOCIATED WITH STRIPPING OF TOPSOIL AND EXCESS OF 0.00m FILL SHOWN AS POSITIVE FILL IN HATCHING.



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TTW Structural Civil Traffic Façade
612 6285 1766 | Level 5, 224 Bunda St, Canberra City, ACT 2601

WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

EARTHWORKS
CUT AND FILL
VOLUMES PLAN

231292-TTW-00-DR-CI-02011-C
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CONCRETE

1. PLACE CONCRETE OF THE FOLLOWING CHARACTERISTIC COMPRESSIVE STRENGTH f'_c IN ACCORDANCE WITH AS 1379.
- 2.

LOCATION	f _c MPa (28 DAYS)	SPECIFIED SLUMP	NOMINAL AGG. SIZE
KERBS	S20	80	20
RETAINING WALL FOOTINGS	S40	80	20

3. USE TYPE 'GP' CEMENT, UNLESS OTHERWISE SPECIFIED.
4. ALL CONCRETE SHALL BE SUBJECT TO PROJECT ASSESSMENT AND TESTING TO AS 1379.
5. CONSOLIDATE BY MECHANICAL VIBRATION. CURE ALL CONCRETE SURFACES AS DIRECTED IN THE SPECIFICATION.
6. FOR ALL FALLS IN SLAB, DRIP GROOVES, REGLETS, CHAMFERS ETC. REFER TO ARCHITECTS DRAWINGS AND SPECIFICATIONS.
7. IF ANY JOINT SHOWN ON THE DRAWINGS, THE LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.
8. NO HOLES OR CHASES SHALL BE MADE IN THE SLAB WITHOUT THE APPROVAL OF THE ENGINEER.
9. CONDUITS AND PIPES ARE TO BE FIXED TO THE UNDERSIDE OF THE TOP REINFORCEMENT LAYER.
10. SLURRY USED TO LUBRICATE CONCRETE PUMP LINES IS NOT TO BE USED IN ANY STRUCTURAL MEMBERS.
11. ALL SLABS CAST ON GROUND REQUIRE SAND BLINDING WITH A CONCRETE UNDERLAY

CONCRETE FINISHING

1. ALL EXPOSED CONCRETE PAVEMENTS ARE TO BE BROOMED FINISHED.
2. ALL EDGES OF THE CONCRETE PAVEMENT INCLUDING KEYED AND DOWELLED JOINTS ARE TO BE FINISHED WITH AN EDGING TOOL.
3. CONCRETE PAVEMENTS WITH GRADES GREATER THAN 10 % SHALL BE HEAVILY BROOMED FINISHED.
4. CARBORUNDUM TO BE ADDED TO ALL STAIR TREADS AND RAMPED CROSSINGS U.N.O.

FORMWORK

1. THE DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK, FALSEWORK AND BACKPROPPING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROPOSED METHOD OF INSTALLATION AND REMOVAL OF FORMWORK IS TO BE SUBMITTED TO THE SUPERINTENDENT FOR COMMENT PRIOR TO WORK BEING CARRIED OUT.

CONCRETE REINFORCEMENT

1. FIX REINFORCEMENT AS SHOWN ON DRAWINGS. THE TYPE AND GRADE IS INDICATED BY A SYMBOL AS SHOWN BELOW. ON THE DRAWINGS THIS IS FOLLOWED BY A NUMERAL WHICH INDICATES THE SIZE IN MILLIMETRES OF THE REINFORCEMENT.

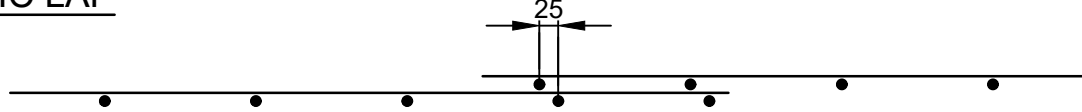
SYMBOL	TYPE	GRADE
N	HOT ROLLED RIBBED BAR	DN500N
R	PLAIN ROUND BAR	R250N
SL	SQUARE MESH	500L
RL	RECTANGULAR MESH	500L

2. PROVIDE BAR SUPPORTS OR SPACERS TO GIVE THE FOLLOWING CONCRETE COVER TO ALL REINFORCEMENT UNLESS OTHERWISE NOTED ON DRAWINGS.

LOCATION	COVER (mm)
FOOTINGS	50
WALLS	30

3. COVER TO REINFORCEMENT ENDS TO BE 50 mm U.N.O.
4. PROVIDE N12-450 SUPPORT BARS TO TOP REINFORCEMENT AS REQUIRED, LAP 500 U.N.O.
5. MAINTAIN COVER TO ALL PIPES, CONDUITS, REGLETS, DRIP GROOVES ETC
6. ALL COGS TO BE STANDARD COGS UNLESS NOTED OTHERWISE.
7. FABRIC END AND SIDE LAPS ARE TO BE PLACED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS TO ACHIEVE A FULL TENSILE LAP. FABRIC SHALL BE LAID SO THAT THERE IS A MAXIMUM OF 3 LAYERS AT ANY LOCATION.

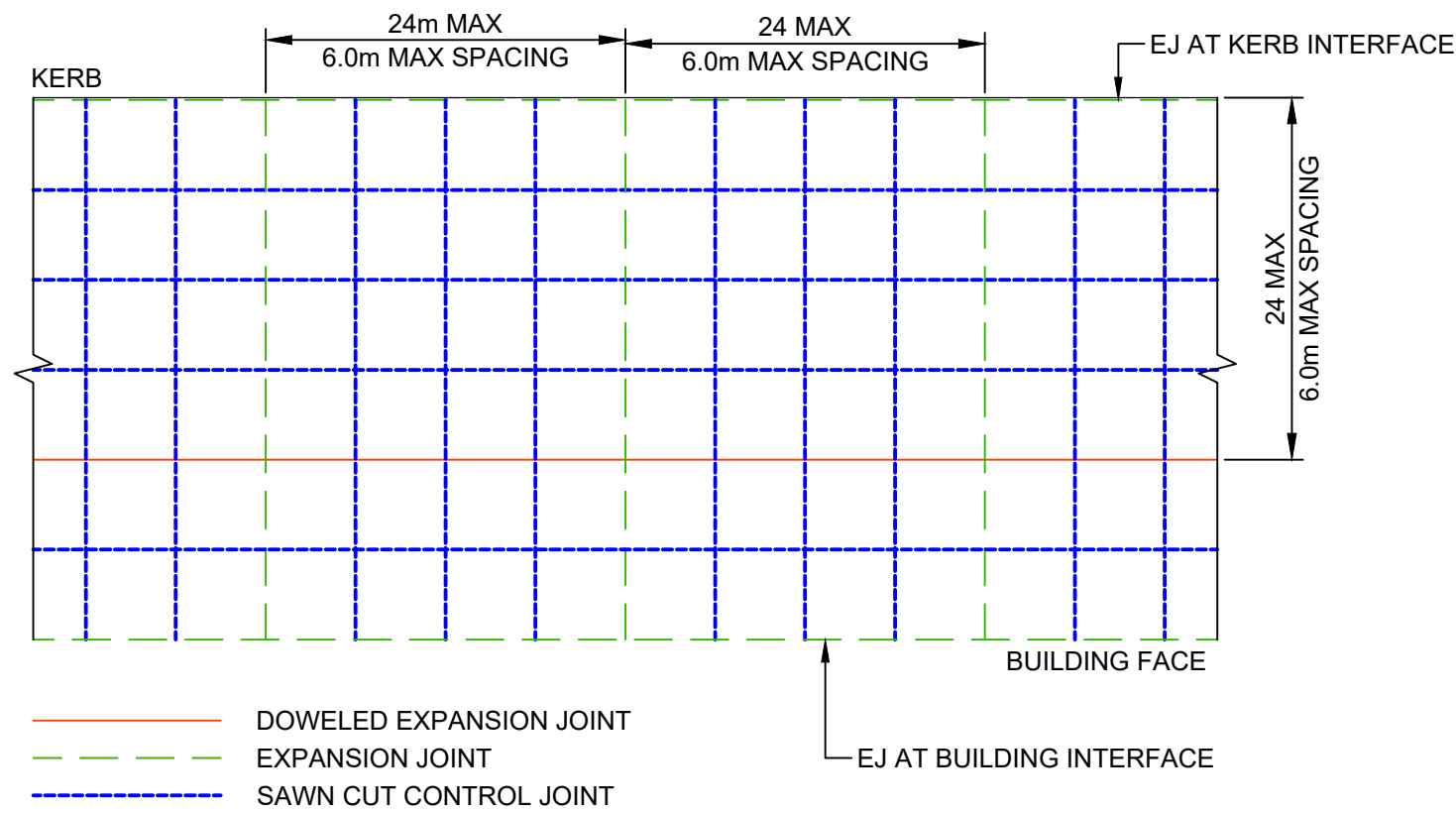
FABRIC LAP



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

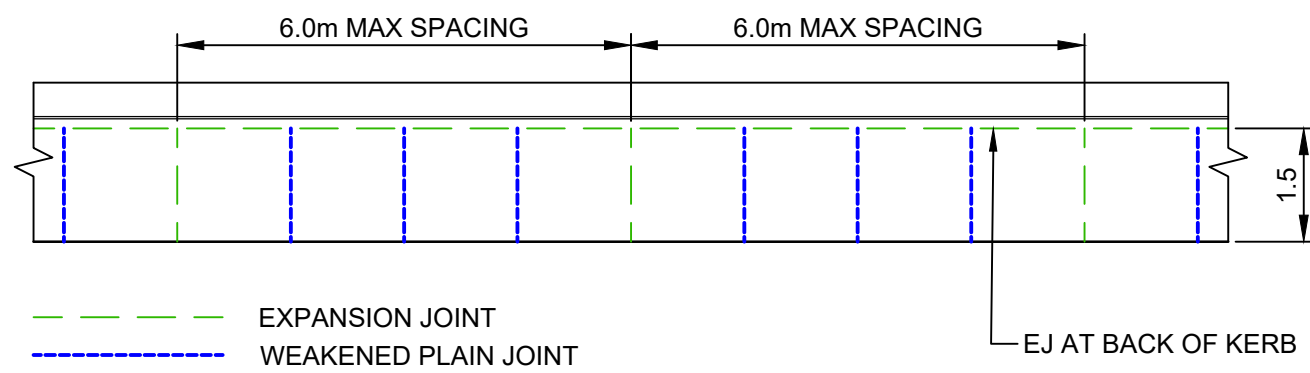
VEHICULAR PAVEMENT JOINTING (03000 SERIES DRAWINGS)

1. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS SHOWN ON DRAWINGS.
2. DOWEL BARS ARE TO BE IN ACCORDANCE WITH GIVEN DETAIL. REFER 03000 SERIES DRAWINGS.
3. DOWELED EXPANSION JOINTS SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 24.0 CENTRES.
4. SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 6.0M CENTRES OR 1.5 X THE SPACING OF PERPENDICULAR SAWN JOINTS.
5. PROVIDE 10mm WIDE FULL DEPTH EXPANSION JOINTS BETWEEN BUILDINGS/STRUCTURES AND ALL CONCRETE OR UNIT PAVERS.
6. THE TIMING OF THE SAW CUT IS TO BE CONFIRMED BY THE CONTRACTOR ON SITE. SITE CONDITIONS WILL DETERMINE HOW MANY HOURS AFTER THE CONCRETE POUR BEFORE THE SAW CUTS ARE COMMENCED. REFER TO THE SPECIFICATION FOR WEATHER CONDITIONS AND TEMPERATURES REQUIRED.
7. VEHICULAR PAVEMENT JOINTING AS FOLLOWS.



PEDESTRIAN PATH JOINTING (03000 SERIES DRAWINGS)

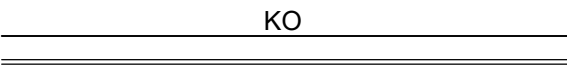
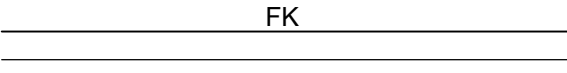
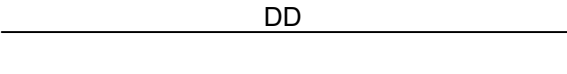
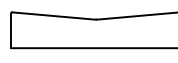
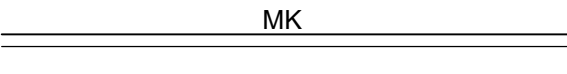
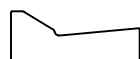
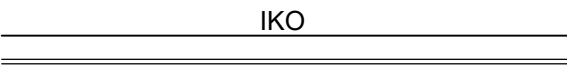
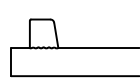
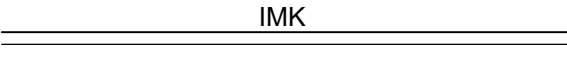
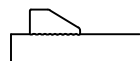
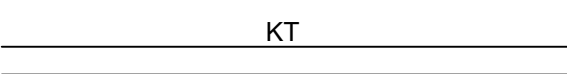
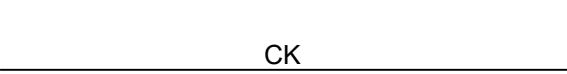
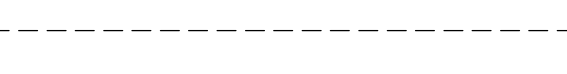
1. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 6.0M CENTRES.
2. WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX 1.5 X WIDTH OF THE PAVEMENT.
3. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND / OR ADJACENT PAVEMENT JOINTS.
4. ALL PEDESTRIAN FOOTPATH JOINTING AS FOLLOWS (UNO).

KERBING

INCLUDES ALL KERBS, GUTTERS, DISH DRAINS, CROSSINGS AND EDGES.

1. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON MINIMUM 75mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1.
2. EXPANSION JOINTS (EJ) 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 12M CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN SLABS.
3. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3M CENTRES EXCEPT FOR INTEGRAL KERBS WHERE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN SLABS.
4. BROOMED FINISHED TO ALL RAMPED AND VEHICULAR CROSSINGS, ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
5. IN THE REPLACEMENT OF KERBS - EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm FROM LIP OF GUTTER, UPON COMPLETION OF NEW KERBS, NEW BASE COURSE AND SURFACE IS TO BE LAID 900mm WIDE TO MATCH EXISTING MATERIALS AND THICKNESSES. EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB WITH A 100mm DIA HOLE. EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.

KERB TYPES

PLAN	PROFILE	DESCRIPTION
		KERB AND GUTTER
		KERB ONLY
		FLUSH KERB
		DISH DRAIN
		MOUNTABLE KERB
		MOUNTABLE KERB AND GUTTER
		INTEGRAL KERB ONLY
		INTEGRAL MOUNTABLE KERB
		KERB AND TOE
		CASTELLATED KERB
		THICKENED EDGE

NOTE

PAVEMENT NOTES AND LEGEND IS TO READ IN CONJUNCTION
WITH GENERAL NOTES AND LEGEND. REFER DRAWING No. 00002

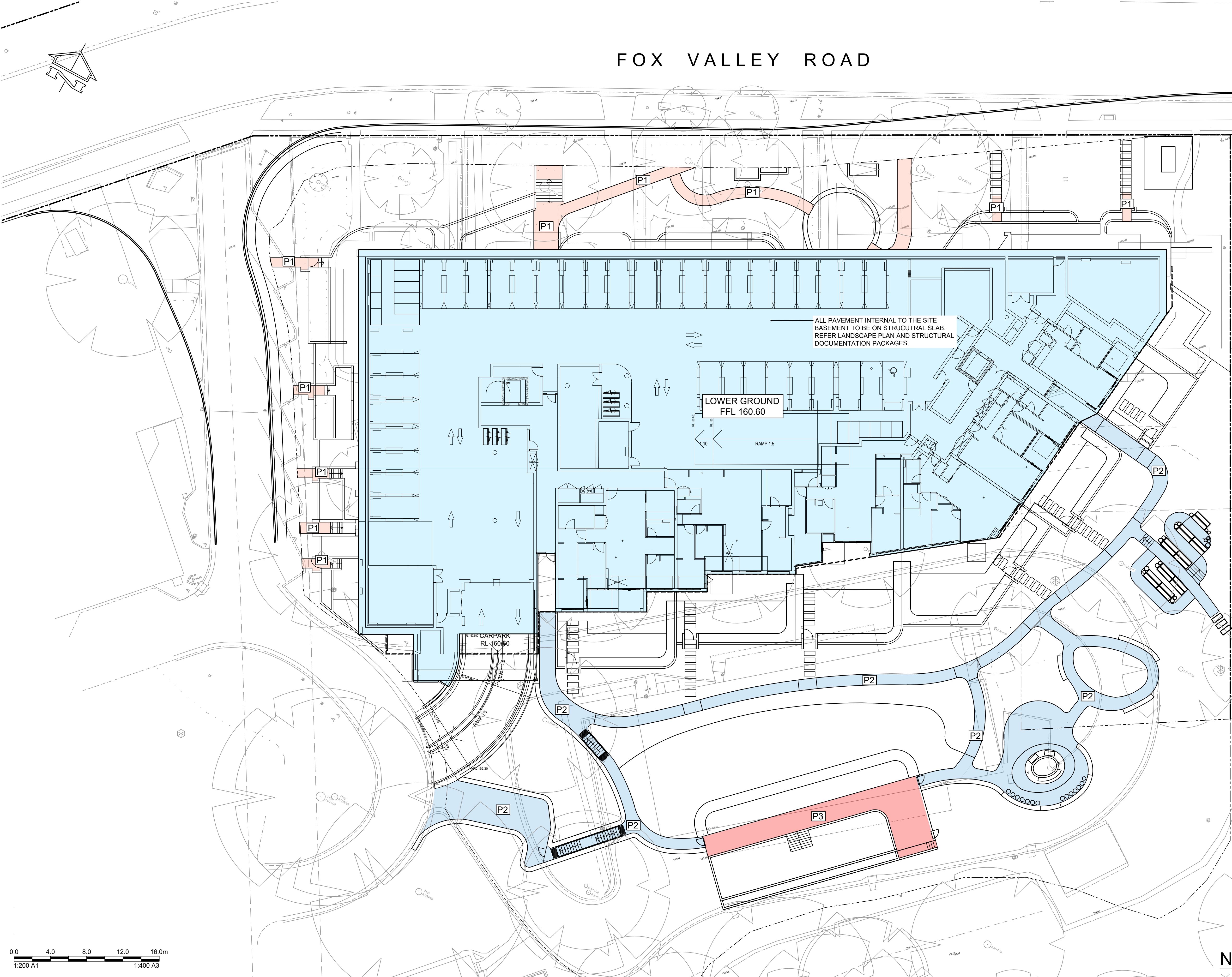
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NOT FOR CONSTRUCTION

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PAVEMENT LEGEND

P1

UNIT PAVING 1
FINISH AS PER LANDSCAPE DOCUMENTATION
150mm CONCRETE F'C=32MPa SL82
100mm DGB20
SUBJECT TO FURTHER INVESTIGATION/TESTING
FROM GEOTECHNICAL ENGINEER TO CONFIRM
THE SUBGRADE CBR VALUE DURING DESIGN
DEVELOPMENT STAGE

P2

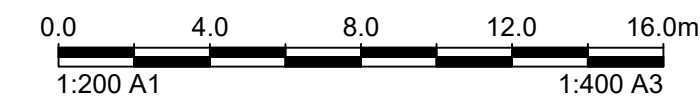
PATHWAY
FINISH AS PER LANDSCAPE DOCUMENTATION
25mm SAND BEDDING
150mm DGB20
SUBJECT TO FURTHER INVESTIGATION/TESTING
FROM GEOTECHNICAL ENGINEER TO CONFIRM
THE SUBGRADE CBR VALUE DURING DESIGN
DEVELOPMENT STAGE

P3

UNIT PAVING 3
POOL DECKING TO STRUCTURAL
SPECIFICATIONS

NOTE:

SOFTWARES AND PLANTERS, REFER TO
LANDSCAPE ARCHITECTS SPECIFICATIONS



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Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
C	ISSUE FOR DA	GC	JHH	07.05.2025										
B	ISSUE FOR DA	GC	LW	31.10.2024										
A	PRELIMINARY ISSUE	GC	LW	13.06.2024										



Engineer

TTW

Structural
Civil
Traffic
Façade

612 6285 1766 | Level 5, 224 Bunda St, Canberra City, ACT 2601

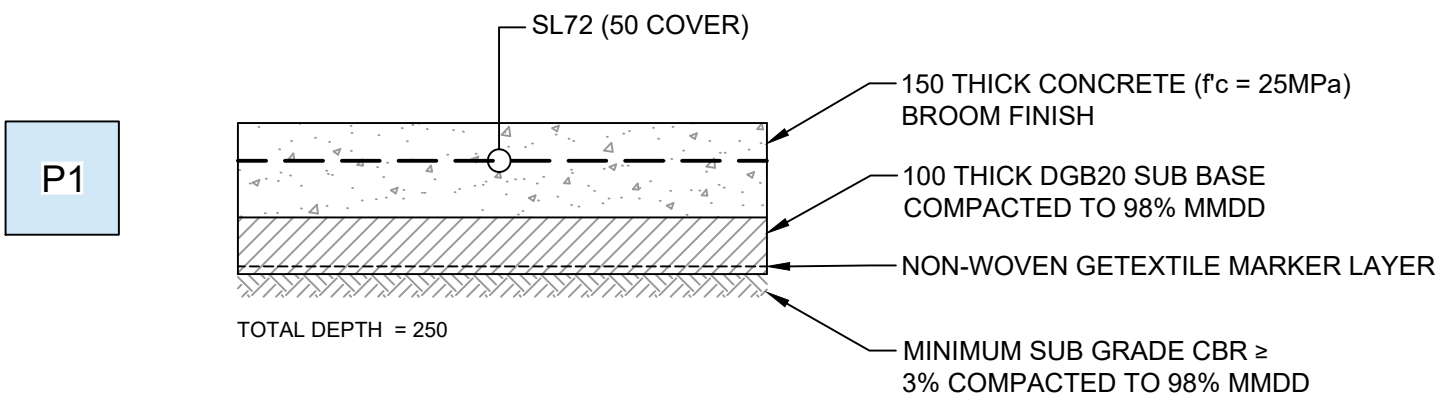
Project

WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

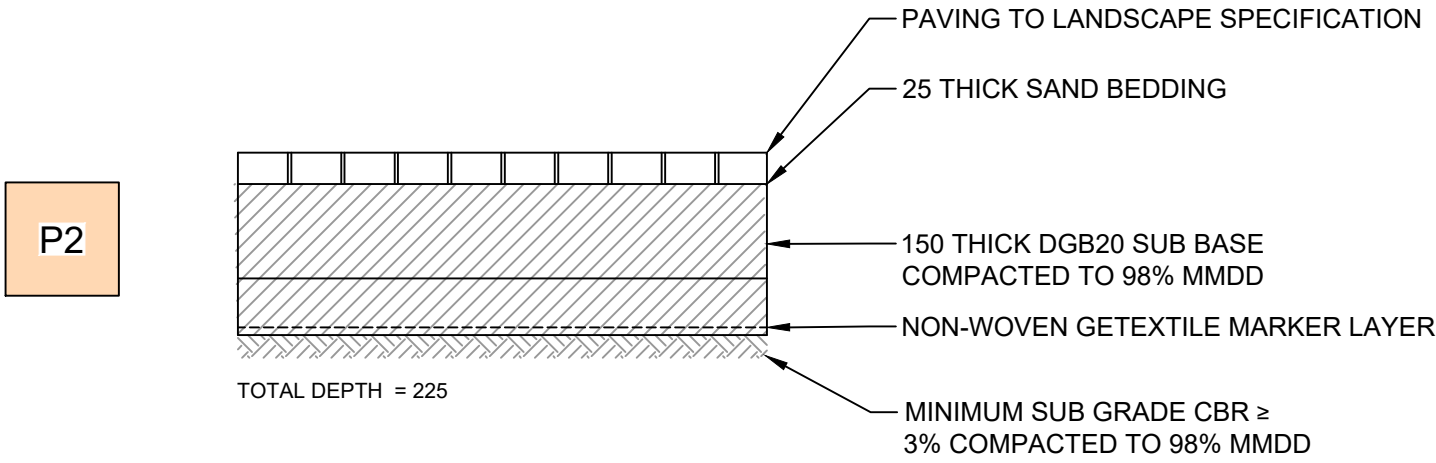
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PAVEMENT
PLAN

Scale at A1	Drawn	Designed	Approved			
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Project No	Originator	Zone	Type	Role	Sheet No.	Rev
231292-TTW-00-DR-CI-03011-C						
07.05.2025 5:11 PM						

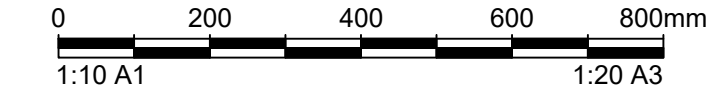


PAVEMENT TYPE 1
INSITU CONCRETE PAVING
SCALE 1:10

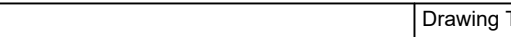
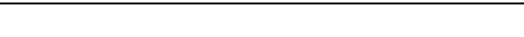


PAVEMENT TYPE 2
UNIT PATHWAY
SCALE 1:10

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STORMWATER DRAINAGE

1. STORMWATER DESIGN CRITERIA
- (A) AVERAGE EXCEEDANCE PROBABILITY: -

- 1% AEP FOR ROOF DRAINAGE TO FIRST EXTERNAL PIT

- 5% AEP FOR PAVED AND LANDSCAPED AREAS
- (B) RAINFALL INTENSITIES: -

- TIME OF CONCENTRATION: 5 MINUTES

- 1% AEP = 266mm/hr

- 5% AEP = 197mm/hr
- (C) RAINFALL LOSSES: -

- IMPERVIOUS AREAS: IL = 0mm CL= 1.5mm/hr

- PERVIOUS AREAS: IL = 26.6mm CL= 0.8mm/hr
2. PIPES 300 DIA AND LARGER TO BE REINFORCED CONCRETE CLASS "A" APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS U.N.O.
3. PIPES UP TO 300 DIA MAY BE SEWER GRADE UPVC WITH SOLVENT WELDED JOINTS, SUBJECT TO APPROVAL BY THE ENGINEER
4. EQUIVALENT STRENGTH VCP OR FRP PIPES MAY BE USED SUBJECT TO APPROVAL.
5. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY ENGINEER.
6. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE MANUFACTURED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
7. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPE IS TO BE USED.
8. GRATES AND COVERS SHALL CONFORM WITH AS 3996-2006, AND AS 1428.1 FOR ACCESS REQUIREMENTS.
9. PIPES ARE TO BE INSTALLED IN ACCORDANCE WITH AS 3725, ALL BEDDING TO BE TYPE H2 U.N.O.
10. CARE IS TO BE TAKEN WITH INVERT LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
11. ALL STORMWATER PIPES TO BE 150 DIA AT 1.0% MIN FALL U.N.O.
12. SUBSOIL DRAINS TO BE SLOTTED FLEXIBLE UPVC U.N.O.
13. ADOPT INVERT LEVELS FOR PIPE INSTALLATION (GRADES SHOWN ARE ONLY NOMINAL).

STORMWATER PIPE INFORMATION

PIPE INFORMATION		TIE INFORMATION	
USIL Ø000	UPSTREAM INVERT LEVEL	SW	TIE LENGTH
0.0m	PIPE INTERNAL DIAMETER	L 10.0m	TIE DEPTH
0.0 m/s	PIPE MATERIAL AND CLASS	D 1.0m	TIE DIAMETER
%0.0	PIPE LENGTH	Ø150	
DSIL	HYDRAULIC FLOW RATE		
	PIPE GRADE		
	DOWNSTREAM INVERT LEVEL		

STORMWATER STRUCTURE IDENTIFICATION

SW1-2 LINE NUMBER 1 - STRUCTURE NUMBER 2

SUBSOIL DRAINAGE

1. ALL SUBSOIL DRAINAGE WORKS ARE TO BE COMPLETED IN ACCORDANCE WITH THE RELEVANT STANDARDS AND SPECIFICATIONS OUTLINED IN THE PROJECT SPECIFICATION.
2. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
3. SUBSOIL DRAINS TO BE Ø100 SLOTTED FLEXIBLE uPVC UNLESS NOTED OTHERWISE.
4. ALL SUBSOIL DRAINS ARE TO BE AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE.
5. ALL SUBSOIL DRAINS TO BE RODDED PRIOR TO THE PLACEMENT OF ASPHALT.
6. ALL SUBSOIL DRAINS ARE DRAWN DIAGRAMMATICALLY FOR CLARITY. REFER TO TYPICAL DETAIL FOR SUBSOIL SETOUT.

STORMWATER LEGEND

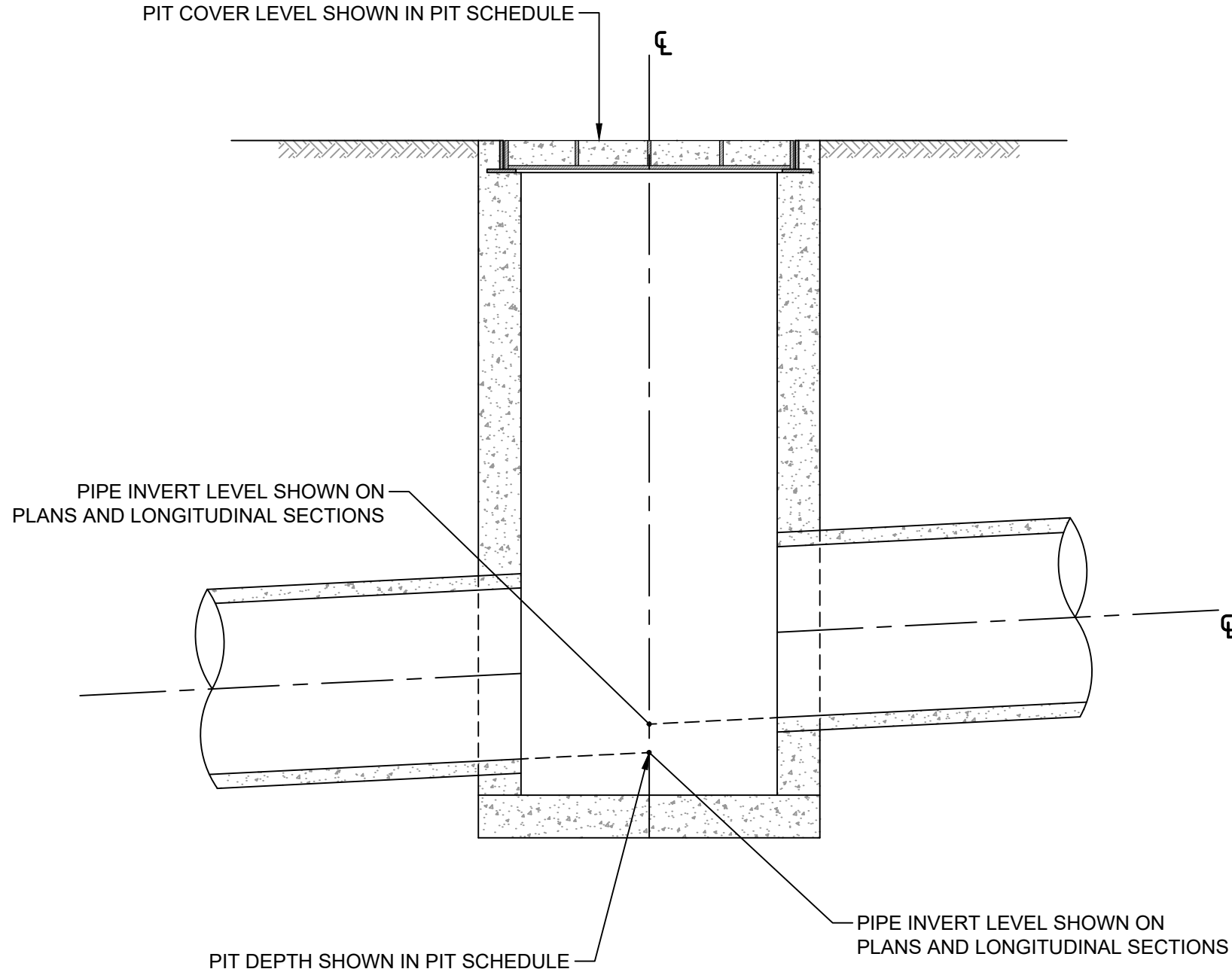
DP	DOWN PIPE
RP	RODDING POINT
PO	PLANTER OUTLET
RO	RAINWATER OUTLET
GPT	GROSS POLLUTANT TRAP
OVERLAND FLOW ARROW	
CONCRETE INCASED PIPE	
SWALE DRAIN	

STORMWATER ANNOTATIONS

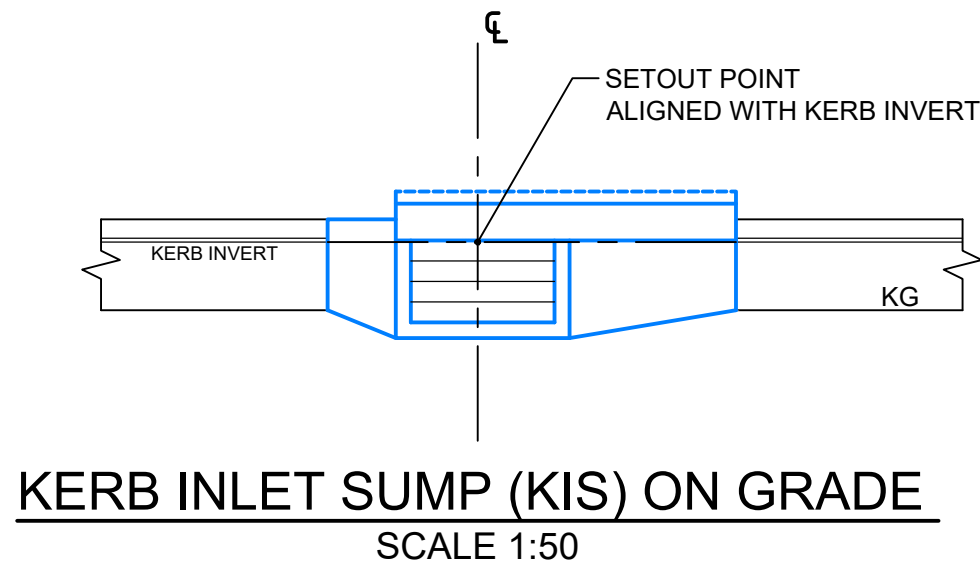
IL	PIPE INVERT LEVEL
OL	PIPE OBVERT LEVEL
CL	PIT COVER LEVEL
WL	WATER LEVEL

NOTE

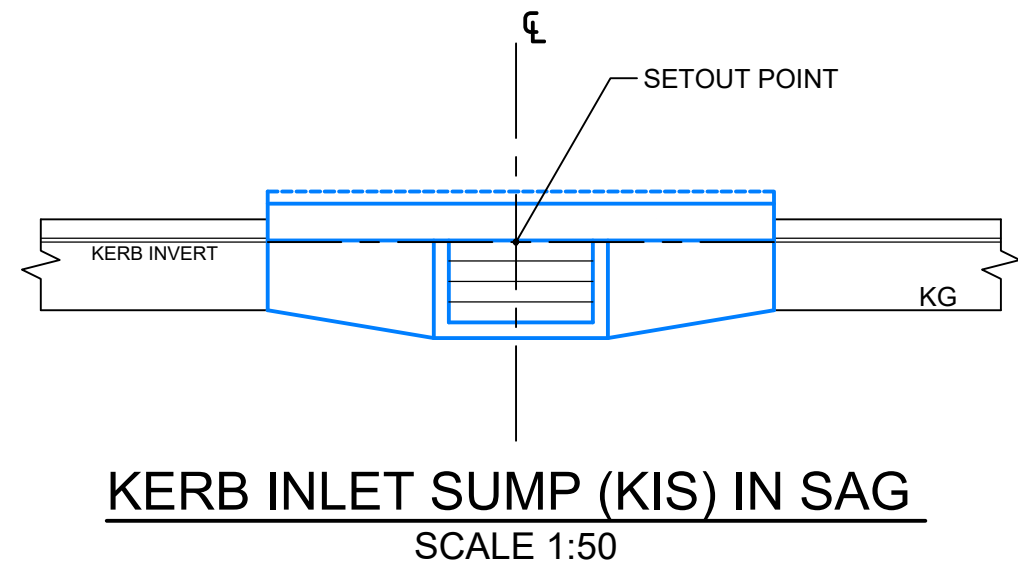
STORMWATER DRAINAGE NOTES AND LEGEND IS TO READ IN CONJUNCTION WITH GENERAL NOTES AND LEGEND. REFER DRAWING No. 00002



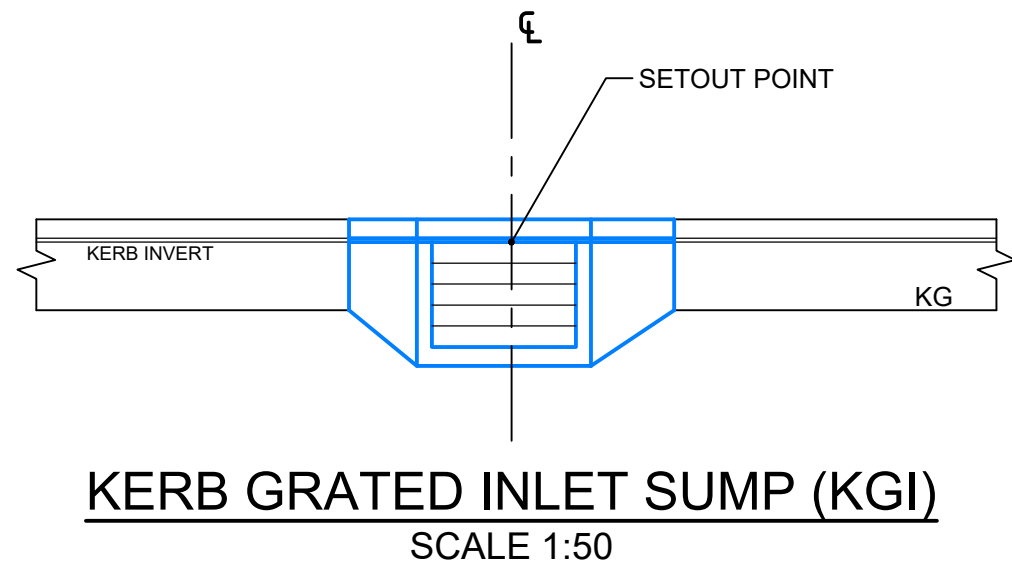
DESIGN INVERT LEVELS
AT STORMWATER STRUCTURES
SCALE 1:20



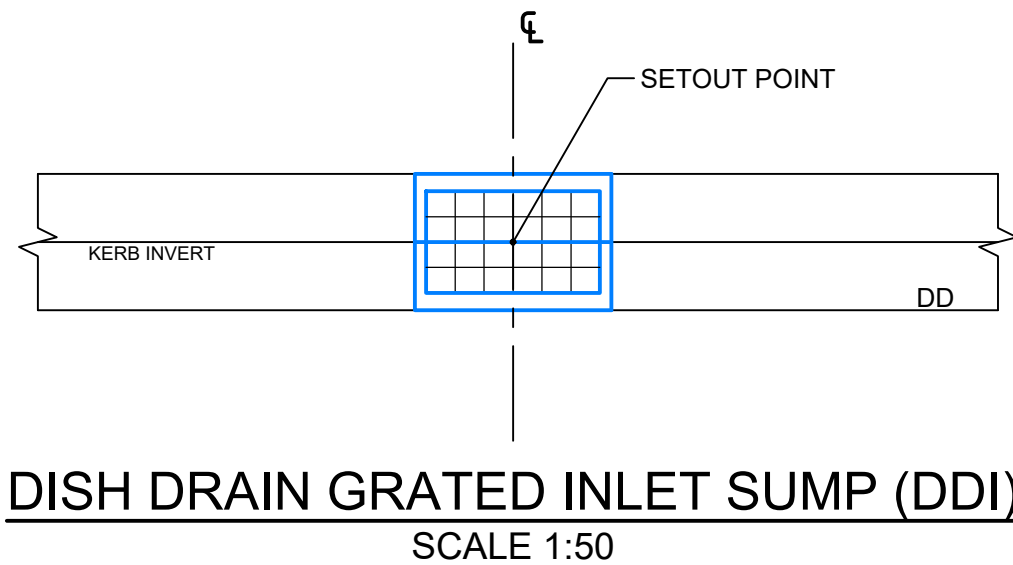
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SCALE 1:50



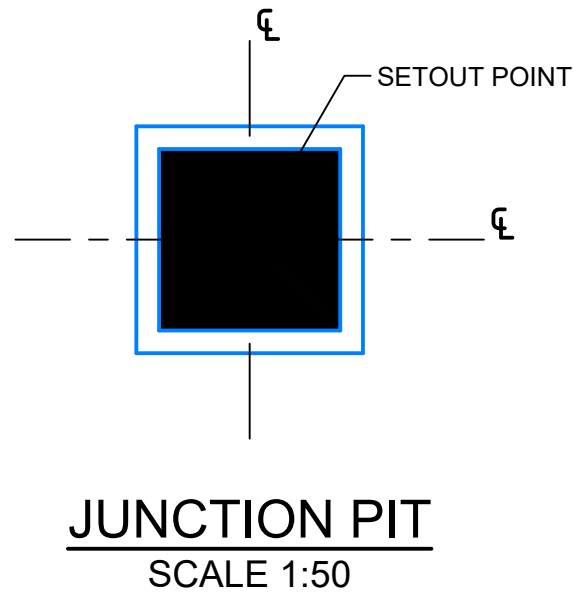
KERB INLET SUMP (KIS) IN SAG
SCALE 1:50



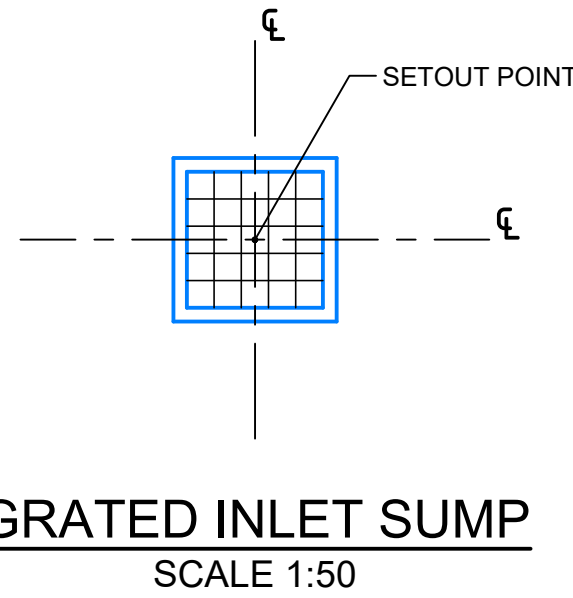
KERB GRATED INLET SUMP (KGI)
SCALE 1:50



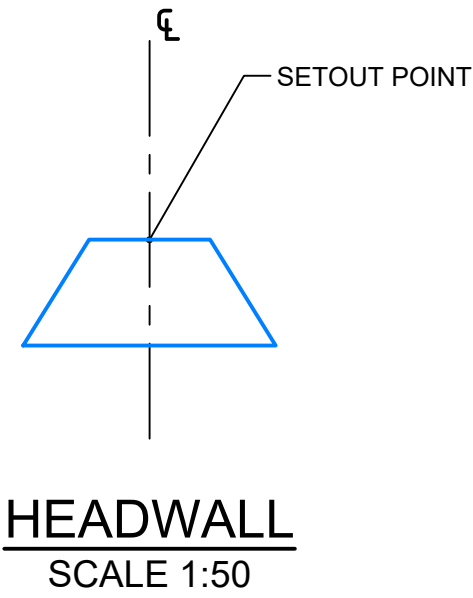
DISH DRAIN GRATED INLET SUMP (DDI)
SCALE 1:50



JUNCTION PIT
SCALE 1:50

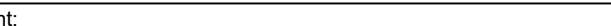
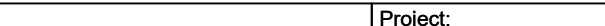


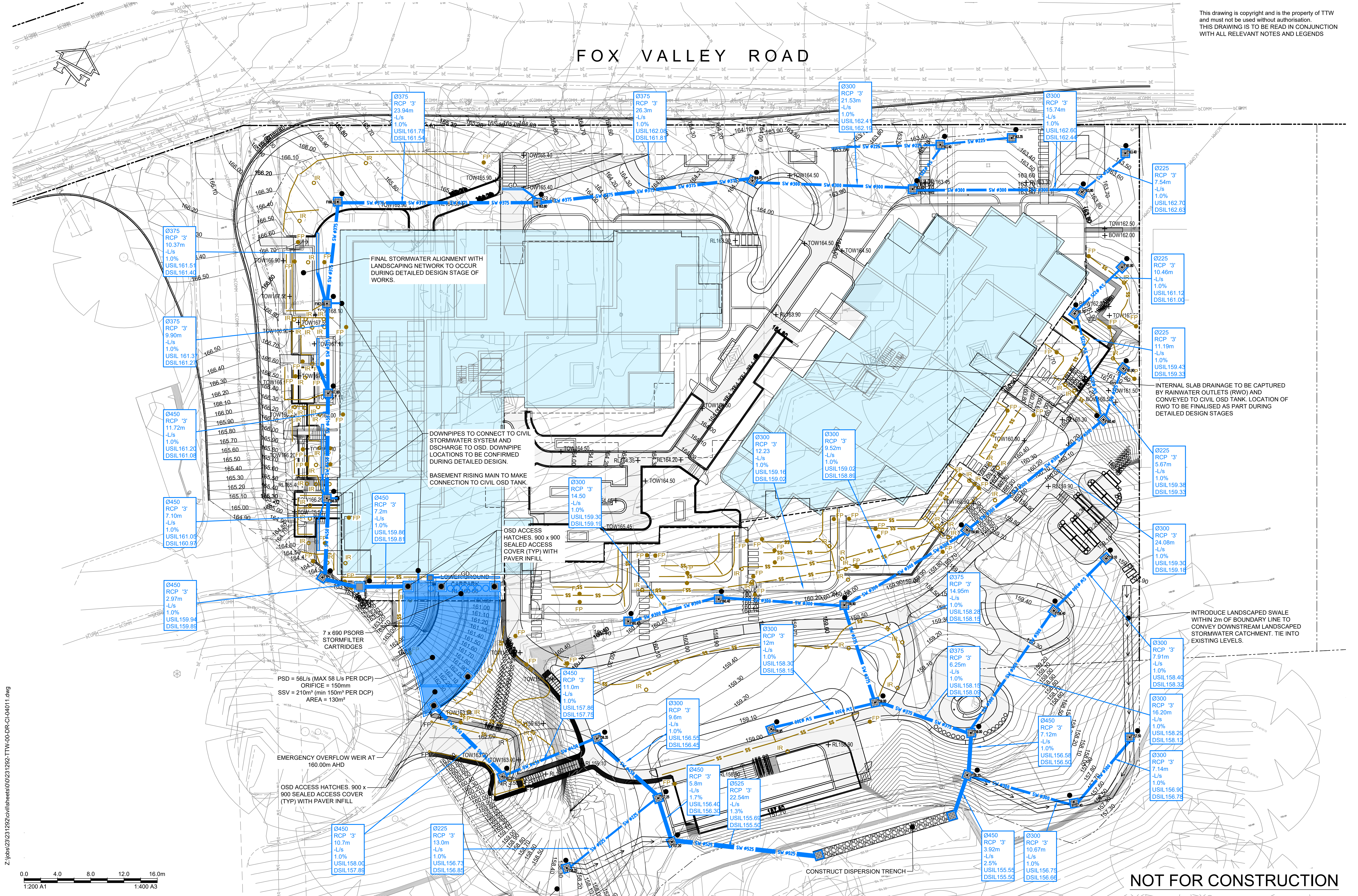
GRATED INLET SUMP
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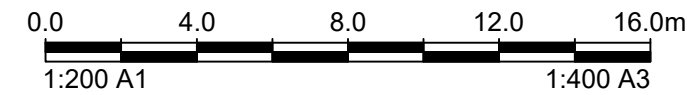
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						Client:						Engineer:						Project:			Drawing Title:			Scale at A1			Drawn			Designed			Approved					
															WAHROONGA ESTATE			STORMWATER			NTS			LW			LW			TM								
															STAGE 3			NOTES AND LEGEND			Project No			Originator			Zone			Role			Sheet No.			Rev		
B ISSUE FOR DA			GC LW 31.10.2024												RESIDENTIAL			SHEET 1			231292-TTW-00-DR-CI-04001-B																	
A PRELIMINARY ISSUE			GC LW 13.06.2024												DEVELOPMENT						31.10.2024 9:44 AM																	
Rev Description			Eng Draft Date			Rev Description			Eng Draft Date			Rev Description			Eng Draft Date																							



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C	ISSUE FOR DA	GC	JHH	07.05.2025										
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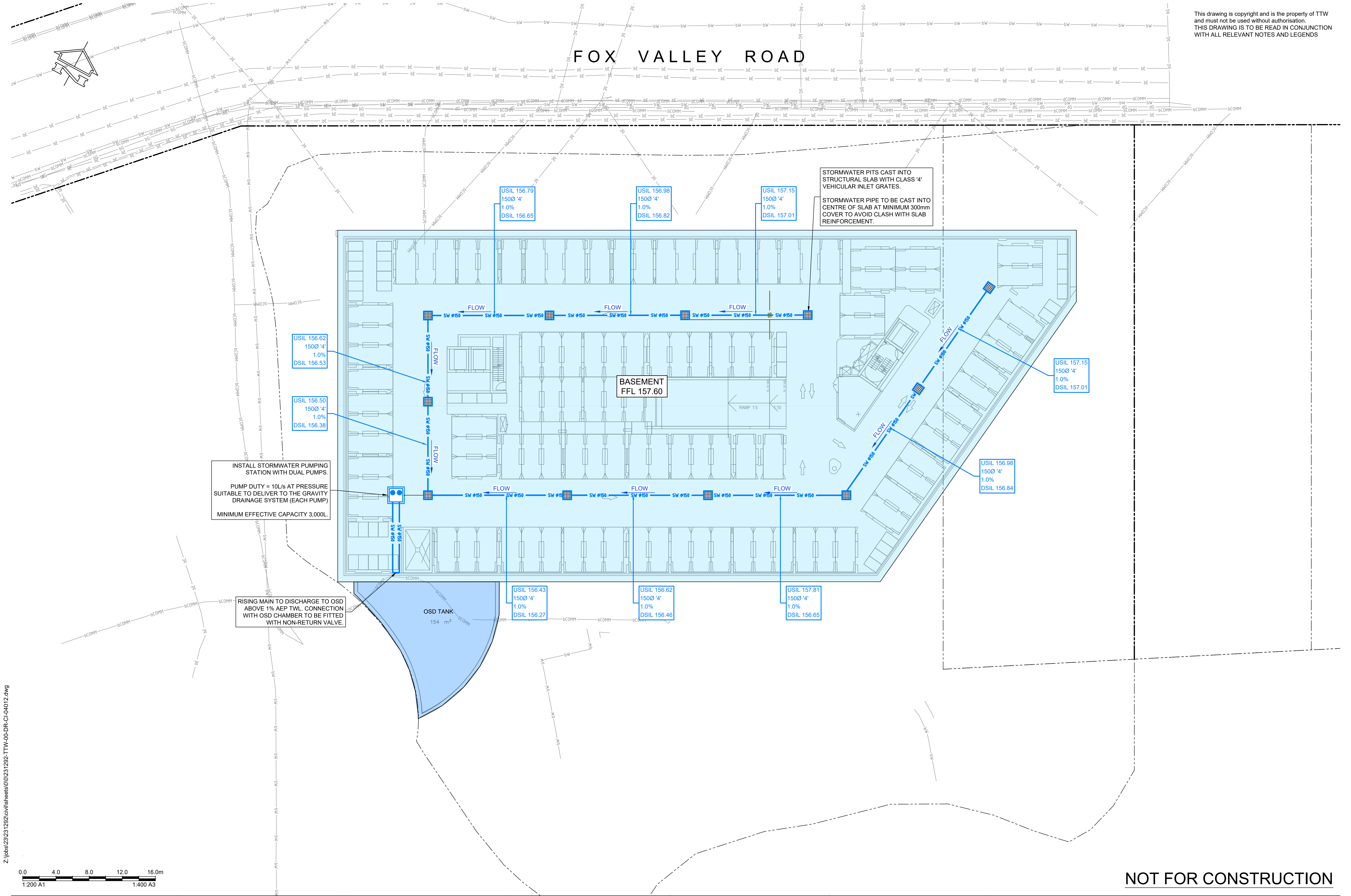


Client: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Project: STORMWATER
AND SUBSOIL DRAINAGE
PLAN

Scale at A1	Drawn	Designed	Approved			
1:200	LW	LW	TM			
Project No	Originator	Zone	Type	Role	Sheet No.	Rev
231292-TTW-00-DR-CI-04011-C						
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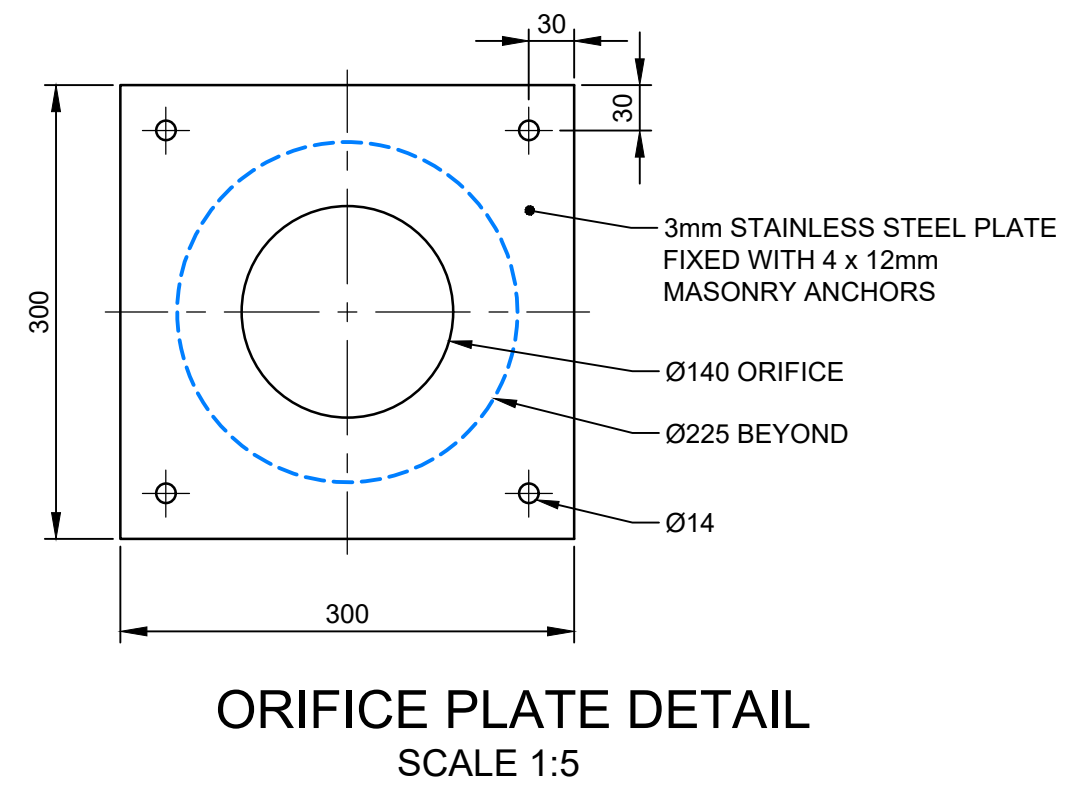
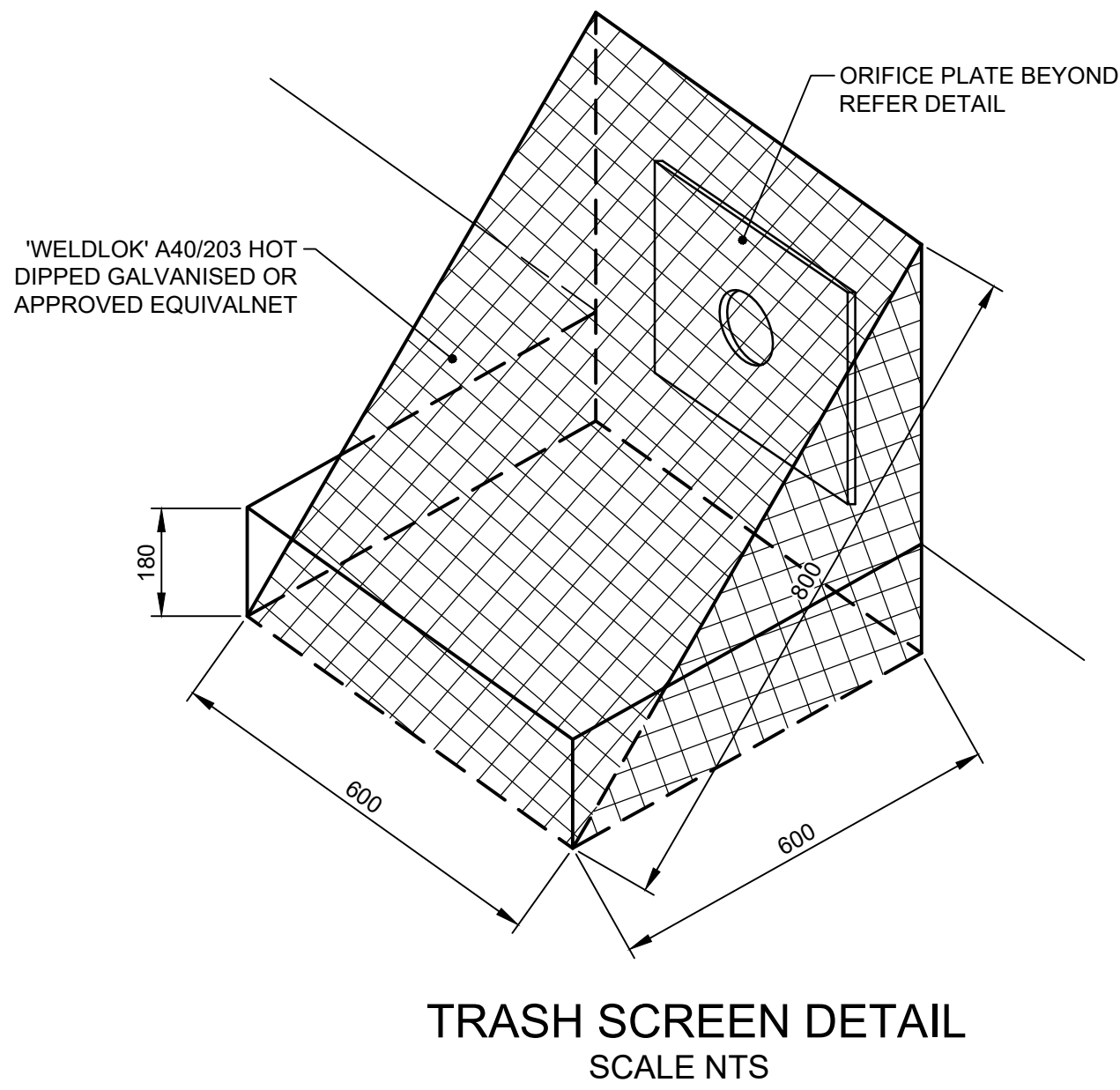
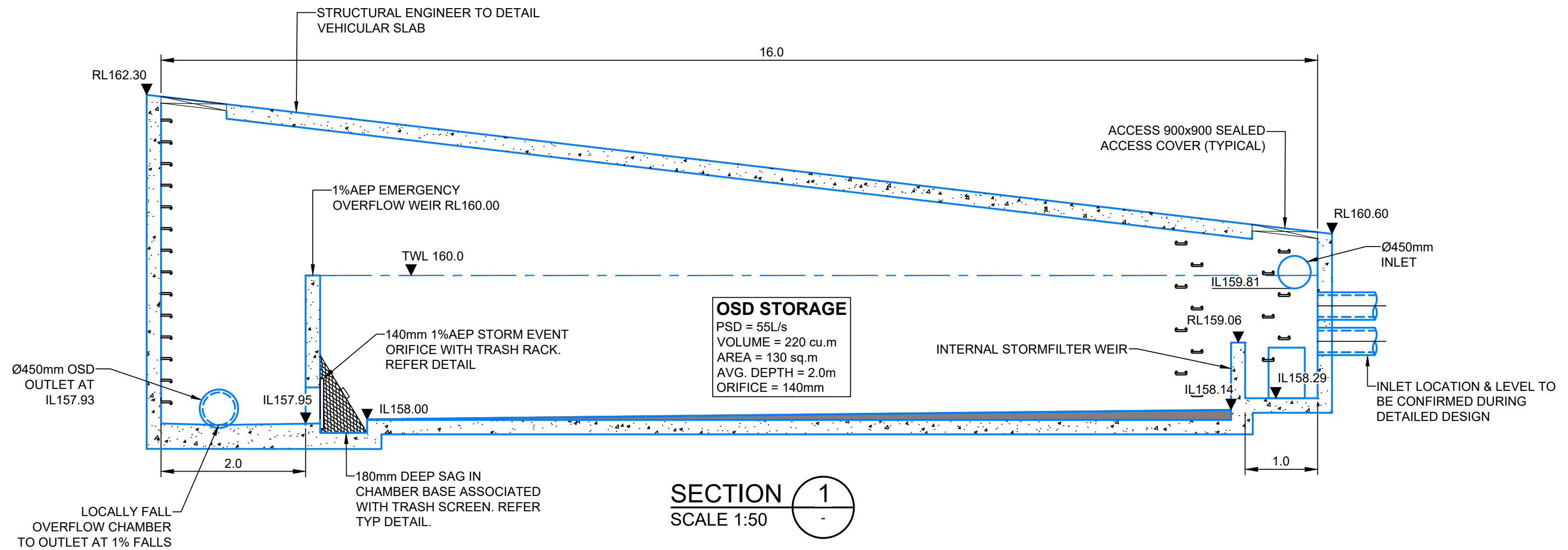
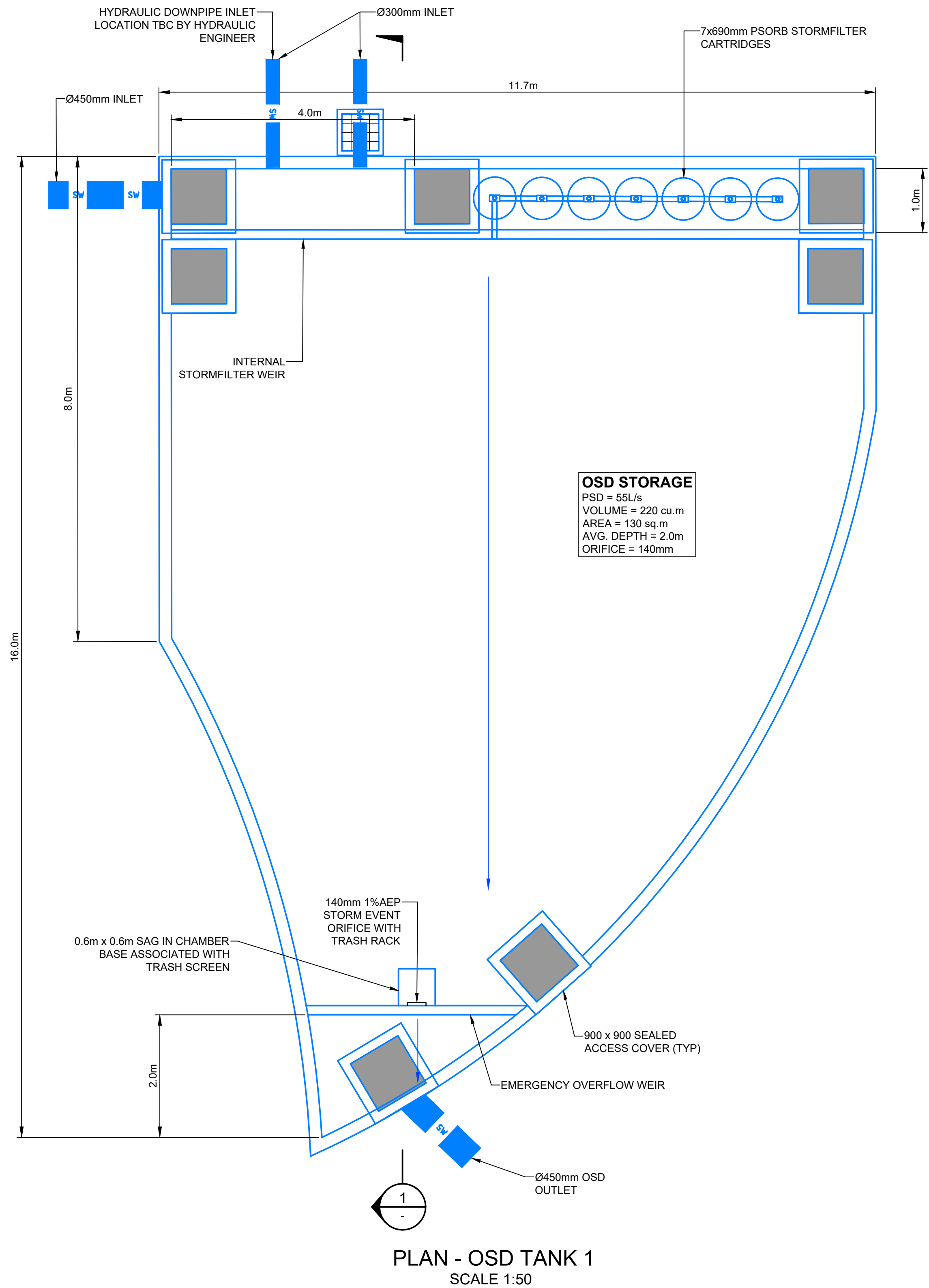
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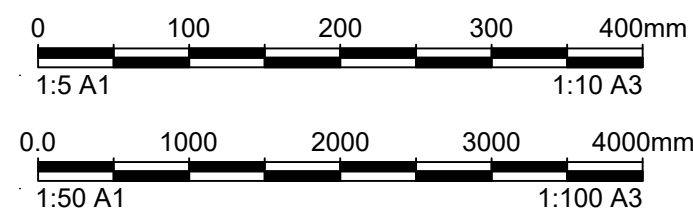
Client: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title: STORMWATER
AND SUBSOIL DRAINAGE
BASEMENT PLAN

Scale at A1	Drawn	Designed	Approved
1:200	LW	LW	TM
Project No	Originator	Zone	Type
231292-TTW-00-DR-CI-04012-A	07.05.2025	3:27 PM	



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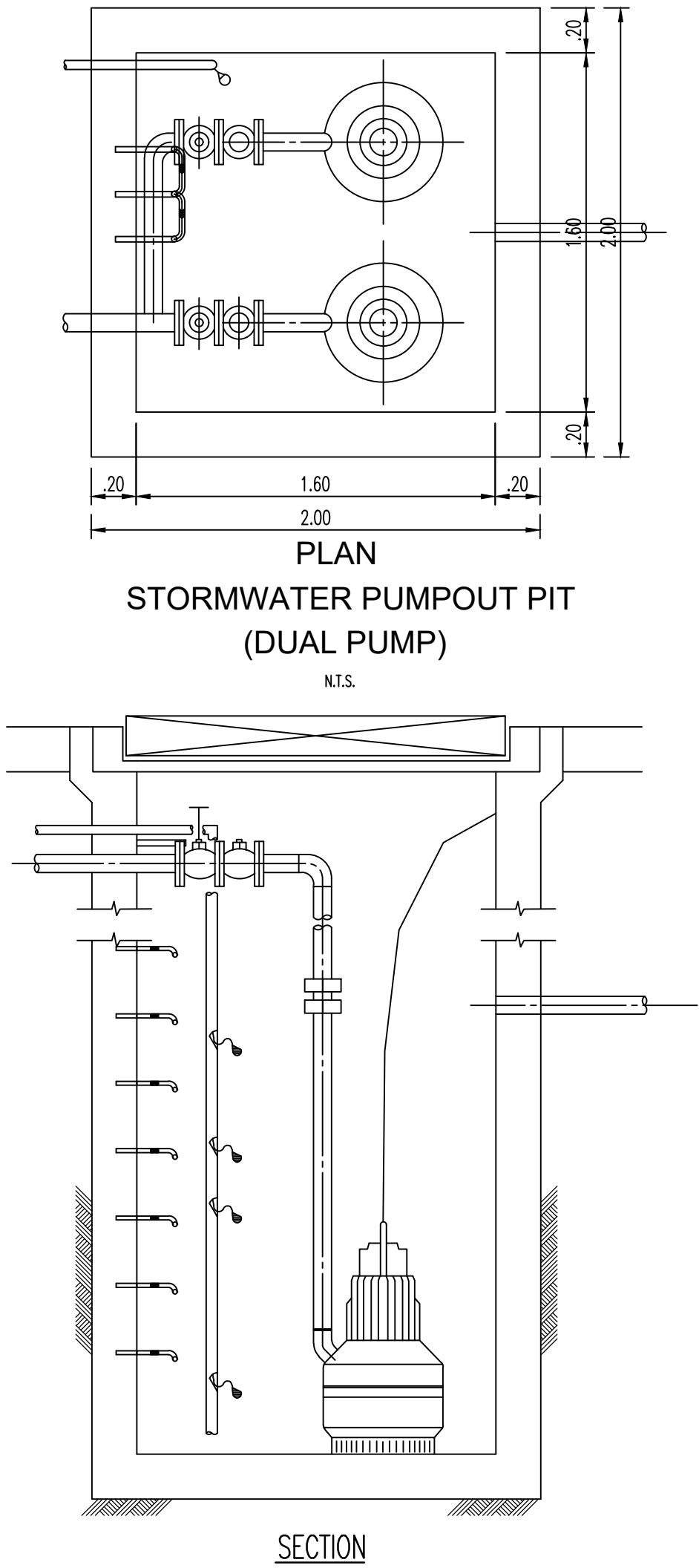
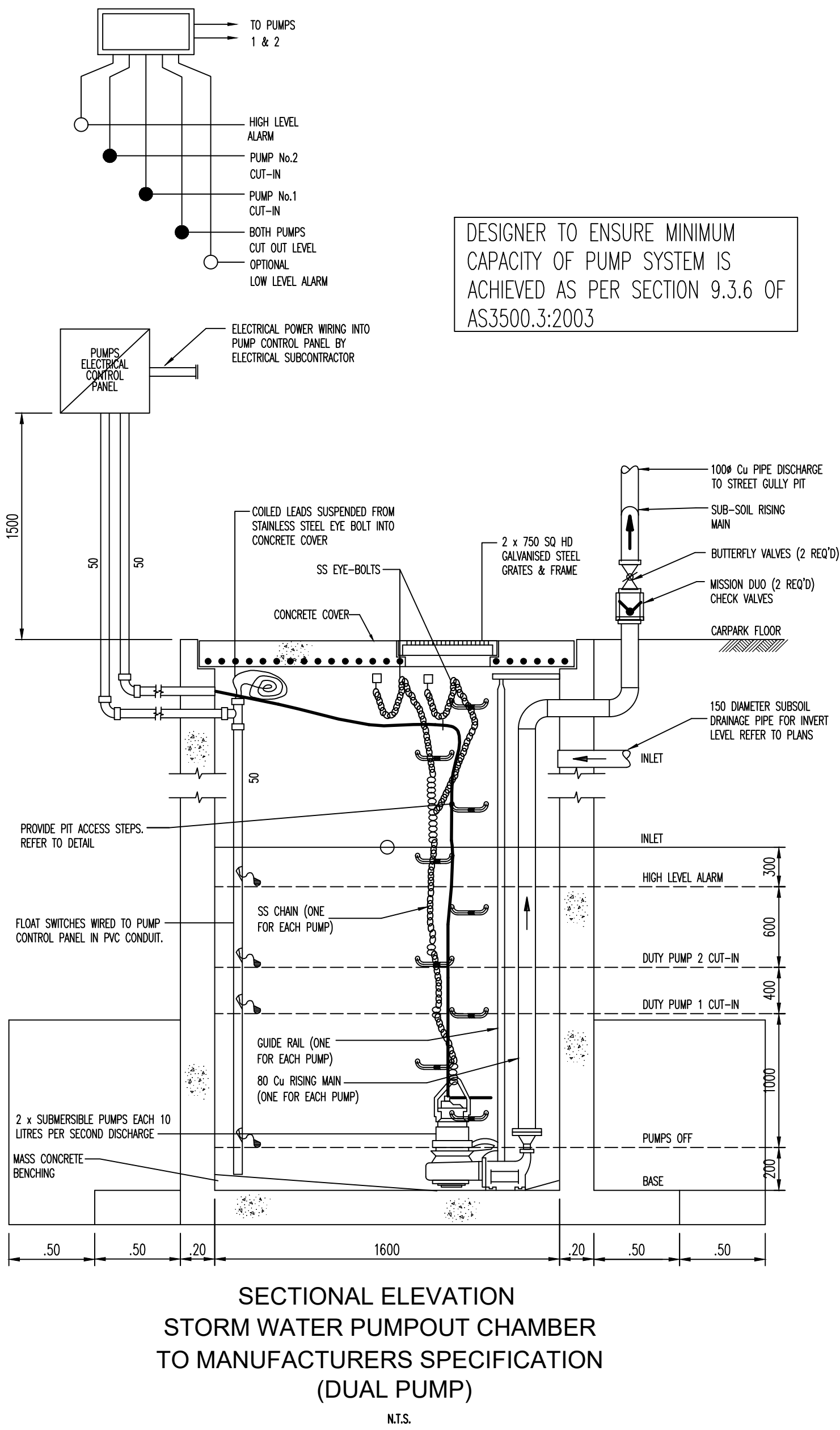
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A	ISSUE FOR DA	GC	ES	07.05.2025										



Project: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title:
STORMWATER
DETAILS
SHEET 1

Scale at A1	Drawn	Designed	Approved
AS SHOWN	LW	LW	TM
Project No	Originator	Zone	Role
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STORM WATER PUMP

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Rev	Description	Eng	Draft	Date	Rev	Description	Eng

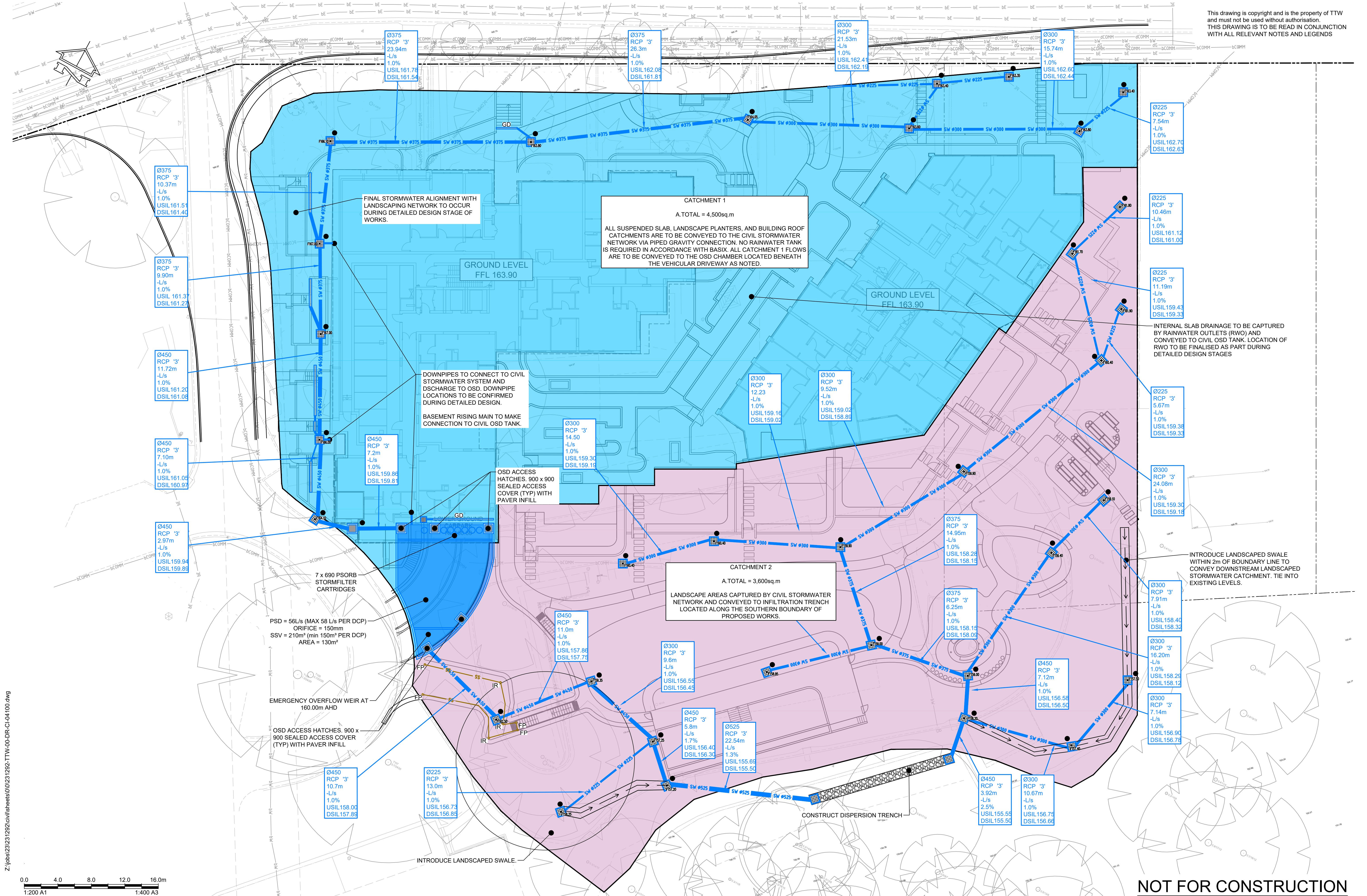


Project: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

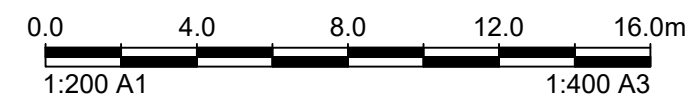
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STORMWATER
DETAILS
SHEET 2

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A ISSUE FOR DA		GC ES 07.05.2025					
Rev	Description	Eng Draft	Date	Rev	Description	Eng Draft	Date



Client: WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title: STORMWATER-FLOOD
CATCHMENT PLAN

Scale at A1	Drawn	Designed	Approved
1:200	LW	LW	TM
Project No	Originator	Zone	Type
231292-TTW-00-DR-CI-04100-A			
08.05.2025 5:28 PM			

EXISTING	EXHUMED OR ABANDONED	PROPOSED	
MATERIAL cSW Ø150	MATERIAL — X — X — X — X — X — X — X — X — X — X —	SW Ø150 — SW Ø150 —	Ø150 STORMWATER LINE WITH GRATED INLET SUMP AND PIPE END CAP
		FLOW% → SW Ø300	Ø300 STORMWATER LINE WITH KERB INLET SUMP ON GRADE (KIS) AND DIRECTIONAL FLOW ARROW
		SW Ø375	Ø375 STORMWATER LINE WITH KERB INLET SUMP (KIS) IN SAG (KIS) AND HEADWALL
		SW Ø225	Ø225 STORMWATER LINE WITH KERB INLET SUMP AND TRENCH DRAIN
		SW Ø450	Ø450 STORMWATER LINE WITH JUNCTION PIT AND KERB INLET SUMP ON GRADE (KIS) FOR PIPES > 450mm UP TO 750mm
			DISH DRAIN WITH DISH DRAIN INLET SUMP (DDIS) AND FLOW DIRECTIONAL ARROWS

EXISTING (MATERIAL)	EXHUMED OR ABANDONED (MATERIAL)	PROPOSED	
			CAST IN-SITU REINFORCED DN1050 SEWER MAINTENANCE HOLE SEWERS ≤ DN350. DEPTH OF INVERT 1.2m TO 6.0m DEEP
			CAST IN-SITU REINFORCED DN1200 SEWER MAINTENANCE HOLE SEWERS ≤ DN450. DEPTH OF INVERT 1.6m TO 10m DEEP
			CAST IN-SITU REINFORCED DN1800 SEWER MAINTENANCE HOLE SEWERS DN500 - DN750. DEPTH OF INVERT 1.6m TO 10m DEEP
			PRECAST DN1050 SEWER MAINTENANCE HOLE SEWERS DN150 - DN225. DEPTH UP TO 6.0m
			PRECAST DN1200 SEWER MAINTENANCE HOLE SEWERS DN150 - DN225. DEPTH UP TO 6.0m
			PRECAST DN1050 SEWER MAINTENANCE HOLE SEWERS DN150 - DN225. DEPTH UP TO 6.0m WITH EXTERNAL DROP DN150 OR DN225

EXISTING	EXHUMED OR ABANDONED	PROPOSED	
			Ø150 WATER LINE WITH HYDRANT, STOP VALVE AND PIPE END CAP
			Ø150 WATER LINE WITH THRUST BLOCK, STOP COCK AND WATER METER
			Ø150 WATER LINE WITH REDUCER, PIERED THRUST BLOCK

The diagram illustrates three different gas line configurations:

- EXISTING:** A continuous orange line labeled "cG Ø50" at both ends.
- EXHUMED OR ABANDONED:** A red line with a central section labeled "X-X" and "cG Ø50 X-X", indicating a disconnected or abandoned segment.
- PROPOSED:** A new configuration starting with a brown square labeled "GM" (Gas Marker), followed by an orange line labeled "G Ø50". This line connects to a red arrow labeled "GV" (Gas Valve) at "110 kPa", which then continues as an orange line labeled "G Ø50".

Below the "PROPOSED" section, a note specifies: "110kPa Ø50 GAS LINE, WITH GAS MARKER AND GAS VALVE".

The diagram illustrates the proposed alignment for the Telecommunications Line with Telecommunications Pit. It compares the existing alignment (two parallel yellow lines) with the proposed alignment (two parallel yellow lines with a central grey box labeled 'PIT'). The proposed alignment is shown to be wider than the existing one.

EXISTING	EXHUMED OR ABANDONED	PROPOSED	
			LOW VOLTAGE OVERHEAD ELECTRICAL LINE WITH POWER POLE
			LOW VOLTAGE BELOW GROUND ELECTRICAL CONDUIT WITH ELECTRICAL PIT
			HIGH VOLTAGE OVERHEAD ELECTRICAL LINE WITH POWER POLE
			HIGH VOLTAGE BELOW GROUND ELECTRICAL CONDUIT WITH ELECTRICAL PIT

EXISTING	EXHUMED OR ABANDONED	PROPOSED	
			LIGHTING CONDUIT WITH SINGLE REACH LIGHT COLUMN
			LIGHTING CONDUIT WITH DUAL REACH LIGHT COLUMN
			LIGHTING CONDUIT PEDESTRIAN LIGHT COLUMN

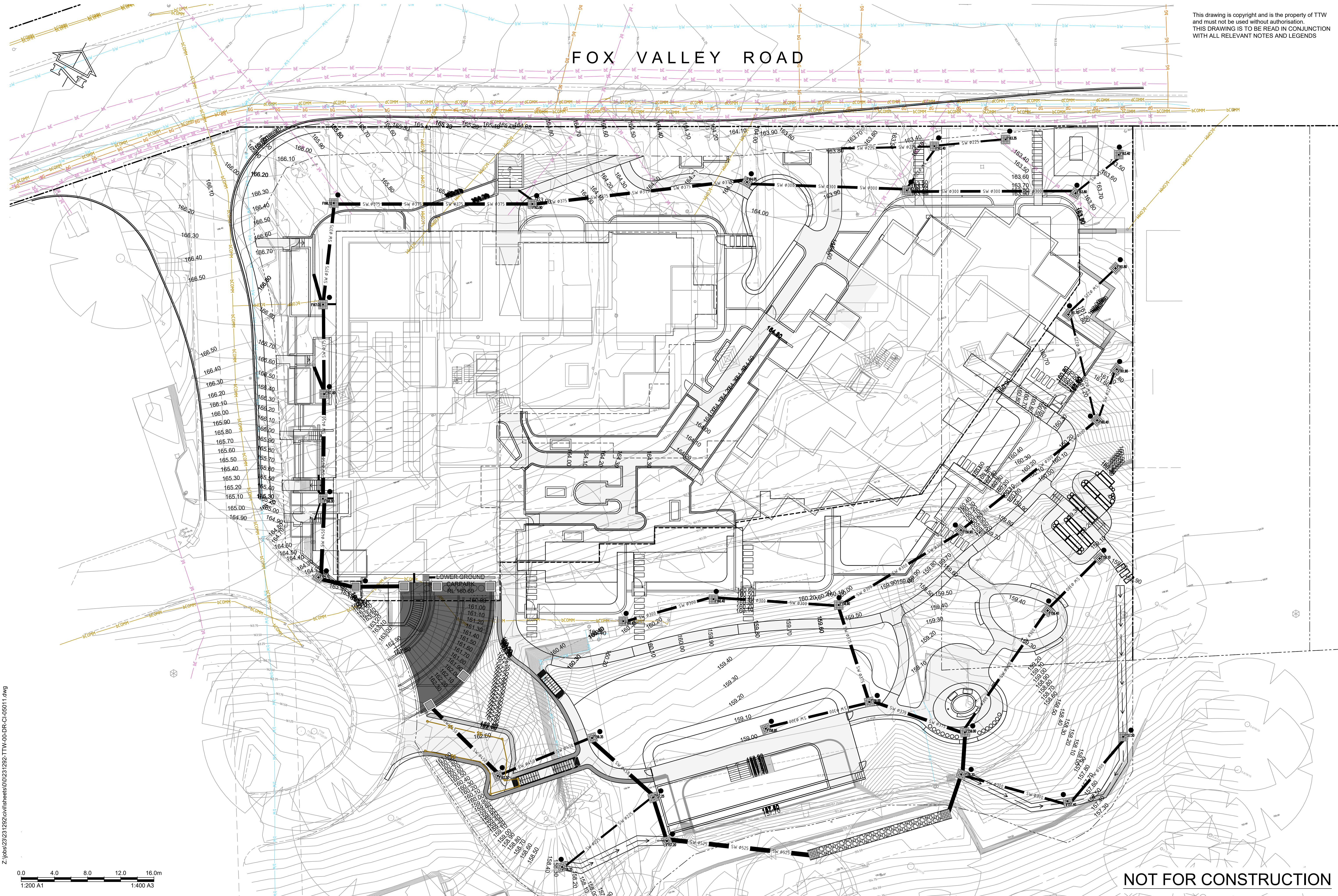
EXISTING	EXHUMED OR ABANDONED	PROPOSED	
			SHARED UTILITIES TRENCH TYPE 1
			SHARED UTILITIES TRENCH TYPE 2
			SHARED UTILITIES TRENCH TYPE 3
			SHARED UTILITIES TRENCH TYPE 4
			SHARED UTILITIES TRENCH TYPE 5
REFER SHARED UTILITIES TRENCH	DETAILS		

A	-	SIGHTED, MUST BE LOCATED, THEN POTHOLED. UTILITY MUST BE PHYSICALLY SIGHTED AND MEASURED.
B	-	ELECTRONICALLY DETECTED AND LOCATED ON SITE USING VARIOUS TRACING METHODS.
C	-	ALIGNED FROM SURFACE FEATURES AND DIGITISED DATA.
D	-	DIGITISED DATA (DIAL BEFORE YOU DIG).

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								Client:								Engineer:  Structural Civil Traffic Façade				Project: WAHROONGA ESTATE STAGE 3 RESIDENTIAL DEVELOPMENT				Drawing Title: UTILITIES-COORDINATION NOTES AND LEGEND SHEET 1				Scale at A1 NTS		Drawn LW		Designed LW		Approved TM	
B		ISSUE FOR DA		GC		LW		31.10.2024																											
A		PRELIMINARY ISSUE		GC		LW		13.06.2024																											
Rev	Description			Eng	Draft	Date			Rev	Description			Eng	Draft	Date			Rev	Description			Eng	Draft	Date			Rev	Description			Eng	Draft	Date		
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Rev	Description	Eng Draft	Date	Rev	Description	Eng Draft	Date	Rev	Description	Eng Draft	Date
C	ISSUE FOR DA	GC	JHH 07.05.2025								
B	ISSUE FOR DA	GC	LW 31.10.2024								
A	PRELIMINARY ISSUE	GC	LW 13.06.2024								



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TTW
612 6285 1766 | Level 5, 224 Bunda St, Canberra City, ACT 2601

Structura
Civil
Traffic
Façade

Project:
WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT

Drawing Title:
UTILITIES-COORDINATION
PLAN

Scale at A1	Drawn	Designed	Approved			
1:200	LW	LW	TM			
Project No	Originator	Zone	Type	Role	Sheet No.	Rev
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EROSION AND SEDIMENT CONTROL

1. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:-
 - LOCAL AUTHORITY REQUIREMENTS.
 - EPA POLLUTION CONTROL MANUAL FOR URBAN STORMWATER.
 - LANDCOM NSW - MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION ("BLUE BOOK").
1. EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES ARE PROVIDED FOR THE WHOLE OF THE WORKS. SHOULD THE CONTRACTOR STAGE THESE WORKS THEN THE DESIGN MAY BE REQUIRED TO BE MODIFIED. VARIATION TO THESE DETAILS MAY REQUIRE APPROVAL BY THE RELEVANT AUTHORITIES. THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE IMPLEMENTED AND ADAPTED TO MEET THE VARYING SITUATIONS AS WORK ON SITE PROGRESSES
2. MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
3. WHEN STORMWATER PITS ARE CONSTRUCTED PREVENT SITE RUNOFF ENTERING THE PITS UNLESS SILT FENCES ARE ERECTED AROUND PITS.
4. MINIMISE THE AREA OF SITE BEING DISTURBED AT ANY ONE TIME.
5. PROTECT ALL STOCKPILES OF MATERIALS FROM SCOUR AND EROSION. DO NOT STOCKPILE LOOSE MATERIAL IN ROADWAYS, NEAR DRAINAGE PITS OR IN WATERCOURSES.
6. ALL SOIL AND WATER CONTROL MEASURES ARE TO BE PUT BACK IN PLACE AT THE END OF EACH WORKING DAY, AND MODIFIED TO BEST SUIT SITE CONDITIONS.
7. CONTROL WATER FROM UPSTREAM OF THE SITE SUCH THAT IT DOES NOT ENTER THE DISTURBED SITE.
8. ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE VIA THE TEMPORARY CONSTRUCTION ENTRY/EXIT.
9. ALL VEHICLES LEAVING THE SITE SHALL BE CLEANED AND INSPECTED BEFORE LEAVING.
10. MAINTAIN ALL STORMWATER PIPES AND PITS CLEAR OF DEBRIS AND SEDIMENT. INSPECT STORMWATER SYSTEM AND CLEAN OUT AFTER EACH STORM EVENT.
11. CLEAN OUT ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH STORM EVENT.

SEQUENCE OF WORKS

1. PRIOR TO COMMENCEMENT OF EXCAVATION THE FOLLOWING SOIL MANAGEMENT DEVICES MUST BE INSTALLED.

1.1. CONSTRUCT SILT FENCES BELOW THE SITE AND ACROSS ALL POTENTIAL RUNOFF SITES.

1.2. CONSTRUCT TEMPORARY CONSTRUCTION ENTRY/EXIT AND DIVERT RUNOFF TO SUITABLE CONTROL SYSTEMS.

1.3. CONSTRUCT MEASURES TO DIVERT UPSTREAM FLOWS INTO EXISTING STORMWATER SYSTEM.

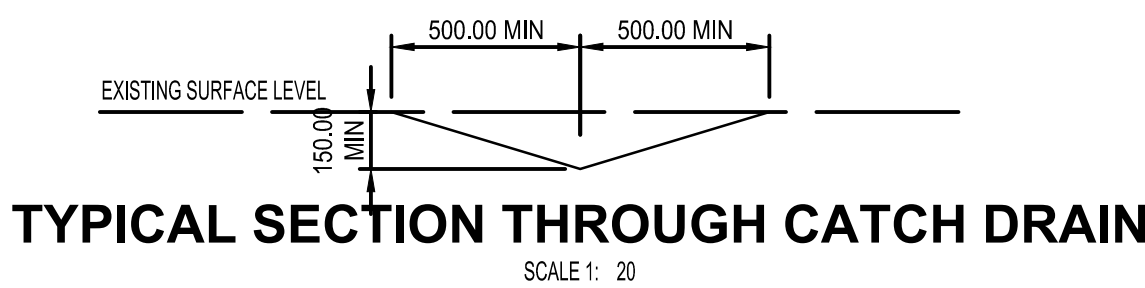
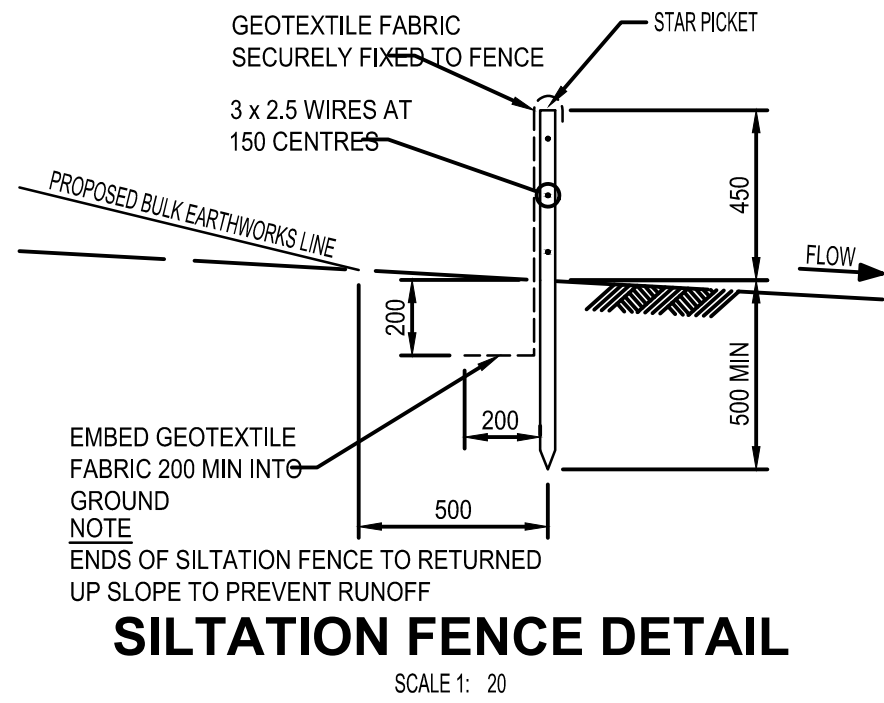
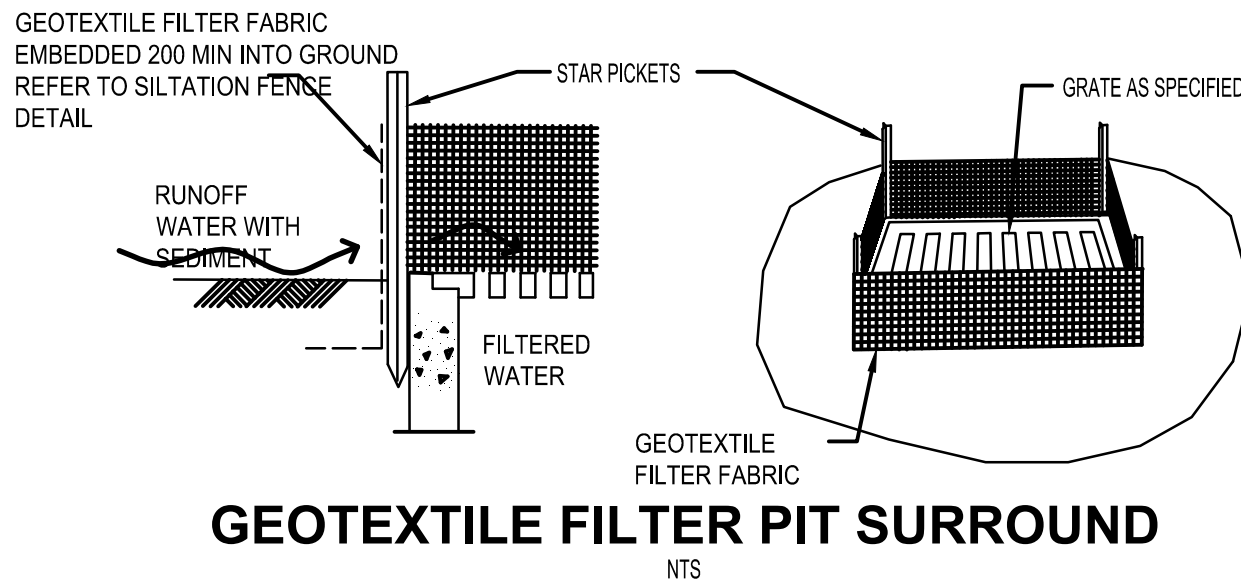
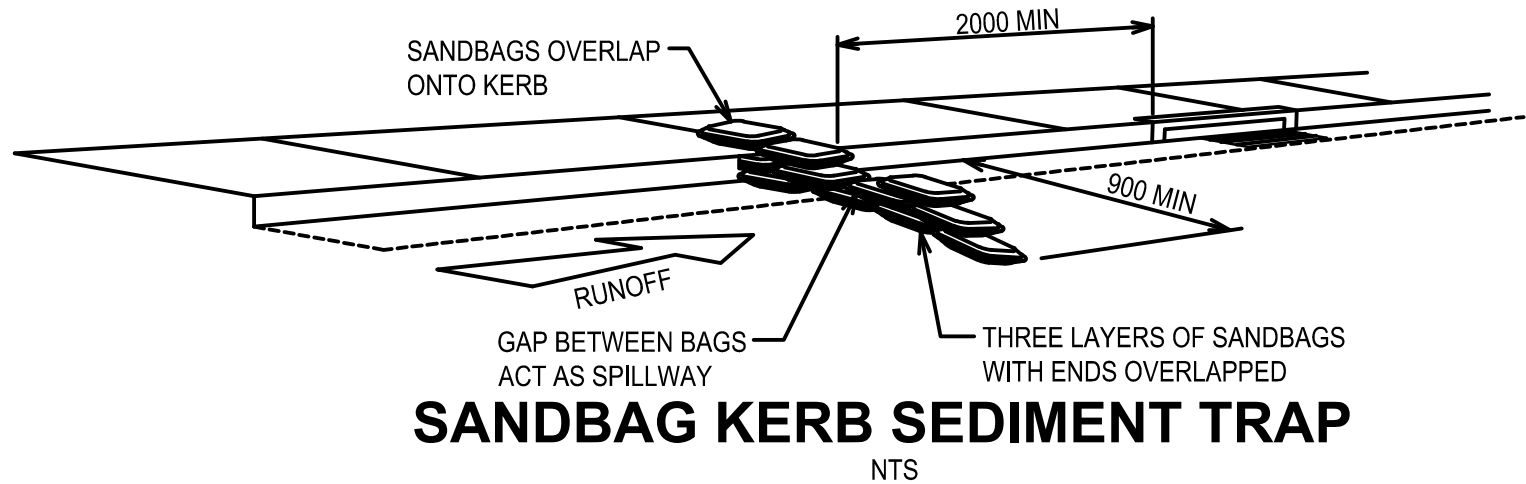
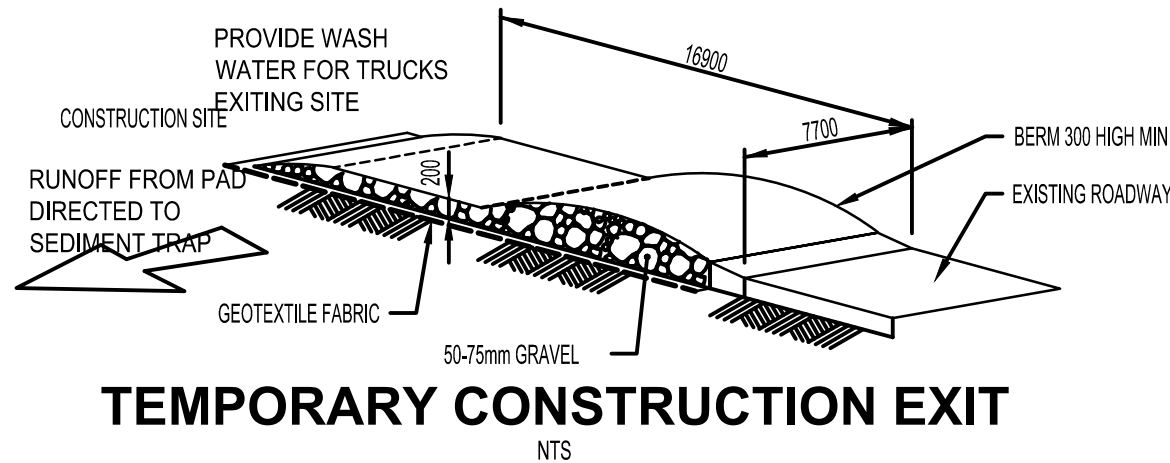
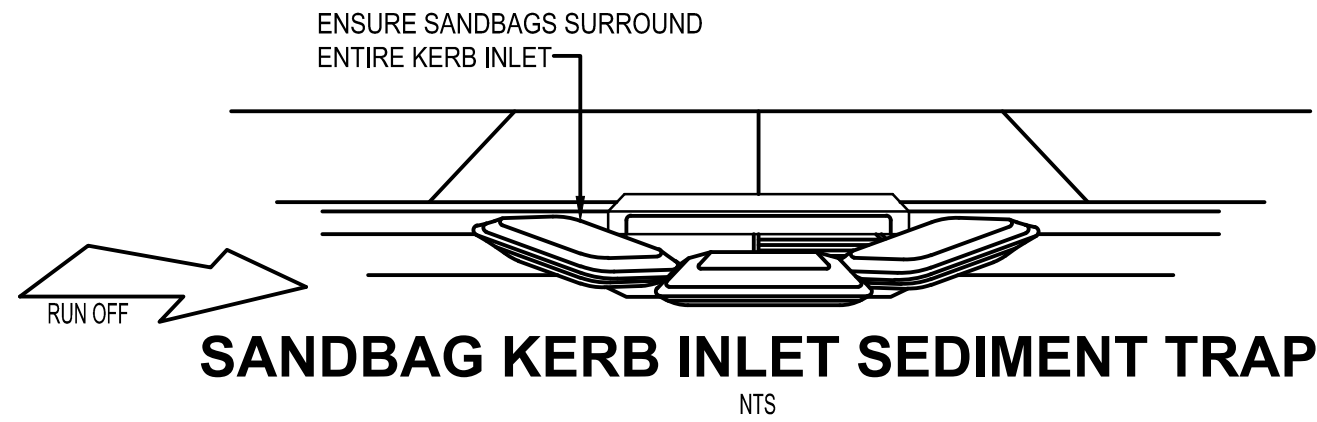
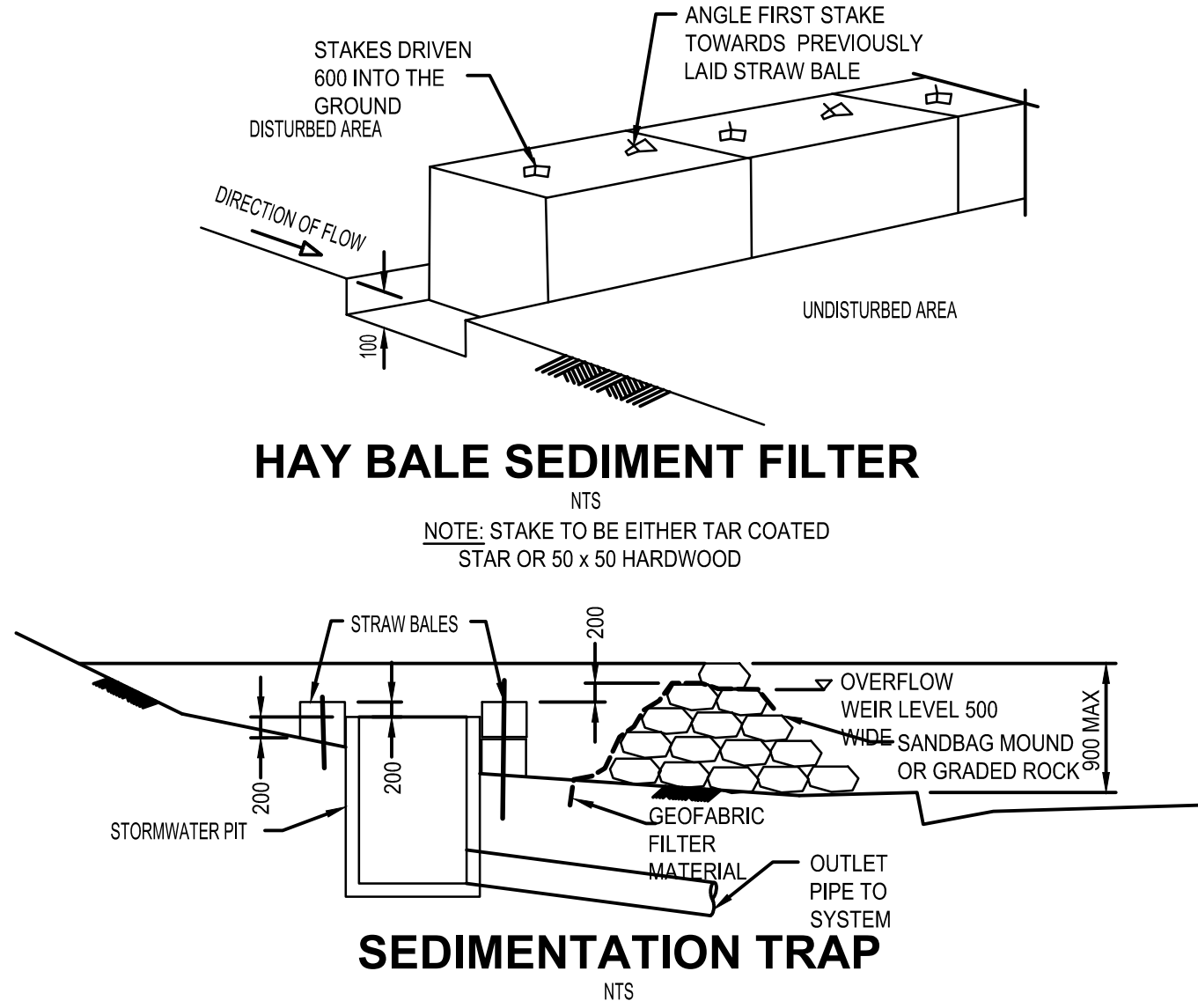
1.4. CONSTRUCT SEDIMENTATION TRAPS/BASIN INCLUDING OUTLET CONTROL AND OVERFLOW.

1.5. CONSTRUCT TURF LINED SWALES.

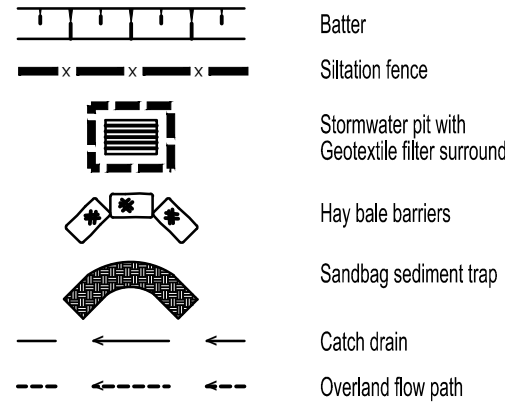
1.6. PROVIDE SANDBAG SEDIMENT TRAPS UPSTREAM OF EXISTING PITS.
2. CONSTRUCT GEOTEXTILE FILTER PIT SURROUND AROUND ALL PROPOSED PITS AS THEY ARE CONSTRUCTED.
3. ON COMPLETION OF PAVEMENT PROVIDE SAND BAG KERB INLET SEDIMENT TRAPS AROUND PITS.
4. PROVIDE AND MAINTAIN A STRIP OF TURF ON BOTH SIDES OF ALL ROADS AFTER THE CONSTRUCTION OF KERBS.

WATER QUALITY TESTING REQUIREMENTS

1. PRIOR TO DISCHARGE OF SITE STORMWATER, GROUNDWATER AND SEEPAGE WATER INTO COUNCIL'S STORMWATER SYSTEM, CONTRACTORS MUST UNDERTAKE WATER QUALITY TESTS IN CONJUNCTION WITH A SUITABLY QUALIFIED ENVIRONMENT CONSULTANT OUTLINING THE FOLLOWING:-
 - COMPLIANCE WITH THE CRITERIA OF THE AUSTRALIAN AND NEW ZEALAND GUIDELINES FOR FRESH AND MARINE WATER QUALITY (2000)
 - IF REQUIRED SUBJECT TO THE ENVIRONMENTAL CONSULTANTS ADVICE, PROVIDE REMEDIAL MEASURES TO IMPROVE THE QUALITY OF WATER THAT IS TO BE DISCHARGED INTO COUNCILS STORM WATER DRAINAGE SYSTEM.THIS SHOULD INCLUDE COMMENTS FROM A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT CONFIRMING THE SUITABILITY OF THESE REMEDIAL MEASURES TO MANAGE THE WATER DISCHARGED FROM THE SITE INTO COUNCILS STORM WATER DRAINAGE SYSTEM. OUTLINING THE PROPOSED, ONGOING MONITORING, CONTINGENCY PLANS AND VALIDATION PROGRAM THAT WILL BE IN PLACE TO CONTINUALLY MONITOR THE QUALITY OF WATER DISCHARGED FROM THIS SITE. THIS SHOULD OUTLINE THE FREQUENCY OF WATER QUALITY TESTING THAT WILL BE UNDERTAKEN BY A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT.



EROSION AND SEDIMENT CONTROL LEGEND



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			Client:			Engineer:			Project:			Drawing Title:			Scale at A1			Drawn			Designed			Approved		
									WAHROONGA ESTATE			ENVIRONMENTAL			NTS			LW			LW			TM		
						612 6285 1766 Level 5, 224 Bunda St, Canberra City, ACT 2601			STAGE 3			EROSION CONTROL NOTES			Project No			Originator			Zone			Role		
									RESIDENTIAL			AND LEGEND SHEET 1			231292-TTW-00-DR-CI-09201-B									Sheet No.		
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Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
C	ISSUE FOR DA	ML	LW	07.05.2025										
B	ISSUE FOR DA	GC	LW	31.10.2024										
A	PRELIMINARY ISSUE	GC	LW	13.06.2024										



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Structural
Civil
Traffic
Façade

Client:
Project:
**WAHROONGA ESTATE
STAGE 3
RESIDENTIAL
DEVELOPMENT**

Drawing Title:
**ENVIRONMENTAL
EROSION CONTROL PLAN**

Scale at A1	Drawn	Designed	Approved			
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Project No	Originator	Zone	Type	Role	Sheet No.	Rev
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