

GENERAL:

- G.1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.
- G.2. DIMENSIONS OF THE STRUCTURE ARE GIVEN ON ARCHITECTURAL DRAWINGS. REFER ANY DISCREPANCIES TO ARCHITECT.
- G.3. CONSTRUCTION METHODS ARE THE RESPONSIBILITY OF THE BUILDER. DETAILS SHOWN ARE A GUIDE AND ALTERNATE DETAILS MAY BE SUBMITTED FOR ENGINEERING APPROVAL., PRIOR TO WORKS COMMENCING
- G.5. MAINTAIN THE STRUCTURE IN A STABLE CONDITION DURING CONSTRUCTION.
- G.6. DO NOT OVERSTRESS ANY PART OF THE MEMBERS DURING FABRICATION, TRANSPORTATION OR ERECTION.
- G.7. PROPRIETARY ITEMS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND DESIGN DETAILS.
- G.8. IT IS THE RESPONSIBILITY OF THE BUILDER TO MAKE GOOD ANY DAMAGE CAUSED TO ADJOINING STRUCTURES OR ELEMENTS CREATED DURING CONSTRUCTION.

SERVICE LOADS:

- SL.1. STRUCTURAL DESIGN ACTIONS TO AS/NZS1170.0 AND AS/NZS1170.1:
- SL.1.1. ROOF LIVE LOAD 0.25kPa
- SL.1.2. IMPORTANCE LEVEL 2.0
- SL.2. DESIGN WORKING LIFE 50 YEARS
- SL.3. WIND ACTIONS TO AS/NZS1170.2:
- SL.3.1. REGION B
- SL.3.2. TERRAIN CATEGORY 2.5
- SL.3.3. ULTIMATE DESIGN WIND 49.6 m/sec
- SL.3.4. SERVICEABILITY STATE LIMIT 32 m/sec
- SL.3.5. SHIELDING MULTIPLIER Ms 1.0
- SL.3.6. TOPOGRAPHICAL MULTIPLIER Mt 1.0
- SL.4. THE ABOVE DO NOT INCLUDE LOADS WHICH MAY BE APPLIED DURING CONSTRUCTION.

SITE PREPARATION AND FOUNDATIONS:

- P.1. REFER TO GEOTECHNICAL INVESTIGATION DE17/162 PREPARED BY MORRISON GEOTECHNIC DATED 14 JUNE 2017
- P.2. GEOTECHNICAL ENGINEER SHALL BE ENGAGED AT THE BUILDER'S EXPENSE TO CERTIFY THAT THE ALLOWABLE BEARING PRESSURE (100kPa) HAS BEEN ACHIEVED IN THE BASE OF ALL THE FOOTINGS. GEOTECHNICAL ENGINEER'S CERTIFICATE SHALL BE SUBMITTED TO STRUCTURAL ENGINEER PRIOR TO PLACEMENT OF 50mm BLINDING LAYER AND/OR REINFORCEMENT.
- P.3. EARTHWORKS SHALL BE IN ACCORDANCE WITH AS 3798 INCLUDING THE FOLLOWING.
- P.4. THE BUILDING SITE SHALL BE STRIPPED OF ALL VEGETABLE MATTER AND THE ASSOCIATED LAYER OF TOPSOIL.
- P.5. SLAB & FOUNDATIONS HAVE BEEN DESIGNED FOR A SAFE BEARING CAPACITY OF 100 kPa. IT IS THE RESPONSIBILITY OF THE BUILDER TO DETERMINE FINAL BEARING PRESSURE ON SITE, UPON EXCAVATION.
- P.6. BORED PIER FOUNDATIONS HAVE BEEN DESIGNED FOR ULTIMATE END BEARING PRESSURE& SHAFT ADHESION VALUES OF 900kPa & 50kPa RESPECTIVELY BASED ON STIFF TO VERY STIFF RESIDUAL CLAYS, CONTROLLED FILL & SANDSTONE ROCK. A GEOTECHNICAL ENGINEER SHALL BE ENGAGED AT THE BUILDERS EXPENSE TO CERTIFY THAT THE ABOVE NOMINATE PARAMETERS ARE ACHIEVED.
- P.7. THE TOP 150mm OF SUBGRADE (UNDER FOUNDATIONS, FOOTINGS AND SLABS) SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH METHOD 5.1.1 OF AS 1289 (STANDARD COMPACTION).
- P.8. FILL MATERIAL SHALL BE SAND FILL OR OTHER APPROVED GRANULAR MATERIAL AND SHALL BE PLACED IN LAYERS NOT EXCEEDING 150mm IN THICKNESS. FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS PER ABOVE. FOR COHESIONLESS FILL WITH LESS THAN 5% PASSING THE 75 MICRON SIEVE, THE MATERIAL SHALL BE COMPACTED TO 70% DENSITY INDEX IN ACCORDANCE WITH AS 1289 TEST E6.1.
- P.9. TO AVOID SWELLING OF FOUNDATIONS AND SLAB MOVEMENTS, THE AREA AROUND THE SLAB SHALL BE EFFECTIVELY DRAINED, BOTH BEFORE AND AFTER CONSTRUCTION, TO ENSURE NO PONDING OF WATER ON OR ADJACENT TO THE SLAB AREA. SPOON DRAINS SHALL BE PROVIDED AS REQUIRED TO FACILITATE DRAINAGE ADJACENT TO THE SLAB AND AT THE TOPS OF BANKS.
- P.10. ALL SLABS SHALL BE CAST ON A MINIMUM THICKNESS OF 50mm OF BEDDING SAND.
- P.11. A MOISTURE BARRIER OF 0.2mm POLYETHYLENE FILM LAPPED 200mm AND TAPED AT JOINTS SHALL BE PROVIDED UNDER THE SLAB.

STEEL WORK (MILD STEEL):

- MS.6. ALL STEELWORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND WITH AS4100 AND AS1554.
- MS.7. U.N.O. ALL STEEL MUST BE OF THE FOLLOWING GRADE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS:

STEEL GRADE TABLE	
STEEL SECTION/TYPE	STEEL GRADE
HOT ROLLED SECTIONS TO AS/NZS 3679.1	300 PLUS
WELDED SECTIONS TO AS/NZS 3679.2	300
HOT ROLLED PLATES, FLOOR PLATES AND SLABS TO AS/NZS 3678	250
HOLLOW SECTIONS TO AS1163 - CHS	C250
- SHS & RHS	C350
FLATS, SMALL ANGLES, TFB AND COLUMNS TO AS/NZS 3679.1	250
COLD FORMED PURLINS AND GIRTS	G450 Z350

- MS.3. ALL WELDS SHALL BE CONTINUOUS FILLET WELDS UNLESS NOTED OTHERWISE. WELD SIZE TO MATCH MINIMUM STEEL MEMBER THICKNESS I.E. 100x6 SHS = 6mm WELD, 100x4 SHS = 4mm WELD
- MS.4. ALL WELDS TO BE E48XX SP
- MS.5. THE EXTENT OF NON-DESTRUCTIVE WELD EXAMINATION MUST BE AS SHOWN IN TABLE BELOW
- U.N.O. RADIOGRAPHIC OR ULTRASONIC EXAMINATION MUST BE TO AS1554.1, AS2177.1 AND AS2207 AS APPROPRIATE:

WELD SCHEDULE TABLE		
TYPE OF WELD AND CATEGORY	EXAMINATION METHOD	EXTENT (% OF TOTAL LENGTH OF WELD TYPE)
FILLET WELDS, GP AND SP	VISUAL INSPECTION	100
BUTT WELDS, GP	VISUAL INSPECTION	100
BUTT WELDS, SP	VISUAL INSPECTION	100
BUTT WELDS, SP	ULTRASONIC TESTING	10

- MS.6. REMOVE ALL SHARP EDGES, BURRS, CORNERS, SLAG ETC.
- MS.7. ALL CLEATS, GUSSETS, AND STIFFENERS TO BE 5mm PLATE UNLESS NOTED.
- MS.8. ALL HOLLOW SECTIONS TO HAVE 5mm SEAL PLATES.
- MS.9. ALL BOLTS TO BE M20/8.8/5 UNLESS NOTED OTHERWISE.
- MS.10. ALL HOLES TO BE DRILLED, NOT FLAME CUT.
- MS.11. PROVIDE CLEATS AS REQUIRED TO SUPPORT FIXTURES INDICATED OR IMPLIED IN THE ARCHITECTURAL DRAWINGS OR SPECIFICATION.
- MS.12. USE BOLTS, SCREWS, NUTS AND WASHERS HOT DIP GALVANIZED BY MANUFACTURER TO AS1214. TAP GALVANIZED NUTS 0.4 mm OVERSIZE TO SUIT GALVANIZED THREADS TO AS1214 AND OIL FOR PROTECTION. INSTALL WASHERS UNDER BOLT HEAD OR NUT, WHICHEVER PART IS ROTATED. USE HARDENED OR PLATE WASHERS UNDER BOTH HEAD AND NUT FOR OVERSIZED AND SLOTTED HOLES TO AS4100. USE TAPERED WASHERS AS REQUIRED UNDER NON-ROTATING PART.
- MS.13. PRIME CONCRETE ENCASED STEEL WORK IN ACCORDANCE WITH SPECIFICATION AND WRAP WITH FGW 41 MESH WITH 20 mm MINIMUM COVER. ENCASEMENT TO BE 50 mm MINIMUM. THICKNESS OF ENCASEMENT FOR FIRE PROTECTION TO BE AS DETAILED. PROVIDE 75 mm ENCASEMENT FOR STEEL IN GROUND. WHERE PAINTED STEEL WORK IS PARTLY ENCASED IN CONCRETE EXTEND WHOLE PAINT SYSTEM 50 mm INTO CONCRETE.
- MS.14. AFTER COMPLETION OF FABRICATION, PREPARATION FOR SURFACE TREATMENT TO BE: ROUND OFF ROUGH WELDS, SHARP EDGES (2 mm RADIUS) etc. SURFACE TO BE FREE OF WELDING SPATTER, SLAG, UNDERCUTS, VISIBLE PORES PITS AND CRATERS, VISIBLE SLIVERS, ROLL-OVERS, LAMINATIONS, ROLLED-IN EXTRANEOUS MATTER, GROOVES (RADIUS OF GOUGES TO BE LESS THAN 4 mm), INDENTATIONS, ROLL MARKS, BURRS, ARISES, CRACKS, etc. PREPARE WELDS, EDGES AND OTHER AREAS WITH SURFACE IMPERFECTIONS TO ISO 8501-3 PREPARATION GRADE P3.
- MS.15. SURFACE PREPARATION: REMOVE OIL, GREASE AND OTHER CONTAMINANTS TO AS1627.1. ABRASIVE BLAST CLEAN TO AS1627.4 CLASS SA 2½ WITH SURFACE PROFILE 40 TO 70 MICRONS OR AS SPECIFIED BY COATINGS MANUFACTURER FOR THE SERVICE CONDITIONS. ASSESS ABRASIVE BLAST CLEANED SURFACE TO AS1627.9 AND SURFACE PROFILE TO AS3894.5. FOR SMALL AREAS WHERE ABRASIVE BLAST CLEANING IS NOT POSSIBLE OBTAIN APPROVAL FROM SUPERVISOR TO USE POWER TOOL CLEANING TO AS1627.2 CLASS ST 3/PST 3 AS DEFINED IN ISO 8501.1 FOR STEEL CLEANED TO A METALLIC FINISH WITH MINIMUM 25 MICRON SURFACE PROFILE. REMOVE DUST BY BRUSHING OR VACUUM CLEANING.
- MS.16. APPLY PROTECTIVE COATINGS AS SOON AS PRACTICABLE AFTER PREPARATION, WITHIN FOUR HOURS AND BEFORE FLASH RUST OR RUST BLOOM APPEARS. APPLICATION OF PROTECTIVE COATINGS TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.
- MS.17. UNLESS NOTED OTHERWISE OR IN SPECIFICATION, ALL STEELWORK IS TO BE HOT DIPPED GALVANIZED TO AS/NZS4680 AND AS 1214 FOR FASTENERS. THICKNESS OF GALVANIZED COATINGS TO AS/NZS4680. ZINC IN GALVANISING BATH TO BE NOT LESS THAN 98% PURE. BATH TEMPERATURE, TIME OF IMMERSION AND WITHDRAWAL SPEED TO BE AS REQUIRED TO ACHIEVE SPECIFIED COATING THICKNESS AND FINISH. ZINC COATING TO BE CONTINUOUS, ADHERENT, FREE FROM LUMPS, SPIKES, DAGS, RUNS, BUSTERS, ROUGHNESS, GRITTY AREAS, UNCOATED SPOTS, ACID AND BLACK SPOTS, DROSS, FLUX AND OTHER IMPERFECTIONS.
- MS.18. PASSIVATE GALVANIZED STEEL TO BE IN CONTACT WITH CONCRETE BY DIPPING IN 0.2% SODIUM DICHROMATE SOLUTION.
- MS.19. STRAIGHTEN MEMBERS DISTORTED DURING FABRICATION AND/OR GALVANISING PROCESS USING AN APPROVED METHOD.
- MS.20. ANNEAL COLD WORKED ITEMS TO 650°C PRIOR TO GALVANISING.
- MS.21. REPAIR DAMAGE TO GALVANIZED COATING TO AS/NZS 4680 SECTION 8 -REPAIR AFTER GALVANIZING. USE ORGANIC TWO-PACK ZINC RICH EPOXY COATING COMPLYING WITH AS/NZS 3750.9 APPLIED IN TWO COATS EACH 50 MICRON, MINIMUM TOTAL DRY FILM THICKNESS 100 MICRONS. DO NOT USE SPRAY CANS OF "COLD GALV" OR ZINC ALLOY SOLDER "STICKS". SURFACE PREPARATION OF EXPOSED BARE STEEL TO BE ABRASIVE BLAST CLEANED TO AS 1627.4, CLASS 2½ (PREFERRED) OR POWER TOOL CLEANED TO AS 1627.2 CLASS ST 3. LIGHTLY SWEEP BLAST GALVANIZED SURFACES.
- MS.22. PROVIDE DRILLED VENT/DRAIN HOLES AT TOP AND BOTTOM EXTREMITIES FOR HOLLOW SECTIONS TO BE HOT DIPPED GALVANIZED.
- MS.23. PROVIDE RUBBER SEALS OR PLUG WELD VENT/DRAIN HOLES THAT REMAIN EXPOSED.
- MS.24. PROVIDE DRILLED SUSPENSION HOLES IN END PLATES, ETC FOR ITEMS TO BE HOT DIPPED GALVANIZED.
- MS.25. PRIOR TO DIPPING ADVISE SUPERINTENDENT OF ANY DESIGN FEATURES THAT MAY LEAD TO DIFFICULTIES DURING GALVANISING AND SUBMIT DETAILS FOR IMPROVEMENT.
- MS.26. DO NOT PAINT GALVANIZED STEELWORK UNLESS SPECIFIED ON THE ENGINEERING DRAWINGS. PREPARE GALVANIZED SURFACES TO BE PAINTED AS PER AS/NZS4680 APPENDIX I AND APPLY PAINT IN THE WORKSHOP. COATING MANUFACTURER TO PROVIDE A 10 YEAR WARRANTY OF COATING SYSTEM.
- MS.27. PROTECTIVE COATINGS ARE TO BE SHOP APPLIED AND CURED IN WORKSHOP IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS APPROVED OTHERWISE IN WRITING BY SUPERINTENDENT. PROTECTIVE COATINGS ARE TO BE SMOOTH, UNIFORM AND WITHOUT RUNS, BEADS, PINHOLES, SURFACE CRAZING OR OTHER IMPERFECTIONS.
- MS.28. PROTECT COATINGS FROM DAMAGE AND DETERIORATION DURING HANDLING, TRANSPORT, STORAGE AND ERECTION. REPAIR DAMAGE TO PROTECTIVE COATINGS TO REINSTATE INTEGRITY OF NOMINATED COATING IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND SPECIFICATION. EDGES OF PATCH REPAIRS TO BE FEATHERED.
- MS.29. REFER LANDSCAPE ARCHITECTURAL SPECIFICATION FOR DECORATIVE COATINGS.
- MS.30. SUBMIT NAMES AND CONTACT DETAILS OF PROPOSED FABRICATION AND INSTALLATION SUBCONTRACTORS.
- MS.31. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS; REFER GENERAL-DELIVERABLES NOTES. SHOP DRAWINGS AND DESIGN CALCULATIONS TO SHOW: ARRANGEMENT OF MEMBERS, MARKING PLAN, MEMBER SCHEDULE, LOCATION AND ORIENTATION OF MEMBERS IN BUILDING, REQUIRED CAMBER (WHERE APPLICABLE), RELEVANT DETAILS OF EACH ASSEMBLY, COMPONENT AND CONNECTION, DIMENSIONS OF ITEMS, LOADING PARAMETERS AND BRACING LENGTHS ASSUMED IN DESIGN, DESIGN STRESSES, STRENGTH OF MATERIALS, SIZE OF EACH MEMBER, TOLERANCES ON MEMBER SIZES, JOINT DETAILS, TRIMMERS, NOGGINGS etc. LIFTING POINTS, METHOD OF FIXING AND BRACING, DESIGN DEFLECTION, METHOD OF FABRICATION, SIZE AND SPECIFICATION OF CLEATS, BOLTS, SCREWS, WELDS, WELD CATEGORIES AND BOLTING CATEGORIES, WELD PROCEDURES (INCLUDING POST WELD HEAT TREATMENT), SURFACE PREPARATION METHODS AND PROTECTIVE COATING SYSTEM, VENT/DRAIN HOLES FOR HOT DIP GALVANISING, PROPOSED JOINTS IN MEMBERS, TEMPORARY MEMBERS, BRACES AND FIXINGS, LOCATION OF FALL ARREST CONNECTIONS, FIXINGS FOR ADJOINING BUILDING ELEMENTS, BASE PLATE DETAILS, FIXINGS FOR PURLINS, GIRTS, LOCATION OF AND PREPARATION FOR SITE WELDS AND BRACING, METHOD OF HANDLING, TEMPORARY WORKS, ASSEMBLY, TRANSPORT AND ERECTION (INCLUDING TEMPORARY BRACING IF REQUIRED), PRECAMBER, etc.

- MS.32. PROVIDE DOCUMENTARY EVIDENCE (INCLUDING TEST RESULTS) OF COMPLIANCE WITH RELEVANT AUSTRALIAN STANDARDS ISSUED BY MANUFACTURER FOR ALL STEELWORK AND EACH BATCH OF FASTENERS USED. EVIDENCE MUST PROVIDE CLEAR VERIFICATION THAT PRODUCT MEETS RELEVANT AUSTRALIAN STANDARDS AND BE WRITTEN IN ENGLISH ALPHANUMERIC CHARACTERS. EVIDENCE TO INCLUDE: NAMES AND ADDRESSES OF MANUFACTURER, SUPPLIER AND TESTING AUTHORITY; TEST CERTIFICATE NUMBER AND DATE WITH PAGE NUMBER ON EACH PAGE; PRODUCT TESTING SPECIFICATION AND GRADE OF STEEL; PRODUCT DESIGNATION AND RELEVANT DIMENSIONS; PRODUCT STEEL MAKING PROCESS; LENGTH, BUNDLE, PACK OR UNIQUE IDENTIFIER TO WHICH CERTIFICATE APPLIES; HEAT NUMBER (FROM CASTING); MECHANICAL PROPERTIES FROM TENSILE TEST (ALL VALUES CITED IN AS/NZS STANDARD); WHETHER EACH MEASURED MECHANICAL PROPERTY COMPLIES WITH AS/NZS STANDARD; CHEMICAL ANALYSIS RESULTS AND TYPE OF ANALYSIS UNDERTAKEN; CUSTOMER PURCHASE ORDER TO MATCH BATCH NUMBER; ANY OTHER SYSTEM REFERENCE NUMBERS AND SIGNATURE OF AUTHENTICITY.
- MS.33. DISSIMILAR METALS TO BE SEPARATED.

CONCRETE:

- C.25. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS2870 AND AS3600.
- C.26. CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES SEE TABLE BELOW:

CONCRETE TABLE					
ELEMENT	CLASS	CLASS & GRADE (CONCRETE)	CLEAR COVER TO REINF'T (mm)	MAX AGG. SIZE (mm)	MAX SLUMP (mm)
STRIP FOOTINGS, PAD FOOTINGS, CONCRETE ENCASING, ENTRY FOUNDATION	A2	N25	50	20	80
BORED PIERS	A2	N25	50	20	80
CONCRETE SEAT	A2	N32	50 MIN.	20	80

- C.11. SPLICES IN REINFORCEMENT MUST BE MADE ONLY IN POSITIONS SHOWN ON THE STRUCTURAL DRAWINGS OR IN POSITIONS OTHERWISE APPROVED IN WRITING BY THE SUPERINTENDENT, LAPS MUST BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
- C.12. SPLICES IN MESH: THE OUTERMOST TRANSVERSE WIRES MUST BE OVERLAPPED BY AT LEAST THE SPACING OF THE TRANSVERSE WIRES PLUS 50mm.
- C.13. WELDING OF REINFORCEMENT IS NOT PERMITTED U.N.O. ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE SUPERINTENDENT.
- C.14. CURING OF ALL CONCRETE MUST BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS U.N.O. IN ACCORDANCE WITH AS 3600. APPROVED SPRAY-ON CURING COMPOUNDS THAT COMPLY WITH AS 3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED. POLYTHENE SHEETING OR WET HESSAIN MAY BE USED TO RETAIN CONCRETE MOISTURE WHERE PROTECTED FROM THE WIND AND TRAFFIC. CURING MUST COMMENCE IMMEDIATELY AFTER CONCRETE PLACEMENT.

REINFORCEMENT:

- R.5. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:
- R.5.1. R: DENOTES STRUCTURAL GRADE 250 PLAIN ROUND BAR TO AS4671
- R.5.2. N: DENOTES HOT ROLLED GRADE 500 DEFORMED BAR DUCTILITY CLASS N TO AS4671
- R.5.3. L: DENOTES HARD DRAWN WIRE GRADE 500 SQUARE REINFORCING MESH DUCTILITY CLASS L TO AS4671
- R.5.4. RL: DENOTES HARD DRAWN WIRE GRADE 500 RECTANGULAR REINFORCING MESH DUCTILITY CLASS L TO AS4671
- R.6. ALL N BARS TO BE GRADE 500.
- R.7. FOLLOWING ABBREVIATIONS APPLY TO LOCATION OF REINFORCEMENT:
EW: EACH WAY FF: FAR FACE BB: BOTTOM BOTTOM (LAID FIRST)
EF: EACH FACE B: BOTTOM TT: TOP TOP (LAID LAST)
NF: NEAR FACE T: TOP CP: CENTRALLY PLACED
- R.8. CLEAR COVER TO REINFORCEMENT SHALL BE PROVIDED BY APPROVED CHAIRS, SPACERS OR TIES AS REQUIRED TO PROVIDE ADEQUATE SUPPORT AS FOLLOWS:
- R.8.1. BARS 16mm AND LESS AND FABRIC - 1000mm CENTERS
- R.8.2. BARS 20mm AND OVER 1200mm CENTERS
- R.9. USE MESH SUPPLIED IN FLAT SHEETS UNLESS APPROVED OTHERWISE.
- R.10. WELDING AND BENDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY ENGINEER.

FOR CONSTRUCTION

15.06.18	B	REVISED ISSUE FOR CONSTRUCTION		DS	BL
25.05.18	A	ISSUE FOR CONSTRUCTION		DS	BL
DATE	REV	DESCRIPTION		REC	APP
REVISIONS					



BRISBANE OFFICE
LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361
FORTITUDE VALLEY, QLD 4006
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED J. POURGHASEMIAN	DATE 25.05.18
CHECKED C. MATHESON	
PROJECT MANAGER B. LANCINI	
ENGINEERING CERTIFICATION	
BEN LANCINI	RPEQ 16031

SCALE
ORIGINAL SHEET SIZE A1

CLIENT	MIRVAC GROUP	JOB CODE MIR-001-06
PROJECT	LANDSCAPE STRUCTURES	
LOCATION	EVERLEIGH, TEVIOT ROAD, GREENBANK	SHEET NUMBER S010
SHEET TITLE	STRUCTURAL NOTES - SHEET 1 OF 2	
		REV B

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL
Approval no: DEV2018/943
Date: 31 July 2018

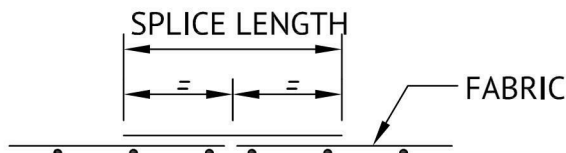


REINFORCEMENT NOMINATIONS:

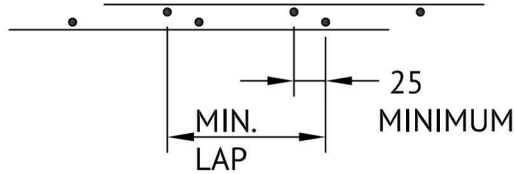
RN.1. EXTENT OF BARS SHOWN THUS:



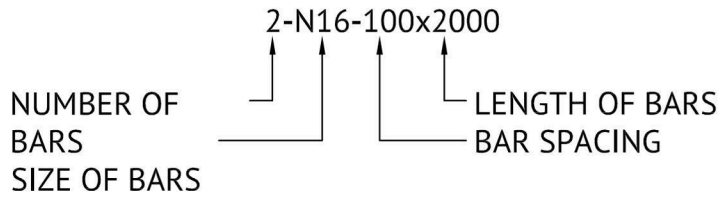
RN.2. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS OR AS APPROVED BY SUPERINTENDENT. LAP LENGTHS TO COMPLY WITH AS3600, OR FOR SLAB AND WALL REINFORCEMENT WITH BARS AT > 150mm CENTRES WITH THE FOLLOWING UNO:



RN.3. PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCING MESH, SO THAT TWO OUTERMOST WIRES OF ONE SHEET OVERLAP TWO OUTERMOST WIRES OF ADJACENT SHEET BY AT LEAST 25mm, THUS:



RN.4. NOMINATION CALL OUT DESCRIPTION:



RN.5. LAP LENGTHS TO COMPLY WITH AS3600, OR FOR SLAB AND WALL REINFORCEMENT WITH BARS AT > 150mm CENTRES WITH THE FOLLOWING UNO: REFER TO TABLE BELOW:

REINFORCEMENT LAP TABLE						
LOCATION	F'C	BAR SIZE AND LAP LENGTH (mm)				
		N12	N16	N20	N24	N28
HORIZONTAL BARS WITH ≤ 300mm CONCRETE BELOW	25	500	675	1000	1300	1600
	32	450	625	875	1175	1400
	40+	450	600	775	1050	1250
HORIZONTAL BARS WITH ≥ 300mm CONCRETE BELOW BAR & VERT. BARS	25	650	875	1300	1700	2050
	32	575	775	1175	1525	1850
	40+	575	775	1000	1350	1650

GROUTING:

- GR.1. NOMINATED AREA(S), GROUTING MUST BE CARRIED OUT USING A PRE-PACKAGED, NON-METALLIC AND CHLORIDE FREE, DRY POWDER BLEND OF CEMENTS, GRADED FILLERS AND CHEMICAL ADDITIVES PROPRIETARY GROUT.
- GR.2. IT IS TO BE MIXED WITH CLEAN POTABLE WATER TO THE REQUIRED CONSISTENCY. THE PLASTIC GROUT MUST NOT BLEED OR SEGREGATE. THE STORAGE, HANDLING AND PLACEMENT OF THE GROUT MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
- GR.3. IT SHALL BE FORMULATED TO EXCEED THE FOLLOWING CHARACTERISTICS WHEN MIXED WITH 3.8 LITRES WATER TO ONE 20KG BAG OF SPECIFIED GROUT, AT FLUID CONSISTENCY, WHEN TESTED AT 23°C:
- GR.3.1. COMPRESSIVE STRENGTH (AS1478.2.2005)
- GR.3.1.1. 1 DAY 30MPa
- GR.3.1.2. 7 DAYS 40MPa
- GR.3.1.3. 28 DAYS 60MPa
- GR.4. MINIMUM GROUT THICKNESS TO BE 40mm U.N.O.

INSPECTION AND CERTIFICATION REQUIREMENTS:

- IC.1. FOR FINAL ENGINEERING CERTIFICATION TO BE PROVIDED BY PREMISE, ALL THE APPLICABLE STRUCTURAL ELEMENTS SHALL BE INSPECTED BY A PREMISE REPRESENTATIVE. TYPICAL HOLD POINTS:
- a - BORED PIERS
 - b - FOOTINGS AND SLABS ON GROUND
 - c - REINFORCED MASONRY COLUMNS/WALLS/PARAPETS
 - d - STRUCTURAL STEELWORK
 - e - TIMBER FRAMING
- ALL CONCRETE ELEMENTS MUST BE INSPECTED AFTER PLACEMENT OF REINFORCEMENT AND PRIOR TO CONCRETE POUR.
- ALL STEEL AND TIMBER FRAMING MUST BE INSPECTED PRIOR TO CLADDING.
- ALL BOULDER RETAINING WALLS MUST BE INSPECTED PRIOR TO PLACEMENT OF ROCKS, AT HALF HEIGHT OF WALL AND COMPLETED WALL.
- IC.2. ALL INSPECTIONS REQUIRE A MINIMUM OF 24 HOURS NOTICE.
- IC.3. IF IN DOUBT OF REQUIREMENT OF INSPECTION, ASK
- IC.4. OBTAIN GEOTECHNICAL ENGINEERS'S WRITTEN INSTRUCTION AT PREPARATION OF FOUNDING MATERIAL AND FORWARD TO STRUCTURAL ENGINEER FOR APPROVAL, AT BUILDER'S COST

PLANS AND DOCUMENTS referred to in the PDA
DEVELOPMENT APPROVAL
Approval no: DEV2018/943
Date: 31 July 2018

FOR CONSTRUCTION

25.05.18	A	ISSUE FOR CONSTRUCTION	DS	BL
DATE	REV	DESCRIPTION	REC	APP
REVISIONS				

BRISBANE OFFICE
LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361
FORTITUDE VALLEY, QLD 4006
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED J. POURGHASEMIAN	SCALE
CHECKED C. MATHESON	
PROJECT MANAGER B. LANCINI	
ENGINEERING CERTIFICATION	
	DATE 25.05.18
BEN LANCINI	RPEQ 16031
ORIGINAL SHEET SIZE A1	

CLIENT	MIRVAC GROUP
PROJECT	LANDSCAPE STRUCTURES
LOCATION	EVERLEIGH, TEVIOT ROAD, GREENBANK
SHEET TITLE	STRUCTURAL NOTES - SHEET 2 OF 2

JOB CODE	MIR-001-06
SHEET NUMBER	S011
REV	A

1.0. FALLS, SLIPS AND TRIPS:

1.1. WORKING AT HEIGHTS:

1.1.1. DURING CONSTRUCTION

1.1.1.1. WHERE EVER POSSIBLE, COMPONENTS FOR THIS STRUCTURE SHOULD BE PREFABRICATED OFF-SITE OR AT GROUND LEVEL TO MINIMISE THE RISK OF WORKERS FALLING MORE THAN 2 METRES. THE BUILDER SHOULD PROVIDE A SUITABLE BARRIER WHEREVER A PERSON IS REQUIRED TO WORK IN A SITUATION WHERE FALLING MORE THAN TWO METRES IS A POSSIBILITY.

1.1.2. DURING OPERATION OR MAINTENANCE

1.1.2.1. FOR STRUCTURES WHERE SCAFFOLDING IS APPROPRIATE: CLEANING AND MAINTENANCE OF WINDOWS, WALLS, ROOF OR OTHER COMPONENTS OF THE BUILDING MAY REQUIRE PERSONS TO BE SITUATED WHERE A FALL FROM A HEIGHT IN EXCESS TWO METRES IS POSSIBLE. WHERE THIS TYPE OF ACTIVITY IS REQUIRE, SCAFFOLDING, LADDERS OR TRESTLES SHOULD BE USED IN ACCORDANCE WITH RELEVANT CODE OF PRACTICE, REGULATIONS OR LEGISLATION. FOR STRUCTURES WHERE SCAFFOLD, LADDERS, TRESTLES ARE NOT APPROPRIATE: CLEANING AND MAINTENANCE OF WINDOWS, WALLS, ROOF OR OTHER COMPONENTS OF THIS BUILDING MAY REQUIRE PERSONS TO BE SITUATED WHERE A FALL FROM A HEIGHT IN EXCESS OF TWO METRES IS POSSIBLE. WHERE THIS TYPE OF ACTIVITY IS REQUIRED, SCAFFOLDING, FALL BARRIERS OR PERSONAL PROTECTIVE EQUIPMENT (PPE) SHOULD BE USED IN ACCORDANCE WITH THE RELEVANT CODES OF PRACTICE, REGULATIONS OR LEGISLATION. ALL WORKERS AT HEIGHT SHOULD HAVE SUITABLE WORKING AT HEIGHTS TRAINING.

1.2. SLIPPERY OR UNEVEN SURFACES:

1.2.1. FLOOR FINISHES SPECIFIED

1.2.1.1. IF FINISHES HAVE BEEN SPECIFIED BY DESIGNER, THESE HAVE BEEN SELECTED TO MINIMISE THE RISK OF FLOORS AND PAVED AREAS BECOMING SLIPPERY WHEN WET OR WHEN WALKED ON WITH WET SHOES/FEET. ANY CHANGES TO THE SPECIFIED FINISH SHOULD BE MADE IN CONSULTATION WITH THE DESIGNER OR, IF THIS IS NOT PRACTICAL, SURFACES WITH AN EQUIVALENT OR BETTER SLIP RESISTANCE SHOULD BE CHOSEN.

1.2.2. FLOOR FINISHES BY OTHERS

1.2.2.1. IF DESIGNER HAS NOT BEEN INVOLVED IN THE SELECTION OR SURFACE FINISHES, THE OWNER IS RESPONSIBLE FOR THE SELECTION OF SURFACE FINISHES IN THE PEDESTRIAN TRAFFICABLE AREAS OF THE BUILDING. SURFACES SHOULD BE SELECTED IN ACCORDANCE WITH AS HB 197:1999 AND AS/NZ 4586:2004.

1.2.3. STEPS, LOOSE OBJECTS AND UNEVEN SURFACES

1.2.3.1. DUE TO DESIGN RESTRICTIONS FOR THIS STRUCTURE, STEPS AND / OR RAMPS ARE INCLUDED IN THE BUILDING WHICH MAY BE A HAZARD TO WORKERS CARRYING OBJECTS OR OTHERWISE OCCUPIED. STEPS SHOULD BE CLEARLY MARKED WITH BOTH VISUAL AND TACTILE WARNING DURING CONSTRUCTION, MAINTENANCE, DEMOLITION AND AT ALL TIMES WHEN THE BUILDING OPERATES AS A WORKPLACE. STRUCTURE OWNERS AND OCCUPIERS SHOULD MONITOR THE PEDESTRIAN ACCESS WAYS AND IN PARTICULAR ACCESS TO AREAS WHERE MAINTENANCE IS ROUTINELY CARRIED OUT TO ENSURE THAT SURFACES HAVE NOT MOVED OR CRACKED SO THAT THEY BECOME UNEVEN AND PRESENT A TRIP HAZARD. SPILLS, LOOSE MATERIAL, STRAY OBJECTS OR ANY OTHER MATTER THAT MAY CAUSE A SLIP TRIP HAZARD SHOULD BE CLEANED OR REMOVED FROM ACCESS WAYS. CONTRACTORS SHOULD BE REQUIRED TO MAINTAIN A TIDY WORK SITE DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION TO REDUCE THE RISK OF TRIPS AND FALLS IN THE WORK PLACE. MATERIALS FOR CONSTRUCTION OR MAINTENANCE SHOULD BE STORED IN DESIGNATION AREAS AWAY FROM ACCESS WAYS AND WORK AREAS.

2.0. FALLING OBJECTS:

2.1. LOOSE MATERIALS OR SMALL OBJECTS

2.1.1. CONSTRUCTION, MAINTENANCE OR DEMOLITION WORK ON OR AROUND THIS STRUCTURE IS LIKELY TO INVOLVE PERSONS WORKING ABOVE GROUND LEVEL OR ABOVE FLOOR LEVELS. WHERE THIS OCCURS ONE OR MORE OF THE FOLLOWING MEASURES SHOULD BE TAKEN TO AVOID OBJECTS FALLING FROM THE AREA WHERE THE WORK IS BEING CARRIED OUT ONTO PERSONS BELOW.

2.1.1.1. PREVENT OR RESTRICT ACCESS TO AREAS BELOW WHERE THE WORK IS BEING CARRIED OUT.

2.1.1.2. PROVIDE TOE BOARDS TO SCAFFOLDING OR WORK PLATFORMS.

2.1.1.3. PROVIDE PROTECTIVE STRUCTURE BELOW THE WORK AREA.

2.1.1.4. ENSURE THAT ALL PERSONS BELOW THE WORK AREA HAVE PERSONAL PROTECTIVE EQUIPMENT (PPE).

2.2. BUILDING COMPONENTS

1.2.1. DURING CONSTRUCTION, RENOVATION OR DEMOLITION OF THIS STRUCTURE, PARTS OF THE STRUCTURE INCLUDING FABRICATED STEELWORK, HEAVY PANELS AND MANY OTHER COMPONENTS WILL REMAIN STANDING PRIOR TO OR AFTER SUPPORTING PARTS ARE IN PLACE. CONTRACTORS SHOULD ENSURE THAT TEMPORARY BRACING OR OTHER SUPPORT REQUIRED IS IN PLACE AT ALL TIMES WHEN COLLAPSE WHICH MAY INJURE PERSONS IN THE AREA IS A POSSIBILITY.

1.2.2. MECHANICAL LIFTING OF MATERIALS AND COMPONENTS DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION PRESENTS A RISK OF FALLING OBJECTS. CONTRACTORS SHOULD ENSURE THAT APPROPRIATE LIFTING DEVICES ARE USED, THAT LOADS ARE PROPERLY SECURED AND THAT ACCESS TO AREAS BELOW THE LOAD IS PREVENTED OR RESTRICTED.

3.0. TRAFFIC MANAGEMENT:

3.1. FOR STRUCTURES ON MAJOR ROAD, NARROW ROAD OR STEEP SLOPED ROAD:

3.1.1. PARKING OF VEHICLES OR LOADING/UNLOADING OF VEHICLES ON THIS ROADWAY MAY CAUSE A TRAFFIC HAZARD. DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION OF THIS STRUCTURE DESIGNATED PARKING FOR WORKERS AND LOADING AREAS SHOULD BE PROVIDED. TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE RESPONSIBLE FOR THE SUPERVISION OF THESE AREAS.

3.2. FOR STRUCTURES WHERE ON-SITE LOADING/UNLOADING IS RESTRICTED:

3.2.1. CONSTRUCTION OF THIS BUILDING WILL REQUIRE LOADING AND UNLOADING OF MATERIALS ON THE ROADWAY. DELIVERIES SHOULD BE WELL PLANNED TO AVOID CONGESTION OF LOADING AREAS AND TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE USED TO SUPERVISE LOADING/UNLOADING AREAS.

3.3. FOR ALL STRUCTURES:

3.3.1. BUSY CONSTRUCTION AND DEMOLITION SITES PRESENT A RISK OF COLLISION WHERE DELIVERIES AND OTHER TRAFFIC ARE MOVING WITHIN THE SITE. A TRAFFIC MANAGEMENT PLAN SUPERVISED BY TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE ADOPTED FOR THE WORK SITE.

4.0. SERVICES:

4.1. GENERAL:

4.1.1. RUPTURE OF SERVICES DURING EXCAVATION OR OTHER ACTIVITY CREATES A VARIETY OF RISKS INCLUDING RELEASE OF HAZARDOUS MATERIAL. EXISTING SERVICES ARE LOCATED ON OR AROUND THIS SITE. WHERE KNOWN, THESE ARE IDENTIFIED ON THE PLANS BUT THE EXACT LOCATION AND EXTENT OF SERVICES MAY VARY FROM THAT INDICATED. SERVICES SHOULD BE LOCATED USING AN APPROPRIATE SERVICE (SUCH AS DIAL BEFORE YOU DIG). APPROPRIATE EXCAVATION PRACTICE SHOULD BE USED AND, WHERE NECESSARY, SPECIALIST CONTRACTORS SHOULD BE USED.

4.2. LOCATIONS WITH UNDERGROUND POWER:

4.2.1. UNDERGROUND POWER LINES MAY BE LOCATED IN OR AROUND THIS SITE. ALL UNDERGROUND POWER LINES MUST BE DISCONNECTED OR CAREFULLY LOCATED AND ADEQUATE WARNING SIGNS USED PRIOR TO ANY CONSTRUCTION, MAINTENANCE OR DEMOLITION COMMENCING.

4.3. LOCATIONS OF OVERHEAD POWER LINES:

4.3.1. OVERHEAD POWER LINES MAY BE NEAR OR ON THIS SITE. THESE POSE A RISK OF ELECTROCUTION IF STRUCK OR APPROACHED BY LIFTING DEVICES OR OTHER PLANT AND PERSONS WORKING ABOVE GROUND LEVEL. WHERE THERE IS A DANGER OF THIS OCCURRING, POWER LINES SHOULD BE, WHERE PRACTICAL, DISCONNECTED OR RELOCATED. WHERE THIS IS NOT PRACTICAL ADEQUATE WARNING IN THE FORM OF BRIGHT COLOURED TAPE OR SIGNAGE SHOULD BE USED OR A PROTECTIVE BARRIER PROVIDED.

5.0. MANUAL TASKS:

5.1. COMPONENTS WITHIN THIS DESIGN WITH A MASS IN ACCESS OF 25KG SHOULD BE LIFTED BY TWO OR MORE WORKERS OR BY MECHANICAL LIFTING DEVICE. WHERE THIS IS NOT PRACTICAL, SUPPLIERS OR FABRICATORS SHOULD BE REQUIRED TO LIMIT THE COMPONENT MASS. ALL MATERIAL PACKAGING, BUILDING AND MAINTENANCE COMPONENTS SHOULD CLEARLY SHOW THE TOTAL MASS OF PACKAGES AND WHERE PRACTICAL ALL ITEMS SHOULD BE STORED ON SITE A WAY WHICH MINIMISES BENDING BEFORE LIFTING. ADVICE SHOULD BE PROVIDED ON SAFE LIFTING METHODS IN ALL AREAS WHERE LIFTING MAY OCCUR. CONSTRUCTION, MAINTENANCE AND DEMOLITION OF THIS STRUCTURE MAY REQUIRE THE USE OF PORTABLE TOOLS AND EQUIPMENT. THESE SHOULD BE FULLY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND NOT USED WHERE FAULTY OR (IN THE CASE OF ELECTRICAL EQUIPMENT) NOT CARRYING A CURRENT ELECTRICAL SAFETY TAG. ALL SAFETY GUARDS OR DEVICES SHOULD BE REGULARLY CHECKED AND PERSONAL PROTECTIVE EQUIPMENT SHOULD BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION.

6.0. HAZARDOUS SUBSTANCES:

6.1. ASBESTOS:

6.1.1. FOR ALTERATIONS TO A BUILDING CONSTRUCTED PRIOR TO 1990:

6.1.2. IF THIS EXISTING BUILDING WAS CONSTRUCTED PRIOR TO: 1990 - IT THEREFORE MAY CONTAIN ASBESTOS 1986 - IT THEREFORE IS LIKELY TO CONTAIN ASBESTOS IN EITHER CLADDING MATERIAL OR IN FIRE RETARDANT INSULATION MATERIAL. IN EITHER CASE, THE BUILDER SHOULD CHECK AND IF NECESSARY, TAKE APPROPRIATE ACTION BEFORE DEMOLISHING, CUTTING, SANDING, DRILLING OR OTHERWISE DISTURBING THE EXISTING STRUCTURE.

6.2. POWDERED MATERIALS:

6.2.1. MANY MATERIALS USED IN THE CONSTRUCTION OF THIS STRUCTURE CAN CAUSE HARM IF INHALED IN POWDER FORM. PERSONS WORKING ON OR IN THE BUILDING DURING CONSTRUCTION, OPERATIONAL MAINTENANCE OR DEMOLITION SHOULD ENSURE GOOD VENTILATION AND WEAR PERSONAL PROTECTIVE EQUIPMENT INCLUDING PROTECTION AGAINST INHALATION WHILE USING POWDERED MATERIAL OR WHEN SANDING, DRILLING, CUTTING OR OTHERWISE DISTURBING OR CREATING POWDERED MATERIAL.

6.3. TREATED TIMBER:

6.3.1. THE DESIGN OF THIS STRUCTURE MAY INCLUDE PROVISION FOR THE INCLUSION OF TREATED TIMBER. DUST OR FUMES FROM THIS MATERIAL CAN BE HARMFUL. PERSONS WORKING ON OR IN THE STRUCTURE DURING CONSTRUCTION, OPERATIONAL MAINTENANCE OR DEMOLITION SHOULD ENSURE GOOD VENTILATION AND WEAR PERSONAL PROTECTIVE EQUIPMENT INCLUDING PROTECTION AGAINST INHALATION OF HARMFUL MATERIAL WHEN SANDING, DRILLING, CUTTING OR USING TREATED TIMBER IN ANYWAY THAT MAY CAUSE HARMFUL MATERIAL TO BE RELEASED. DO NOT BURN TREATED TIMBER.

6.4. VOLATILE ORGANIC COMPOUNDS:

6.4.1. MANY TYPES OF GLUE, SOLVENTS, SPRAY PACKS, PAINTS, VARNISHES AND SOME CLEANING MATERIALS AND DISINFECTANTS HAVE DANGEROUS EMISSIONS. AREAS WHERE THERE ARE USED SHOULD BE KEPT WELL VENTILATED WHILE THE MATERIAL IS BEING USED AND FOR A PERIOD AFTER INSTALLATION. PERSONAL PROTECTIVE EQUIPMENT MAY ALSO BE REQUIRE. THE MANUFACTURER'S RECOMMENDATIONS FOR USE MUST BE CAREFULLY FOLLOWED.

6.5. SYNTHETIC FIBRES:

6.5.1. FIBREGLASS, ROCKWOOL, CERAMIC AND OTHER MATERIAL USED FOR THERMAL OR SOUND INSULATION MAY CONTAIN SYNTHETIC MINERAL FIBRE WHICH MAY BE HARMFUL IF INHALED OR IF IT COMES IN CONTACT WITH THE SKIN, EYES OR OTHER SENSITIVE PARTS OR THE BODY. PERSONAL PROTECTIVE EQUIPMENT INCLUDING PROTECTION AGAINST INHALATION OF HARMFUL MATERIAL SHOULD BE USED WHEN INSTALLING, REMOVING OR WORKING NEAR BULK INSULATION MATERIAL.

6.6. APPLIED FINISHES:

6.6.1. THIS STRUCTURE MAY CONTAIN TIMBER FLOORS WHICH HAVE AN APPLIED FINISH. AREAS WHERE FINISHES ARE APPLIED SHOULD BE KEPT WELL VENTILATED DURING SANDING AND APPLICATION AND FOR A PERIOD AFTER INSTALLATION. PERSONAL PROTECTIVE EQUIPMENT MAY ALSO BE REQUIRED. THE MANUFACTURER'S RECOMMENDATIONS FOR USE MUST BE CAREFULLY CONSIDERED AT ALL TIMES.

7.0. CONFINED SPACES:

7.1. EXCAVATION:

7.1.1. CONSTRUCTION OF THIS STRUCTURE, MAINTENANCE AND DEMOLITION MAY REQUIRE EXCAVATION AND INSTALLATION OF ITEMS WITHIN THE EXCAVATIONS. WHERE PRACTICAL, INSTALLATION SHOULD BE CARRIED OUT USING METHODS WHICH DO NOT REQUIRE WORKERS TO ENTER THE EXCAVATION. WHERE THIS NOT PRACTICAL, ADEQUATE SUPPORT FOR THE EXCAVATION AREA SHOULD BE PROVIDED TO PREVENT COLLAPSE. WARNING SIGNS AND BARRIERS TO PREVENT ACCIDENTAL OR UNAUTHORIZED ACCESS TO ALL EXCAVATIONS SHOULD BE PROVIDED. ASSESSMENT OF SLOPE STABILITY BY AN RPEQ ENGINEER CAN TO COMPLETED ON REQUEST.

7.2. ENCLOSED SPACES:

7.2.1. FOR BUILDINGS WITH ENCLOSED SPACES WHERE MAINTENANCE OR OTHER ACCESS MAY BE REQUIRED: ENCLOSED SPACES WITH IN THIS STRUCTURE MAY PRESENT A RISK TO PERSONS ENTERING FOR CONSTRUCTION, MAINTENANCE OR ANY OTHER PURPOSE. THE DESIGN DOCUMENTATION CALLS FOR WARNING SIGNS AND BARRIERS TO UNAUTHORIZED ACCESS. THESE SHOULD BE THROUGHOUT THE LIFE OF THE BUILDING. WHERE WORKERS ARE REQUIRED TO ENTER ENCLOSED SPACES, AIR TESTING EQUIPMENT AND PERSONAL PROTECTIVE EQUIPMENT SHOULD BE PROVIDED. WORKERS SHOULD BE ADEQUATELY TRAINED IN CONFINED SPACE ACCESS.

7.3. SMALL SPACES:

7.3.1. FOR BUILDINGS WITH SMALL SPACES WHERE MAINTENANCE OR OTHER ACCESS MAY BE REQUIRED: SOME SMALL SPACES WITH THIS STRUCTURE MAY REQUIRE ACCESS BY CONSTRUCTION OR MAINTENANCE WORKERS. THE DESIGN DOCUMENTATION CALLS FOR WARNING SIGNS AND BARRIERS TO UNAUTHORIZED ACCESS. THESE SHOULD BE MAINTAINED THROUGHOUT THE LIFE OF THE BUILDING. WHERE WORKERS ARE REQUIRED TO ENTER SMALL SPACES THEY SHOULD BE SCHEDULED SO THAT ACCESS IS FOR SHORT PERIODS. MANUAL LIFTING AND OTHER MANUAL ACTIVITY SHOULD BE RESTRICTED IN SMALL SPACES.

8.0. PUBLIC ACCESS:

8.1. PUBLIC ACCESS TO CONSTRUCTION AND DEMOLITION SITES AND TO AREAS UNDER MAINTENANCE CAUSES RISK TO WORKERS AND THE PUBLIC. WARNING SIGNS AND SECURE BARRIERS TO UNAUTHORIZED ACCESS SHOULD BE PROVIDED. WHERE ELECTRICAL INSTALLATIONS, EXCAVATIONS, PLANT OR LOOSE MATERIALS ARE PRESENT THEY SHOULD BE SECURED WHEN NOT FULLY SUPERVISED.

9.0. OTHER HIGH RISK ACTIVITY:

9.1. ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CODE OF PRACTICE: MANAGING ELECTRICAL RISKS AT THE WORK PLACE, AS/NZ 3012 AND ALL LICENSING REQUIREMENTS.

9.2. ALL WORKING USING PLANT SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE CODE OF PRACTICE: MANAGING RISKS OF PLANT AT THE WORKPLACE. ALL PLANT OPERATORS SHALL HAVE SUITABLE TRAINING.

9.3. ALL WORK SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE CODE OF PRACTICE: MANAGING NOISE AND PREVENTING HEARING LOSS AT WORK. DUE TO THE HISTORY OF SERIOUS INCIDENTS IT IS RECOMMENDED THAT PARTICULAR CARE BE EXERCISED WHEN UNDERTAKING WORK INVOLVING STEEL CONSTRUCTION AND CONCRETE PLACEMENT. ALL THE ABOVE APPLIES.

9.4. NO ADDITIONAL RISKS EXIST THAT WE AS THE DESIGNER ARE AWARE OF. IN THE EVENT OF UNFORSEEN RISKS, ADVICE SHOULD BE SOUGHT FOR SPECIFIC METHODS OF ADDRESSING THEM.

10.0. LEGISLATION:

10.1. QUEENSLAND WORK HEALTH AND SAFETY (QWHS) ACT 2011

10.2. QUEENSLAND WORK HEALTH AND SAFETY REGULATION 2011

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2018/943

Date: 31 July 2018



FOR CONSTRUCTION

25.05.18	A	ISSUE FOR CONSTRUCTION	DS	BL	
DATE	REV	DESCRIPTION	REC	APP	
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BRISBANE OFFICE

LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361

FORTITUDE VALLEY, QLD 4006

PH: (07) 3253 2222

WEB: www.premise.com.au

DESIGNED J. POURGHASEMIAN	SCALE
CHECKED C. MATHESON	
PROJECT MANAGER B. LANCINI	
ENGINEERING CERTIFICATION	
	DATE 05/25/18
BEN LANCINI	RPEQ 16031

ORIGINAL SHEET SIZE A1

CLIENT

MIRVAC GROUP

PROJECT

LANDSCAPE STRUCTURES

LOCATION

EVERLEIGH, TEVIOT ROAD, GREENBANK

SHEET TITLE

SAFETY IN DESIGN NOTES

JOB CODE

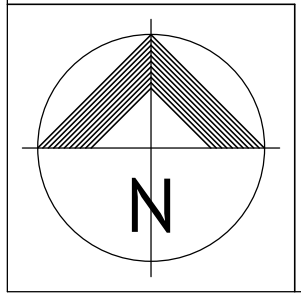
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SHEET NUMBER

S020

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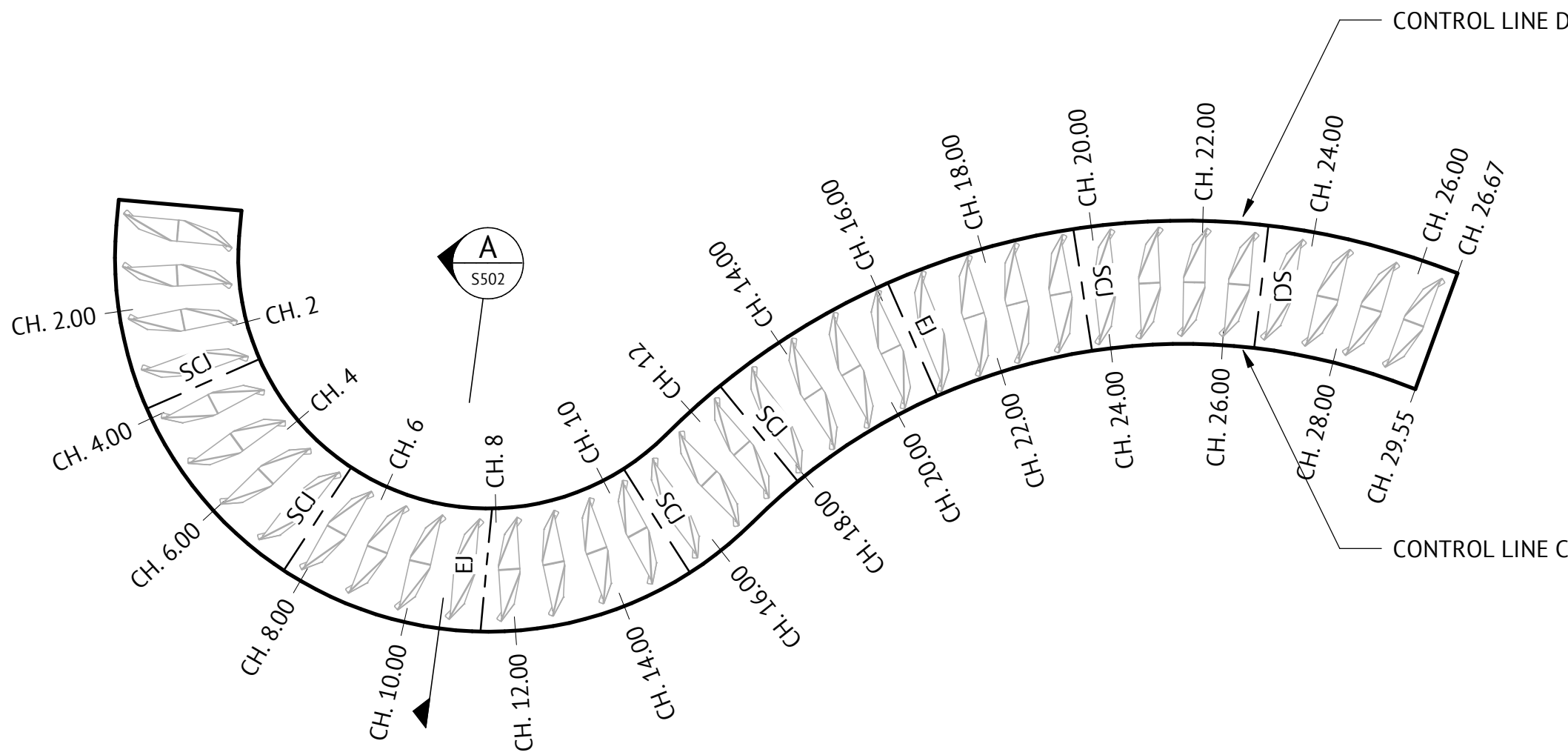


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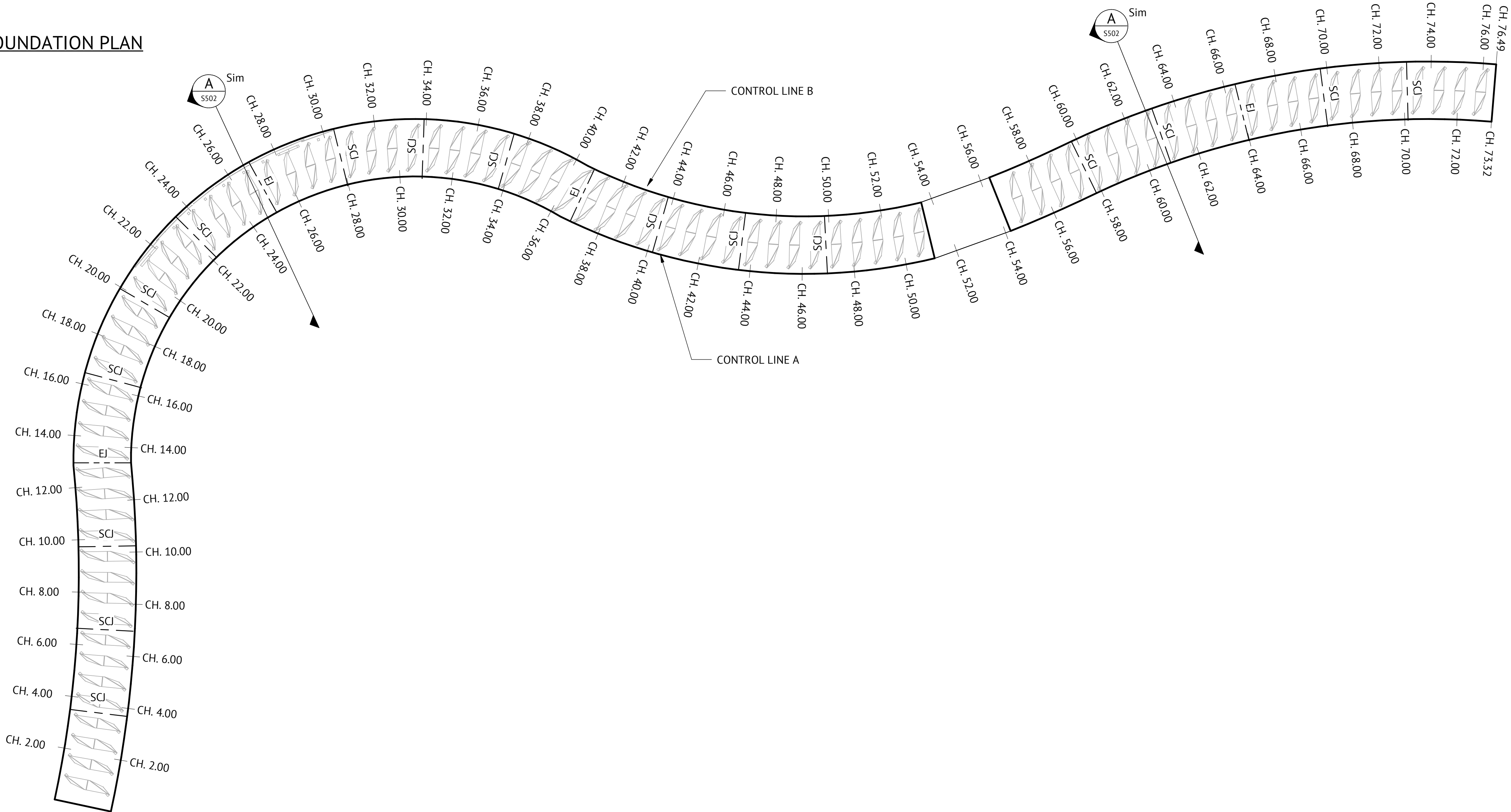
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LEGEND

- SCJ — DENOTES SAW CUT CONSTRUCTION JOINT - REFER MIR-001-06-S502 FOR DETAILS
- EJ — DENOTES EXPANSION JOINT - REFER MIR-001-06-S502 FOR DETAILS



NORTHERN ENTRY FEATURE FOUNDATION PLAN
SCALE 1 : 100



SOUTHERN ENTRY FEATURE FOUNDATION PLAN
SCALE 1 : 100

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2018/943
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BRISBANE OFFICE
LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361
FORTITUDE VALLEY, QLD 4006
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED
B. LANCINI
CHECKED
B. LANCINI
PROJECT MANAGER
B. LANCINI
ENGINEERING CERTIFICATION
DATE
14.06.18
BEN LANCINI RPEQ 16031

SCALE
0 2000 4000 6000mm
SCALE 1: 100
ORIGINAL SHEET SIZE A1

CLIENT
MIRVAC GROUP

PROJECT
LANDSCAPE STRUCTURES

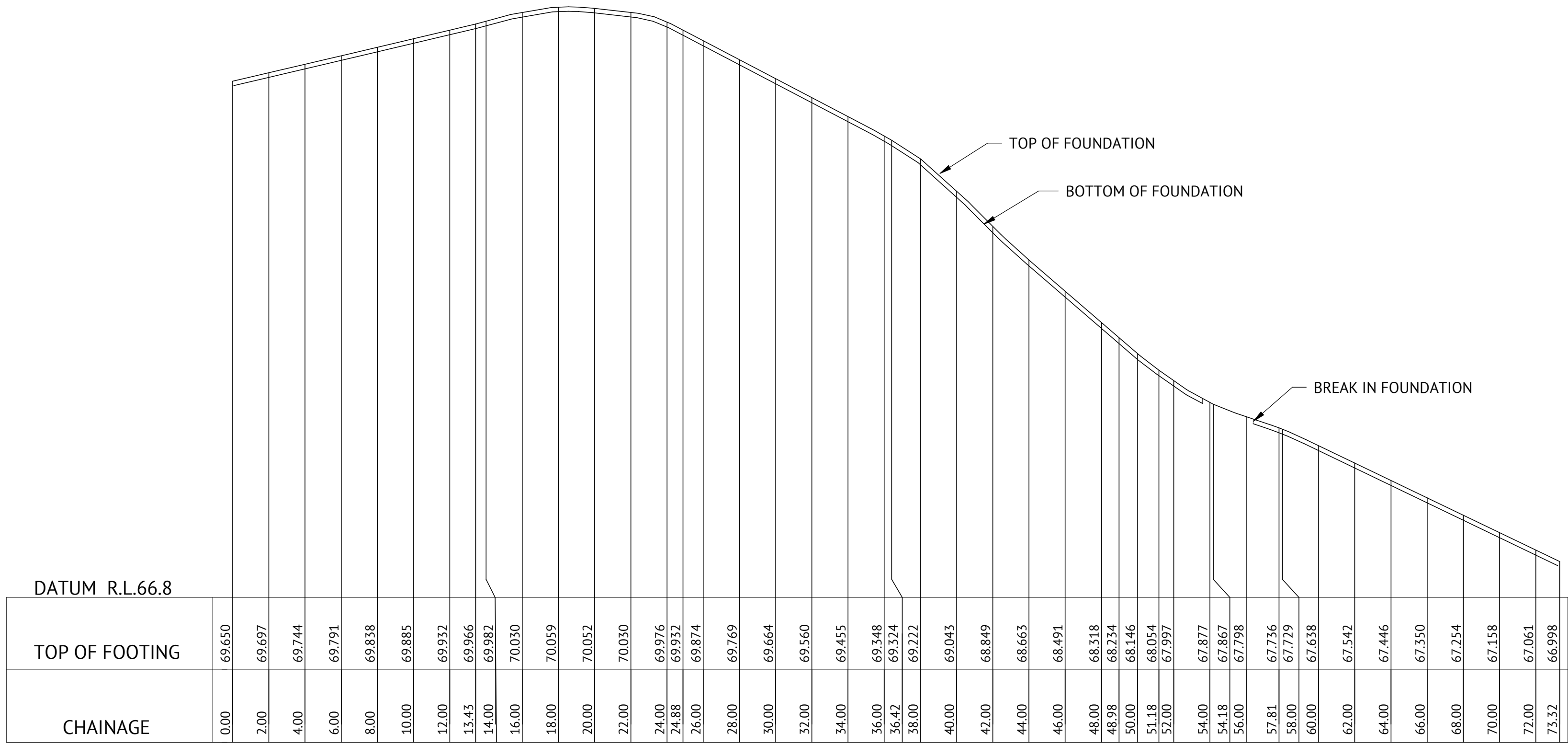
LOCATION
EVERLEIGH, TEVIOT ROAD, GREENBANK

SHEET TITLE
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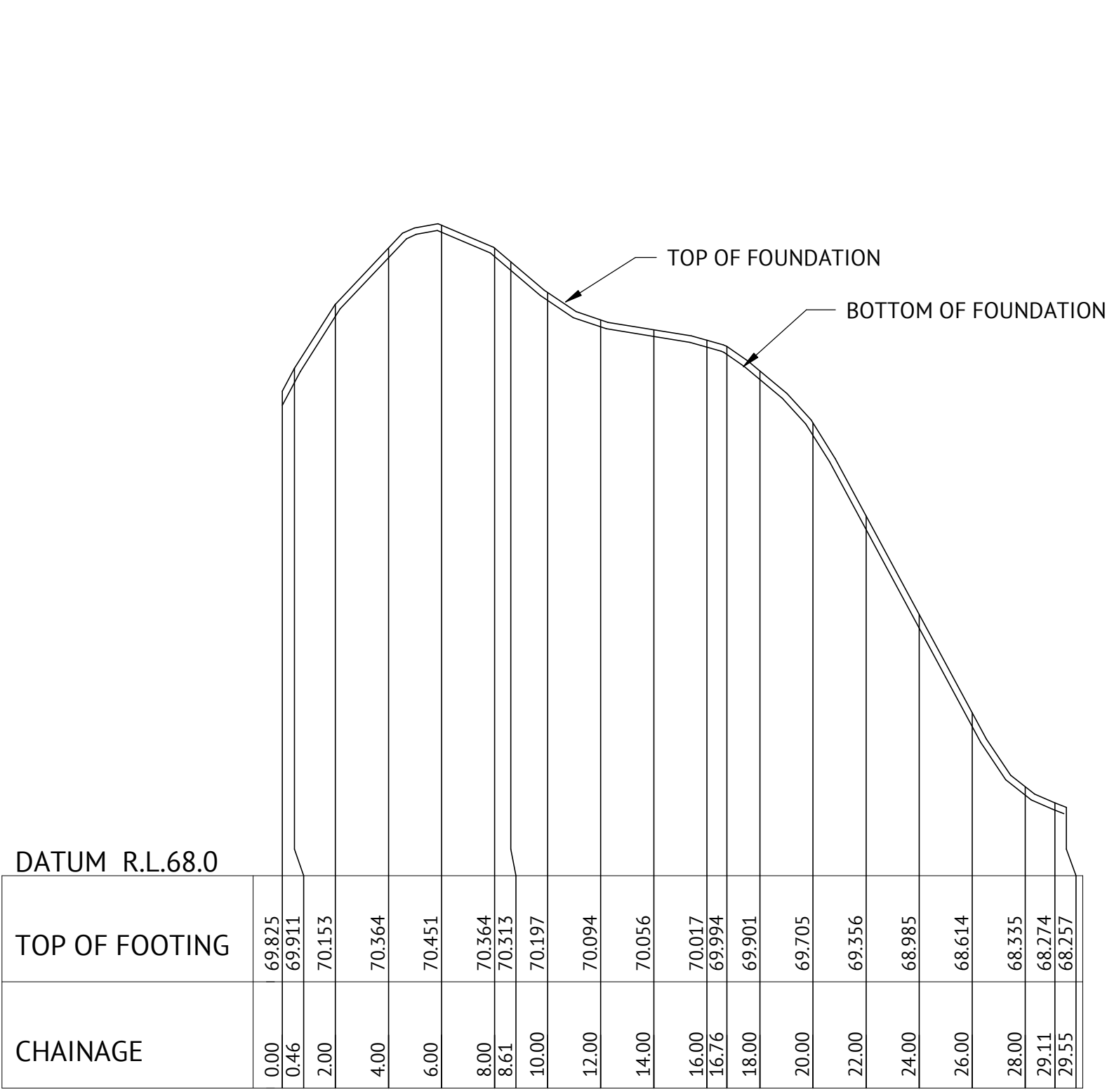
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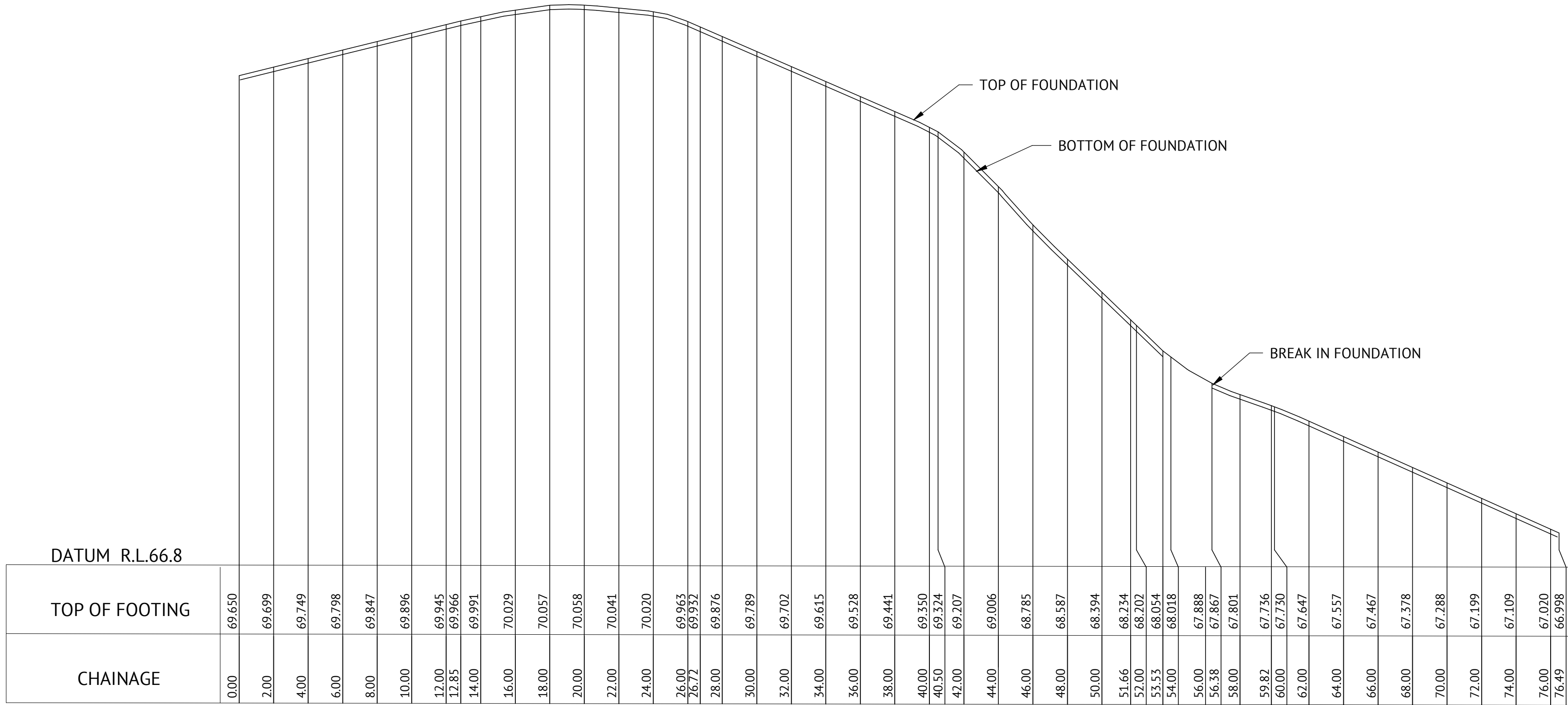
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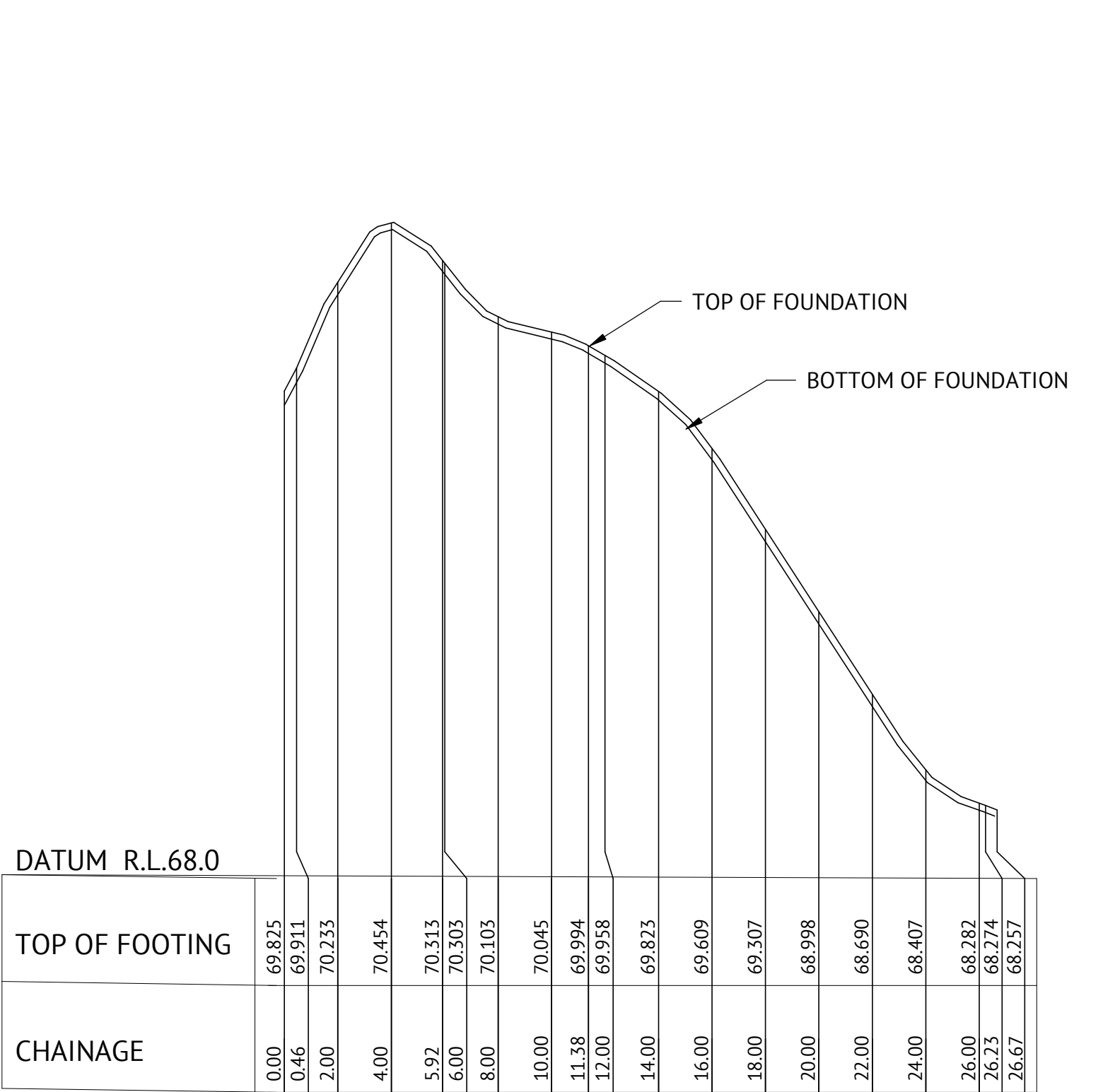
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NORTHERN FOUNDATION - CONTROL LINE C



SOUTHERN FOUNDATION - CONTROL LINE B



NORTHERN FOUNDATION - CONTROL LINE D

CONTROL LINES - LONGITUDINAL SECTIONS

PLANS AND DOCUMENTS
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BRISBANE OFFICE
LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361
FORTITUDE VALLEY, QLD 4006
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED
B. LANCINI
CHECKED
B. LANCINI
PROJECT MANAGER
B. LANCINI
ENGINEERING CERTIFICATION

DATE
15.06.18
RPEQ 16031

SCALE

HORIZONTAL 1:200 (A1)
VERTICAL 1:20 (A1)
ORIGINAL SHEET SIZE A1

CLIENT
MIRVAC GROUP

PROJECT
LANDSCAPE STRUCTURES

LOCATION
EVERLEIGH, TEVIOT ROAD, GREENBANK

SHEET TITLE
NORTHERN & SOUTHERN ENTRY FEATURES - LONGITUDINAL SECTIONS

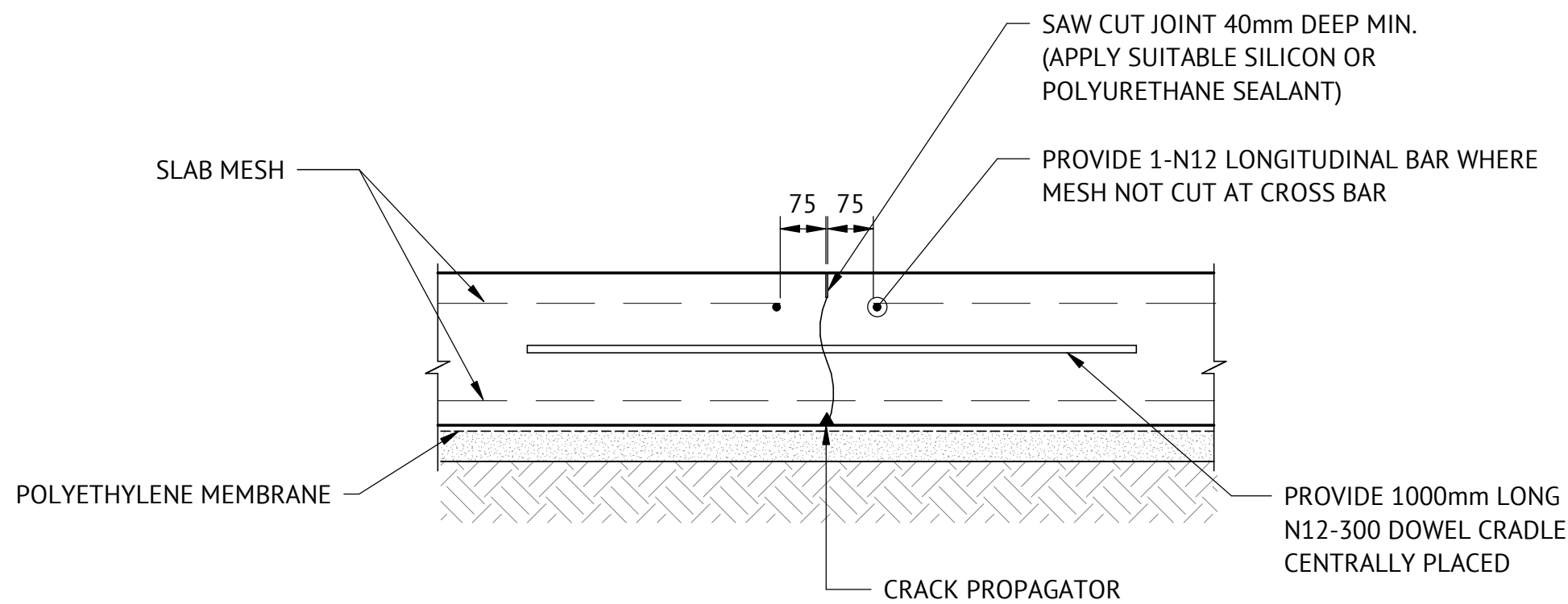
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MIR-001-06

SHEET NUMBER
S501

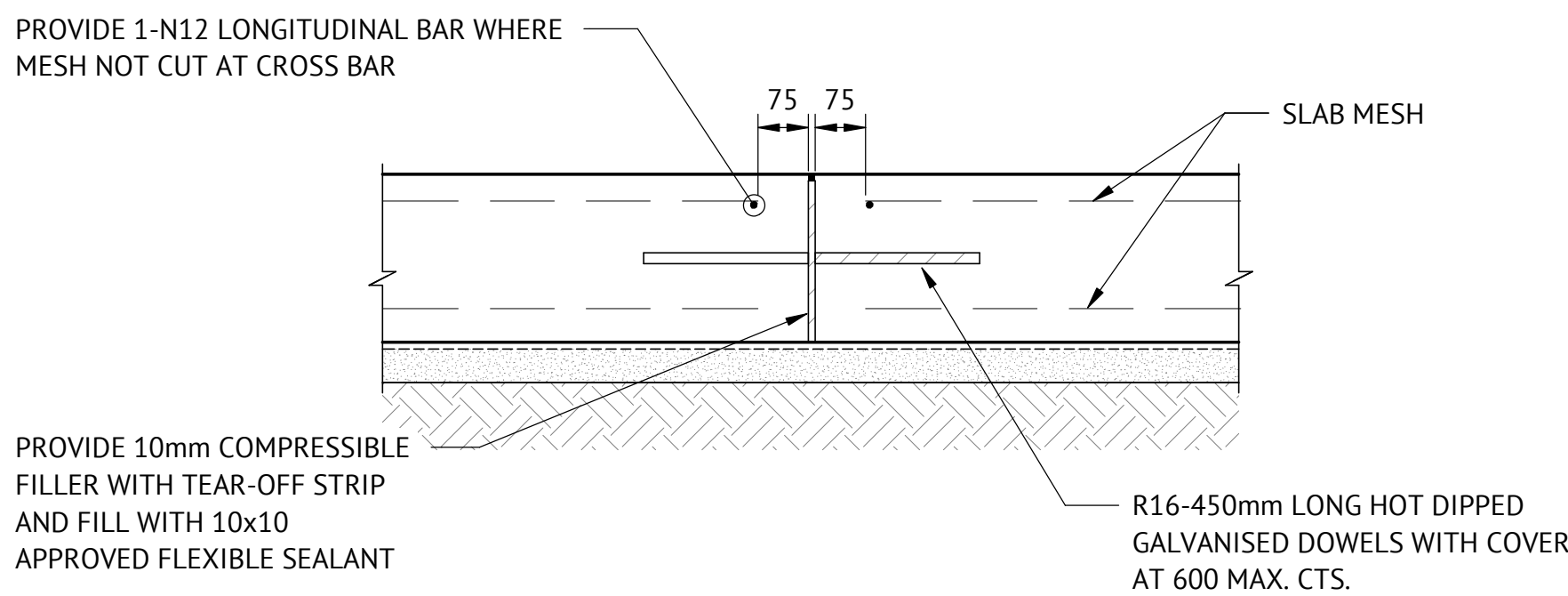
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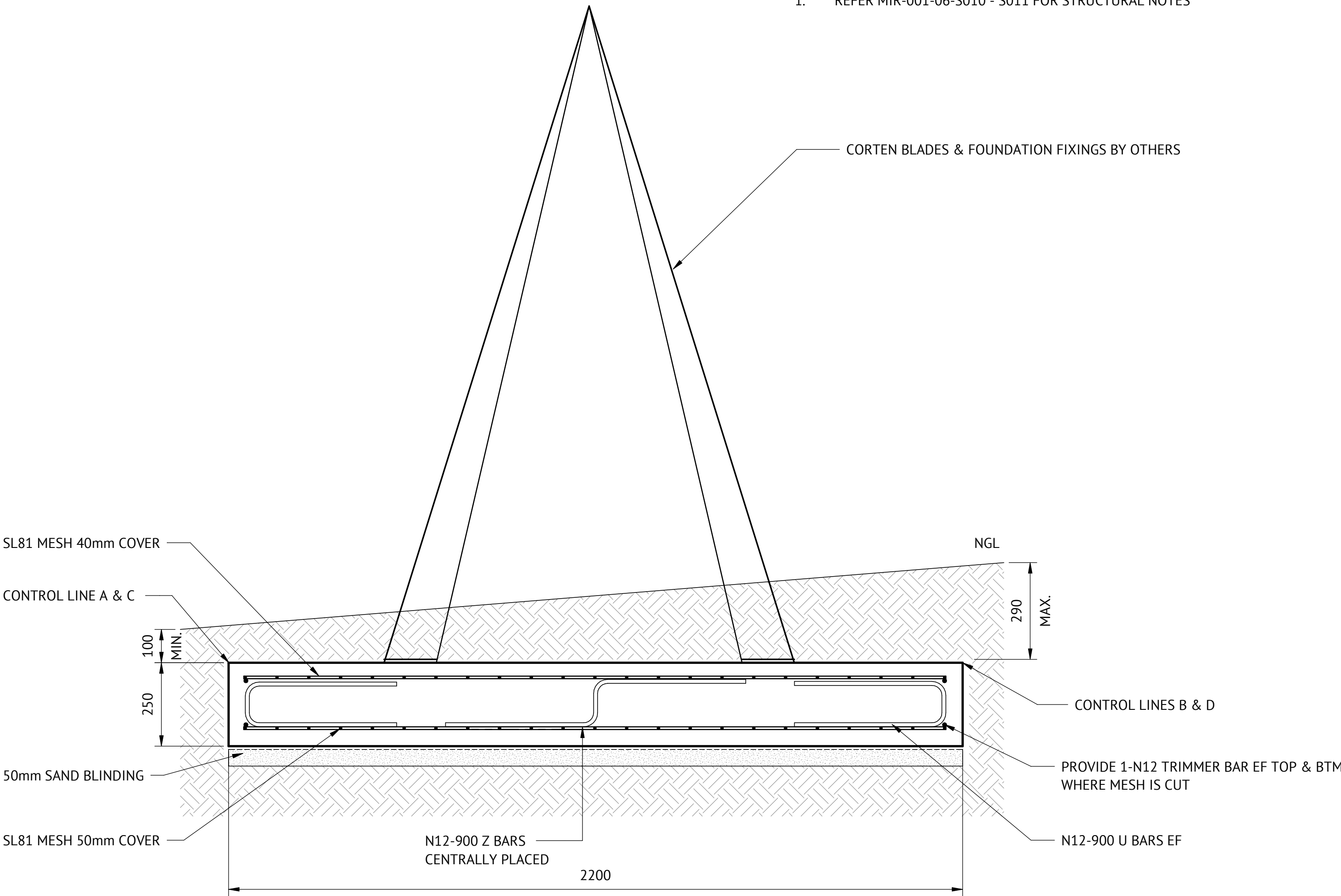
1. REFER MIR-001-06-S010 - S011 FOR STRUCTURAL NOTES



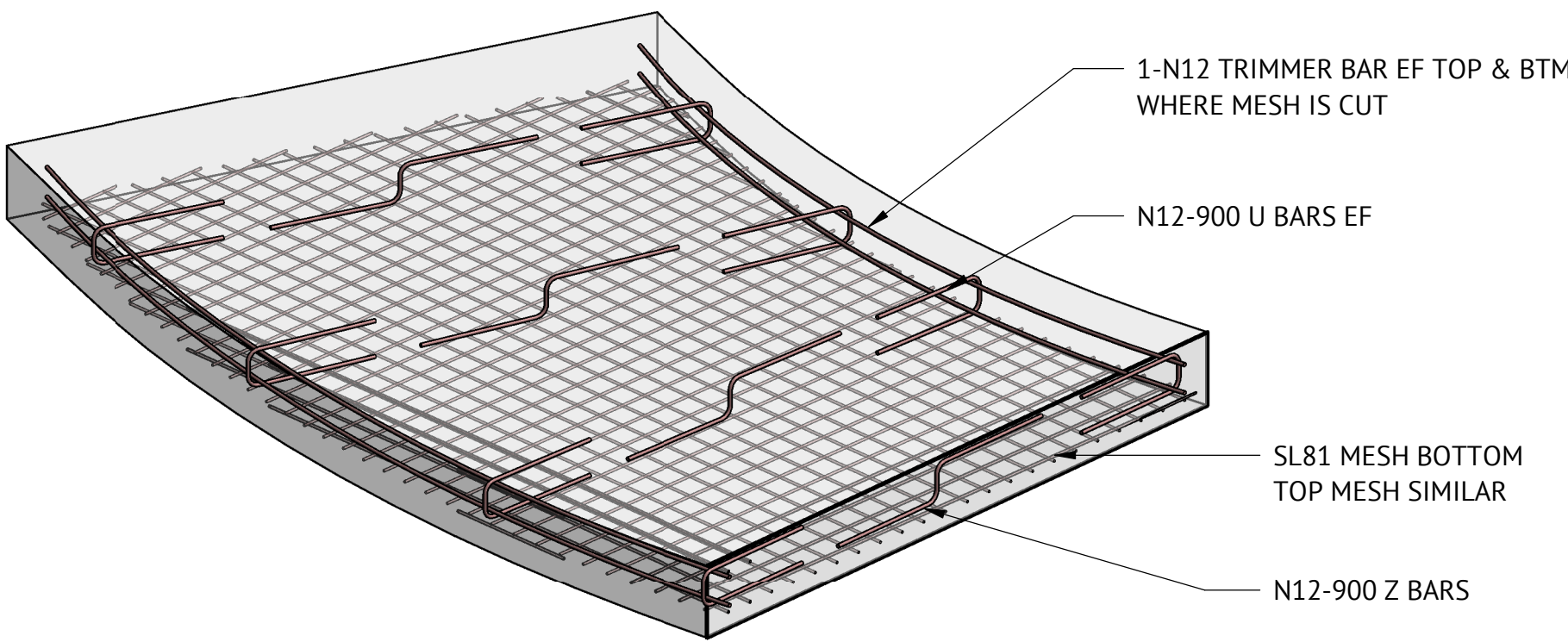
TYPICAL SAW CUT JOINT DETAIL - SCJ
SCALE 1 : 10



TYPICAL EXPANSION JOINT DETAIL - EJ
SCALE 1 : 10



A SECTION
S500
SCALE 1 : 10



TOP MESH OMITTED FOR CLARITY
TYPICAL FOUNDATION REINFORCEMENT
PERSPECTIVE VIEW

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
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BRISBANE OFFICE
LEVEL 1, 100 BRUNSWICK STREET
PO BOX 361
FORTITUDE VALLEY, QLD 4006
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED B. LANCINI	DATE 15.06.18
CHECKED B. LANCINI	
PROJECT MANAGER B. LANCINI	
ENGINEERING CERTIFICATION	
BEN LANCINI	RPEQ 16031

SCALE
0 200 400 600mm
SCALE 1: 10
ORIGINAL SHEET SIZE A1

CLIENT	MIRVAC GROUP	JOB CODE	MIR-001-06
PROJECT	LANDSCAPE STRUCTURES	SHEET NUMBER	S502
LOCATION	EVERLEIGH, TEVIOT ROAD, GREENBANK	REV	A
SHEET TITLE	NORTHERN & SOUTHERN ENTRY FEATURES - SECTIONS & DETAILS		