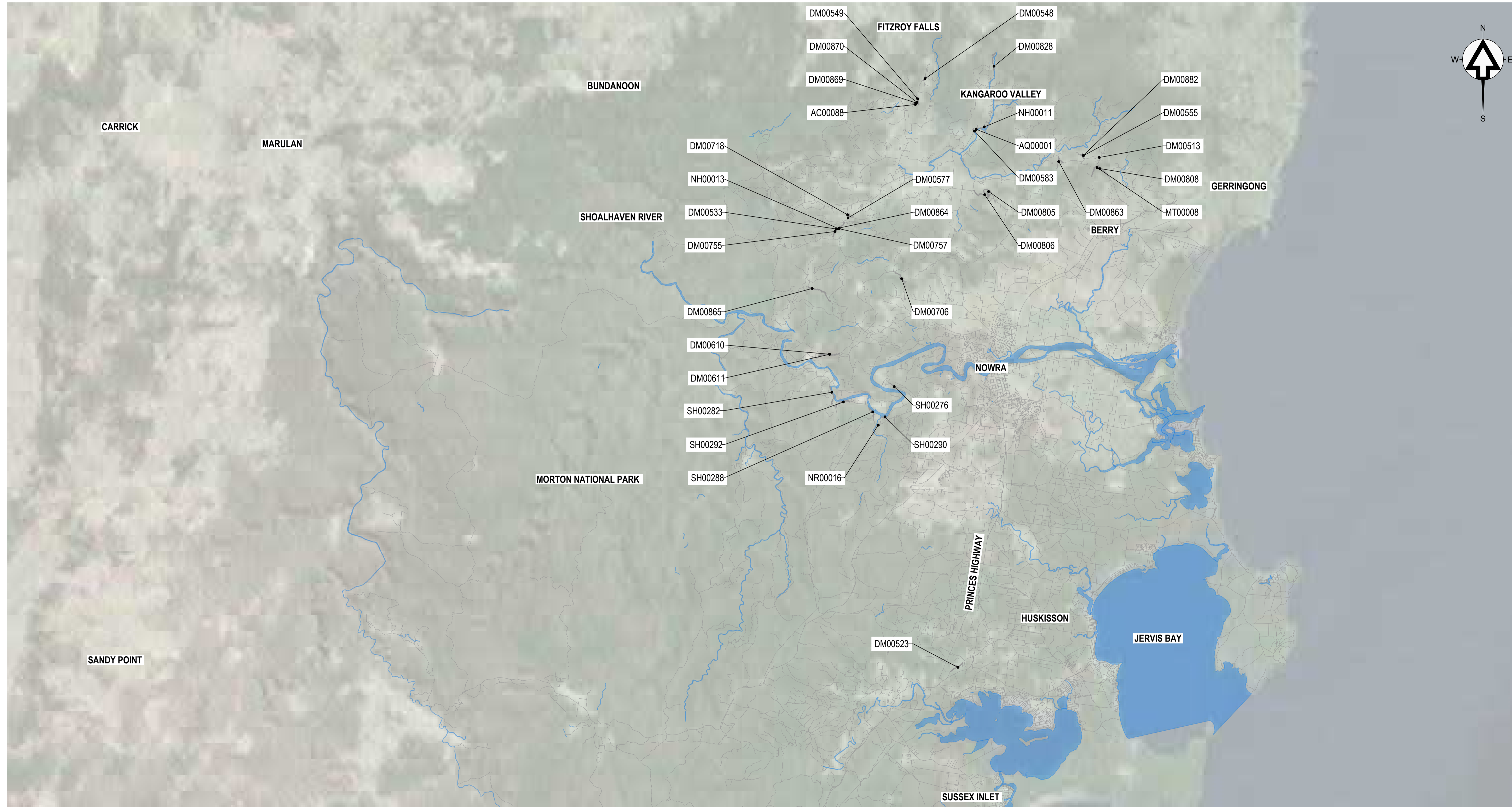


# SHOALHAVEN CITY COUNCIL

## LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES



LOCALITY PLAN  
1:150,000

NO.	DATE	DESCRIPTION	DT
1	24.02.2023	ISSUED FOR CONSTRUCTION	DT

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Responsible Principal Signature \_\_\_\_\_ Date \_\_\_\_\_

DRAWN: WP/GL	DATE: 20.10.2022
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DES. CHECK: DT	DATE: 25.10.2022

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**FOR CONSTRUCTION** A1

CLIENT:	SHOALHAVEN CITY COUNCIL
PROJECT:	LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES
DRAWING TITLE:	COVER SHEET & SITES LOCALITY PLAN
SCALE:	1:150km
DRAWING NUMBER:	660.30255-G-1000
ISSUE:	1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1	DRAWING SCHEDULE (1 OF 2)											DRAWING SCHEDULE (2 OF 2)											COORDINATES TABLE			
	DRAWING NUMBER		DRAWING TITLE																							
2	660.30255-G-1000		COVER SHEET & SITES LOCALITY PLAN																							
	660.30255-G-1001		DRAWING SCHEDULE & COORDINATES TABLE																							
	660.30255-G-1002		GENERAL NOTES SHEET 1																							
3	660.30255-G-1003		GENERAL NOTES SHEET 2																							
	660.30255-G-1004		GENERAL NOTES SHEET 3																							
	660.30255-G-1010		SITE DM00865 - GENERAL ARRANGEMENT LAYOUT PLAN																							
4	660.30255-G-1020		SITE SH00290 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1030		SITE DM00706 - GENERAL ARRANGEMENT LAYOUT PLAN																							
5	660.30255-G-1031		SITE DM00706 - CROSS SECTIONS SHEET																							
	660.30255-G-1040		SITE AC00088 - GENERAL ARRANGEMENT LAYOUT PLAN																							
6	660.30255-G-1050		SITE DM00548 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1051		SITE DM00548 - DETAILS SHEET																							
7	660.30255-G-1060		SITE DM00549 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1070		SITE DM00869 - GENERAL ARRANGEMENT LAYOUT PLAN																							
8	660.30255-G-1071		SITE DM00869 - CROSS SECTIONS SHEET																							
	660.30255-G-1080		SITE DM00870 - GENERAL ARRANGEMENT LAYOUT PLAN																							
9	660.30255-G-1090		SITE SH00282 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1100		SITE SH00288 - GENERAL ARRANGEMENT LAYOUT PLAN																							
10	660.30255-G-1110		SITE SH00292 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1120		SITES DM00882 & DM00555 - GENERAL ARRANGEMENT LAYOUT PLAN																							
11	660.30255-G-1121		SITE DM00555 - CROSS SECTIONS SHEET																							
	660.30255-G-1122		SITE DM00555 - DETAILS SHEET																							
12	660.30255-G-1123		SITE DM00882 - CROSS SECTIONS SHEET																							
	660.30255-G-1130		SITES DM00610 & DM00611 - GENERAL ARRANGEMENT LAYOUT PLAN																							
13	660.30255-G-1140		SITE DM00805 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1150		SITE DM00806 - GENERAL ARRANGEMENT LAYOUT PLAN																							
14	660.30255-G-1151		SITE DM00806 - DETAILS SHEET																							
	660.30255-G-1160		SITE DM00533 - GENERAL ARRANGEMENT LAYOUT PLAN																							
15	660.30255-G-1170		SITES DM00577 & DM00718 - GENERAL ARRANGEMENT LAYOUT PLAN																							
	660.30255-G-1180		SITE DM00755 - GENERAL ARRANGEMENT LAYOUT PLAN																							
16	660.30255-G-1190		SITES DM00757, NH00013 & DM00864 - GENERAL ARRANGEMENT LAYOUT PLAN																							
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CONSULTANT PROJECT

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PLOT DATE 22-Feb-2023 4:11:28 PM	REVISIONS		THIS DRAWING IS THE PROPERTY OF SLR CONSULTING AUSTRALIA AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE CONSENT OF THE COMPANY.		DRAWN: WP/GL	DATE: 19.10.2022	 <p>LEVEL 1, THE CENTRAL BUILDING INNOVATION CAMPUS, SQUIRES WAY NORTH WOLLONGONG NSW 2500 AUSTRALIA T: +61 2 4249 1004 F: +61 2 4249 1000 www.slrc consulting.com</p>		CLIENT: SHOALHAVEN CITY COUNCIL				
			THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW		DESIGN: MB/DT	DATE: 20.10.2022			PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES				
	1		24.02.2023	ISSUED FOR CONSTRUCTION	DT	DRG. CHECK: MB			DATE: 24.10.2022	DRAWING TITLE: DRAWING SCHEDULE & COORDINATES TABLE			
			DATE	DESCRIPTION		DES. CHECK: DT			DATE: 25.10.2022	<p><b>FOR CONSTRUCTION</b> A1</p> <p>DO NOT SCALE THIS DRAWING IF IN DOUBT ASK</p> <p>SCALE: N/A</p> <p>DRAWING NUMBER: 660.30255-G-1001</p> <p>ISSUE: 1</p>			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	<b>DEFINITIONS</b>								24. OBTAIN NECESSARY PERMITS AND APPROVALS TO WORK ON SITE. NOTIFY RELEVANT SERVICE AUTHORITIES BEFORE COMMENCING WORK ON SITE.								53. GENERAL WASTE (RUBBISH) IS NOT TO BE ALLOWED TO LIE OR ACCUMULATE ON THE SITE. KEEP ALL DOCKETS/RECEIPTS FOR WASTE MANAGEMENT/DISPOSAL AND FORWARD COPIES TO THE PRINCIPAL'S REPRESENTATIVE.								
2	1. PRINCIPAL - THE PRINCIPAL IS IDENTIFIED AS SHOALHAVEN CITY COUNCIL.								25. SERVICES ARE TO BE LOCATED ON SITE PRIOR TO CONSTRUCTION COMMENCING.								54. ONLY VIRGIN EXCAVATED NATURAL MATERIAL (VENM) CAN BE IMPORTED ON SITE UNLESS APPROPRIATE TESTING AND DOCUMENTATION IS PROVIDED.								
3	2. GEOTECHNICAL DESIGN REPRESENTATIVE - SUITABLY QUALIFIED GEOTECHNICAL ENGINEER APPOINTED BY THE PRINCIPAL TO PROVIDE ON-SITE VERIFICATION OF THE CONSTRUCTION.								26. DURING CONSTRUCTION STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERLOADED. TEMPORARY SUPPORTS SHALL BE PROVIDED BY THE BUILDER IN ORDER TO KEEP THE WORKS AND ANY EXCAVATIONS STABLE AT ALL TIMES.								55. KEEP ALL DOCUMENTS/RECORDS OF THE TRANSPORT AND USE OF ATERIAL IMPORTED ONTO SITE AND FORWARD COPIES TO THE PRINCIPAL'S REPRESENTATIVE.								
4	3. CONTRACTOR - THE ENTITY UNDERTAKING THE CONSTRUCTION.								27. PROVIDE SAFETY BARRIERS AT EDGES OF OPENINGS AND ELEVATED AREAS. ENSURE WORKERS ARE APPROPRIATELY RESTRAINED/ TETHERED/ HARNESSED DURING WORKS WHERE THE LIKELIHOOD AND CONSEQUENCE OF A FALL IS REASONABLY SIGNIFICANT.								<b>TRAFFIC CONTROL</b>								
5	4. UNO - UNLESS NOTED OTHERWISE.								28. REVIEW ADEQUACY OF WORKING SPACE AVAILABLE FOR CONSTRUCTION ACTIVITIES. ENSURE SEPARATION OF PLANT AND PERSONNEL ON SITE, INCLUDING MOVEMENTS OF BOTH.								56. ESTABLISH TRAFFIC CONTROL (IF REQUIRED) AT PROJECT BOUNDARIES IN ACCORDANCE WITH AN APPROPRIATE TRAFFIC CONTROL PLAN APPROVED BY THE PRINCIPAL.								
6	<b>GENERAL NOTES</b>								29. LOCATE LIFTING SLEW AND LAY DOWN AREAS AWAY FROM REGULAR CONSTRUCTION TRAFFIC.								57. CONSTRUCTION WARNING SIGNS AND TRAFFIC SPEED SIGNS TO BE ESTABLISHED IN GENERAL ACCORDANCE WITH TRAFFIC CONTROL PLAN APPROVED BY THE PRINCIPAL.								
7	5. THE GEOLOGICAL PROFILE AND GEOTECHNICAL CONDITIONS SHOWN ON THE DRAWINGS ARE INDICATIVE AND HAVE BEEN INFERRED FROM LIMITED INVESTIGATIONS. SHOULD THE ENCOUNTERED GEOLOGICAL PROFILE DIFFER FROM THAT SHOWN, THE DESIGN SHALL BE REVIEWED TO ENSURE SUITABILITY OF THE DESIGN TO ENCOUNTERED CONDITIONS.								30. WRITTEN RISK ASSESSMENTS ARE ADVISED FOR ACCESS TO OPEN EXCAVATIONS.								58. A WASTE CLASSIFICATION HAS NOT BEEN CARRIED OUT FOR THIS SITE. HOWEVER, IF POTENTIAL CONTAMINANTS ARE DISCOVERED DURING WORKS A WASTE CLASSIFICATION MUST BE CARRIED OUT BY THE CONTRACTOR, IN ACCORDANCE WITH REGULATORY REQUIREMENTS.								
8	6. PRIOR TO CONSTRUCTION SITE SET-UP, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE PRINCIPAL FOR REVIEW.								31. PROVIDE ACCESS AND EGRESS TO EXCAVATIONS APPROPRIATE IN CASE OF INUNDATION, COLLAPSE OR ENGULFMENT.								<b>EARTHWORKS</b>								
9	A. ALL SAFE WORK METHOD STATEMENTS AND PLANS								32. SEEK ADVICE FROM SUITABLY QUALIFIED GEOTECHNICAL OR STRUCTURAL ENGINEER PRIOR TO OPERATION OF HEAVY SURFACE PLANT AND EQUIPMENT OR STOCKPILING MATERIAL NEAR OPEN EXCAVATIONS OR EXISTING RETAINING STRUCTURES.								59. STRIP OFF ALL VEGETATION, RUBBISH AND TOPSOIL CONTAINING ORGANIC OR ROOT MATTER FROM THE AREA OF THE WORKS AND REMOVE FROM SITE/ STOCKPILE FOR RE-USE.								
10	B. CONSTRUCTION STAGING PLANS								33. SEEK ADVICE FROM SUITABLY QUALIFIED GEOTECHNICAL FOR ALL TEMPORARY BATTERS.								60. WHERE REQUIRED, EXCAVATE SITE TO THE EXTENT DETAILED IN THE DETAILED SECTION DRAWING.								
11	C. CONSTRUCTION PROGRAM								34. SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE CORING, CHASING, CUTTING OR REMOVAL OF EXISTING CONCRETE AND REINFORCEMENT.								61. FOR EACH SITE, THE FOUNDATION LEVEL WILL VARY DEPENDING ON GROUND CONDITIONS ENCOUNTERED ON THE SITE AND SHALL BE CONFIRMED ON SITE BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.								
12	D. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)								35. MAKE WORK AREAS SAFE WHERE STRUCTURAL ELEMENTS ARE DAMAGED, CRACKED OR HAVE SUFFERED SIGNIFICANT SECTION LOSS BEFORE ALLOWING GENERAL CONSTRUCTION OR REPAIR ACCESS.								62. PRIOR TO ANY FILLING, THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A 12 TONNE STATIC MASS SMOOTH DRUM ROLLER IN THE PRESENCE OF THE PRINCIPAL'S REPRESENTATIVE OR GEOTECHNICAL ENGINEER AND ANY SOFT OR YIELDING MATERIALS REMOVED AND REPLACED WITH APPROVED FILLING COMPACTED AS HEREAFTER SPECIFIED.								
13	E. PROJECT QUALITY PLAN								36. REPORT SIGNIFICANT SECTION LOSS OR CORROSION FLAKING BEFORE STARTING PAINTING OR REPAIRS. CONSULT SUITABLY QUALIFIED STRUCTURAL ENGINEER IF SECTION LOSS OR EXTENSIVE CORROSION FLAKING PRESENT BEFORE PROCEEDING WITH WORK.								63. IMPORTING FILL MATERIAL TO SITE: SEE NOTE NO. 54.								
14	APPROVAL OF THE DOCUMENTATION BY THE PRINCIPAL SHALL CONSTITUTE A HOLD POINT.								37. UNTIL PERMANENT SUPPORT IS PROVIDED, PROVIDE TEMPORARY SUPPORT FOR SECTIONS OF EXISTING STRUCTURES WHICH ARE TO BE ALTERED AND WHICH NORMALLY RELY FOR SUPPORT ON WORK TO BE DEMOLISHED.								64. FILL SHALL BE SOUND WELL GRADED MATERIAL WITH A HIGH GRANULAR CONTENT AND SHALL BE THE BEST OF EXCAVATED MATERIALS FROM THE SITE, OR APPROVED SOUND IMPORTED MATERIAL FREE OF RUBBISH, PLASTIC CLAY OR LARGE PIECES THAT WOULD PRECLUDE COMPACTION.								
15	7. SITE TO BE RETURNED TO ORIGINAL CONDITION OR BETTER AT THE COMPLETION OF THE WORKS								38. PROVIDE SUPPORT TO ADJACENT STRUCTURES WHERE NECESSARY, SUFFICIENT TO PREVENT DAMAGE RESULTING FROM THE WORKS.								65. FILL SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150mm AND COMPACTED AT OPTIMUM MOISTURE CONTENT ±2% TO NOT LESS THAN THE REQUIRED MAXIMUM DRY DENSITY.								
16	8. NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES THE REQUIRED PROPERTIES OF THE ITEM. SIMILAR ALTERNATIVES HAVING THE REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL BY THE DESIGN REPRESENTATIVE.								39. LATERAL SUPPORTS: PROVIDE LATERAL SUPPORT AT LEAST EQUAL TO THAT GIVEN BY THE STRUCTURE TO BE DEMOLISHED, USING SHORING.								66. DENSITY TESTING OF FILLING (AND BASE COURSE WHERE APPLICABLE) SHALL BE CARRIED OUT AT THE RATE OF 1 TEST PER 200 SQUARE METRES EACH LAYER (MINIMUM 2 TESTS).								
17	9. DIMENSIONS ARE IN MILLIMETRES, LEVELS ARE IN METRES UNO, CHAINAGES ARE IN METRES UNO. REDUCED LEVELS RELATE TO AUSTRALIAN HEIGHT DATUM.								40. VERTICAL SUPPORTS: PROVIDE SUPPORT WHERE NECESSARY USING PILING OR UNDERPINNING, OR BOTH.								67. WHERE REQUIRED, THE FOUNDATION LAYER SHALL BE, DRY, SMOOTH, LEVEL AND GRADED TO THE PROFILE AS SHOWN IN THE DETAILED DRAWING. IT SHALL BE FREE OF SURFACE IRREGULARITIES, LOOSE OR UNSTUITABLE MATERIAL.								
18	10. ALL DIMENSIONS AND SETTING OUT SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING WORK. HAVE SURVEY AND SETTING OUT UNDERTAKEN BY A REGISTERED SURVEYOR. ALL DIMENSIONS DO NOT OBTAIN DIMENSIONS BY SCALING OF THE DRAWINGS.								<b>ENVIRONMENTAL SITE MANAGEMENT</b>								68. WHERE REQUIRED, A BLINDNG LAYER TO INFILL VOIDS, UNEVEN GROUND AND CAVITIES AT FOUNDATION LEVEL TO BE CREATED WITH SITE WON GRANULAR SOILS AND ROCKFILL TO CREATE A SMOOTH, EVEN, STABLE WORKING PLATFORM. GRANULAR BLINDING MATERIAL SHALL COMPRISE OF GRANULAR, SITE WON SOIL FREE OF UNSTUITABLE MATERIAL AND SHALL BE COMPACTED USING MANUAL TECHNIQUES (E.G., HAND TAMPING, WALK-BEHIND COMPACTOR) TO MINIMUM RELATIVE DENSITY OF 70%.								
19	11. VERIFY ON SITE SETTING OUT DIMENSIONS AND EXISTING MEMBER SIZES SHOWN ON DRAWINGS BEFORE SHOP DRAWINGS, CONSTRUCTION AND FABRICATION IS COMMENCED.								41. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MEASURES ARE TAKEN DURING THE COURSE OF CONSTRUCTION TO PREVENT SEDIMENT EROSION AND POLLUTION OF THE DOWNSTREAM SYSTEM.								69. THE CONTRACTOR SHALL PROGRAM AND UNDERTAKE THE EARTHWORKS OPERATIONS SUCH THAT WORKING AREAS ARE ADEQUATELY DRAINED DURING CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE RECTIFIED AT THE CONTRACTOR'S EXPENSE.								
20	12. REFER DISCREPANCIES TO THE PRINCIPAL BEFORE PROCEEDING WITH WORK.								42. TEMPORARY EROSION AND SEDIMENT CONTROL (ESC) MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES (2008) AND BE MAINTAINED IN OPERATIVE CONDITION AT ALL TIMES AND SHALL REMAIN IN PLACE FOR THE DURATION OF THE WORK.								70. HAVE TESTING PERFORMED BY AN INDEPENDENT NATA (NATIONAL ASSOCIATION OF TESTING AUTHORITIES) ACCREDITED AUTHORITY AND PROVIDE TEST REPORTS TO THE PRINCIPAL. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH COMPLIANCE TESTING.								
21	13. WORKMANSHIP AND MATERIALS TO COMPLY WITH REQUIREMENTS OF AUSTRALIAN STANDARDS, NATIONAL CONSTRUCTION CODE (NCC) AND BY-LAWS AND ORDINANCES OF RELEVANT BUILDING AUTHORITIES. ALL STANDARDS REFERRED TO ARE THOSE CURRENT (AS AMENDED) AT COMMENCEMENT OF CONTRACT.								43. SEDIMENT AND EROSION CONTROLS MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS OR DEMOLITION ACTIVITY. THE LOCATION OF SUCH DEVICES IS GENERALLY AT THE END OF THE DIRECTION OF FLOW BEFORE REACHING THE DOWNSTEAM SYSTEM. FINAL POSITION SHALL BE DETERMINED ON SITE.																
22	14. WHERE NEW WORK ABUTS EXISTING, PROVIDE SMOOTH TRANSITION FREE OF ABRUPT CHANGES.								44. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER UNTIL SURROUNDING AREAS ARE PAVED OR REVEGETATED.																
23	15. PROTECT EXISTING STRUCTURES FROM DAMAGE OR CRACKING. MAKE GOOD ANY DAMAGE TO EXISTING ELEMENTS AT COMPLETION OF WORKS.								45. ALL SILT FENCES AND BARRIERS ARE TO BE MAINTAINED IN GOOD ORDER AND REGULARLY DESILTED DURING THE CONSTRUCTION PERIOD.																
24	16. IMPLEMENT SOIL AND WATER MANAGEMENT PROCEDURES TO AVOID EROSION, CONTAMINATION AND SEDIMENTATION OF SITE, SURROUNDING AREAS AND DRAINAGE SYSTEMS.								46. STOCKPILES OF LOOSE MATERIALS SUCH AS SAND, SOIL AND GRAVEL MUST BE COVERED WITH GEOTEXTILE. PLASTIC SHEETING OR MEMBRANE MUST NOT BE USED. SAFETY BARRICADING SHALL BE USED TO ISOLATE STOCKPILES OF SOLID MATERIALS SUCH AS STEEL REINFORCING. SEDIMENT FENCE IS TO BE PLACED DOWNSLOPE OF ALL STOCKPILES.																
25	17. DISPOSE OF SURPLUS MATERIAL OFF SITE IN ACCORDANCE WITH LOCAL AUTHORITY WASTE REGULATIONS.								47. ANY WASTE GENERATED, INCLUDING EXCAVATED MATERIALS, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF APPROPRIATELY, ACCORDING TO THE WASTE CLASSIFICATION. GENERAL WASTE (RUBBISH) IS NOT TO BE ALLOWED TO LIE OR ACCUMULATE ON THE SITE. KEEP ALL DOCKETS/RECEIPTS FOR WASTE MANAGEMENT/DISPOSAL AND FORWARD COPIES TO THE PRINCIPAL'S REPRESENTATIVE.																
26	18. TEMPORARY WORKS AND CONSTRUCTION METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.								48. ALL VEHICLES LEAVING THE SITE MUST HAVE CLAY AND SOIL SHAKEN OFF AS PRACTICALLY AS POSSIBLE.																
27	19. GIVE TWO WORKING DAYS (48 HOURS) NOTICE SO THAT INSPECTION OF CRITICAL STAGES OF WORK (INCLUDING HOLD POINTS AND WITNESS POINTS) MAY BE MADE.								49. TRUCKS REMOVING EXCAVATED/DEMOLISHED MATERIAL SHALL TRAVEL ON STABILISED CONSTRUCTION PATHS. MATERIAL ARE TO BE TAKEN TO THE TRUCKS TO REDUCE TRUCK MOVEMENTS ON SITE. TRUCKS TO BE LIMITED TO SINGLE UNIT HEAVY RIGID VEHICLES (NO SEMI TRAILERS).																
28	20. INSPECTIONS AND REVIEWS UNDERTAKEN BY THE PRINCIPAL OR OTHERS DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH THE DRAWINGS OR SPECIFICATIONS.								50. DURING TRENCH EXCAVATION ALL SPOIL SHALL BE MOUNDED ON THE UPHILL SIDE OF TRENCHES AND PLACEMENT IS TO COMPLY WITH THE PRINCIPAL'S REQUIREMENT.																
29	21. AT THE COMPLETION OF THE WORKS, THE CONTRACTOR SHALL PREPARE AND SUBMIT A 'HANDOVER' PACKAGE TO THE PRINCIPAL FOR APPROVAL. THE PACKAGE SHALL INCLUDE AT A MINIMUM:								<b>WASTE AND CONTAMINATION</b>																
30	A. DRILLING RECORDS								51. A WASTE CLASSIFICATION HAS NOT BEEN CARRIED OUT FOR THIS SITE. HOWEVER, IF POTENTIAL CONTAMINANTS ARE DISCOVERED DURING WORKS A WASTE CLASSIFICATION MUST BE CARRIED OUT BY THE CONTRACTOR, IN ACCORDANCE WITH REGULATORY REQUIREMENTS.																
31	B. RFCS, NCR'S, CERTIFICATES AND OTHER FORMS AS NOMINATED BY THE PRINCIPAL.								52. IF REQUIRED, ANY WASTE GENERATED, INCLUDING EXCAVATED MATERIALS, SHALL BE REMOVED FROM SITE AND DISPOSED OF APPROPRIATELY, ACCORDING TO THE WASTE CLASSIFICATION.																
32	C. APPROVAL OF THE HANDOVER PACKAGE BY THE PRINCIPAL SHALL CONSTITUTE A HOLD POINT.																								
33	<b>SAFETY IN DESIGN</b>																								
34	22. THE SAFETY RISK MITIGATION ITEMS BELOW ARE BASED ON SLR'S DESIGN EXPERIENCE AND DO NOT NECESSARILY ACCOUNT FOR ALL CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION SAFETY RISKS. BASED ON INFORMATION AVAILABLE WHEN THIS DRAWING WAS MADE, IN ITS CAPACITY AS DESIGNER ONLY, SLR HAS TRIED TO IDENTIFY SAFETY RISKS PERTAINING TO CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION PHASES OF THE ASSET. INCLUSION (OR NOT) OF ANY ITEM DOES NOT REDUCE OR LIMIT OBLIGATIONS OF CONSTRUCTOR, USER, MAINTAINER AND DEMOLISHER TO UNDERTAKE APPROPRIATE RISK MANAGEMENT ACTIVITIES TO REDUCE RISK AND IS NOT AN ADMISSION BY SLR THAT INCLUSION OF ANY ITEM IS DESIGNER'S RESPONSIBILITY.																								
35	23. CARRY OUT WORK IN A SAFE MANNER IN ACCORDANCE WITH APPLICABLE LEGISLATION, STATUTORY REGULATIONS, BY-LAWS OR RULES. CONTRACTOR IS RESPONSIBLE FOR OCCUPATIONAL HEALTH AND SAFETY OF SITE PERSONNEL AND GENERAL PUBLIC IN ACCORDANCE WITH ALL CURRENT WORK HEALTH AND SAFETY ACTS, LEGISLATIVE REQUIREMENTS, ASSOCIATED REGULATIONS AND CODES OF PRACTICE, INDUSTRIAL AGREEMENTS AND ACCEPTED INDUSTRY PRACTICE.																								

CONSULTANT PROJECT

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PLOT DATE 22-Feb-2023 4:11:38 PM	REVISIONS					THIS DRAWING IS THE PROPERTY OF SLR CONSULTING AUSTRALIA AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE CONSENT OF THE COMPANY.	DRAWN:	DATE:	 <p>LEVEL 1, THE CENTRAL BUILDING INNOVATION CAMPUS, SQUIRES WAY NORTH WOLLONGONG NSW 2500 AUSTRALIA T: +61 2 4249 1004 F: +61 2 4249 1000 www.slrc consulting.com</p>		CLIENT: SHOALHAVEN CITY COUNCIL				
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							MB	24.10.2022							
1	24.02.2023	ISSUED FOR CONSTRUCTION	DT	Responsible Principal Signature	Date	DES. CHECK:	DATE:	<b>FOR CONSTRUCTION A1</b>							
						DT	25.10.2022					<b>DO NOT SCALE THIS DRAWING IF IN DOUBT ASK</b>			
								SCALE: N/A				DRAWING NUMBER: <b>660.30255-G-1002</b>			
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y								
1	<b>EXCAVATION</b>													99. BOTTOM COVER FOR FOOTINGS SHALL BE 75mm UNLESS NOTED OTHERWISE.										<b>STRUCTURAL STEEL</b>									
2	71. SUB VERTICAL EXCAVATION MUST NOT EXCEED 1.5m DEPTH PRIOR TO INSPECTION BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.													100. DETAILS OF THE PROPOSED MIX TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.										124. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100 AND AS1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.									
3	72. WHERE UNFAVOURABLE EXCAVATION CONDITIONS EXIST SUCH AS SHALLOW LARGE FLOATING BOULDERS, SEEK ENGINEERING ADVICE FROM A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.													101. IN LIEU OF TRIAL MIX OF CONCRETE TO BE USED, RECENT TRIALS AND PRODUCTION RUNS FOR SIMILAR MIX DESIGNS MAY BE SUBMITTED FOR CONSIDERATION AS EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO MIX DESIGN.										125. ALL MATERIAL TO BE GRADE 250 HOT ROLLED PLATES COMPLYING WITH AS 3678 U.N.O.									
4	73. WHERE SHALLOW BEDROCK IS ENCOUNTERED PRIOR TO DESIGN FOUNDATION DEPTH, SEEK ENGINEERING ADVICE FROM A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.													102. THE CONTRACTOR SHALL ALLOW AT LEAST 1 TEST SECTION EVERY 25 CUBIC METRE OF CONCRETE MIX BROUGHT TO SITE TO DEMONSTRATE COMPLIANCE WITH THIS DOCUMENT. THE FOLLOWING TEST CYLINDERS AND TEST DATA SHALL BE OBTAINED FROM EACH TEST SECTION: A. 7 DAY COMPRESSIVE STRENGTH - 3 CYLINDERS B. 14 DAY COMPRESSIVE STRENGTH - 3 CYLINDERS C. 28 DAY COMPRESSIVE STRENGTH - 3 CYLINDERS										126. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1 AND SHALL BE GP CATEGORY U.N.O.									
5	74. TEMPORARY CUT FACES TO BE BATTERED BACK TO A SUITABLE SLOPE TO MAINTAIN STABILITY AT ALL TIMES.													103. THE AVERAGE STRENGTH OF THE THREE CYLINDERS TESTED AT 28 DAYS SHALL EXCEED THE SPECIFIED CHARACTERISTIC STRENGTH BY AT LEAST 1.65 TIMES THE STANDARD DEVIATION OF THE RESULTS FOR THAT TRIAL MIX.										127. WELDING CONSUMABLES SHALL BE E49XX OR W50X.									
6	75. DELINEATE A MINIMUM EXCLUSION ZONE FROM THE EDGE OF THE EXCAVATION EQUAL TO THE HEIGHT OF EXCAVATION AT ALL TIMES. NO SURCHARGE LOADS ARE TO BE PLACED WITHIN THIS ZONE SUCH AS VEHICLES AND /OR CONSTRUCTION MATERIALS.													104. CONCRETE NOT IN ACCORDANCE WITH THIS SPECIFICATION OR CONCRETE WHICH IS DEFECTIVE SHALL, AT THE DIRECTION OF THE PRINCIPAL, BE REMOVED FROM THE JOB AND REPLACED BY THE CONTRACTOR.										128. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1									
7	76. IF ENCOUNTERED, CARE SHALL BE TAKEN TO MINIMISE DISTURBANCE TO THE UNDERLYING DRYSTONE WALL. ANY DISLODGED DRYSTONE AND/OR VOID CREATED BY EXCAVATION SHALL BE REPLACED AND INFILLED WITH GRANULAR FILL.													105. THE CONCRETE SHALL BE PLACED IN SUCH A MANNER TO AVOID SEGREGATION OR LOSS OF MATERIALS. MAXIMUM FALL OF CONCRETE 1500mm OR USE ENCLOSED CHUTES OR SIMILAR.										129. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY BRACED TEMPORARILY AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.									
8	77. EXCAVATED MATERIALS SHALL BE STOCKPILED WITH HEIGHT NOT EXCEEDING 2 M.													106. ALL EXTERNAL HORIZONTAL SURFACES TO HAVE A NOMINAL SURFACE FALL TO PREVENT WATER COLLECTION AND PONDING.										130. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.									
9	78. CREATE SEPARATE STOCKPILES FOR DIFFERENT SOIL TYPES. DO NOT MIX SUBGRADE WITH PAVEMENT OR TOPSOIL. PROVIDE ADEQUATE WATERING, DRAINAGE AND EROSION CONTROL.													<b>CONCRETE CURING</b>										<b>SEALANTS AND FILLERS</b>									
10	79. DO NOT ALLOW TRAFFIC ON STOCKPILES.													107. CURING COMPOUNDS SHALL ONLY BE USED ON APPROVAL FROM THE PRINCIPAL. THEY SHALL BE WAX BASED, BE SUITABLY COLOURED FOR IDENTIFICATION PURPOSES, AND SHALL BE TESTED AND MEET ALL OF THE REQUIREMENTS OF AS 3799 - "LIQUID MEMBRANE-FORMING CURING COMPOUNDS FOR CONCRETE".										131. WHERE JOINTS DAYLIGHT AT FORMED JOINTS OR EDGES, THE SEALANT (BOTH TEMPORARY AND PERMANENT) MUST EXTEND DOWN THE VERTICAL FACE OF JOINTS TO PREVENT THE INGRESS OF INCOMPRESSIBLES DURING SUBSEQUENT PAVING. DIMENSIONS MUST BE EQUIVALENT TO THOSE FOR THE TOP JOINT BUT ROTATED 90°.									
11	80. ALL FINAL SURFACES SHALL BE CONSTRUCTED TO MATCH EXISTING LEVELS UNLESS OTHERWISE APPROVED BY THE PRINCIPAL.													108. CURING COMPOUNDS SHALL BE SUITABLY COLOURED FOR IDENTIFICATION PURPOSES.										132. SEALANTS AND FILLERS MUST COMPLY WITH RMS R83.									
12	<b>DRAINAGE (GENERAL)</b>													109. THE CONTRACTOR SHALL DEMONSTRATE TO THE PRINCIPAL THAT THE CURING COMPOUND IS SUITABLE FOR ALL AMBIENT TEMPERATURES, AND THE PARTICULAR CURING COMPOUND SHALL BE APPROVED PRIOR TO USE.										<b>DRILLING OF SOIL NAIL HOLES</b>									
13	81. PRIOR TO CONSTRUCTION OF THE SURFACE DRAIN SPECIAL CONSIDERATION SHALL BE MADE IN CONSTRUCTING THE CUTOFF SUBSOIL DRAINAGE WHICH SHALL BE CONNECTED TO THE LOCAL DRAINAGE NETWORK.													110. CURING COMPOUNDS SHALL NOT BE BASED ON PVA OR CHLORINATED RUBBER.										133. DRILLING FOR NAILS AND ANCHORS IS EXPECTED TO ENCOUNTER RELATIVELY HIGH STRENGTH COLLUVIUM BOULDERS AND BEDROCK. SELECTION OF DRILLING EQUIPMENT TO BE SUITABLE FOR EXPECTED GROUND CONDITIONS. USE ROTARY OR ROTARY-PERCUSSION METHODS AND EQUIPMENT FOR DRILLING TO ENSURE MINIMAL REMOLDING OF IN-SITU MATERIALS WITHIN THE DRILL HOLES. DO NOT USE DRILLING FLUIDS OTHER THAN AIR, UNLESS OTHERWISE APPROVED BY THE PRINCIPAL.									
14	82. RESHAPE THE EXISTING SURFACE DRAINAGE AND LINED WITH 40MPA SHOTCRETE WITH DOSAGE RATE OF 15KG/M3.													111. CURING COMPOUNDS SHALL BE SUPPLIED WITH A CERTIFICATE OF COMPLIANCE FROM THE MANUFACTURER IN ACCORDANCE WITH AS 3799 - SECTION 3.3. A COPY OF THIS SHALL BE PROVIDED TO THE PRINCIPAL PRIOR TO CONCRETE BEING MIXED.										134. THE CONTRACTOR SHALL INSTALL TEMPORARY CASING TO PREVENT DRILL-HOLE COLLAPSE WHERE REQUIRED.									
15	83. STEEL FLOAT ALL SHOTCRETE SURFACES.													112. WATER FOR CURING SHALL BE POTABLE WATER WITH A pH BETWEEN 5 AND 7, AND SHALL NOT CONTAIN IMPURITIES IN SUFFICIENT QUANTITY TO CAUSE DISCOLOURATION OF THE CONCRETE.										135. WHERE THE GROUND IS SUSCEPTIBLE TO COLLAPSE CASING SHALL BE USED.									
16	<b>GABIONS AND RENO MATTRESS</b>													113. STEAM CURING IS NOT PERMITTED.										136. HOLE SHALL BE CLEANED OF ALL LOOSE OR DELETERIOUS MATERIAL ON COMPLETION OF DRILLING AND THE OPENING SEALED TO PREVENT ENTRY FROM FOREIGN MATTER.									
17	84. GABIONS: DOUBLE TWISTED, HEXAGONAL WIRE MESH GABIONS OF NOMINAL 80x100 MESH, WITH 3.4mm O/D FRAME WIRE AND 2.7mm MESH WIRE, COMPLETE WITH DIAPHRAGMS AT 1M CENTRES. ALL COMPONENTS TO BE MECHANICALLY CONNECTED AT THE PRODUCTION FACILITY WITH MINIMUM CONNECTION STRENGTH REQUIREMENTS AS PER TABLE 2 OF ASTM A975, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.													<b>REINFORCEMENT (FOOTINGS)</b>										<b>SOIL NAIL AND FACING REINFORCEMENT</b>									
18	85. ALL WIRE SHALL BE MILD STEEL, GALMAC COATED (95% ZINC + 5% ALUMINIUM MISCHMETAL ALLOY) TO THE REQUIREMENTS OF ASTM B750-99 AND HEAT BONDED THROUGH EXTRUSION WITH AN ADDITIONAL 0.5MM HEAVY DUTY GREY PVC COATING.													114. STEEL REINFORCEMENT MUST BE IN ACCORDANCE WITH AS 4671, DOWELS MUST COMPLY WITH AS 3679.1.										137. SOIL NAILS TO BE DOUBLE ENCAPSULATED AND HOT-DIP GALVANIZED IN ACCORDANCE WITH AS4680.									
19	86. GABIONS MUST HAVE A VALID BRITISH BOARD OF AGRÉMENT (BBA) CERTIFICATE FOR GALFAN + PVC WIRE.													115. MESH REINFORCEMENT SIZE MUST BE IN ACCORDANCE WITH DRAWING DETAILS.										138. DRILL HOLES FOR NAILS MUST BE AT LEAST 150mm DIAMETER AND PREPARED AS PER TFSW R64 U.N.O.									
20	87. THE GABION FILL MATERIAL SHALL BE IN ACCORDANCE WITH AS 2758.4 - 2000. THE MINIMUM ROCK SIZE SHALL BE 100mm AND THE MAXIMUM ROCK SIZE SHALL BE 250mm.													116. REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR DOWELS, ANCHOR BOLTS, FORMED HOLES AND RECESSES.										139. SOIL NAILS TO BE GRADE D500N OR EQUIVALENT HIGH STRENGTH DEFORMED BARS.									
21	88. BIDIM A34 NON-WOVEN GEOTEXTILE (OR APPROVED EQUIVALENT) TO BE PLACED AT ALL ROCKFILL-SOIL INTERFACE, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.													117. AUSTRALIAN STANDARD BAR SHAPES ARE IN ACCORDANCE WITH AS 1100.501.										140. SOIL NAILS MUST BE INSTALLED AS SHOWN IN THE SCHEDULES.									
22	89. ROCK FILL MATERIAL BEHIND THE GABION SHALL HAVE A MINIMUM SIZE OF 75mm AND MAXIMUM SIZE OF 200mm. ROCK FILL TYPE A MATERIAL SHALL BE IN ACCORDANCE WITH AS 2758.4-2000.													118. BAR SIZE IS THE NOMINAL DIAMETER IN MILLIMETRES, OR THE AS/NZS 4671 FABRIC NUMBER.										141. PROVIDE CENTRALISERS FOR NAILS AT INTERVAL NOT EXCEEDING 2000mm.									
23	<b>PILES AND FOUNDATIONS</b>													119. THE GRADE OF REINFORCEMENT, IF NOT STATED ON THE DRAWINGS SHALL BE D500N TO AS/NZS 4671.										142. STEEL MESH MUST BE GRADE D500N IN ACCORDANCE WITH AS4671.									
24	90. THE BEARING CAPACITY AT FOUNDING LEVEL SHALL BE VERIFIED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.													120. BAR BENDING AND HOOK DETAILS SHALL BE IN ACCORDANCE WITH SECTION 5.13 OF AS 5100.										143. BEARING PLATE MUST BE GRADE D250N IN ACCORDANCE WITH AS3678									
25	91. THE FOUNDATION MATERIAL SHALL BE INSPECTED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM THE EXPOSED FOUNDATION MATERIAL SATISFIES THE DESIGN ASSUMPTIONS. ANY MATERIAL ASSESSED TO BE UNSUITABLE (INCLUDING EXISTING FILL) SHALL BE REMOVED AND REPLACED.													121. LAPS NOT SHOWN ON THE DRAWINGS SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF BARS ARE LAPPED IN ANY CROSS SECTION.										144. SOIL NAIL FACING SHOTCRETE COVER TO REINFORCEMENT FROM AIR = 50mm									
26	92. CLEANLINESS OF PILE BASES SHALL BE CONFIRMED ON SITE BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO CASTING OF PILES.													122. REINFORCEMENT SYMBOLS COMMONLY USED ARE: N DENOTES GRADE 500 MPa N BARS TO AS 4671. R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS 4671. SL DENOTES SQUARE REINFORCING FABRIC TO AS 4671. RL DENOTES RECTANGULAR REINFORCING FABRIC TO AS 4671. LTM DENOTES TRENCH MESH WHICH SHALL COMPLY WITH AS 4671.										145. SOIL NAIL FACING SHOTCRETE COVER TO REINFORCEMENT FROM GROUND = 75mm									
27	93. ALL BORED PILE WORK SHALL BE IN ACCORDANCE WITH AS2159.													123. THE METHOD USED TO LABEL REINFORCEMENT ON THE DRAWINGS IS AS FOLLOWS: 										146. SOIL NAIL 40mm COVER IS ACCEPTABLE TO STRIP DRAIN. CONSTRUCTION METHODOLOGY TO ENSURE COVER TO STRIP DRAIN IS ACHIEVED. LOCAL ADDITIONAL EXCAVATION MAY BE REQUIRED.									
28	94. STEEL CASING (IF REQUIRED) AND REINFORCING CAGE SHALL BE SECURELY AND ACCURATELY HELD IN POSITION DURING CONCRETE PLACEMENT.																							147. STEEL MESH MUST BE LAPPED AT ONE LOCATION NEATLY BY THREE WIRES SO AS NOT TO CREATE SHADOW IN THE SHOTCRETE.									
29	95. BORED PILES SHALL BE CONCRETED ON THE DAY OF APPROVAL UNLESS PERMISSION IS GIVEN OTHERWISE.																							148. ALL STEEL MESH LAPS AND STARTER BARS SHALL BE CLEANED TO BARE MESH PRIOR TO FIXING THE ADJOINING STEEL OR SPRAYING THE NEXT PANEL.									
30	96. BORED PILE TOE LEVELS, WHERE SHOWN ARE ESTIMATES ONLY AND SHALL BE ESTABLISHED DURING SITE INSPECTION OF WORK IN PROGRESS.																							149. STEEL MESH LAPS MUST BE STAGGERED AND CUT SUCH THAT ONLY TWO SHEETS ARE LAPPED AT ONE LOCATION. LAPS ARE NOT ALLOWED OVER STRIP DRAINS.									
31	<b>CONCRETE</b>																							150. NAILS, BEARING PLATES, WASHERS AND ALL STEEL REINFORCEMENT MUST BE HOT DIP GALVANISED AND IN ACCORDANCE WITH AS4680 WITH A COATING WEIGHT OF 600G/M2.									
32	97. MINIMUM 28 DAY CHARACTERISTIC COMPRESSIVE STRENGTH OF ALL CONCRETE IS 40 MPa.																							151. NAIL NUTS MUST BE GRADE C COMPLYING WITH AS1112.3 AND PROPERTY CLASS 5 COMPLYING WITH AS4291.2 OR EQUIVALENT TO SUIT THE THREADED END OF SOIL NAIL.									
33	98. COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 50MM UNLESS NOTED OTHERWISE.																																

CONSULTANT PROJECT

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FULL SIZE ON ORIGINAL

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PLOT DATE 22-Feb-2023 4:11:48 PM	REVISIONS					THIS DRAWING IS THE PROPERTY OF SLR CONSULTING AUSTRALIA AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE CONSENT OF THE COMPANY.	DRAWN:	DATE:	 <p>LEVEL 1, THE CENTRAL BUILDING INNOVATION CAMPUS, SQUIRES WAY NORTH WOLLONGONG NSW 2500 AUSTRALIA T: +61 2 4249 1004 F: +61 2 4249 1000 www.slrc consulting.com</p>		CLIENT: SHOALHAVEN CITY COUNCIL						
							DESIGN:	DATE:			PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES						
							MB/DT	19.10.2022									
							THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW				DRG. CHECK:	DATE:	DRAWING TITLE: GENERAL NOTES SHEET 2				
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						DT	25.10.2022										



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	<b>GROUT REQUIREMENTS</b>							<b>SAFETY BARRIERS</b>							D. INSPECTION & APPROVAL OF STEEL SURFACES PRIOR TO PAINTING AND PROTECTIVE COATINGS.										
1	152. GROUTS MUST HAVE HIGH BLEED RESISTANCE, LOW SHRINKAGE AND HIGH FLUIDITY. DO NOT USE ADDITIVES OR ADMIXTURES WITHOUT THE APPROVAL OF THE PRINCIPAL.							177. RAIL AND RAIL STIFFENING PIECES ARE FROM 2.7 OR 3.5 BMT GRADE HA350 STEEL TO AS 1594 AND HOT DIP GALVANISED TO AS 4680 AFTER FABRICATION. FLAME CUTTING TO RAIL IS NOT PERMITTED. RAIL TO BE STAMPED 350/2.7 BMT (OR SIMILAR).							E. REVIEW & RELEASE OF METHODOLOGY FOR INSTALLATION AND ERECTION.										
2	153. MINIMUM COMPRESSIVE STRENGTH OF GROUT MUST BE 40MPA AT 28 DAYS.							178. RAIL 2.7BMT CAN BE SUPPLIED CURVED TO A MINIMUM RADIUS OF 5000. RAIL 3.5BMT CAN BE SUPPLIED CURVED TO A MINIMUM RADIUS OF 6000.							F. INSPECTION OF ERECTED STEEL WORK PRIOR TO ANY COVERINGS.										
2	154. GROUT FLUIDITY, BLEED AND COMPRESSIVE STRENGTH TESTING TO BE IN ACCORDANCE WITH TFNSW R64 CLAUSE 3.4.3							179. POSTS AND BLOCKOUT PIECES ARE FROM 4.3 BMT PLATE GRADE HA300 STEEL TO AS 1594 AND HOT DIP GALVANISED TO AS 4680 AFTER FABRICATION.							194. SOIL NAILS AND SHOTCRETE FACING										
3	<b>SOIL NAIL TESTING PROCEDURE</b>							180. BMT = BASE METAL THICKNESS.							A. REVIEW & RELEASE OF MATERIAL CERTIFICATES (TFNSW R64 CL. 2.1).										
3	155. NAIL TESTING TO BE CONDUCTED IN ACCORDANCE WITH TFNSW R64.							181. STEEL BASE PLATE AND BOTTOM PLATE ARE TO AS 3678, GRADE HD250. POSTS TO BE WELDED TO BASE PLATE. POSTS AND PLATES HOT DIP GALVANISED TO AS 4680 AFTER FABRICATION							B. REVIEW & RELEASE OF GROUT AND SHOTCRETE MIX, INCLUDING TEST RESULTS (TFNSW R64 CL. 2.2.7 & TFNSW R68 CL. 3.8.1).										
4	156. CONTRACTOR TO CONFIGURE TEST NAILS (INCLUDING NAIL DIAMETER AND BEARING PLATE) TO ENSURE 200% OF THE WORKING BOND STRESS CAN BE ACHIEVED PRIOR TO 80% OF THE BAR YIELD LOAD.							182. HEXAGON BOLTS TO AS 1111 (GRADE 4.6). HEXAGON NUTS TO AS 1112 (GRADE 5). NUTS SHALL BE TAPPED TO SUIT GALVANISED THREADS. BLACK STEEL WASHERS, LARGE SERIES TO AS 1237. BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH THE REQUIREMENTS OF AS 1214.							C. REVIEW & RELEASE OF CONSTRUCTION METHOD STATEMENT (TFNSW R64 3.1).										
4	157. SUITABILITY TESTING ARE TO BE COMPLETED PRIOR TO INSTALLATION OF PRODUCTION NAILS.							183. NUTS SHALL BE SNUG TIGHT TO AS 4100.							D. INSPECTION & APPROVAL OF EXTENT OF WORKS AND SET-OUT OF NAIL LOCATIONS.										
4	158. A TOTAL OF 3% OF PERMANENT NAILS SHALL BE SUBJECTED TO ACCEPTANCE TESTS .							184. TERMINAL CONNECTORS ARE FROM 2.7 BMT GRADE HA350 STEEL TO AS 1594 AND HOT DIP GALVANISED TO AS 4680 AFTER FABRICATION.							E. WITNESS OF INSTALLATION OF PRODUCTION NAILS (TFNSW R64 CL. 3.4).										
5	159. LOCATIONS OF THE SUITABILITY AND ACCEPTANCE TEST SOIL NAILS TO BE CONFIRMED ON SITE.							185. DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE NOMINATED. TRAFFIC BARRIERS SHOULD SATISFY R132.							F. WITNESS OF EXPOSED SLOPE FACE AFTER CLEARING OF EACH SECTION (TFNSW R64 CL. 3.3).										
5	<b>SHOTCRETE</b>							<b>HOLD POINTS, WITNESS POINTS AND APPROVALS</b>							G. INSPECTION & APPROVAL OF GROUTING OF NAILS (R64 CL. 3.4.3.4).										
6	160. SHOTCRETE TO BE IN ACCORDANCE WITH TFNSW R68.							186. A SUITABLY QUALIFIED GEOETCHNICAL ENGINEER TO BE PRESENT ON SITE DURING CONSTRUCTION. GROUND CONDITIONS AND DESIGN ASSUMPTIONS SHALL BE VALIDATED DURING CONSTRUCTION.							H. REVIEW & APPROVAL OF SUITABILITY TEST RECORD (TFNSW R64 CL. 5.2.1).										
6	161. MINIMUM COMPRESSIVE STRENGTH OF SHOTCRETE MUST BE 40MPA AT 28 DAYS. USE SHRINKAGE LIMITED CEMENT IN SHOTCRETE IN ACCORDANCE WITH SPECIFICATION TFNSW R68 AND TFNSW QA3211.							187. THE CONTRACTOR SHALL PROVIDE TO THE PRINCIPAL'S REPRESENTATIVE A MINIMUM OF 2 WORKING DAYS' NOTICE FOR ANY INSPECTION AND 7 DAYS FOR ANY REVIEWS OF SHOP DRAWINGS AND ALTERNATIVE DESIGNS.							I. REVIEW & APPROVAL OF TEST RESULTS FOR ACCEPTANCE TEST NAILS (TFNSW R64 CL. 5.2.2).										
7	162. SHOTCRETE MIX DESIGN TO EXPOSURE CLASSIFICATION B:2 IN ACCORDANCE WITH TFNSW R64 CLAUSE 2.3.3.							188. THE GENERAL AND PROJECT START UP MANDATORY HOLD POINTS ARE:							J. INSPECTION & APPROVAL OF SURFACE PREPARATION FOR MESH PLACEMENT AND SHOTCRETING TFNSW R64 CL. 6.2 & TFNSW R68 CL. 4.2).										
7	163. SHOTCRETE QUALITY TESTING IN ACCORDANCE WITH TFNSW R68 CLAUSE 8.5 AND ANNEXURE R68/L.							A. REVIEW & RELEASE OF WHS PLAN, INCLUDING SWMS.							K. WITNESS OF SHOTCRETE MESH PLACEMENT AND WALL DRAINAGE (R68 CL. 5.5 AND CL. 5.6).										
7	164. APPROPRIATE THICKNESS GAUGES SHALL BE FIXED TO THE STEELWORKS TO ALLOW PROOF OF ADEQUATE COVER.							B. REVIEW & RELEASE OF CONSTRUCTION STAGING PLANS.							L. WITNESS OF SHOTCRETE PLACEMENT (TFNSW R68 CL. 7).										
8	<b>FIBRECRETE</b>							C. REVIEW & RELEASE OF CONSTRUCTION PROGRAM.							M. REVIEW & APPROVAL OF SHOTCRETE TEST RESULTS (R68 CL. 8.5).										
8	165. FIBRECRETE TO BE IN ACCORDANCE WITH TFNSW B82.							D. REVIEW & RELEASE OF CONSTRUCTION ENVIRONMENTAL SITE MANAGEMENT PLAN (CEMP).																	
9	166. MINIMUM COMPRESSIVE STRENGTH OF FIBRECRETE MUST BE 40MPA AT 28 DAYS. USE SHRINKAGE LIMITED CEMENT IN FIBRECRETE IN ACCORDANCE WITH SPECIFICATION TFNSW B82 AND TFNSW QA3211.							E. REVIEW & RELEASE OF PROJECT QUALITY PLAN (INCLUDING ITP'S)																	
9	167. FIBRECRETE MIX DESIGN TO EXPOSURE CLASSIFICATION B:2 IN ACCORDANCE WITH TFNSW R64 CLAUSE 2.3.3.							189. DEMOLITION (AS REQUIRED)																	
9	168. SHOTCRETE QUALITY TESTING IN ACCORDANCE WITH TFNSW B82.							A. REVIEW & RELEASE OF METHODOLOGY FOR DEMOLITION.																	
9	169. APPROPRIATE THICKNESS GAUGES SHALL BE FIXED TO THE STEELWORKS TO ALLOW PROOF OF ADEQUATE COVER.							B. WITNESS PRIOR TO COMMENCEMENT OF DEMOLITION.																	
10	<b>DRAINAGE (SOIL NAILING)</b>							C. PROVISION OF ANY LICENSES AND AUTHORITY APPROVALS.																	
10	170. 150mm HDPE STRIP FILTER DRAIN (FLEXIBLE CUSPATED DRAINS) TO BE IN ACCORDANCE WITH TFNSW QA3557.							190. SURVEY AND SET OUT																	
11	171. BOTTOM OF THE STRIP DRAINS DAYLIGHT AT BOTTOM OF SHOTCRETE WALL FACING.							191. EXCAVATION AND EARTHWORKS																	
11	172. HDPE STRIP DRAIN TO BE CORRUGATED CORE PERFORATED AND MUST BE INSTALLED DIAGONALLY ACROSS SLOPE FACE AT 45°.							A. REVIEW & RELEASE OF METHODOLOGY FOR EXCAVATION, SHORING AND FILLING.																	
12	173. STRIP DRAINS MUST BE CHASED INTO SOIL SLOPE TO ALLOW FULL SHOTCRETE THICKNESS AT ALL LOCATIONS.							B. REVIEW & RELEASE OF IMPORTED FILL MATERIAL.																	
12	174. WHERE CONNECTION IS TO BE MADE TO AN EXISTING DRAINAGE STRUCTURE OR OPEN DRAIN THE POSITION AND LEVEL OF EXISTING DRAINAGE STRUCTURE SHALL BE CONFIRMED PRIOR TO CONSTRUCTION. BLEND CONNECTIONS SMOOTHLY TO ENSURE PROPER DRAINAGE AT ALL POINTS.							i. PROVIDE EVIDENCE OF SERVICE LOCATION, PRIOR TO ANY EXCAVATION, AND COMPLY TO THE PRINCIPAL'S EXCAVATION PERMIT REQUIREMENTS.																	
13	<b>SPECIFICATIONS (SOIL NAILING)</b>							ii. DENSITY TEST RESULTS OF FILLED AND COMPACTED MATERIAL.																	
13	175. ALL SOIL NAILING MATERIALS AND WORK IS TO COMPLY WITH THE FOLLOWING TFNSW PROJECT SPECIFIC SPECIFICATIONS:							C. WITNESS BEARING CAPACITY OF EXCAVATIONS PRIOR TO POURING OF ANY FOUNDATIONS BY GEOTECHNICAL ENGINEER.																	
14	A. R64 SOIL NAILING							192. CONCRETE																	
14	B. R68 SHOTCRETE WITHOUT FIBRES							A. REVIEW & RELEASE OF CONCRETE MIX DESIGN. THIS INCLUDES ASSESSMENT OF SLUMP TEST RESULTS ON CONCRETE DELIVERY.																	
15	C. B82 SHOTCRETE WITH FIBRES							B. REVIEW & RELEASE OF CONCRETE SURFACES (AND REINFORCEMENT CONDITION) FOLLOWING DEMOLITION, SCABBLING, CUTTING AND SAWING.																	
15	D. R178 REVEGETATION							C. WITNESS OF COMPLETED REINFORCEMENT FIXED IN PLACE.																	
15	176. ALL SOIL NAILING MATERIALS AND WORK IS TO COMPLY WITH THE FOLLOWING TFNSW QA STANDARD SPECIFICATIONS:							D. WITNESS OF COMPLETED FORMWORK.																	
16	A. R23 PLASTIC FLEXIBLE PIPES							E. REVIEW & APPROVAL OF CONCRETE TEST RESULTS.																	
16	B. R53 CONCRETE FOR GENERAL USE MORTAR AND GROUT							F. WITNESS PRIOR TO POURING CONCRETE.																	
17	C. R55 ROCK FILLED GABIONS AND MATTRESSES							193. STRUCTURAL STEEL AND OTHER METALS																	
17	D. R63 GEOTEXTILES							A. SHOP DETAILS FOR REVIEW AND COMMENT.																	
17	E. R71 UNBOUND AND MODIFIED PAVEMENT COURSE							B. INSPECTION & APPROVAL OF FABRICATED ELEMENTS PRIOR TO DELIVERY.																	
18	F. 3557 FLEXIBLE STRIP FILTER DRAINS							C. WELD TESTING RESULTS, PRIOR TO DELIVERY.																	

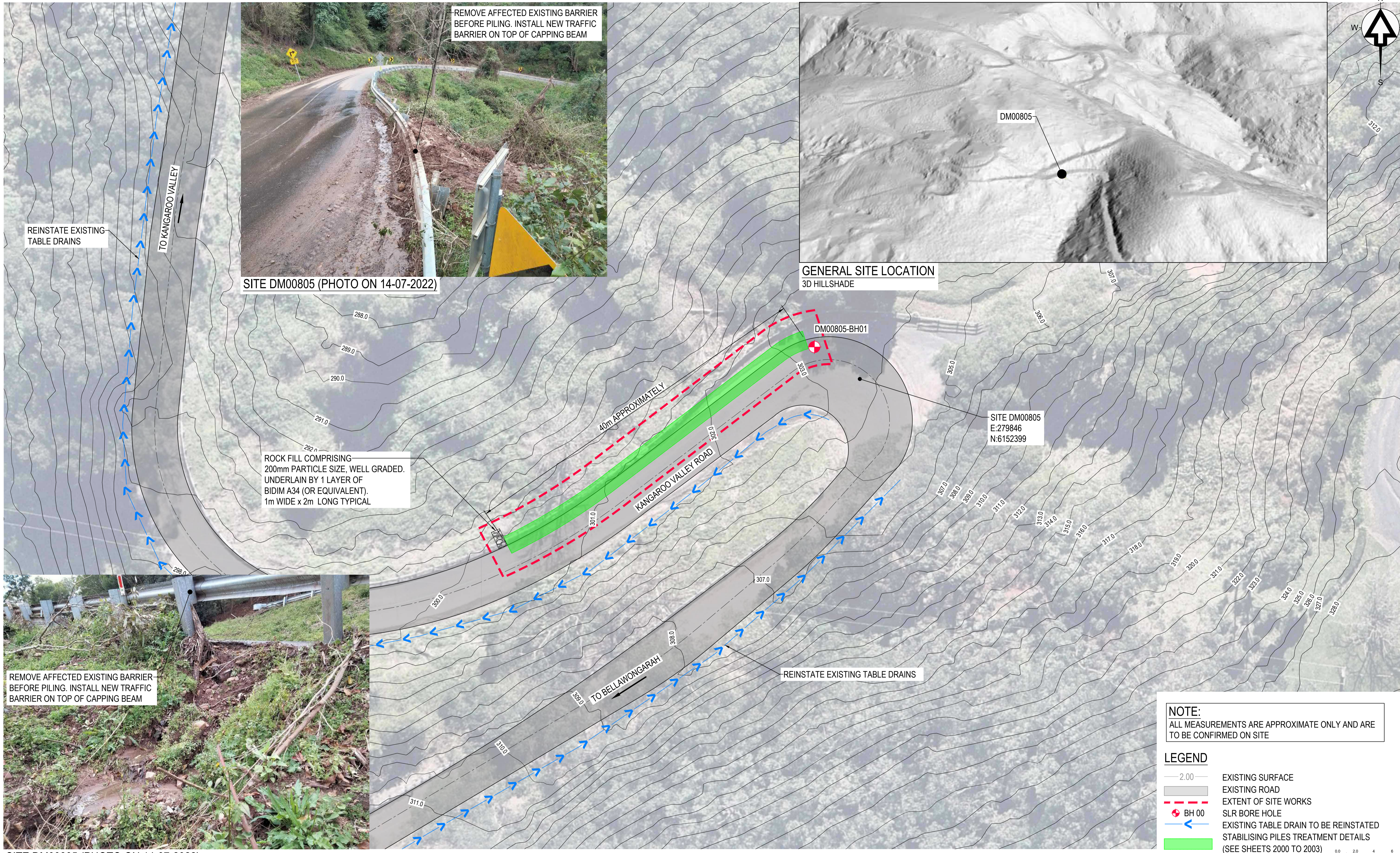
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FULL SIZE ON ORIGINAL

0 10 20 40 60 80 100 A1

PLOT DATE 22-Feb-2023 4:11:58 PM	REVISIONS		THIS DRAWING IS THE PROPERTY OF SLR CONSULTING AUSTRALIA AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE CONSENT OF THE COMPANY.	DRAWN:	DATE:	 LEVEL 1, THE CENTRAL BUILDING INNOVATION CAMPUS, SQUIRES WAY NORTH WOLLONGONG NSW 2500 AUSTRALIA T: +61 2 4249 1004 F: +61 2 4249 1000 www.slrcconsulting.com		CLIENT: SHOALHAVEN CITY COUNCIL					
				DESIGN:	DATE:			PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES					
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				Responsible Principal Signature	Date			DRG. CHECK:	DATE:				
	1	24.02.2023		ISSUED FOR CONSTRUCTION	DT			MB	24.10.2022				
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SITE DM00805 (PHOTO ON 14-07-2022)

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**Shoalhaven City Council**

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CLIENT: SHOALHAVEN CITY COUNCIL

PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES

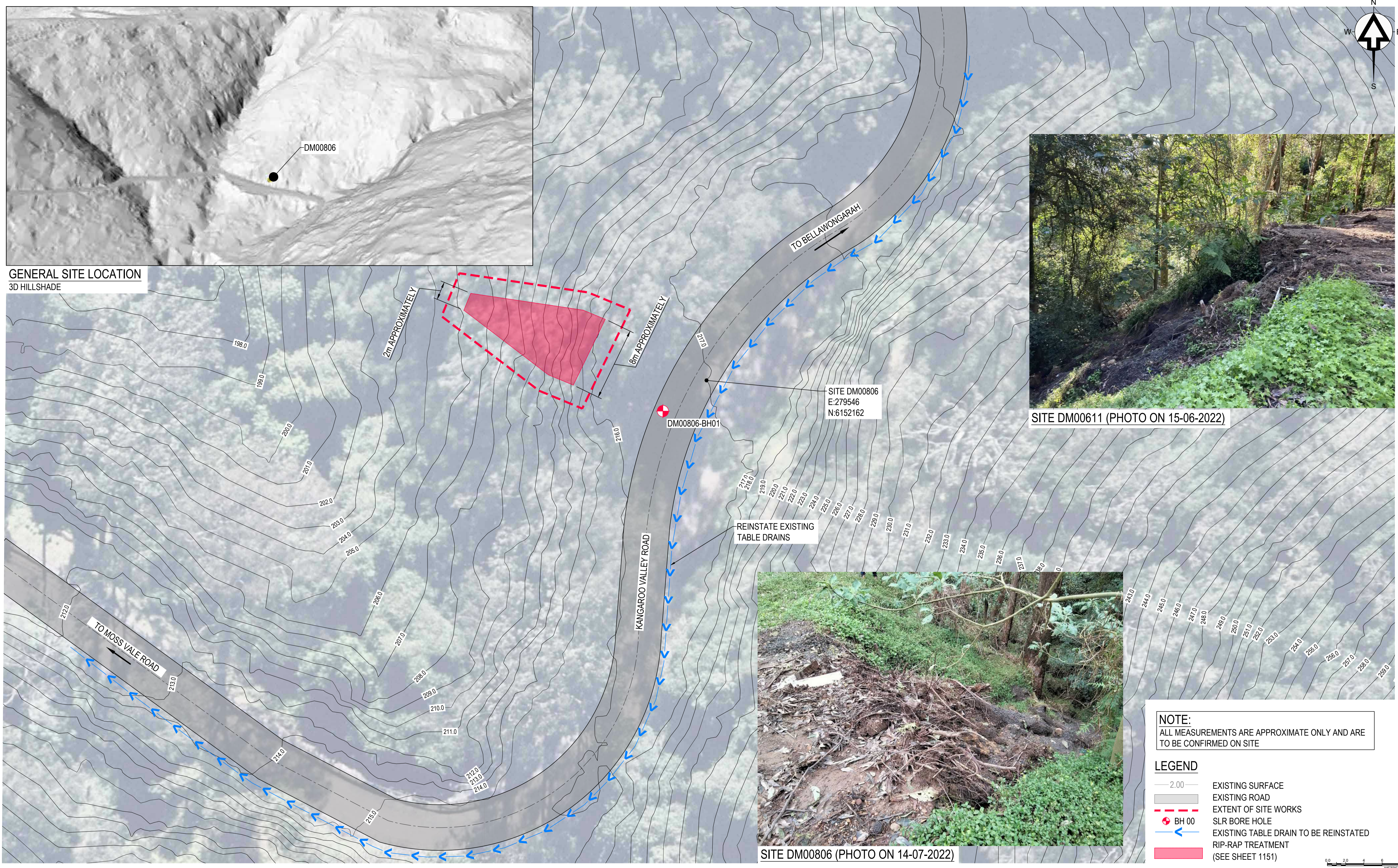
DRAWING TITLE: **SITE DM00805 GENERAL ARRANGEMENT LAYOUT PLAN**

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SCALE: 1:200

DRAWING NUMBER: 660.30255-G-1140

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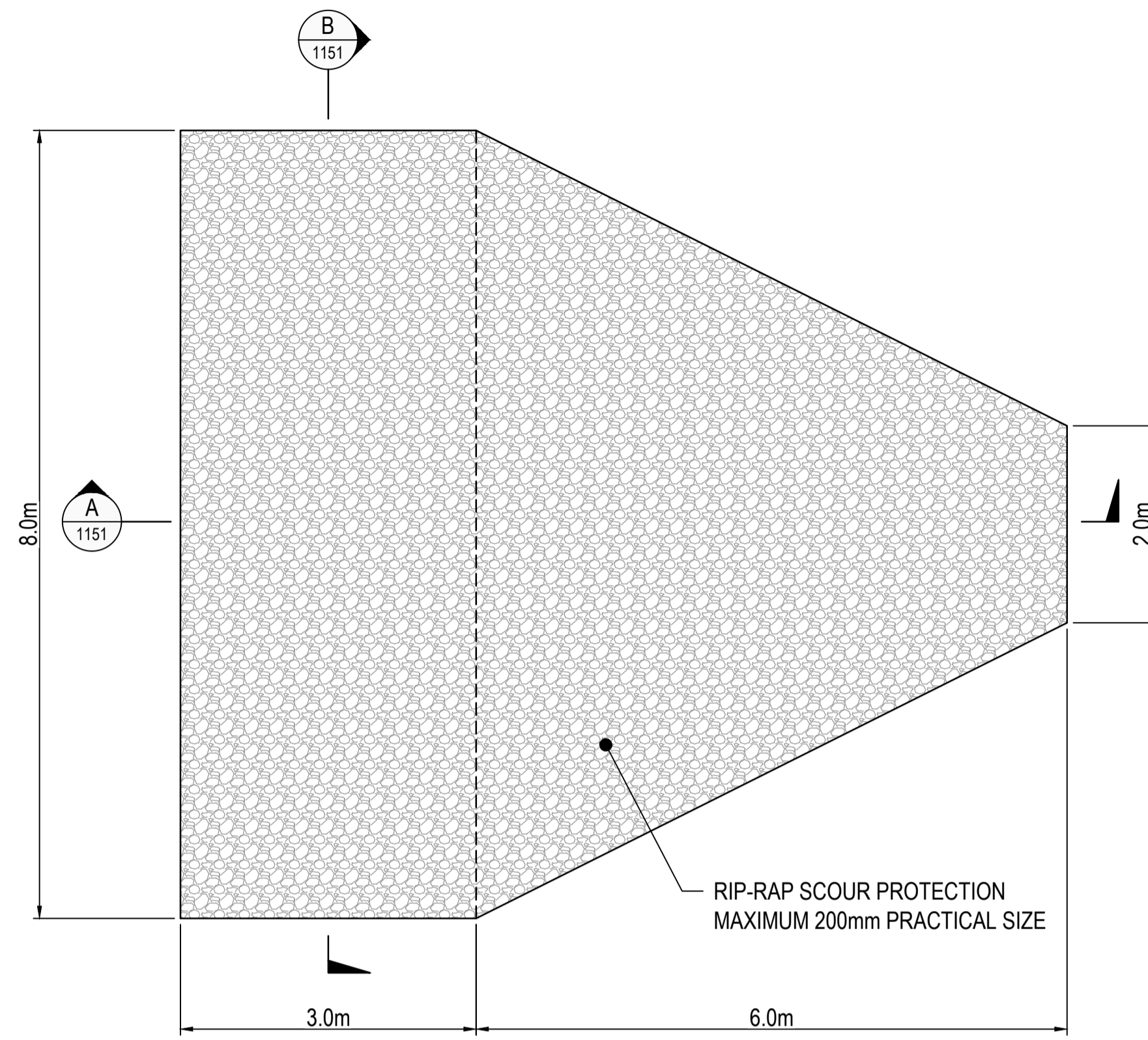
CLIENT: SHOALHAVEN CITY COUNCIL

PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES

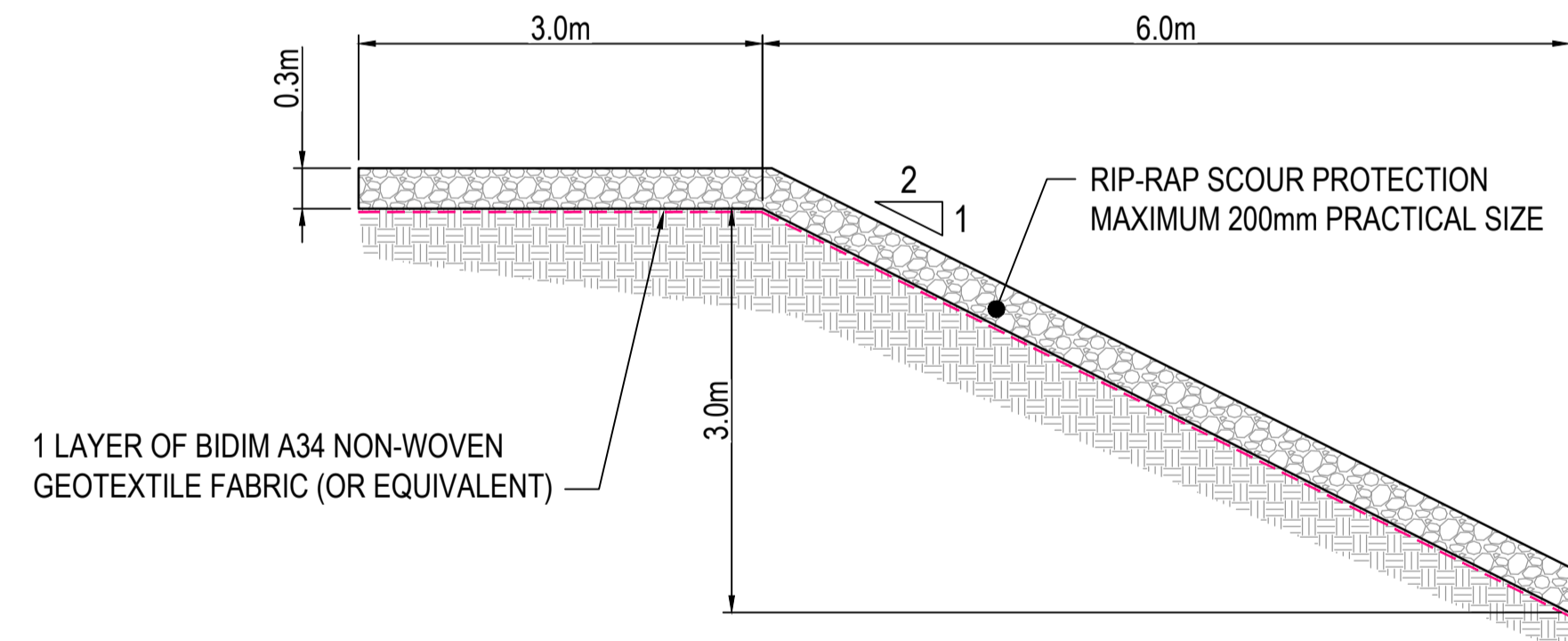
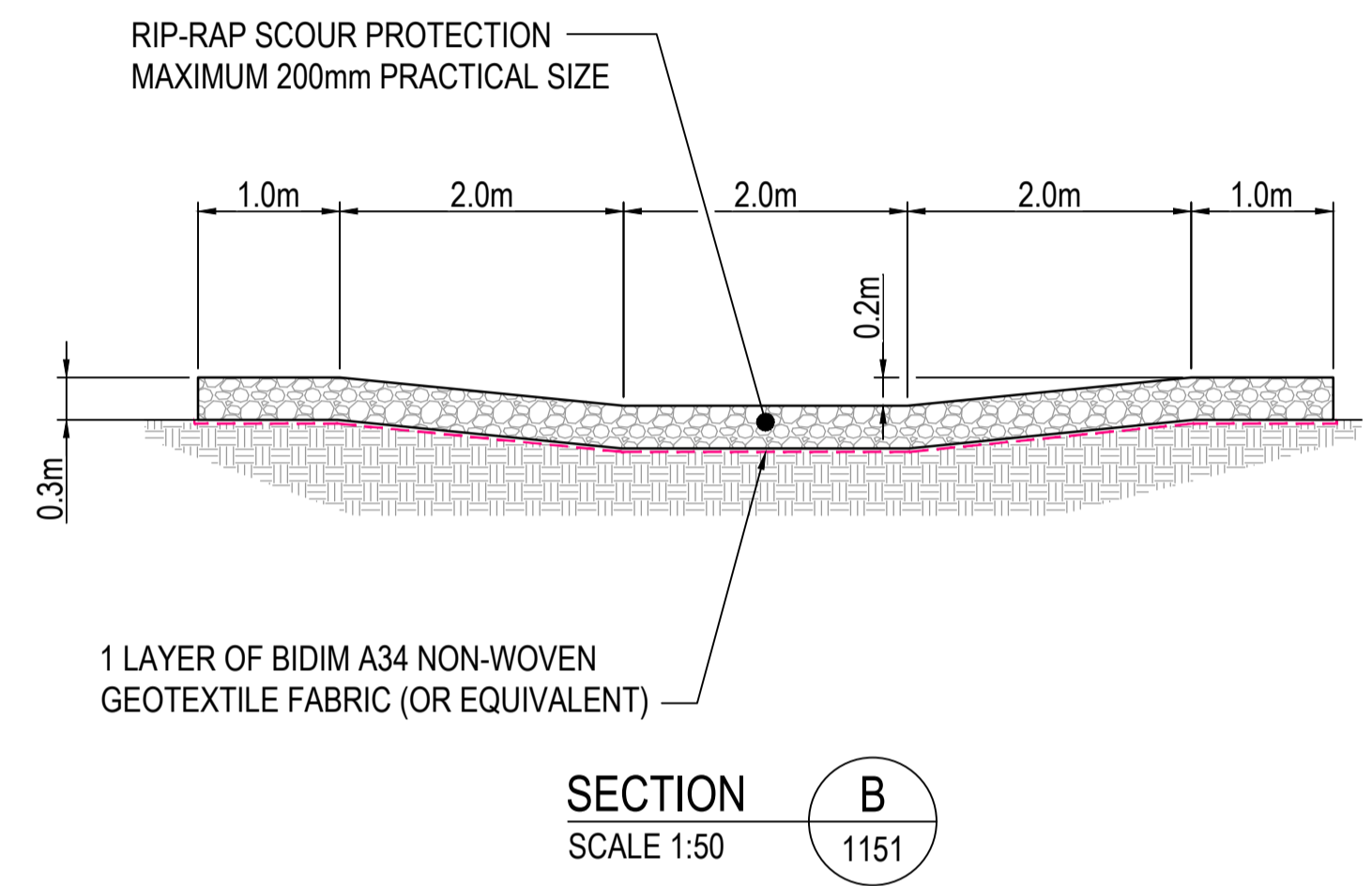
DRAWING TITLE: **SITE DM00806**  
**GENERAL ARRANGEMENT LAYOUT PLAN**

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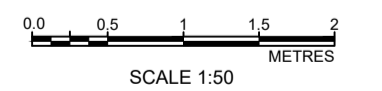
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**RIP-RAP SCOUR PROTECTION DETAIL**  
SCALE 1:50



**SECTION A**  
SCALE 1:50



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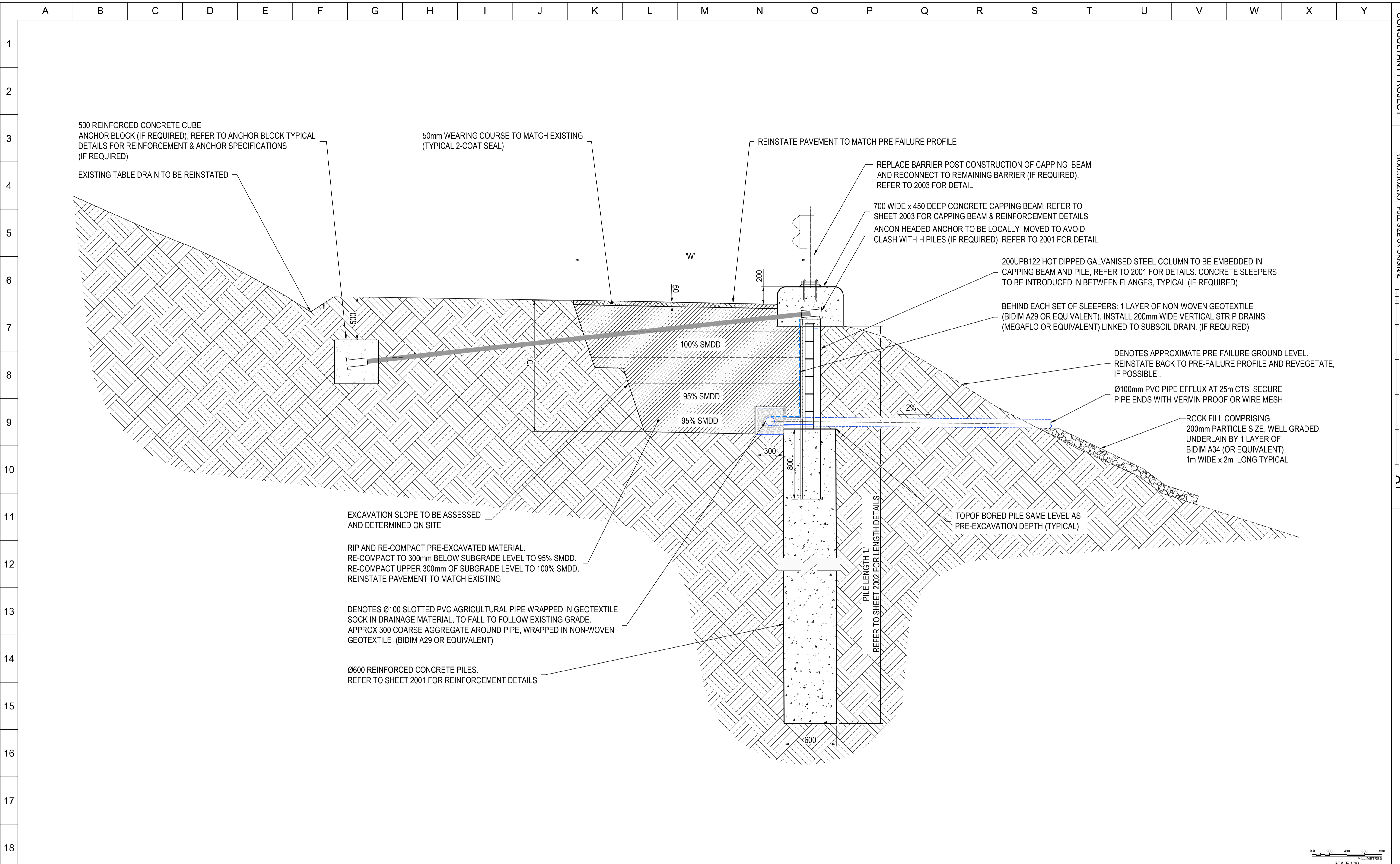
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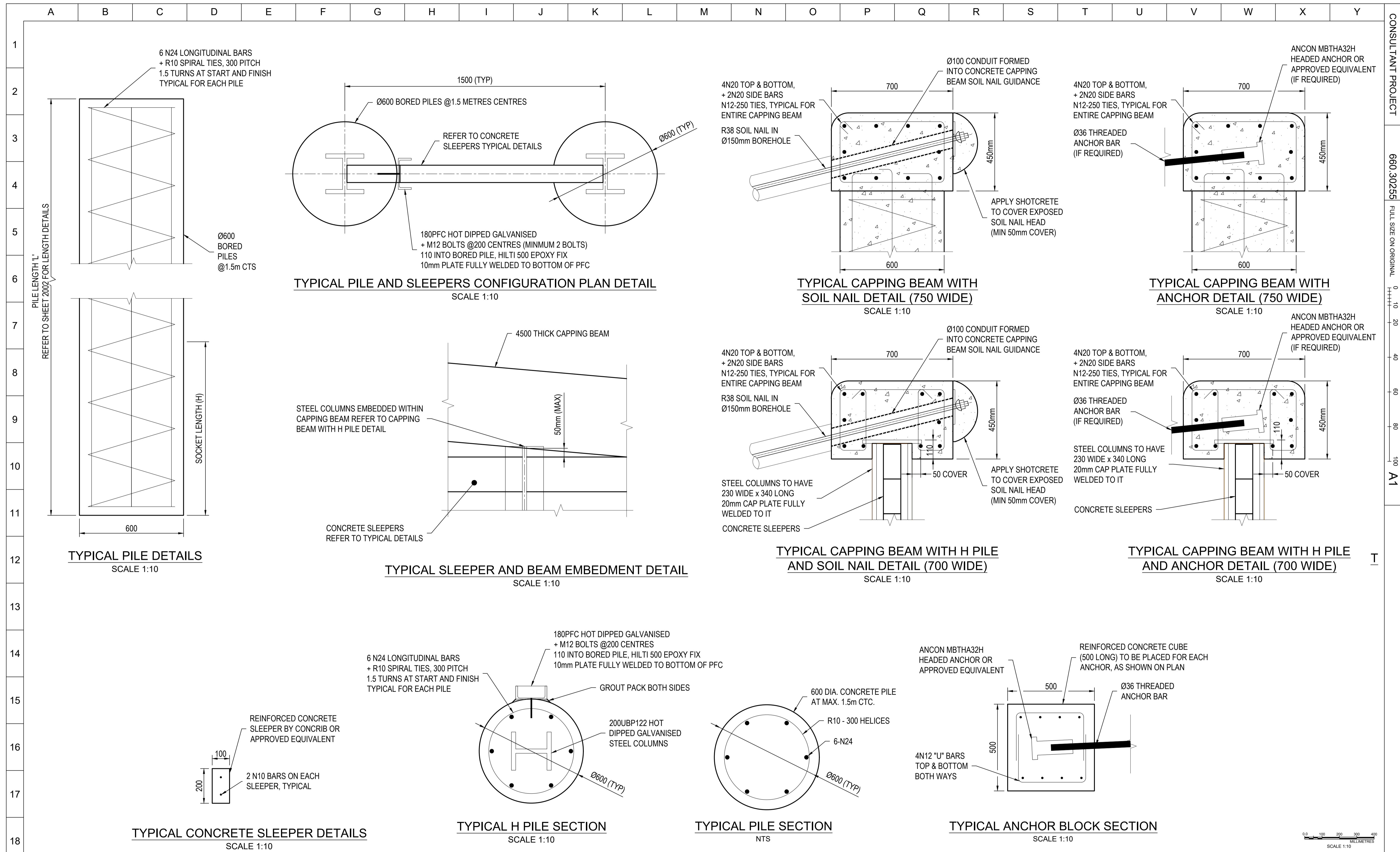
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PROJECT:	LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES				
DRAWING TITLE:	SITE DM00806 DETAIL SHEET				
SCALE:	1:50	DRAWING NUMBER:	660.30255-G-1151	ISSUE:	1





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	Responsible Principal Signature	Date	DRG. CHECK: MB DATE: 24.10.2022	DRAWING TITLE: <b>TYPICAL DETAILS AND SPECIFICATIONS SHEET 1</b>		
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PROJECT: LANDSLIDE REMEDIATION DESIGN OF VARIOUS SITES

DRAWING TITLE: TYPICAL DETAILS AND SPECIFICATIONS SHEET 2

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SCALE: 1:10 DRAWING NUMBER: 660.30255-G-2001 ISSUE: 1

CONCRETE PILE SCHEDULE

RECORD NUMBER	LOCATION	ESTIMATED LENGTH OF TREATMENT (m)	PILE Ø (m)	PILE SPACING (m)	PILE LENGTH 'L' (m)	SOCKET LENGTH 'H' (m)	SLEEPERS REQUIRED	TIE-BACK /ANCHOR REQUIRED	TRAFFIC BARRIER REQUIRED	PRE-EXCAVATION WIDTH - W (m)	PRE-EXCAVATION DEPTH - D (m)
DM00865	Abernathys Rd	20	0.6	1.5	8	2.0m into RES/EW	Yes (10m)	No	No	0 to 3	0 to 2.5
DM00548	Bunkers Hill Rd	90	0.6	1.5	10	2.5m into MW	Yes (87m)	No	Yes	0 to 5.5	0 to 2.5
DM00549	Bunkers Hill Rd	40	0.6	1.5	5.7	1.0m into MW	Yes (37m)	Yes	Yes	0 to 2.5	0 to 1.5
DM00869	Bunkers Hill Rd	55 (20m existing piles to be anchored) (35m new piles to be constructed and anchored)	0.6	1.5	6	2.0m into HW/MW	Yes (re-use existing within damaged piles) No (outside of damaged piles)	Yes	No	0 to 2.5	0 to 1.5
DM00870	Bunkers Hill Rd	42	0.6	1.5	6	1.5m into MW	No	Yes	No	2.5	0.3
SH00288	Burrier Rd	110	0.6	1.5	6	2.5m into RES/EW	Yes (107m)	No	Yes	0 to 2.5	0 to 1.5
SH00292	Burrier Rd	100	0.6	1.5	8.5	3.5m into HW or 2m into MW	No	Yes	Yes	0	0
DM00555	Foremans Rd	35	0.6	1.5	9	2.0m into MW	Yes (32m)	No	No	0 to 5.0	0 to 2.5
DM00805	Kangaroo Valley Rd	40	0.6	1.5	4	1.0m into EW	No	No	Yes	0	0
DM00533	Mount Scanzi Rd	10	0.6	1.5	5	2.0m into RES/EW	No	No	No	1.5	0.3
DM00757	Mount Scanzi Rd	17	0.6	1.5	6	2.0m into RES/EW	No	No	No	1.5	0.3
DM00864	Mount Scanzi Rd	25	0.6	1.5	7	2.0m into EW	No	No	No	1.5	0.3
NH00013	Mount Scanzi Rd	23	0.6	1.5	6	2.0m into RES/EW	No	No	No	1.5	0.3
DM00583	Upper Kangaroo River Rd	65	0.6	1.5	9	1.0m into MW	No	No	No	1.5	0.3
DM00828*	Upper Kangaroo River Rd	25	0.6	1.5	9	1.0m into MW/SW	Yes (22m)	No	No	0	0
DM00513	Wattamolla Rd	86	0.6	1.5	11	1.0m into MW/SW	Yes (77m)	No	No	0 to 8	0.6 to 1.2
SH00276	Wogamia Rd	60	0.6	1.5	8	1.0m into HW/MW	No	No	Yes	1.5	0.3
AQ00001	Upper Kangaroo River Rd	35	0.6	1.5	7	2.0m into EW/HW	No	No	No	0	0
DM00523	Suffolk Rd	40	0.6	1.5	7	1.0m into MW	No	No	No	0	0
DM00706	Browns Mountain Rd	25	0.6	1.8	2.5	2.5m into COL	No	No	No	1.3	0.5
DM00882	Foremans Rd	20	0.6	2	2.5	2.5 into COL	No	No	No	1.3	0.5
DM00282	Burrier Rd	700	0.6	1.5	8 to 10m	2.5m into HW or better	Yes - Some sections do not require treatment	No	Yes	0 to 0.5	0 to 1.0
DM00890	Burrier Rd	20	0.6	1.5	7	2.5m into HW or better	Yes	No	Yes	0 to 0.5	0 to 1.0

NOTE: \* PILE CASING POSSIBLY REQUIRED ACROSS 10m SPAN (APPROX) FOR UPPER 2m OF PILE. TO BE CONFIRMED ON SITE.

**ABBREVIATIONS:**  
 RES = RESIDUAL  
 COL = COLLUVIUM  
 EW = EXTREMELY WEATHERED  
 HW = HIGHLY WEATHERED  
 MW = MODERATELY WEATHERED  
 SW = SLIGHTLY WEATHERED

PLOT DATE: 10-Mar-2023 10:02:26 AM

REVISIONS	DATE	DESCRIPTION	DT
2	10.03.2023	ISSUED FOR CONSTRUCTION	DT
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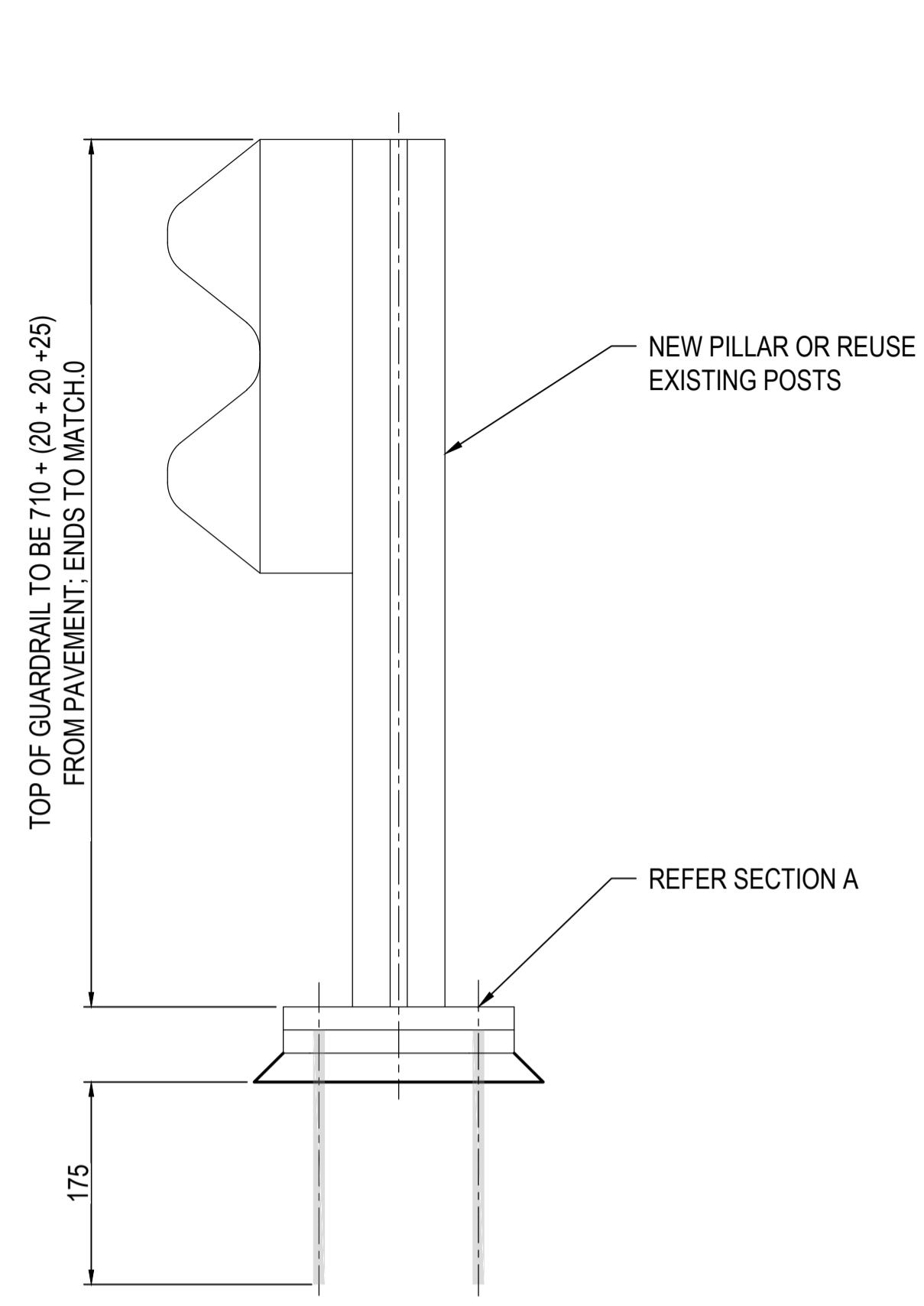
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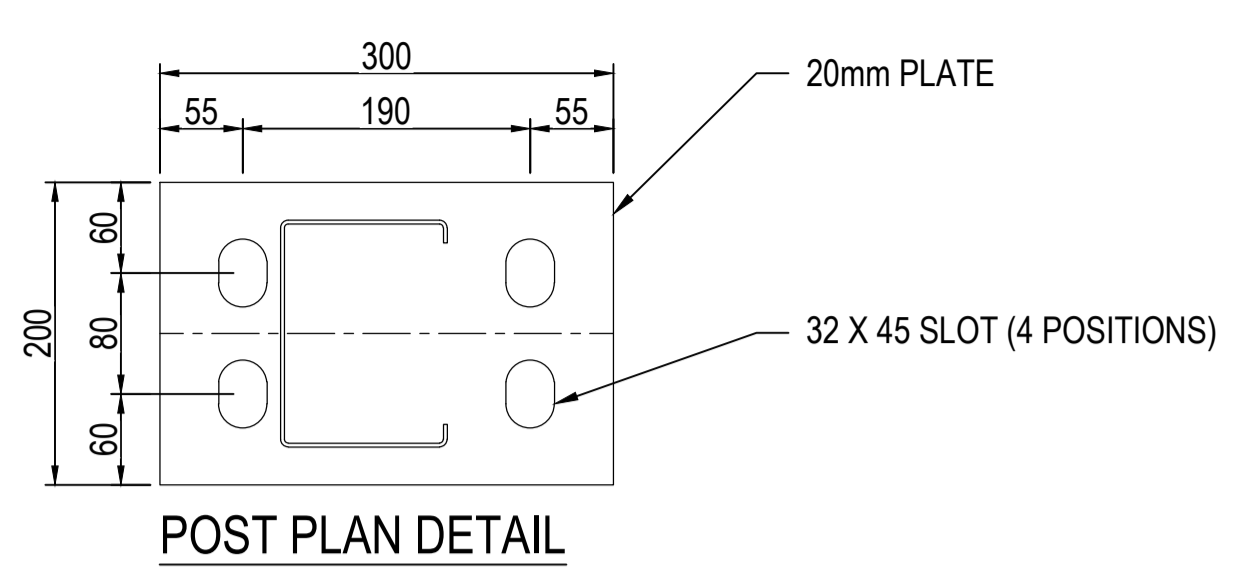


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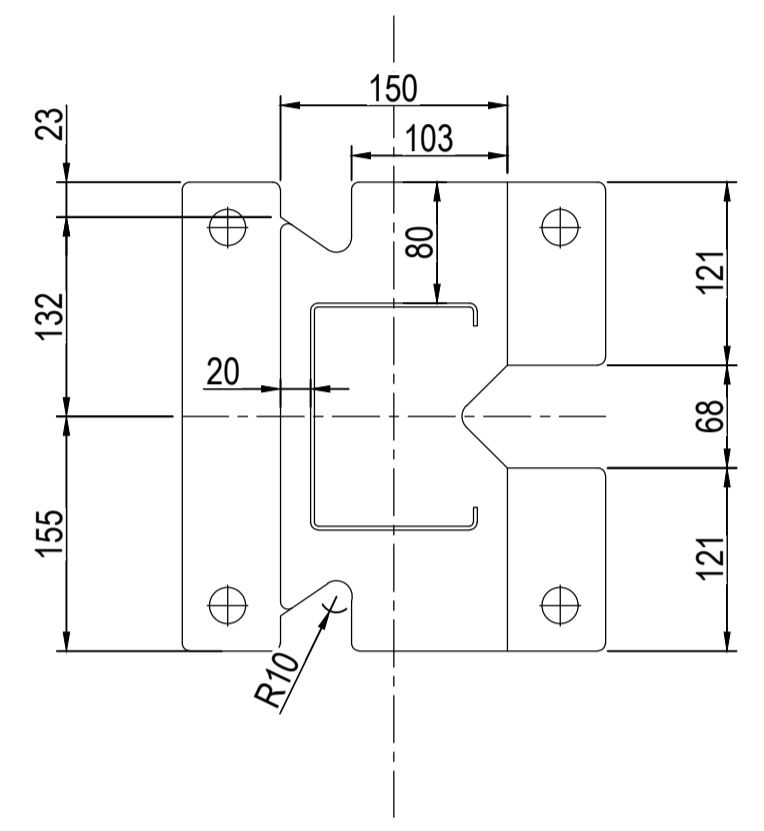
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DRAWING TITLE: TYPICAL DETAILS AND SPECIFICATIONS SHEET 3
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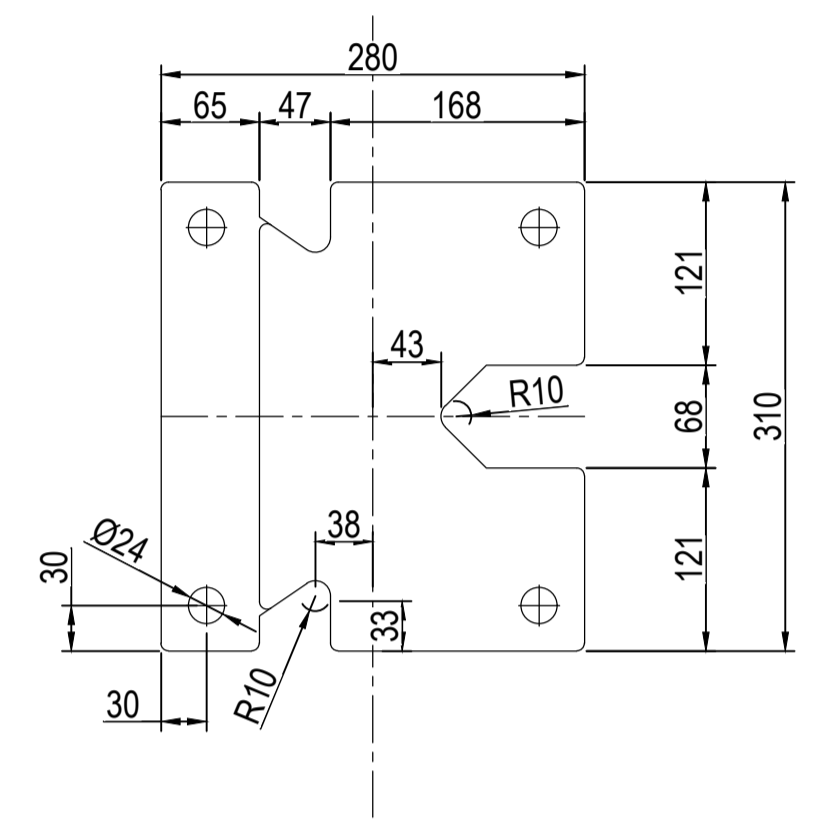
W-BEAM SECTIONAL DETAIL



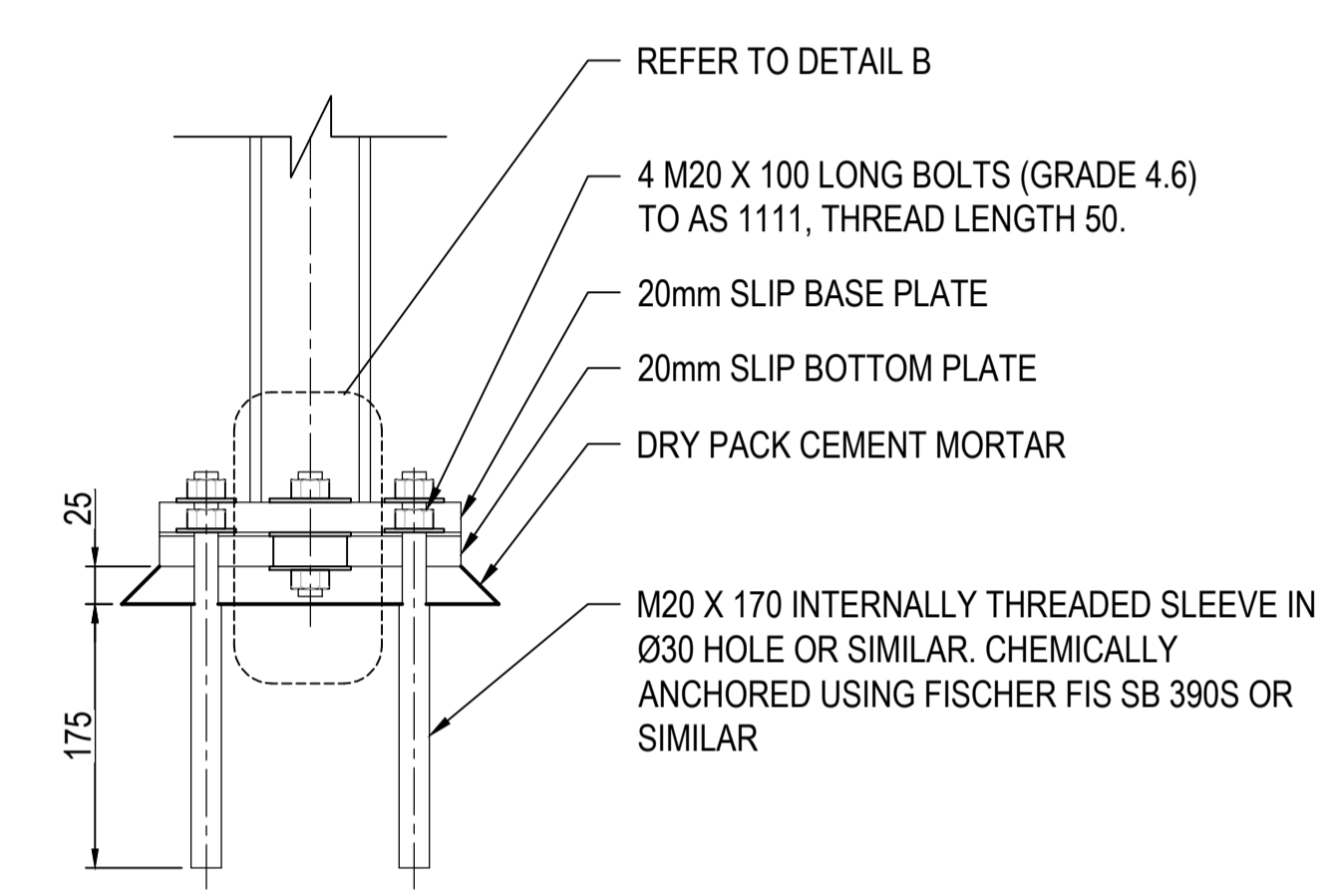
POST PLAN DETAIL



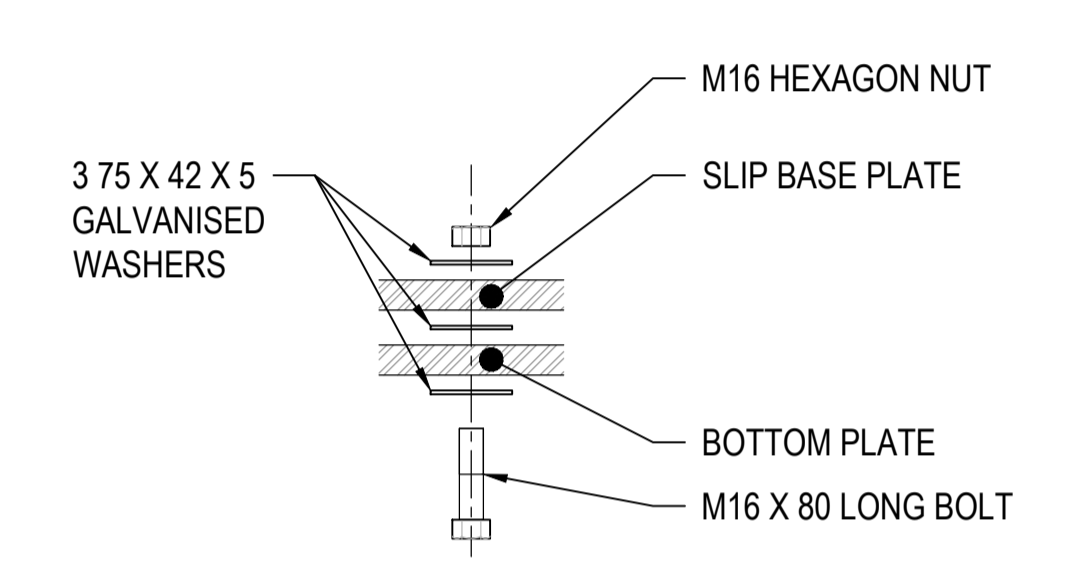
20mm SLIP BASE PLATE DETAIL



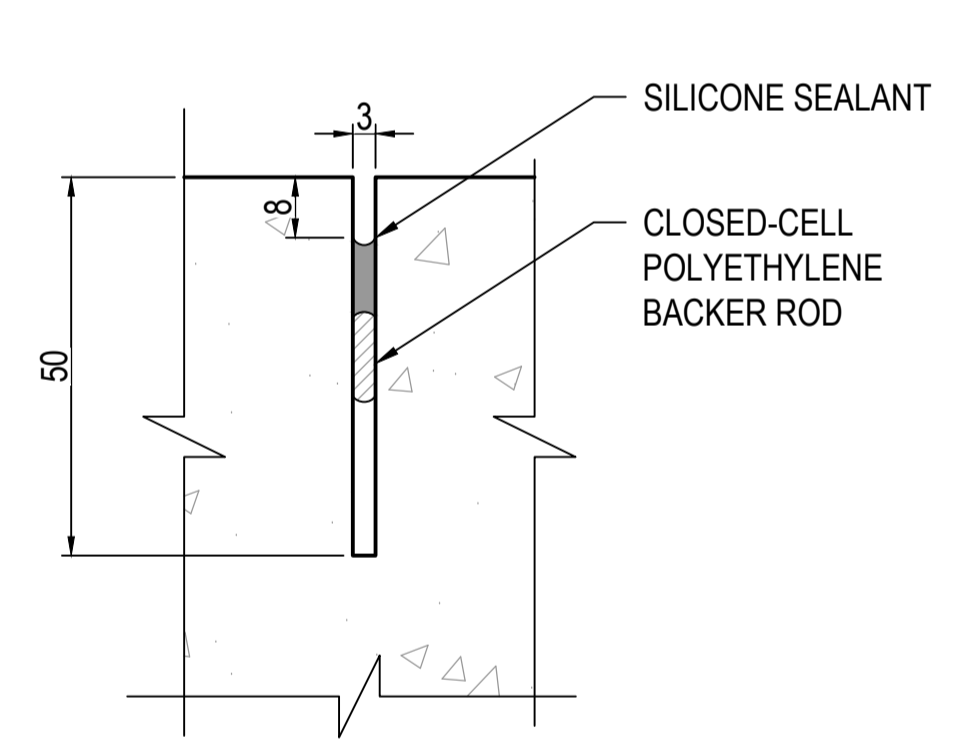
20mm BOTTOM PLATE DETAIL



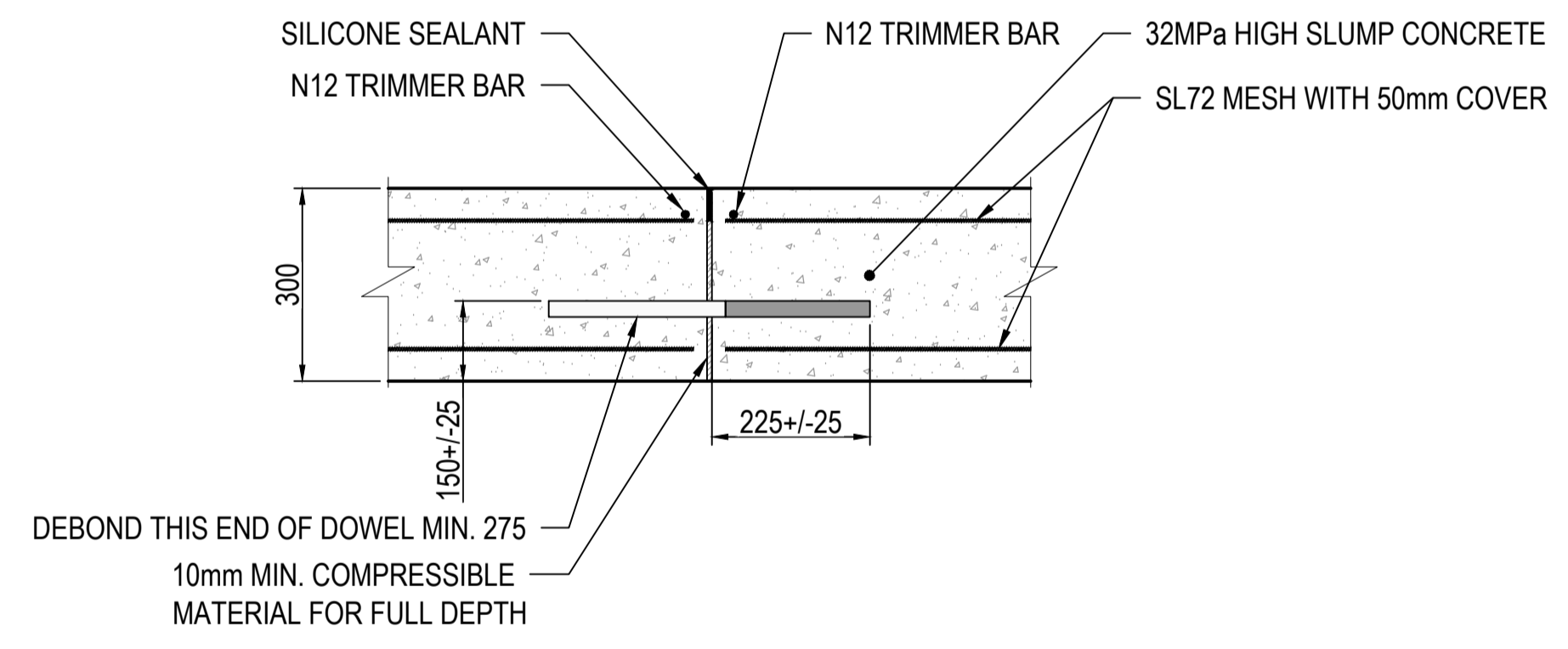
SECTION A N.T.S.



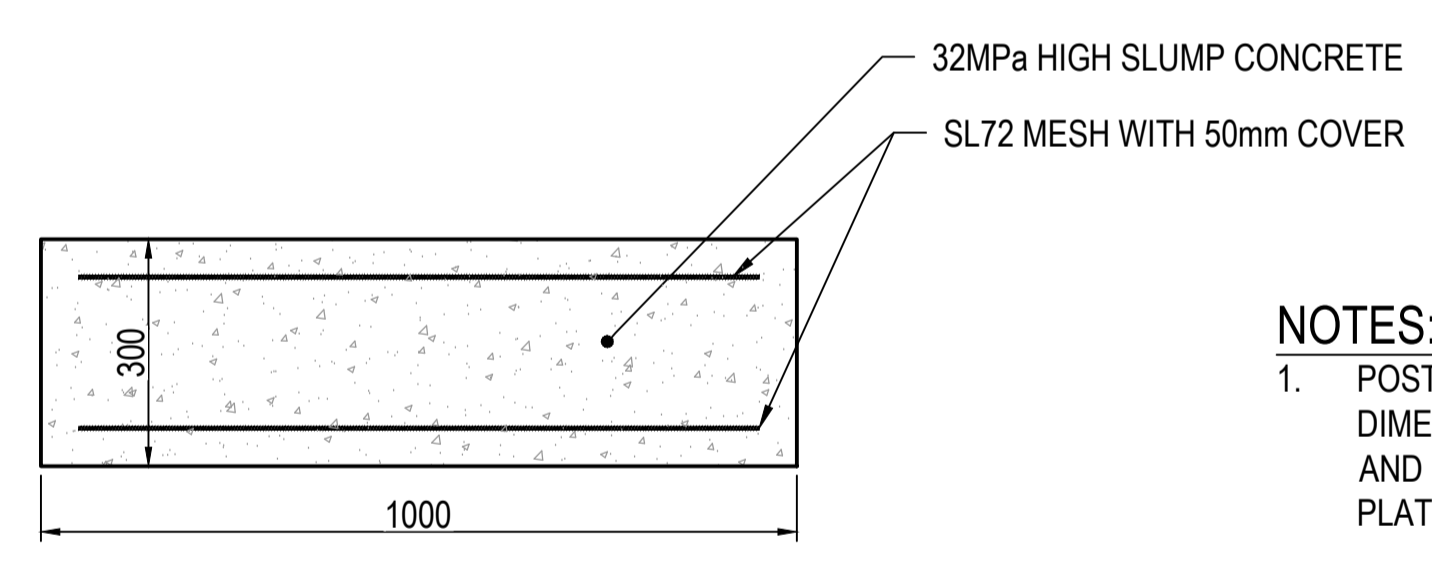
DETAIL B



SAWCUT CONTRACTION JOINT DETAIL

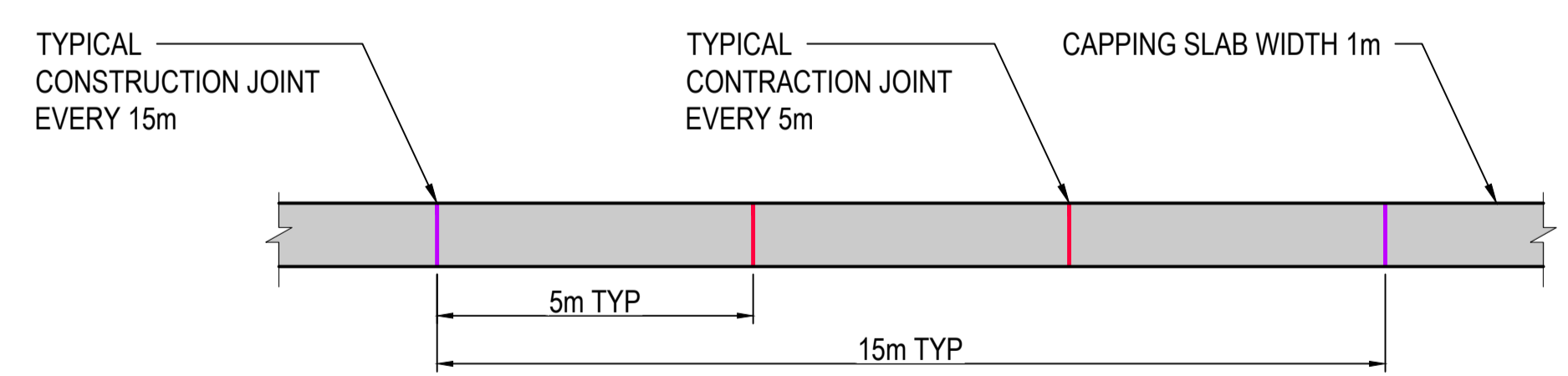


CONCRETE CAPPING SLAB CONSTRUCTION JOINT DETAIL



CONCRETE CAPPING SLAB DETAIL

- NOTES:**
- POSTS ARE FROM 4.3 BMT PLATE GRADE HA300 STEEL TO AS 1594. CROSS-SECTION DIMENSIONS FOR POSTS ARE SHOWN ON TFNSW DRAWING R0710-01. STEEL BASE PLATE AND BOTTOM PLATE ARE TO AS 3678, GRADE HA250. POSTS TO BE WELDED TO BASE PLATE. POSTS AND PLATES HOT DIP GALVANISED TO AS 4680 AFTER FABRICATION.
  - HEXAGON BOLTS TO AS 1111 (GRADE 4.6), HEXAGON NUTS TO AS 1112 (GRADE 5). NUTS SHALL BE TAPPED TO SUIT GALVANISED THREADS. BLACK STEEL WASHERS, LARGE SERIES TO AS 1237. BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH REQUIREMENTS OF AS 1214.
  - SLIP BASE PLATE NUTS TO BE TIGHTENED TO 25Nm. BOLTS ATTACHING THE BOTTOM PLATE SHALL BE SNUG TIGHT TO AS 4100.
  - DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE NOMINATED.



TYPICAL CONSTRUCTION JOINT FREQUENCY

**NOTE:**  
DETAILS SHOWN ON THIS PLAN ARE INSTRUCTIVE ONLY AND MAY BE SUPERSEDED BY TFNSW OR MANUFACTURER. REFER TO RELEVANT TFNSW FOR CURRENT DRAWINGS TO MANUFACTURERS SPECIFICATIONS FOR PRODUCT INSTRUCTION GUIDE (ARMCO OR APPROVED EQUIVALENT).

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