

SHORING AND BULK EARTHWORKS
SCALE 1:100

TEMPORARY INCLINED STRUT AND WALER SCHEDULE	
ST1610 x 9.5 CHS
ST2355.6 x 6.4 CHS
ST3273 x 6.4 CHS
WA1460UB74.6
WA2360UB44.7

GENERAL

- G1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S REQUIREMENTS AND SPECIFICATIONS.
- G2. ALL WORK SHALL BE DONE IN A SOUND, EFFICIENT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH SOUND ENGINEERING PRACTICE AND PRINCIPLES. ALL WORKS ARE TO BE COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ALSO WITH THE ENGINEERING PURPOSE AND INTENT OF THE DRAWINGS SPECIFICATIONS AND INSTRUCTIONS BY PROJECT MANAGER.
- G3. LOCATION OF EXISTING SERVICES (IF SHOWN) IS APPROXIMATE ONLY. CONTRACTOR SHALL CHECK LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND ACCEPT FULL RESPONSIBILITY FOR THE COST OF REPAIRS AND CONSEQUENCES OF ANY DAMAGE WHICH MAY OCCUR TO THESE SERVICES AS A RESULT OF CONSTRUCTION WORKS.
- G4. ALL DISTURBED AREAS NOT SUBJECT TO NEW WORKS SHALL BE REINSTATED TO EXISTING CONDITION BY THE CONTRACTOR AT THE COMPLETION OF WORKS UNLESS OTHERWISE INSTRUCTED BY THE SUPERINTENDENT.
- G5. DURING THE ROAD WORKS ALL TRAFFIC MANAGEMENT IS TO BE IN ACCORDANCE WITH RMS PUBLICATION "TRAFFIC CONTROL AT WORKSITES" (JUNE 2010)
- G6. PROVIDE SURFACE AND SUBSOIL DRAINAGE TO PREVENT MOISTURE EGRESS INTO THE PAVEMENT AND SUBGRADE. REFER TO HYDRAULIC ENGINEER DRAWINGS FOR DETAILS.
- G7. REFERENCE SHALL BE MADE TO GEOTECHNICAL INVESTIGATION REPORT BY EI AUSTRALIA E25203.G04 DATED 21 NOVEMBER 2023 AND SUBSEQUENT REPORTS AND INSTRUCTIONS.
- G8. REFERENCE SHALL BE MADE TO SITE SURVEY BY BEVERIDGE WILLIAMS 2101343
- G9. THE CONTRACTOR SHALL LOCATE ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND PROTECT AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE AND/OR ADJUST IF NECESSARY. INFORMATION GIVEN ON THE DRAWINGS IN RESPECT TO SERVICE IS FOR GUIDANCE.
- G10. CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE PERMISSION OF THE OWNER AND SUPERINTENDENT.

NOTICE TO DEVELOPER / BUILDER:

THE FOLLOWING IS AN EXTRACT FROM THE PRACTICE NOTE No. 10 BY THE ASSOCIATION OF CONSULTING STRUCTURAL ENGINEERS (ACSE) OF NSW:
 "THE BUILDING OWNER SHOULD BE ADVISED THAT IN CARRYING OUT SHORING WORKS, IT IS VIRTUALLY IMPOSSIBLE TO ENTIRELY PREVENT ANY MOVEMENT OF THE EXCAVATION, AND THAT EXCAVATION MOVEMENT MAY LEAD TO DAMAGE TO ADJOINING PROPERTIES. IT IS RECOMMENDED THAT CONSULTING ENGINEERS, WITH THE APPROPRIATE ADVICE FROM THE GEOTECHNICAL CONSULTANT, ADVISE OWNERS OF THE POSSIBLE RISK ASSOCIATED WITH THE WORKS AND THE POTENTIAL FOR DAMAGE TO ADJOINING PROPERTIES, WHICH MAY SUBSEQUENTLY NEED REPAIRS (EG THE DAMAGE MAY BE IN THE FORM OF CRACKS WHICH WOULD NEED TO BE REPAIRED AT THE DEVELOPER'S EXPENSE). THIS COURSE OF ACTION IS NOT INTENDED TO BE OR APPEAR TO BE ALARMIST, BUT SIMPLY A PROPER DISCHARGE OF THE ENGINEER'S RESPONSIBILITIES. THE BUILDING OWNER SHOULD BE ADVISED TO ALLOW A SUM OF MONEY AS A CONTINGENCY FOR ANY REPAIRS TO ADJOINING BUILDINGS."

SITE PREPARATION, CLEARING AND GRUBBING

- S1. ALL WORK TO BE IN ACCORDANCE WITH AS3798 UNO
- S2. DIVERTING WATER AND DEWATERING:
THE CONTRACTOR SHALL TAKE ALL NECESSARY ACTION TO PREVENT ANY SEEPAGE OR SUBSOIL WATER FROM INTERFERING WITH THE PROGRESS OF THE WORKS. THE WORK SHALL BE KEPT FREE FROM SUCH WATER.
- S3. SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED BY COUNCIL AND AS DETAILED IN HYDR. ENG. DRAWINGS SHALL BE CARRIED OUT FOR THE FULL DURATION OF THE WORKS BY THE CONTRACTOR.
- S4. THE SITE AREA SUBJECT TO NEW WORKS IS TO BE CLEARED OF ALL VEGETATION, FALLEN TIMBER, RUBBISH, DEBRIS AND CONCRETE FOUNDATIONS.
- S5. STRIP EXISTING TOPSOIL AND DISPOSE OF OR REUSE FOR LANDSCAPING AS PER SPECIFICATION. DEPTH OF TOPSOIL MAY EXCEED 200 mm IN SOME AREAS. ONLY REMOVE TOPSOIL AS DIRECTED BY THE SUPERINTENDENT.

EARTHWORKS WHERE IN SOIL

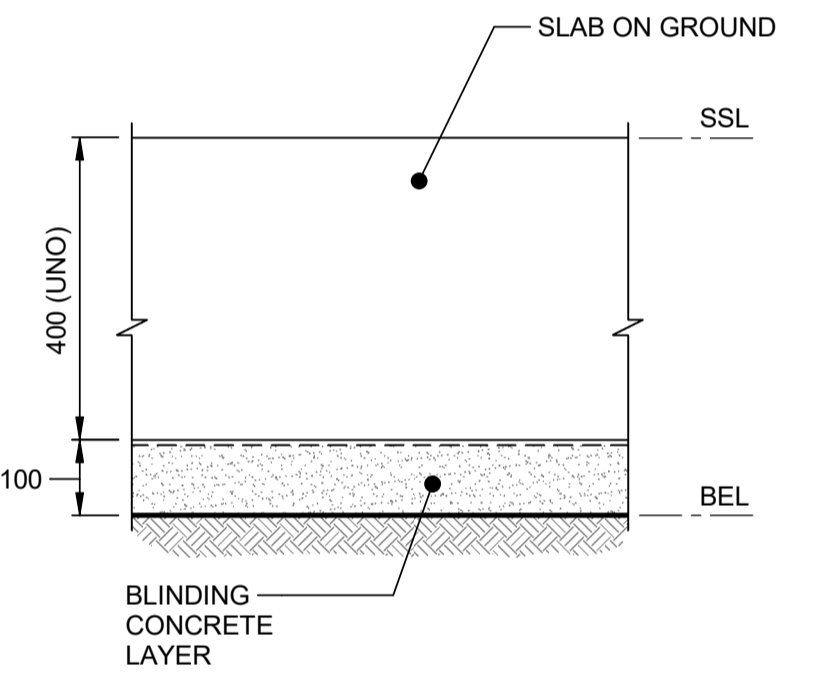
- E1. ALL WORK TO BE IN ACCORDANCE WITH AS3798-2007 AND COUNCIL REQUIREMENTS.
- E2. IN CUT AREAS:-
CUT TO LEVEL OF TOP OF SUBGRADE. REPLACE SOFT AREAS. TOP 200 OF SUBGRADE TO BE COMPACTED TO 100% STANDARD, AS PER FILLING NOTES UNO.
- E3. IN FILL AREAS:-
REPLACE SOFT AREAS, PLACE AND COMPACT NEW FILL IN 200mm MAX. THICK LAYERS (LOOSE FILL), AT MOISTURE CONTENT IN RANGE OF ± 2% OF STANDARD OPTIMUM (AS PER AS1289.5) AND COMPACT TO A RANGE BETWEEN 98% AND 102% OF STANDARD DRY DENSITY RATIO AS PER AS1289.5 TEST COMPACTED FILL UNO. TOP 200 OF SUB GRADE TO BE COMPACTED TO 100% STANDARD DRY DENSITY RATIO UNO.
- E4. FILL MATERIAL- TO BE AS SPECIFIED IN AS3798-2007 CLAUSE 4.4 AND AS AGREED WITH THE SITE SUPERINTENDENT.

EARTHWORKS WHERE IN ROCK

- E1. ALL WORK TO BE IN ACCORDANCE WITH AS3798 UNO.
- E2. CUT TO LEVEL OF TOP OF SUBGRADE PLUS THICKNESS OF GRANULAR LAYER. SUBGRADE PREPARATION TO SUIT REQUIREMENTS OF PILING CONTRACTOR'S EQUIPMENT. BULK EXCAVATION LEVELS SHOWN INCLUDE ANY TOP LAYERS REPLACED TO CREATE WORKING PLATFORM FOR PILING RIG. TOP LAYER SHALL BE COMPACTED GRANULAR MATERIAL.
- E3. FOLLOWING COMPLETION OF PILING WORKS AND PRIOR TO CONSTRUCTION OF BASEMENT SLAB, GEOTECHNICAL INSPECTION AND COMPACTION WILL BE REQUIRED.
- E4. REFER GEOTECHNICAL REPORT: EI AUSTRALIA E25203.G04 DATED 21 NOVEMBER 2023 AND SUBSEQUENT REPORTS AND INSTRUCTIONS.
- E5. DETAILED, ON-GOING INSPECTION BY AN EXPERIENCED GEOTECH ENGINEER OF ANY EXCAVATED ROCK FACES.

NOTE:

- 1. SHORING WALL TO BE CONSTRUCTED IN A STAGED MANNER SO THAT THE TEMPORARY EXCAVATION IS STABLE AT ALL TIMES.
- 2. STAGING OF EXCAVATION TO BE REVIEWED BY GEOTECHNICAL ENGINEER.
- 3. NO EXCAVATION BELOW 500 BELOW TEMPORARY ANCHOR LOCATION UNTIL TEMPORARY ANCHOR HAS BEEN FULLY STRESSED AND APPROVED.



TYPICAL BULK EXCAVATION DETAIL
SCALE 1:10

ISSUED FOR APPROVAL

NO.	REVISION	DATE
1	ISSUED FOR APPROVAL	07-08-24



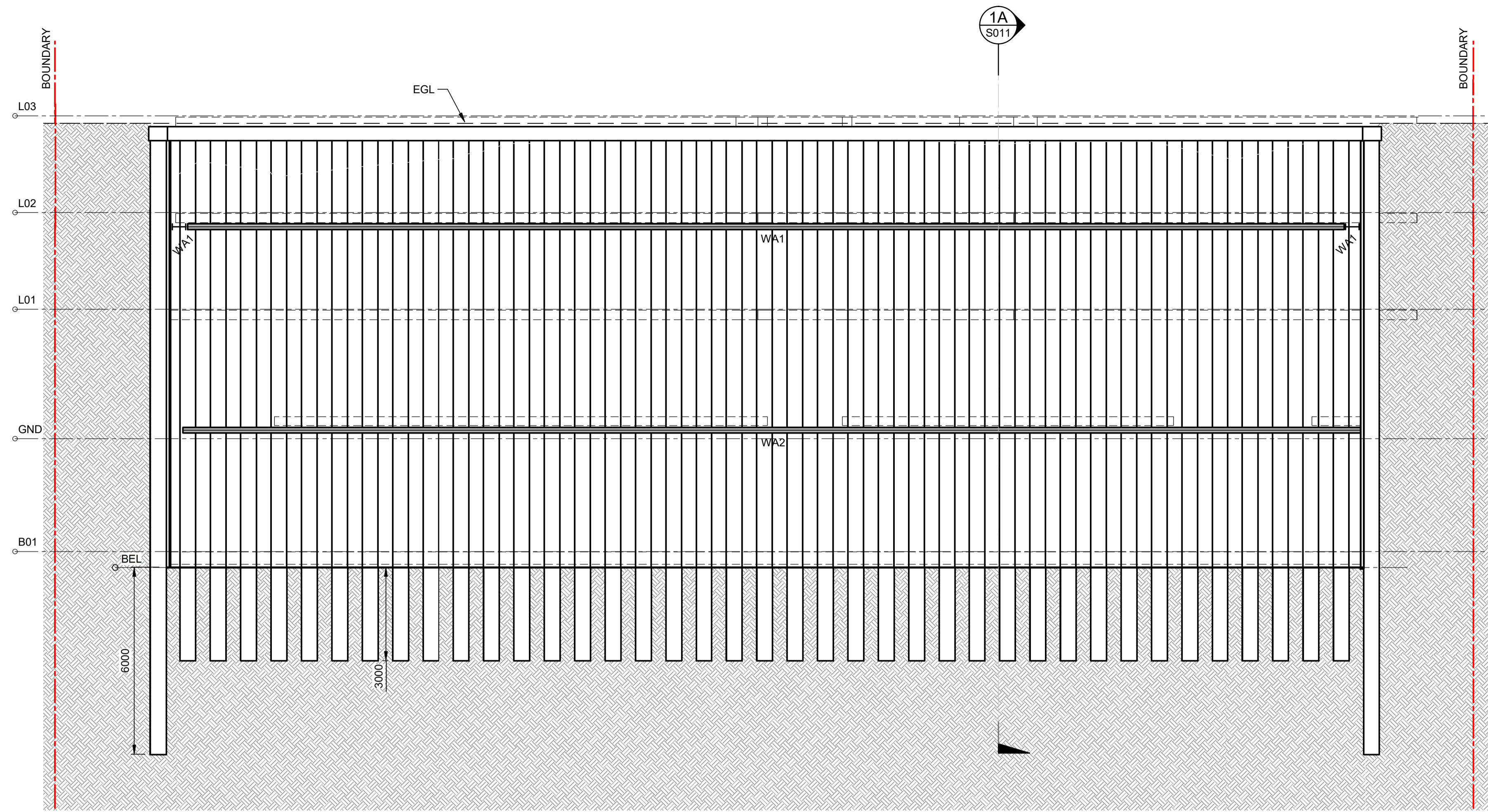
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TITLE SHORING & BULK EXCAVATION PLAN				
DRAWN BM	DESIGNED ZG	REVIEWED ZG	DATE AUG 2024	SCALE AS NOTED
JOB NO. 5598	DRAWING NO. S010		1 ISSUE	

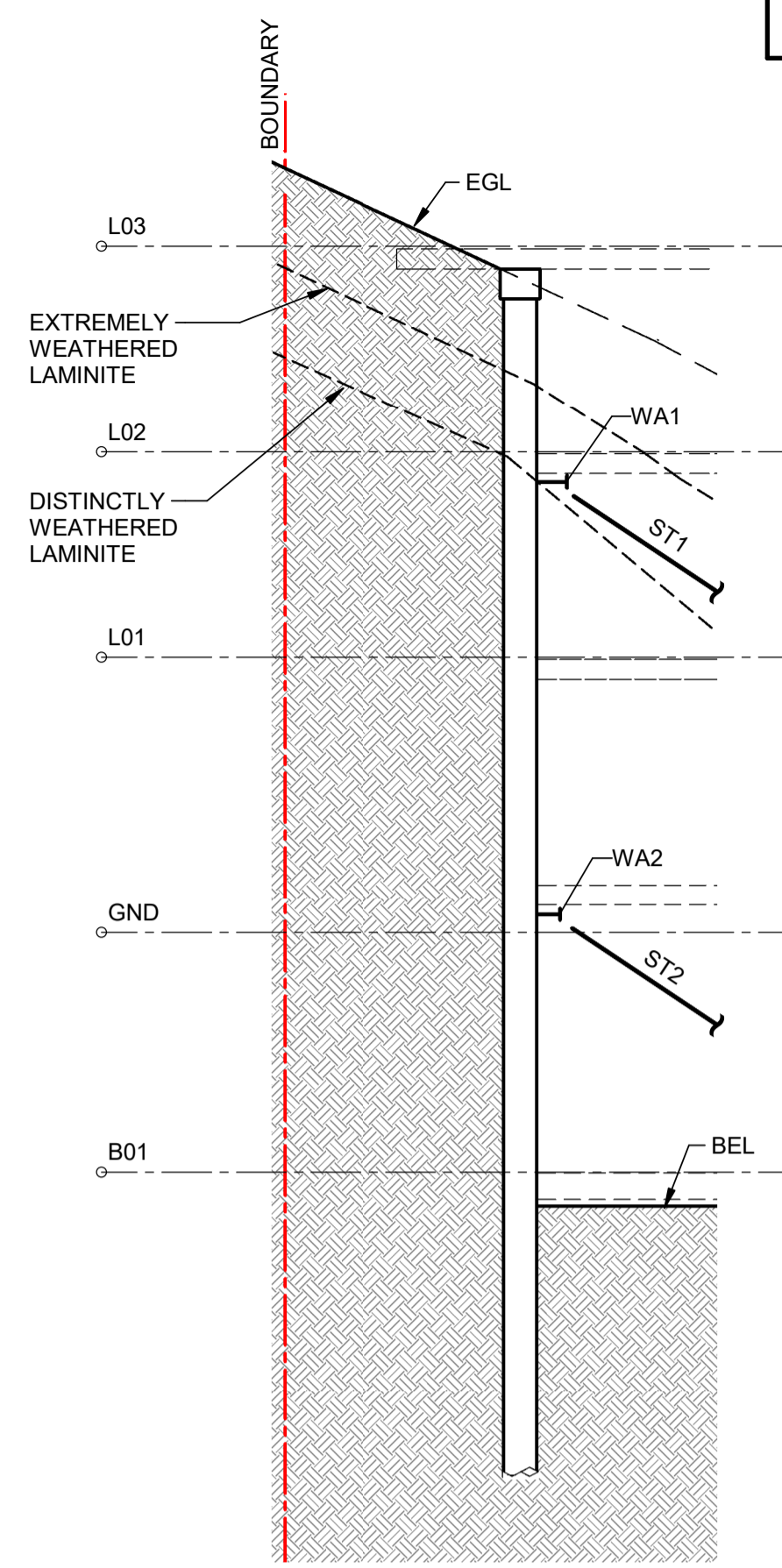


EASTERN SHORING ELEVATION (TYPE 1)

ELEVATION 1
SCALE 1 : 100

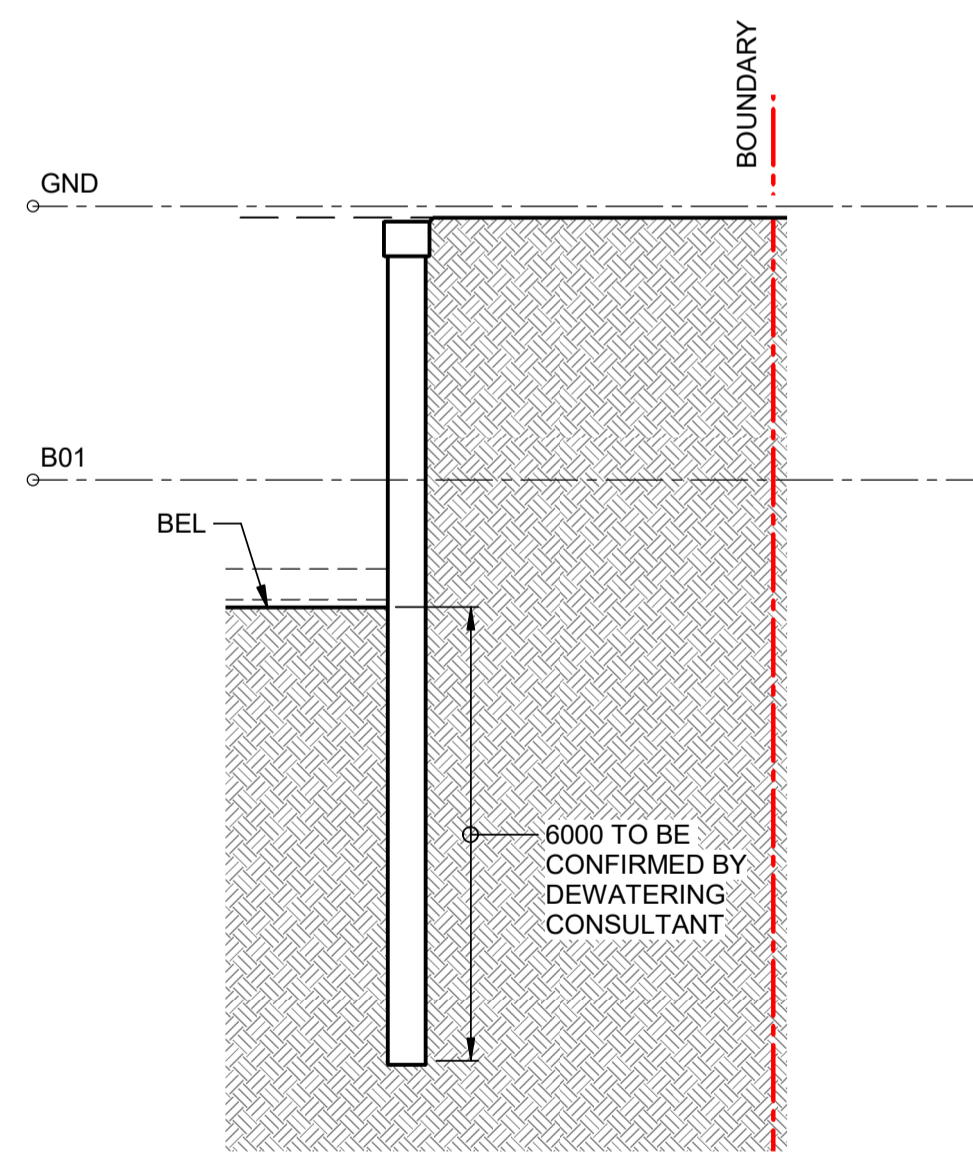
NOTE:
GEO TECHNICAL PROFILE INFERRED FROM GEO TECHNICAL REPORT. SHOWN INDICATIVELY ONLY. REFER TO SPECIFIC BOREHOLE DETAILS WHERE AVAILABLE. TO BE CONFIRMED ON SITE BY FURTHER OBSERVATIONS DURING EXCAVATION AND/OR FROM ADDITIONAL BORE HOLES.

NOTE:
REFER DWG.S010 FOR STRUT AND WALER SCHEDULE



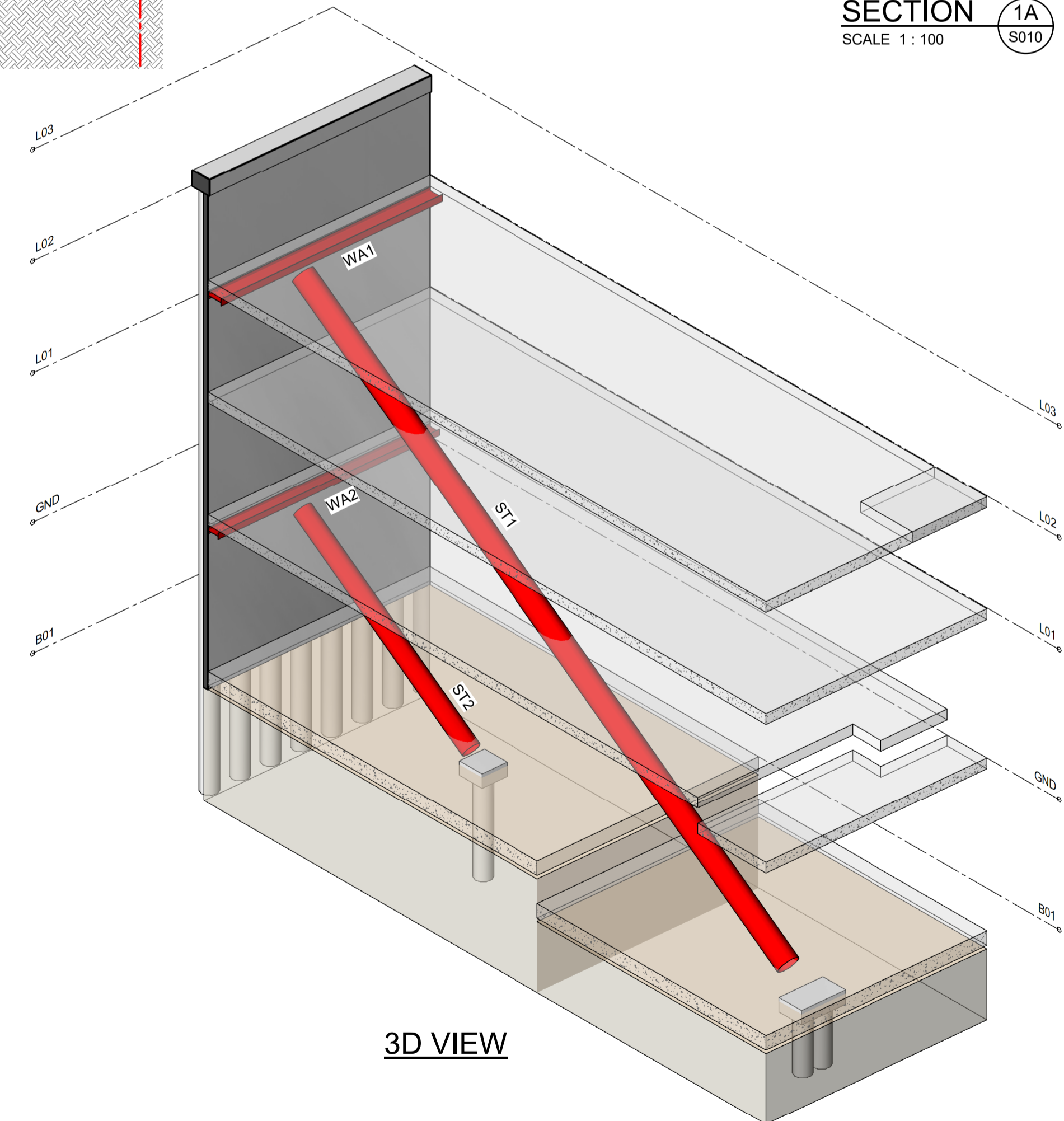
SECTION 1A
SCALE 1 : 100

REFER STAGING PLAN DWG.S020



TYPICAL TYPE 3 (SECANT PILE) SHORING (TYPE 2 SIMILAR)

SECTION 1B
SCALE 1 : 100



3D VIEW

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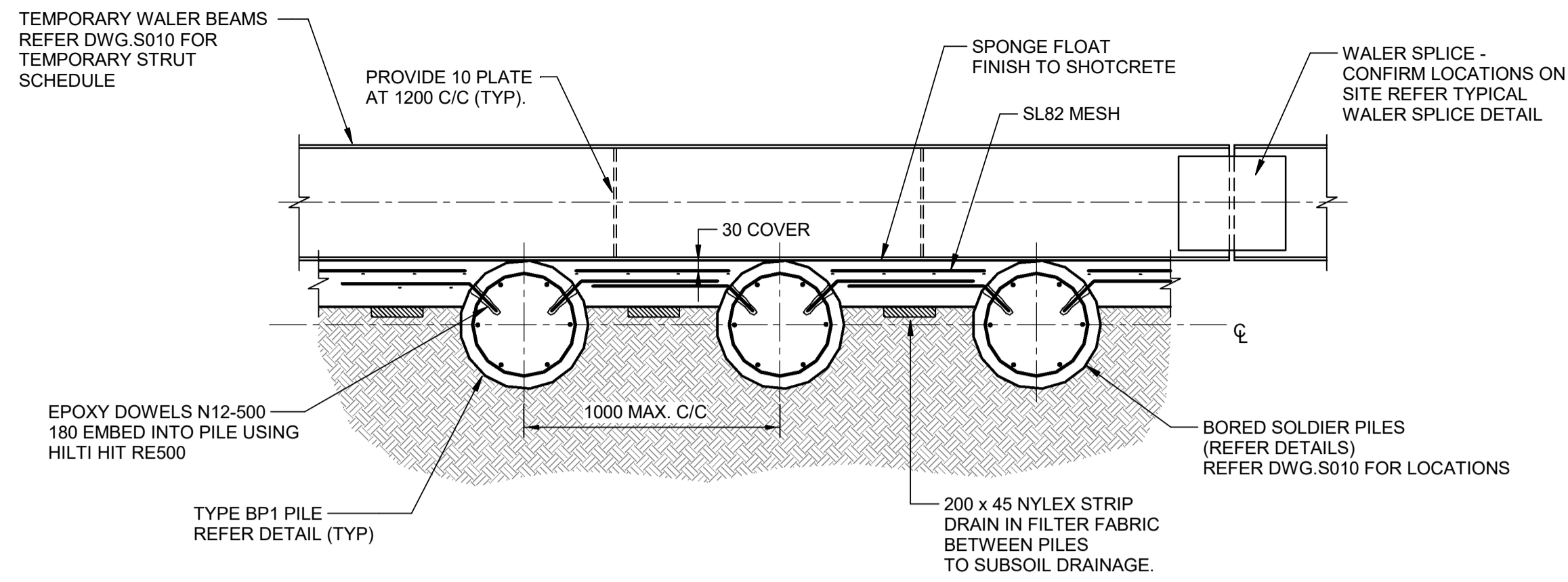
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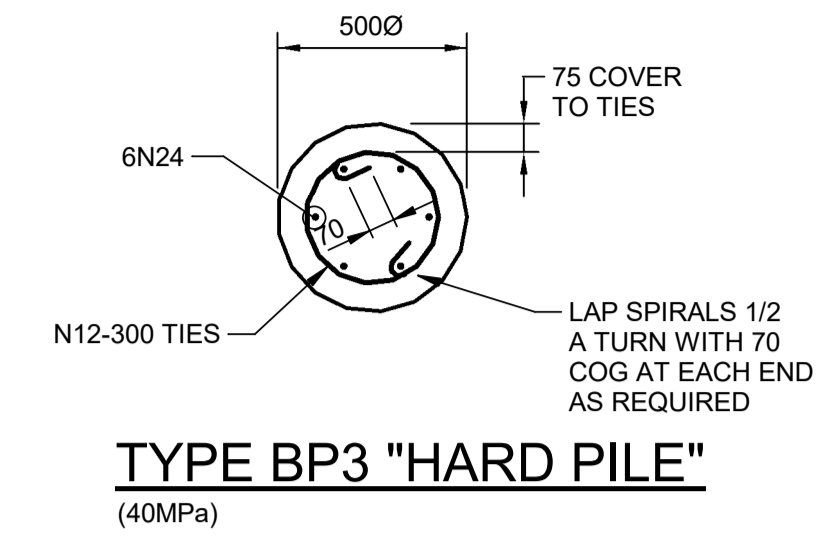
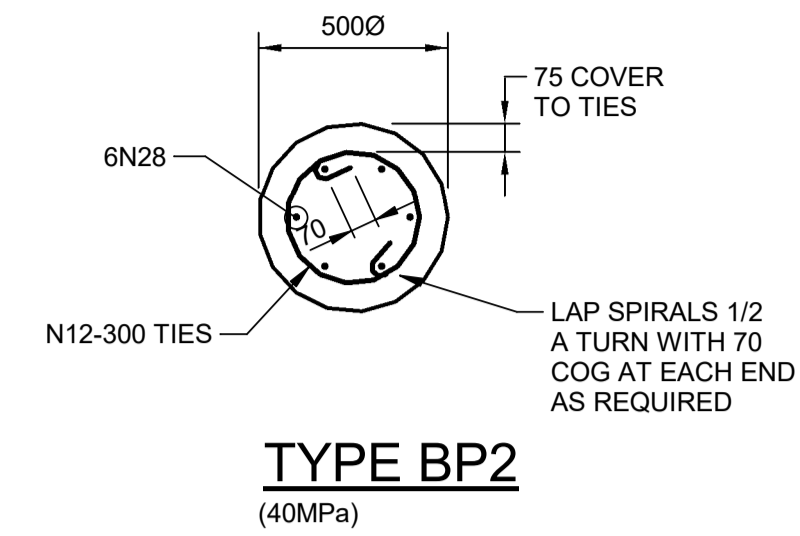
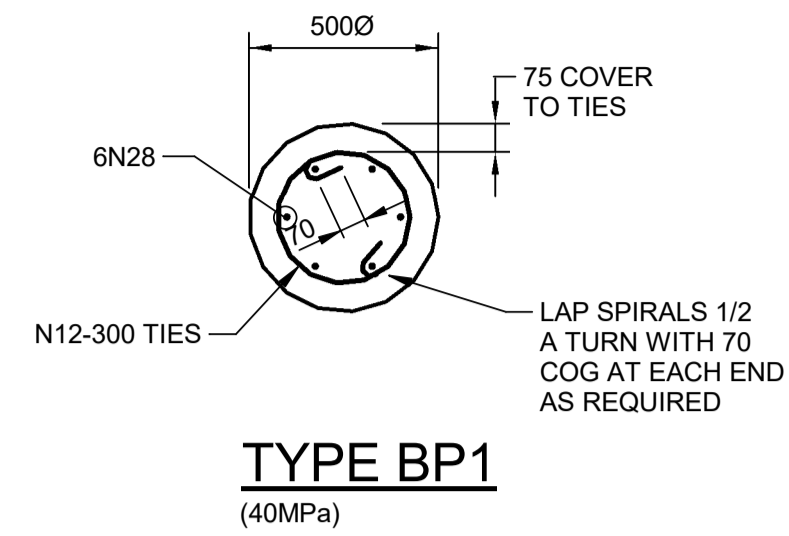
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TITLE SHORING ELEVATIONS AND SECTIONS				
DRAWN BM	DESIGNED ZG	REVIEWED ZG	DATE AUG 2024	SCALE AS NOTED
JOB NO. 5598		DRAWING NO. S011		1 ISSUE

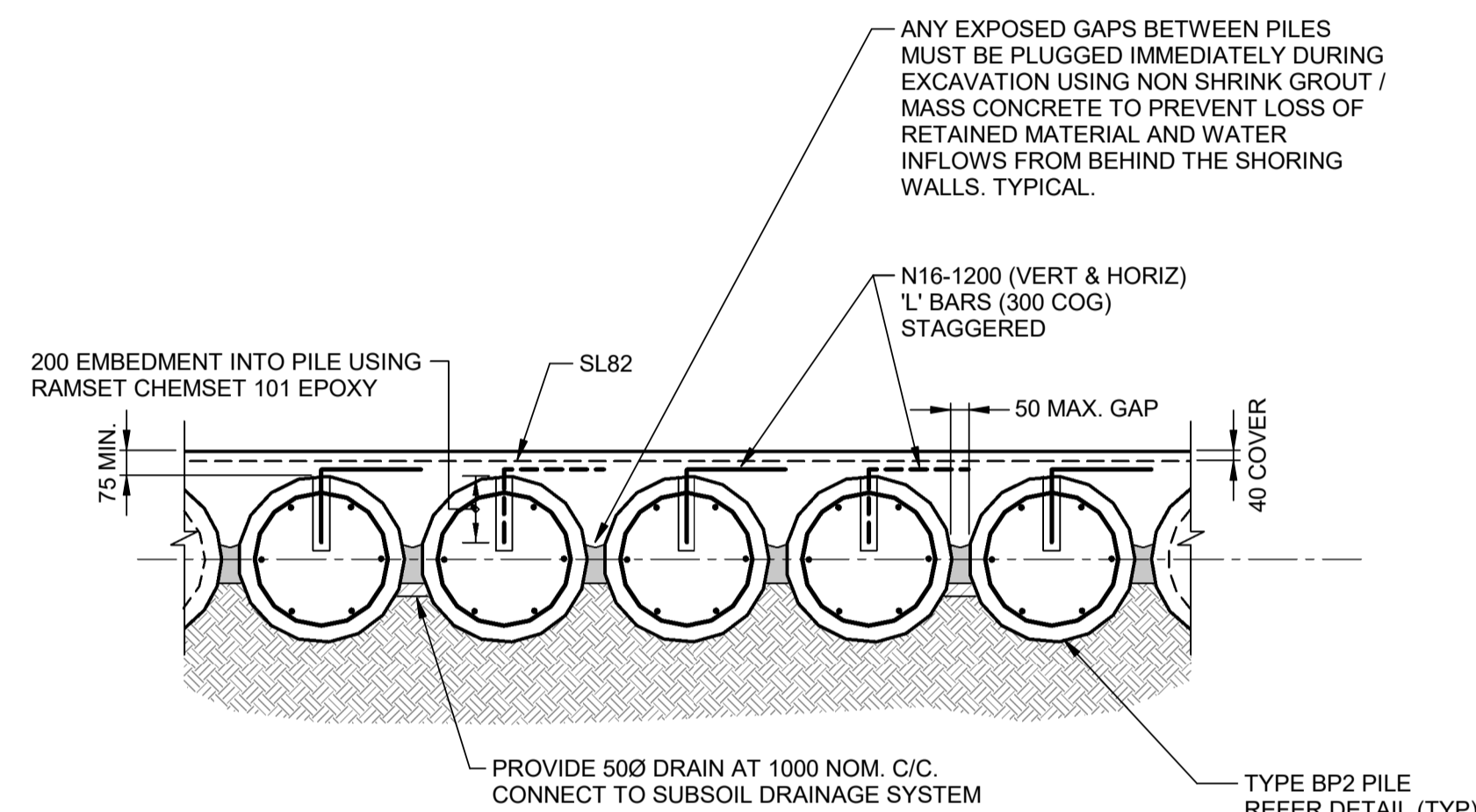


TYPICAL TYPE 1 SHORING PLAN - SOLDIER PILE AND SHOTCRETE WALL
- ABOVE MEDIUM STRENGTH SILTSTONE
NTS

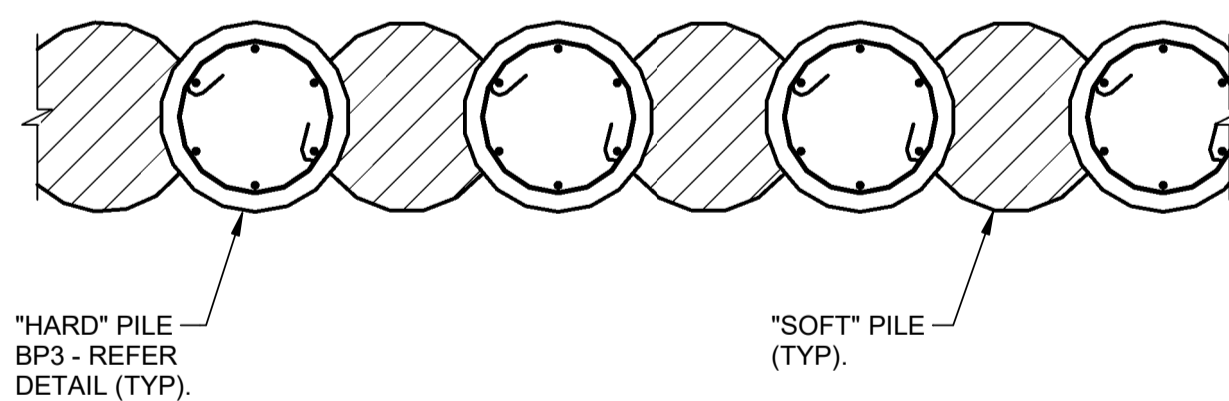


TYPE BP3 "HARD PILE"
(40MPa)
NOTE:
SECANT PILE WALL TO BE WATERTIGHT TO PILING SUB-CONTRACTOR'S DETAIL

SHORING PILE SECTIONS
SCALE 1:20
REFER PLAN FOR LOCATIONS



TYPICAL TYPE 2 SHORING PLAN - CONTIGUOUS PILE AND SHOTCRETE FACING PLAN
SCALE 1:20
IF SHOTCRETE USED, REFER GEOTECHNICAL REPORT.



TYPICAL TYPE 3 SHORING PLAN - SECANT PILE
NTS
SECANT PILE WALL TO BE WATERTIGHT TO PILING SUB-CONTRACTOR'S DETAIL

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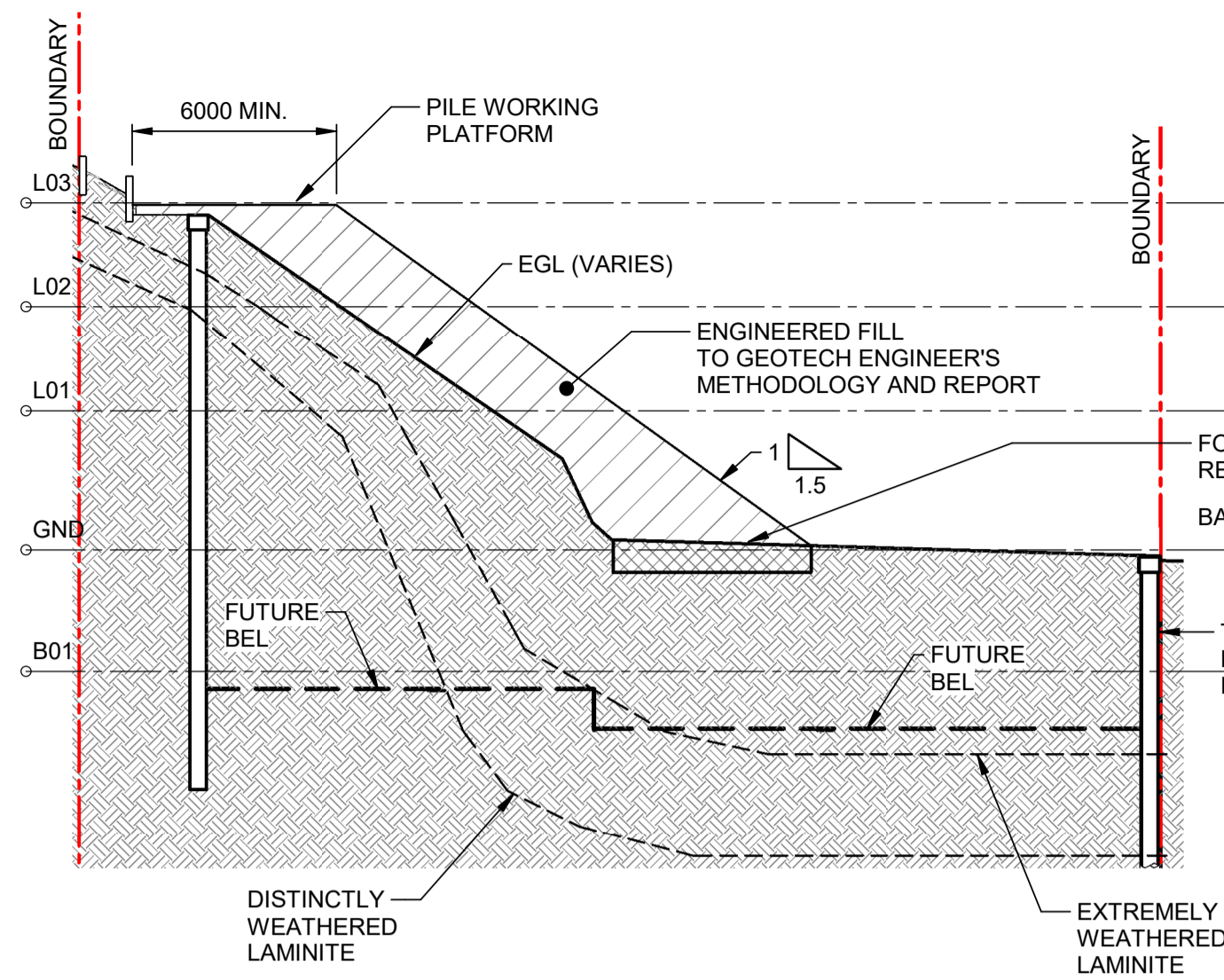
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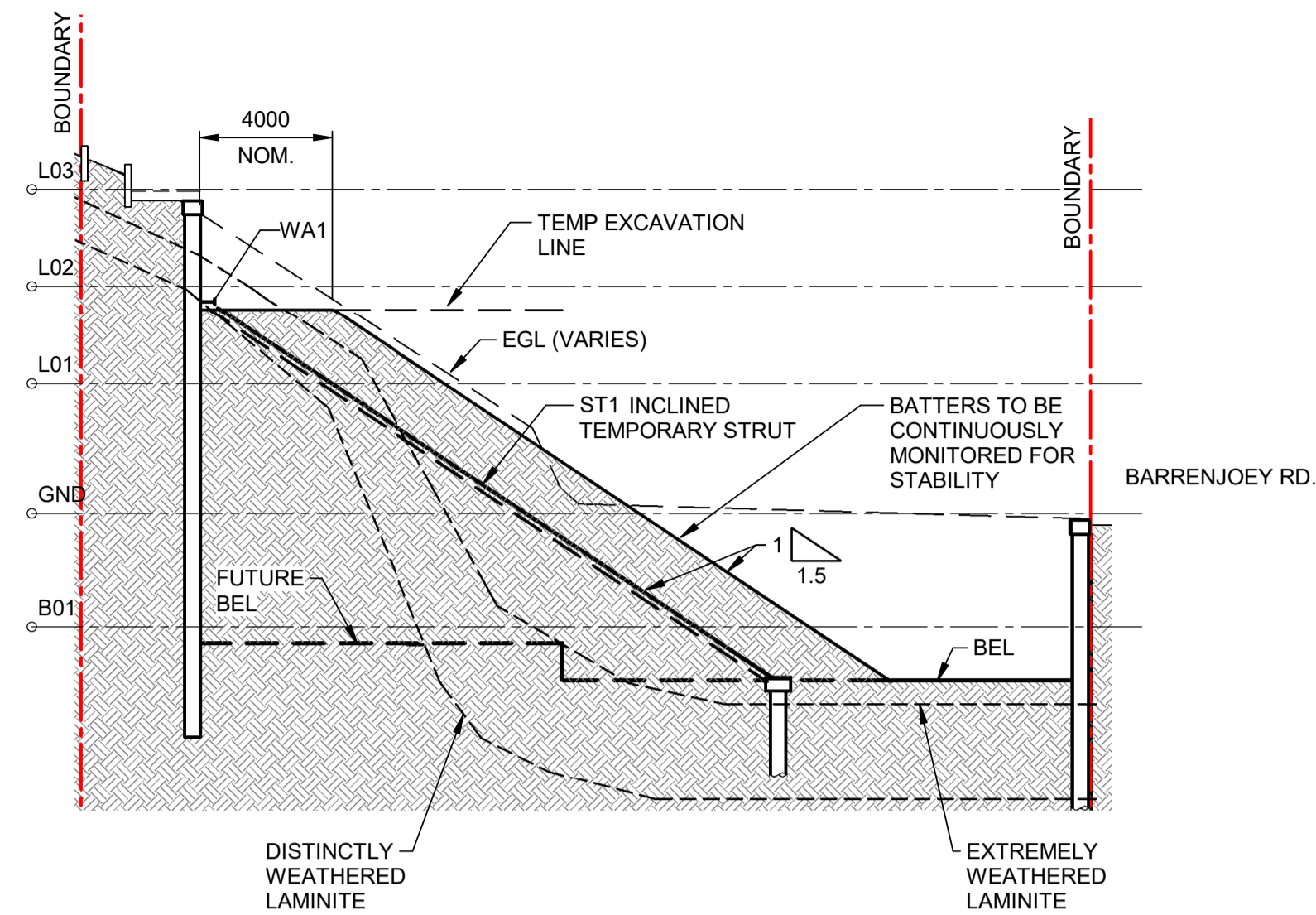
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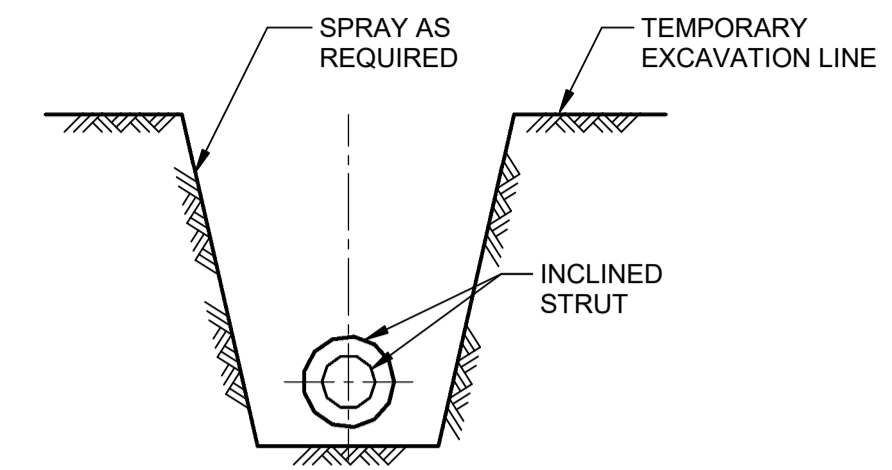
TITLE SHORING DETAILS				
DRAWN BM	DESIGNED ZG	REVIEWED ZG	DATE AUG 2024	SCALE AS NOTED
JOB NO. 5598		DRAWING NO. S015		1 ISSUE



SHORING STAGING AND SEQUENCE - STEP 1
SCALE 1 : 200



SHORING STAGING AND SEQUENCE - STEP 2
SCALE 1 : 200

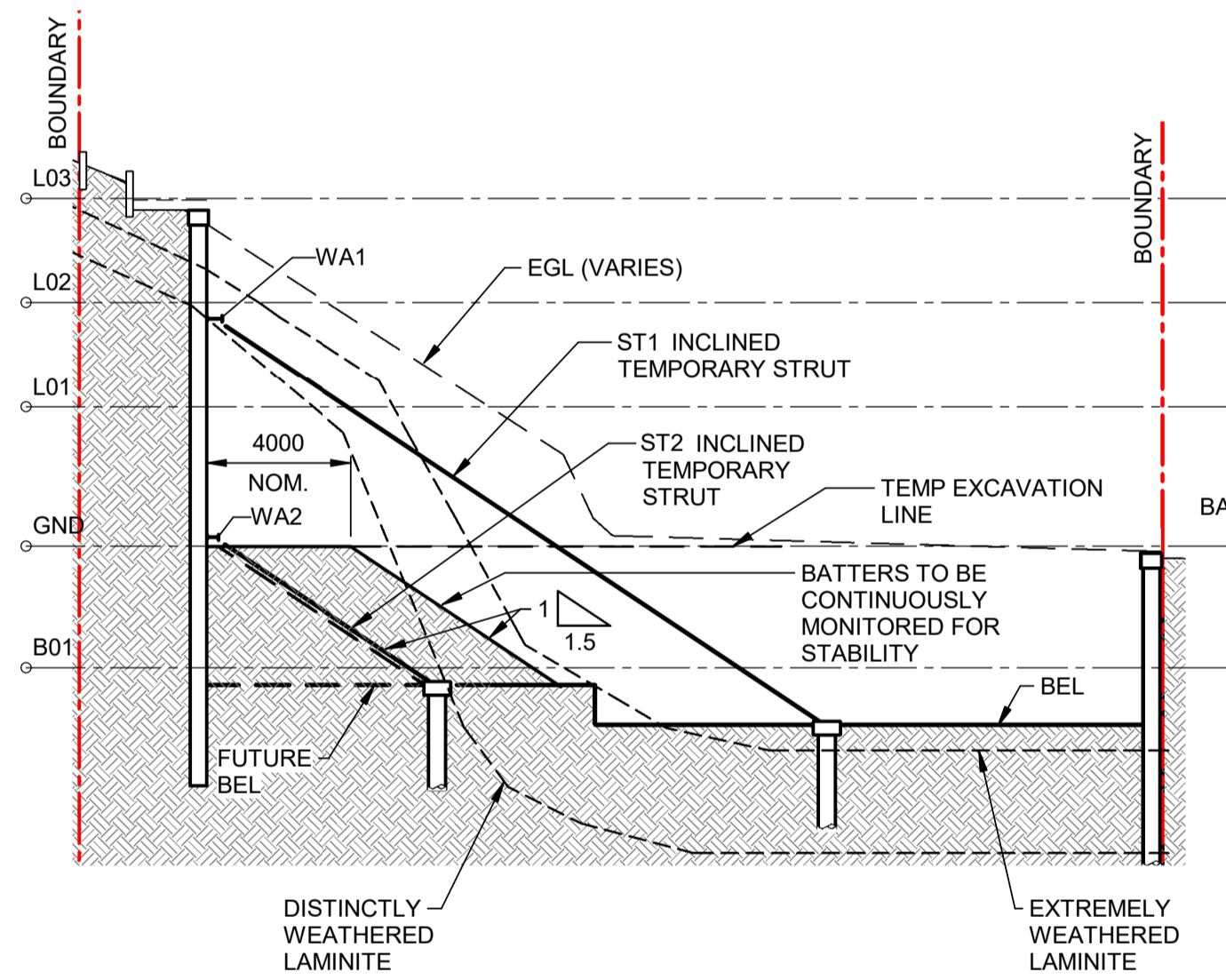


INCLINED STRUT INSTALLATION DETAIL
SCALE 1 : 50

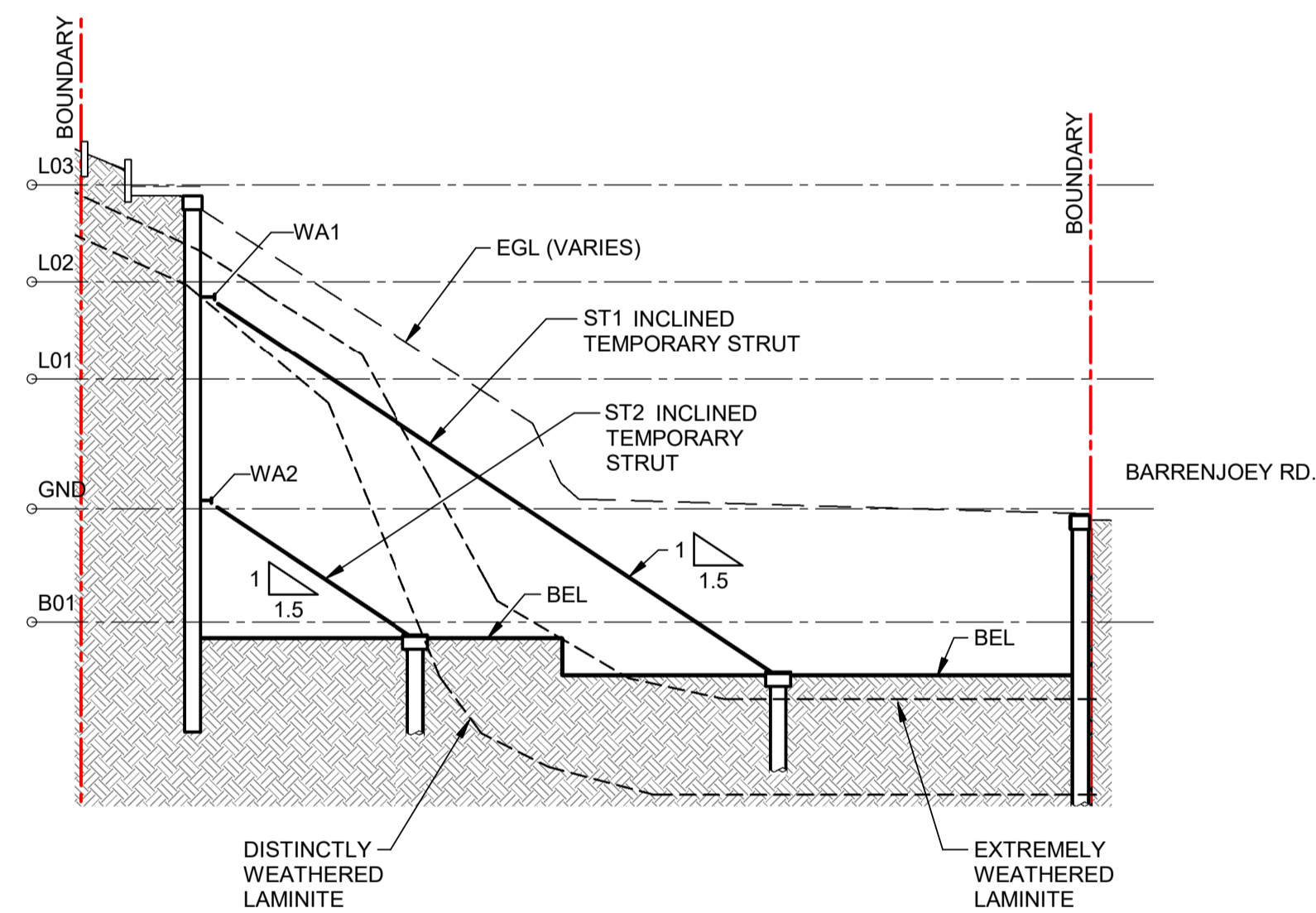
STAGING SEQUENCE

1. REMOVE EXISTING STRUCTURES AND RETAINING WALLS WITHIN THE SITE. COMPACT EGL AND BUILD ACCESS PLATFORM FOR THE PILING RIG. IN ACCORDANCE WITH THE REQUIREMENTS AND DETAILS IN THE GEOTECHNICAL METHODOLOGY BY EIA.
2. CONSTRUCT PILING AROUND THE FULL PERIMETER OF THE EXCAVATION AS PER THE PLAN.
3. REMOVE THE PILING RIG AND COMMENCE PROGRESSIVE EXCAVATION, DOWN TO TEL1 (TEMPORARY EXCAVATION LINE 1). INSTALL WALER BEAMS WA1 AS SPECIFIED. CUT SLOTS IN THE BATTER AS PER DETAIL, INSTALL BASE RESTRAINT PILES AND INSTALL INCLINED STRUTS ST1.
4. COMMENCE DEWATERING AS SPECIFIED BY EIA.
5. CONTINUE PROGRESSIVE EXCAVATION DOWN TO TEL2. INSTALL WALER BEAMS WA2 AS SPECIFIED, PROVIDE SLOTS AND BASE PILES FOR STRUTS ST2 AND INSTALL ST2 STRUTS.
6. COMPLETE EXCAVATION TO BEL AS NOTED.
7. PROGRESS BUILDING STRUCTURE TO GF LEVEL INCLUDING HYDROSTATIC SLAB AND WALLS (TANKED BASEMENT) AND GF SLAB.
8. ONCE GF SLAB CURED, REMOVE ST2 STRUTS AND WA2 WALERS.
9. CONTINUE BUILDING STRUCTURE UP TO L2 INCLUDING L2 SLAB.
10. ONCE L3 SLAB SUFFICIENTLY CURED, REMOVE ST1 STRUTS AND WA1 WALERS.
11. COMPLETE STRUCTURE TO THE ROOF LEVEL, DEWATERING MAY BE DISCONTINUED.

NOTE:
REFER DWG.S010 FOR STRUT AND WALER SCHEDULE



SHORING STAGING AND SEQUENCE - STEP 3
SCALE 1 : 200



SHORING STAGING AND SEQUENCE - STEP 4
SCALE 1 : 200

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