



**GENERAL NOTES:**

- G1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- G2. STATIONS AND REDUCED LEVELS ARE IN METRES. REDUCED LEVELS ARE TO THE AUSTRALIAN HEIGHT DATUM.
- G3. THE CO-ORDINATE SYSTEM USED IN ALL DRAWINGS IS THE CANBERRA MAP GRID (STROMLO) - THE CO-ORDINATES SHOWN ARE IN METRES.
- G4. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH RELEVANT ROAD DESIGN, DRAINAGE, LANDSCAPE AND UTILITIES DRAWINGS.
- G5. FOR PRECAST PANEL FINISHING DETAILS (INCLUDING COLOUR AND ARCHITECTURAL PATTERNS) REFER TO URBAN DESIGN DRAWINGS.
- G6. FOR PLANTING AND LANDSCAPING DETAILS REFER TO LANDSCAPING DRAWINGS.
- G7. ALL LOCATIONS, ORIENTATIONS AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK.
- G8. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE DESIGNER FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
- G9. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE APPROPRIATE CURRENT AUSTRALIAN STANDARDS, EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS.
- G10. CONSTRUCTION MUST AVOID DAMAGE TO ANY UNDERGROUND SERVICES OR DRAINAGE.
- G11. EXISTING AND PROPOSED UTILITIES FROM EXTERNAL AUTHORITIES (EG. ACTEW, TELSTRA). ARE SHOWN INDICATIVELY ON PLAN AND DO NOT NECESSARILY COINCIDE WITH FINAL DESIGN OR AS-BUILT LOCATIONS. FOR FURTHER DETAILS OF EXACT LOCATIONS OF UNDERGROUND UTILITIES, REFER TO RELEVANT AUTHORITIES DRAWINGS.
- G12. ALL SERVICES SHALL BE LOCATED AND MOVED, IF NECESSARY, PRIOR TO CONSTRUCTION.
- G13. CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THE LOCATION OF ALL UNDERGROUND SERVICES AND DRAINAGE (BY POTHOLING OR OTHER MEANS) PRIOR TO COMMENCING WORK. IF THE SERVICE LOCATION SHOWS THAT THE KNOWN SERVICES ARE WITHIN THE ZONE OF INFLUENCE OF SOIL NAILS, POT-HOLING SHALL BE UNDERTAKEN TO CONFIRM THE EXACT LOCATION OF UTILITIES PRIOR TO INSTALLING THE NAILS.
- G14. IF ENCOUNTERED GEOTECHNICAL CONDITIONS DEVIATE FROM THOSE SHOWN IN THESE DRAWINGS THE SQGE (SITE QUALIFIED GEOTECHNICAL ENGINEER) AND DESIGNER SHALL BE NOTIFIED.
- G15. THE SQGE SHALL BE IN FULL TIME ATTENDANCE TO LOG DRILLED MATERIAL AND VERIFY DESIGN ASSUMPTIONS.

**TfNSW QA SPECIFICATIONS**

- B80 CONCRETE WORK FOR BRIDGES
- B115 PRECAST CONCRETE MEMBERS (NOT PRETENSIONED)
- B153 ERECTION OF PRECAST CONCRETE MEMBERS (NOT PRETENSIONED)
- R44 EARTHWORKS
- R57 DESIGN OF REINFORCED SOIL WALL
- R58 CONSTRUCTION OF REINFORCED SOIL WALL
- R63 GEOTEXTILE (SEPARATION & FILTRATION) RIGID AND FLEXIBLE STRIP FILTERS
- R64 SOIL NAILING
- R68 SHOTCRETE WORK WITHOUT STEEL FIBRES
- 3556 (GEOCOMPOSITE PLASTIC)

**GEOTECHNICAL NOTES - REINFORCED SOIL WALL**

- GT1. THE FOUNDATION MATERIAL BENEATH THE REINFORCED FILL ZONE SHALL BE EXAMINED BY SQGE TO ENSURE THAT THE FOUNDATION MATERIAL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN STRENGTH AS SHOWN IN TABLES 4.1 AND G-1. SHOULD ACTUAL CONDITIONS VARY FROM THOSE ASSUMED; THE SQGE SHOULD BE NOTIFIED PRIOR TO CONSTRUCTION TO ASSESS IF REDESIGN OF THE PROPOSED STRUCTURE IS REQUIRED
- GT2. MINIMUM EMBEDMENT OF THE WALL AS INDICATED IN TABLE 4.1 MUST BE MET AND VERIFIED BY THE SQGE. THE MINIMUM EMBEDMENT OF RSW SHALL BE IN ACCORDANCE WITH REQUIREMENT OF TfNSW R57.
- GT3. THE RSW MATERIAL SHALL HAVE AN EFFECTIVE FRICTION ANGLE EQUAL TO OR GREATER THAN 36.
- GT4. BACKFILL MATERIAL AND WITHIN A DISTANCE OF H/2 OF THE REINFORCED SOIL BLOCK SHALL HAVE AN EFFECTIVE FRICTION ANGLE EQUAL TO OR GREATER THAN 28 DEGREES.
- GT5. THE PLACEMENT AND COMPACTION OF FILL MATERIALS WITHIN THE REINFORCED SOIL BLOCK SHALL BE IN ACCORDANCE WITH TfNSW R58.
- GT6. FILL MATERIAL CLOSER THAN 1.5m FROM THE PRECAST CONCRETE PANELS MAY BE COMPACTED USING HAND OPERATED MECHANICAL EQUIPMENT SUCH AS A VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR.
- GT7. VERIFICATION OF ALL BACKFILL MATERIAL PROPERTIES SHOULD BE IN ACCORDANCE WITH TfNSW R58.
- GT8. GROUNDWATER LEVEL ADOPTED AS NATURAL (EXISTING, IN SITU MATERIALS) GROUND LEVEL IN FRONT OF THE WALL.
- GT9. THERE SHOULD BE NO EFFECT ADVERSE EFFECT ARISING FROM TEMPORARY CONSTRUCTION WORKS IN THE INTEGRITY OF THE WALL.
- GT10. WHERE THE SLOPE OF THE GROUND ADJACENT TO THE TOE OF THE WALL IS GREATER THAN 18 DEGREE, A 2m BERM SHALL BE PROVIDED AT THE TOE OF RSW IN ACCORDANCE WITH R57 REQUIREMENTS.

TABLE G-1

DESCRIPTION	UNIT WEIGHT (kN/m <sup>3</sup> )	EFFECTIVE FRICTION ANGLE $\phi'$ DEG	EFFECTIVE COHESION (kPa)
VERY LOW TO LOW STRENGTH ROCK	22	35	10
RSW FILL	20	36	-
BACKFILL	20	28	-

**GEOTECHNICAL NOTES - REINFORCED SOIL WALL (CONT'D)**

- GT11. REINFORCED SOIL WALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TfNSW R58.
- GT12. THE CONTRACTOR SHALL VERIFY THE WALL POSITION, DIMENSIONS AND LEVELS PRIOR TO THE START OF CONSTRUCTION. IF CHANGE TO WALL POSITION, DIMENSIONS OR LEVELS ARE REQUIRED, THESE MUST BE NOTIFIED TO THE DESIGNATED SITE SQGE TO ASSESS IF REDESIGN OF THE PROPOSED STRUCTURE IS REQUIRED.
- GT13. ALL TOPSOIL AND VEGETATED MATERIAL ARE TO BE STRIPPED THROUGH THE EXTENT OF THE RETAINING WALL FOUNDATION.
- GT14. PLANTS WITH ROOT SYSTEMS AND ANY OTHER MATERIAL WHICH MAY ADVERSELY AFFECT THE PRECAST CONCRETE PANELS OR SOIL STRAP REINFORCEMENT SHALL NOT BE USED ON TOP OR IN FRONT OF RSW.
- GT15. INTERNAL DESIGN OF THE WALL INCLUDING INTERNAL STABILITY OF STRAPS SHALL BE UNDERTAKEN BY THE STRAPS SUPPLIER / MANUFACTURER.

**SOIL NAIL NOTES:**

- S.1 SOIL NAIL MATERIAL SUPPLY AND INSTALLATION SHALL COMPLY WITH THE TfNSW SPECIFICATION R64.
- S.2 SHOTCRETE SHALL COMPLY WITH THE PERFORMANCE REQUIREMENTS IN TfNSW SPECIFICATION R68.
- S.3 SUITABILITY AND ACCEPTANCE TESTING SHALL BE UNDERTAKEN IN ACCORDANCE WITH TfNSW SPECIFICATION R64.
- S.4 A TOTAL OF 3% OF PERMANENT NAILS MUST BE SUBJECTED TO ACCEPTANCE TESTS AS DIRECTED IN TfNSW SPECIFICATION R64.
- S.5 MINIMUM NUMBER OF SUITABILITY TEST NAILS IS 3 FOR EVERY SOIL/ROCK TYPE.
- S.6 SOIL NAIL SPACING EMBEDMENT LENGTH, WORKING LOAD AND OTHER DETAILS SHALL BE AS SHOWN IN TABLES 2.1, 3.1 AND 3.2.
- S.7 THE LOCATION OF SOIL NAILS SHALL BE CONFIRMED ON SITE BY SQGE. THIS CONSTITUTES A HOLD POINT.
- S.8 THE BAR LENGTH SHALL BE THE EMBEDMENT LENGTH PLUS ALLOWANCE FOR THE HEAD ASSEMBLY.
- S.9 SOIL NAIL WALL MW1D, MW1G AND MW1F DESIGNED FOR NOMINAL SURCHARGE LOAD OF 5kPa AT THE TOP OF WALL FOR LONG TERM SCENARIO AND A CONSTRUCTION LOAD OF 10kPa DURING CONSTRUCTION.
- S.10 STRIP DRAINS SHALL BE INSTALLED ALONG FULL FACE OF THE SOIL NAIL WALL.
- S.11 SQGE SHALL BE IN FULL TIME ATTENDANCE DURING DRILLING OF SOIL NAIL HOLES TO LOG DRILLED MATERIAL.
- S.12 GEOTECHNICAL DESIGN PARAMETERS AND ASSUMED ULTIMATE NAIL BOND STRESS ARE AS FOLLOWS:

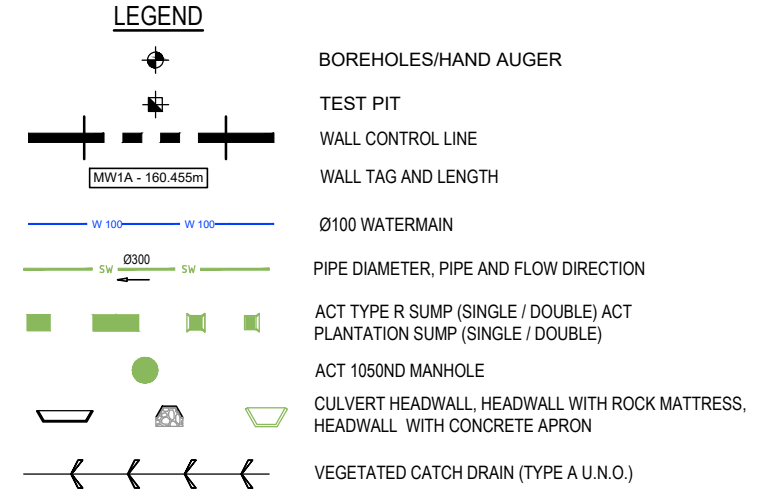
MATERIAL	EFFECTIVE COHESION C' kPa	EFFECTIVE FRICTION ANGLE $\phi'$ DEG	ULTIMATE SOIL NAIL BOND STRESS (kPa)
VERY STIFF CLAY	5	28	70
VERY LOW TO LOW STRENGTH ROCK	10	35	120

**CONCRETE NOTES:**

- C1. CONCRETE EXPOSURE CLASSIFICATION :  
CONCRETE IN CONTACT WITH EXISTING GROUND AND UNCONTAMINATED MATERIALS - B1 IN ACCORDANCE WITH TfNSW QA SPECIFICATION B80.  
CONCRETE IN CONTACT WITH SHOTCRETE AND MASS CONCRETE - B1 IN ACCORDANCE WITH TfNSW QA SPECIFICATION B80.

CONCRETE ELEMENT	MINIMUM 28 DAY COMPRESSIVE STRENGTH (MPa)
CAST IN-SITU CONCRETE	40
SOIL NAIL GROUT STRENGTH	32
BLINDING AND MASS CONCRETE ON SOIL	20
BLINDING AND MASS CONCRETE ON ROCK	40

- C2. REINFORCED CONCRETE ELEMENTS SHALL BE DESIGNED IN ACCORDANCE WITH AS5100 PART 5
- C3. ALL CONCRETE MIXES SHALL BE IN ACCORDANCE WITH TfNSW QA SPECIFICATION B80.
- C4. GROUT SHALL HAVE A MINIMUM SLUMP OF 200mm.
- C5. ALL CURING SHALL BE IN ACCORDANCE WITH TfNSW QA SPECIFICATION B80.
- C6. CURING TO BE APPLIED WITHIN 6 HOURS OF FINISHING CONCRETE.
- C7. WET CURING PERIOD OF 14 DAYS MINIMUM.
- C8. EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.



150 mm ON ORIGINAL

**PRELIMINARY**

DRAWING FILE LOCATION / NAME V:\Vault\Projects\3002750\CAD\DWG\17_SC_Struct\RETAINING_WALLS\3002750-RW-1961.dwg			PLOT DATE 13 Nov 2020		TIME 09:42:19								
EXTERNAL REFERENCE FILES			REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	TITLE	NAME	SCALES AT A1 SIZE DRAWING  DESIGNER <b>SMEC</b> Member of the <b>Surbana Jurong Group</b> SMEC AUSTRALIA PTY LTD © ABN 47 065 475 149 SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE LYNEHAM ACT 2602 AUSTRALIA SMEC PROJECT No 3002750	CLIENT <b>ACT</b> Government Transport Canberra & City Services	PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION	
			A	01.09.2020	PRELIMINARY SKETCH PLAN	0013	DK	DRAFTER	<i>D.PIGRAM</i>			RETAINING WALLS GENERAL NOTES SHEET 1	
			B	08.10.2020	PRELIMINARY SKETCH PLAN	0014	DK	DRAFTING CHECK	<i>K.CURLEY</i>				
			C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015	DK	DESIGNER	<i>G.PINCOMBE</i>				
								DESIGN CHECK	<i>V.VIGNESWARAN</i>				
								PROJECT MANAGER	<i>S.RAVEN</i>	SCALE	PHASE	PROJECT / DRAWING No.	REVISION
								PROJECT DIRECTOR	<i>D.KEEP</i>	AS SHOWN	CONCEPT	3002750-RW-1961	C

**SHOTCRETE:**

- SH1. SHOTCRETE MATERIAL SUPPLY AND INSTALLATION SHALL COMPLY WITH THE TNSW SPECIFICATION R68 (ANY ADMIXTURES AND THEIR ADDITION TO THE MIX SHALL COMPLY WITH TNSW SPECIFICATION R68).
- SH.2 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 5100 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- SH.3 EXPOSURE CLASSIFICATION SHALL BE B1.
- SH.4 MINIMUM 28 DAY COMPRESSIVE STRENGTH OF SHOTCRETE SHALL BE 40 MPa
- SH.5 NO ADMIXTURES CONTAINING CHLORIDES SHALL BE USED.
- SH.6 PROJECT ASSESSMENT OF THE SUPPLIED CONCRETE IS REQUIRED IN ACCORDANCE WITH THE SPECIFICATION.
- SH.7 UNLESS NOTED OTHERWISE CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS:

ELEMENT	COVER (mm)
CAST AGAINST GROUND	75
EXPOSED TO THE AIR	45

- SH.8 COVER TO REINFORCEMENT SHALL BE OBTAINED BY THE USE OF APPROVED BAR CHAIRS. STEEL BAR CHAIRS SHALL NOT BE USED. ALL CHAIRS SHALL BE SPACED AT 750 CTS MAXIMUM.
- SH.9 NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER
- SH.10 CONSTRUCTION JOINTS WHERE NOT SHOWN, SHALL BE LOCATED TO APPROVAL OF THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE SCRABBLED OVER THE WHOLE FACE AND ANY UNSOUND MATERIAL REMOVED.
- SH.11 INSPECTION OF REINFORCEMENT PRIOR TO PLACING CONCRETE WILL BE CARRIED OUT BY THE CONTRACTOR IN ACCORDANCE WITH AN APPROVED QUALITY MANAGEMENT SYSTEM.
- SH.12 A MINIMUM OF 48 HOURS NOTICE IS REQUIRE FOR ANY INSPECTION THE CONTRACTOR REQUIRES OF THE STRUCTURAL DESIGNER.
- SH.13 SHOTCRETE APPLICATION MUST BE FINISHED IN ACCORDANCE WITH RMS SHOTCRETE DESIGN GUIDELINE "DESIGN GUIDELINE TO IMPROVE THE APPEARANCE TO SHOTCRETE IN NSW".
- SH.14 MINIMUM BINDER CONTENT OF SHOTCRETE SHALL BE 400 kg/m<sup>3</sup>.
- SH.15 SHOTCRETE SHALL CONTAIN MAXIMUM 25% FA.
- SH.16 MINIMUM OF 4 DAYS WET CURING OR 7 DAYS SEALED CURING SHALL BE IMPLEMENTED FOLLOWING SHOTCRETING.

**REINFORCEMENT NOTES:**

- R1. ALL REINFORCEMENT BARS TO BE GRADE D500N TO AS/NZS 4671. NOMINAL COVER TO REINFORCEMENT NEAREST TO CONCRETE SURFACE SHALL BE:

	EXPOSURE CLASSIFICATION /NOMINAL COVER (mm)
CONCRETE - ATMOSPHERIC EXPOSURE OR ON MASS CONCRETE	B1/45
CONCRETE IN CONTACT WITH SOIL	B1/75

- R2. UNLESS OTHERWISE SPECIFIED, THE MINIMUM DEVELOPMENT LENGTHS AND LENGTHS OF LAPS SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR	500	700	850	1000	1200	1400	1700
b) OTHER BARS	400	550	650	800	950	1100	1350

WHERE MORE THAN 50% OF BARS ARE TO BE LAPPED IN ANY ONE CROSS SECTION THE LAPS SHOWN IN THE TABLE ABOVE SHALL BE INCREASED BY A FACTOR OF 1.3.

- R3. CLEAR DISTANCE BETWEEN LAPPED BARS SHALL NOT EXCEED 3 x THE SMALLEST BAR DIAMETER. REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR DOWELS, ANCHORS, LIFTING ANCHORS, DUCTS, DRAINAGE LINES AND GENERAL FITMENTS.

**STEEL WORK:**

- SW1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE TNSW B241 SPECIFICATION AND AS4100.
- SW2 ALL STEEL PLATES SHALL BE GRADE 300 TO AS/NZS 3678 U.N.O.
- SW3 ALL CHS, RHS & SHS SECTIONS SHALL BE GRADE 350LO OR 450LO TO AS/NZS 1163 U.N.O.
- SW4 ALL STEEL SECTIONS SHALL BE GRADE 300 TO AS/NZS 3679.1 U.N.O.
- SW5 ALL WELDING SYMBOLS CONFORM TO AS/NZS 1101.3
- SW6 ALL WELD SHALL BE 6MM CONTINUOUS FILLET-STRUCTURAL PURPOSE U.N.O., USING 48XX ELECTRODES. WELD ON BOTH SIDES OF PLATES IF ACCESSIBLE. ALL SEAMS & JOINTS SHALL BE FULLY SEAL WELDED.
- SW7. ALL WELDING ELECTRODES SHALL BE GRADE E48XX TO AS 1553 U.N.O.
- SW8. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS/NZS 1554.
- SW9. ALL WELDS SHALL BE CATEGORY SP TO AS/NZS 1554.1
- SW10. BOLTING CATEGORY FOR COMMERCIAL BOLTS SHALL BE 4.6/S AND THAT FOR HIGH STRENGTH BOLTS SHALL BE 8.8/S IN ACCORDANCE WITH AS 4100
- SW11. BOLT DESIGNATION
  - 4.6/S REFERS TO COMMERCIAL BOLTS OF STRENGTH GRADE 4.6 TO AS 1111 TIGHTENED TO A SNUG TIGHT CONDITION
  - 8.8/S REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 TIGHTENED TO A SNUG TIGHT CONDITION
  - 8.8/TB REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 1511 AS A BEARING JOINT
  - 8.8/TF REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 1511 AS A BEARING JOINT
  - 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT
- SW12. ALL BOLTS AND NUTS SHALL BE HOT DIP GALVANISED TO AS/NZS 1214. WASHERS SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH AS/NZS 4680.
- SW13. ALL BREATHER HOLES FOR HOT DIP GALVANISING TO BE IN ACCORDANCE WITH AS/ NZS 4680. ALL STEELWORK SHALL BE HOT DIP GALVANISED AFTER PICKLE OR ABRASIVE BLAST TO CLASS 3, TO COMPLY WITH AS4680. THE CONTINUOUS AVERAGE ZINC COATING MASS SHALL BE 600g/ sqm.
- SW13. DAMAGED GALVANISED SURFACES SHALL BE RENOVATED WITH APPROVED TWO PACK ORGANIC ZINC RICH PRIMER IN ACCORDANCE WITH TNSW SPECIFICATION B220.
- SW14. EDGES TO BE PROTECTIVE TREATED SHALL BE ROUNDED TO A RADIUS OF 1.5mm U.N.O.
- SW15. NO FLAME CUTTING OF BASE PLATES OR OTHER STRUCTURAL STEELWORK TO CORRECT LACK OF FIT.
- SW16. BOLTS MUST PROJECT A MINIMUM OF TWO THREADS ABOVE THE NUTS.
- SW17. BOLTS MUST NOT BE CRANKED ON SITE TO SUIT LACK OF FIT.

**CONSTRUCTION SEQUENCE FOR SOIL NAIL WALL:**

THE FOLLOWING CONSTRUCTION SEQUENCE HAS BEEN ASSUMED FOR THE SOIL NAIL WALL DESIGN. DEVIATION FROM THIS SEQUENCE MAY POTENTIALLY AFFECT THE WALL LOADING ASSUMPTIONS AND SHALL BE SUBMITTED TO DESIGNER FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION. THIS CONSTITUTES A HOLD POINT.

SQGE SHALL BE IN FULL TIME ATTENDANCE DURING DRILLING OF SOIL NAIL HOLES TO LOG DRILLED MATERIAL.

**CONSTRUCTION SEQUENCE FOR SOIL NAIL WALL**

- CS.1 EXCAVATE MINIMUM REQUIRED DEPTH TO CONSTRUCT CAPPING BEAM.
- CS.2 SQGE TO INSPECT EXPOSED CAPPING BEAM FOUNDATIONS WITHIN 48 HRS AND CONFIRM GEOTECHNICAL MODALS AND DESIGN ASSUMPTIONS.
- CS.3 CONSTRUCT CAPPING BEAM WITH CAST-IN SLEEVE.
- CS.4 INSTALL FIRST ROW SOIL NAILS.
- CS.5 WAIT UNTIL GROUT ACHIEVES A MINIMUM STRENGTH OF 40 MPa AND CARRY OUT ACCEPTANCE TESTS WHERE REQUIRED.
- CS.6 EXCAVATE TO 0.5m BELOW THE FIRST ROW OF SOIL NAILS.
- CS.7 SQGE TO INSPECT EXCAVATED CUT SURFACE AND CONDUCT GEOLOGICAL MAPPING, CONFIRM GEOTECHNICAL MODELS AND DESIGN ASSUMPTIONS.
- CS.8 INSTALL SOIL NAILS/ROCK DOWELS AS SPECIFIED.
- CS.9 WAIT UNTIL GROUT ACHIEVES A MINIMUM STRENGTH OF 40 MPa AND CARRY OUT ACCEPTANCE TESTS WHERE REQUIRED.
- CS.10 INSTALL STRIP DRAINS AS SPECIFIED AND AS PER MANUFACTURER'S INSTRUCTIONS.
- CS.11 DRILL AND INSTALL SUB-HORIZONTAL DRAINS AS SPECIFIED OR NOMINATED BY THE SQGE.
- CS.12 INSTALL REINFORCEMENT AROUND SOIL NAIL HEAD AND MESH FOR SHOTCRETE.
- CS.13 SHOTCRETE TO BASE OF EXCAVATION LIFT.
- CS.14 WAIT UNTIL SHOTCRETE ACHIEVES A MINIMUM STRENGTH OF 21 MPa.
- CS.15 REPEAT STEPS CS.5 TO CS.12 UNTIL FINAL EXCAVATION LEVEL IS ACHIEVED.
- CS.16 CONSTRUCT OTHER ELEMENTS.

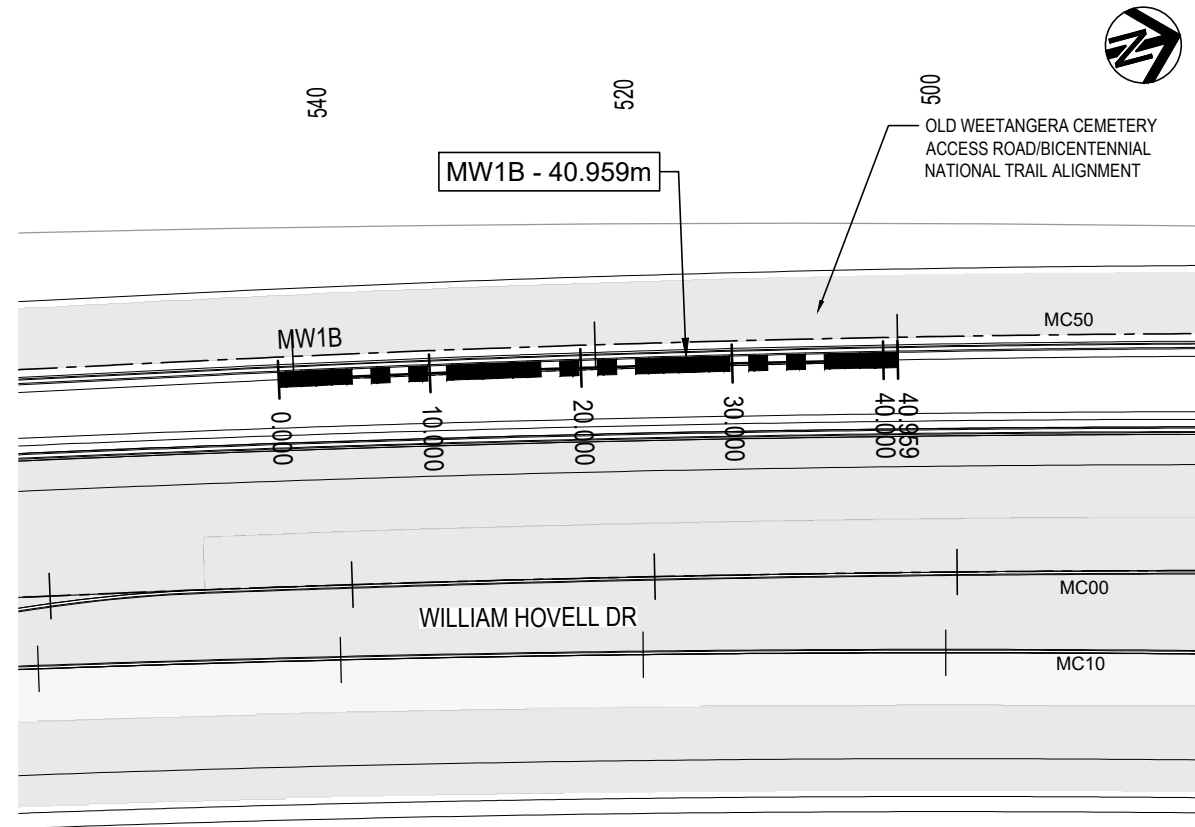
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EXTERNAL REFERENCE FILES				REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.
Member of the <b>Surbana Jurong Group</b> SMEC AUSTRALIA PTY LTD © ABN 47 065 475 149 SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE LYNEHAM ACT 2602 AUSTRALIA SMEC PROJECT No 3002750				A	01.09.2020	PRELIMINARY SKETCH PLAN	0013
				B	08.10.2020	PRELIMINARY SKETCH PLAN	0014
				C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015
				DESIGNER: <b>G. PINCOMBE</b> DESIGN CHECK: <b>V. VIGNESWARAN</b> PROJECT MANAGER: <b>S. RAVEN</b> PROJECT DIRECTOR: <b>D. KEEP</b>			
CLIENT:                  Transport Canberra & City Services				PROJECT TITLE: WILLIAM HOVELL DRIVE DUPLICATION			
RETAINING WALLS GENERAL NOTES SHEET 2				SCALE: AS SHOWN		PHASE: CONCEPT	
PROJECT / DRAWING No: 3002750-RW-1962						REVISION: C	

PRELIMINARY





REINFORCED CONCRETE RETAINING WALL (CUT) MW1B  
SCALE 1:250

	CJT	CJT	EJ	CJT
R.L. 633.0				
EXPOSED WALL HEIGHT	1.225	1.325	1.424	1.497
TOP OF WALL LEVELS	639.822	639.889	639.946	639.972
BOTTOM OF EXPOSED WALL LEVELS	638.597	638.564	638.521	638.476
BOTTOM OF WALL LEVELS	638.297	638.264	638.221	638.179
EXISTING LEVELS	639.972	639.994	639.967	639.957
STATION	0.000	5.000	10.000	15.000
				20.000
				25.000
				30.000
				35.000
				40.000
				40.959

LONGITUDINAL SECTION - RETAINING WALL - CONTROL LINE MW1B  
SCALE 1:250

- NOTE:
- REFER 3002750-RW-1961 & 1962 FOR GENERAL NOTES.
  - REFER 3002750-RW-1961 LEGEND.
  - REFER 3002750-RW-1969 FOR DETAILS.

PRELIMINARY

150 mm ON ORIGINAL  
A1

DRAWING FILE LOCATION / NAME V:\Vault\Projects\3002750\CAD\DWG\17_SC_Struct\RETAINING_WALLS\3002750-RW-1967.dwg		PLOT DATE 13 Nov 2020	TIME 09:44:16
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
	A	01.09.2020	PRELIMINARY SKETCH PLAN
	B	08.10.2020	PRELIMINARY SKETCH PLAN
	C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION

WVR No.	APPROVAL	TITLE	NAME
0013	DK	DRAFTER	D.PIGRAM
0014	DK	DRAFTING CHECK	K.CURLEY
0015	DK	DESIGNER	G.PINCOMBE
		DESIGN CHECK	V.VIGNESWARAN
		PROJECT MANAGER	S.RAVEN
		PROJECT DIRECTOR	D.KEEP

DESIGNER

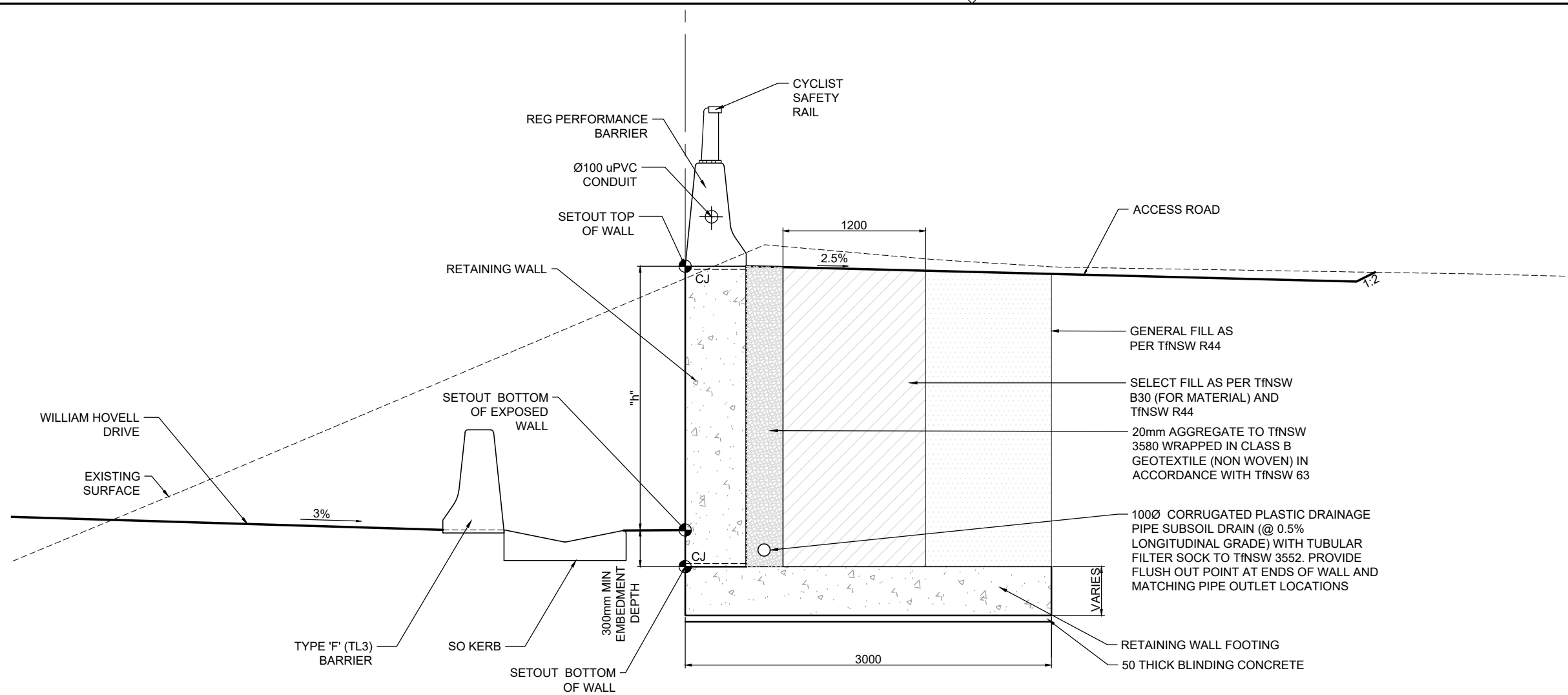
Member of the Surlana Jurong Group  
SMEC AUSTRALIA PTY LTD  
ABN 47 065 475 149  
SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE  
LYNEHAM ACT 2602 AUSTRALIA  
SMEC PROJECT No 3002750

CLIENT

Transport Canberra & City Services

PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION		REVISION C	
RETAINING WALL MW1B PLAN AND LONG SECTION		PROJECT / DRAWING No. 3002750-RW-1967	
SCALE AS SHOWN	PHASE CONCEPT		





TYPICAL REINFORCED CONCRETE  
RETAINING WALL MW1A

SCALE 1:20

TABLE 1.1 - MW1A, MW1B & MW1C Reinforced Concrete Retaining Walls

Wall ID	Wall Chainage		MC00 Chainage		Max. Wall Exposed Height "h" (m)	Founding Material
	From	To	From	To		
MW1A	0	160.455	301.000	459.142	2.16	Very Low strength rock
MW1B	0	40.959	503.750	544.398	1.55	Very Low strength rock
MW1C	0	35.453	635.000	670.250	3.00	Very Low strength rock

TABLE 1.2

DESCRIPTION	UNIT WEIGHT (kN/m <sup>3</sup> )	UNCONFINED COMPRESSIVE STRENGTH MPa	POINT LOAD INDEX* Is (50) MPa
VERY LOW STRENGTH ROCK	22	35	15

\* ASSUMES RATIO OF 20:1 FOR UCS TO Is(50)

GENERAL NOTES:

- DIMENSIONS ARE IN MILLIMETRES UNO.
- THE WALL HAS BEEN DESIGNED FOR A LIVE LOAD SURCHARGE OF 20 kPa FOR CARRIAGEWAY AREA.
- TRAFFIC BARRIER PERFORMANCE LEVEL IS REGULAR IN ACCORDANCE WITH AS5100.2.

GEOTECHNICAL NOTES:

- ALL TOPSOIL AND VEGETATION SHALL BE STRIPPED WITHIN THE RETAINING WALL FOOTPRINT.
- THE FOUNDATION MATERIAL FOR THE RETAINING WALL SHALL BE INSPECTED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER (SQGE) TO ENSURE THAT THE FOUNDATION MATERIAL AS SHOWN IN TABLE 1.1 AND 1.2 MEETS OR EXCEEDS THE ASSUMED DESIGN STRENGTH. MATERIAL NOT MEETING THE REQUIRED.
- DESIGN DOES NOT ALLOW FOR EXCAVATION NOT MORE THAN 500mm BELOW FSL.

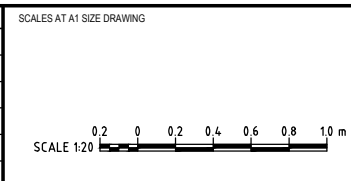
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PLOT DATE  
13 Nov 2020

TIME  
09:45:48

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B	08.10.2020	PRELIMINARY SKETCH PLAN	0014	DK	DRAFTING CHECK	K.CURLEY
C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015	DK	DESIGNER	G.PINCOMBE
					DESIGN CHECK	V.VIGNESWARAN
					PROJECT MANAGER	S.RAVEN
					PROJECT DIRECTOR	D.KEEP



DESIGNER

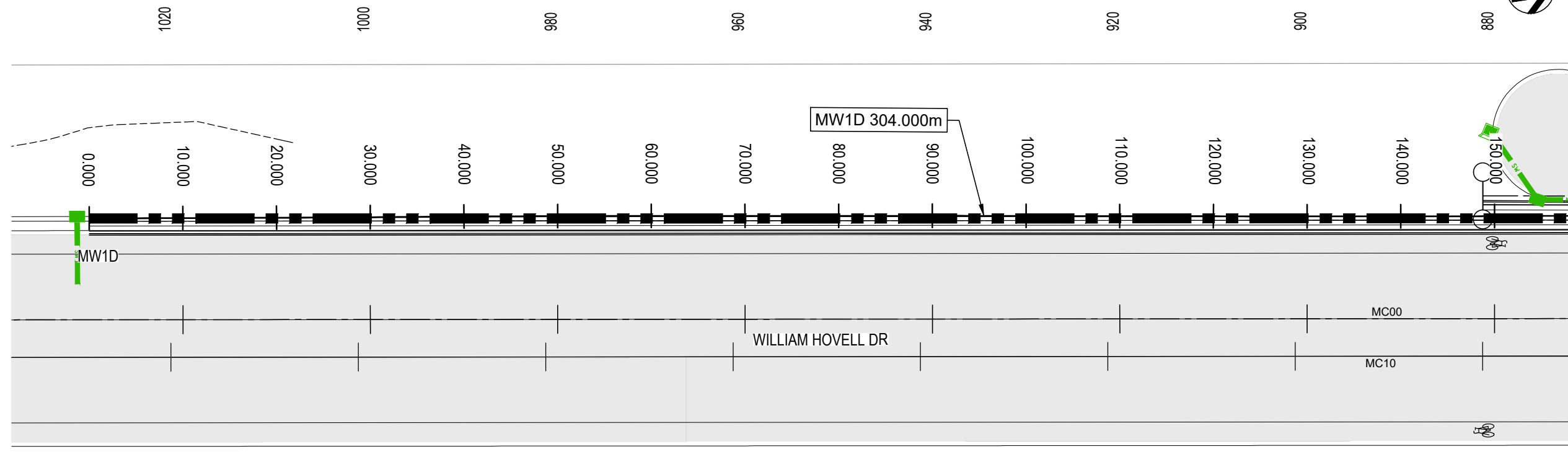
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SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE  
LYNEHAM ACT 2602 AUSTRALIA  
SMEC PROJECT No 3002750

CLIENT

Transport Canberra & City Services

PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION		REVISION C	
RETAINING WALL MW1A, MW1B & MW1C TYPICAL DETAILS		PROJECT / DRAWING No. 3002750-RW-1969	
SCALE AS SHOWN	PHASE CONCEPT		

150 mm ON ORIGINAL  
A1



FOR CONTINUATION REFER TO 3002750-1976

REINFORCED CONCRETE AND SHOTCRETE RETAINING WALL (CUT AND FILL) MW1D  
SCALE 1:250

STATION	637.715	637.974	638.210	638.435	638.653	638.874	639.065	639.276	639.454	639.577	639.694	639.828	639.929	640.019	640.080	640.103
BOTTOM OF SC WALL LEVELS	637.715	637.974	638.210	638.435	638.653	638.874	639.065	639.276	639.454	639.577	639.694	639.828	639.929	640.019	640.080	640.103
BOTTOM OF RC WALL LEVELS	640.102	640.827	641.442	642.126	642.955	643.529	643.802	643.393	644.095	644.189	644.106	644.009	643.864	643.813	643.845	643.919
TOP OF SC WALL LEVELS	640.402	641.127	641.742	642.426	643.255	643.829	644.102	644.230	644.395	644.489	644.406	644.309	644.164	644.113	644.145	644.219
TOP OF RC WALL LEVELS	641.120	641.844	642.459	643.139	644.164	644.775	645.047	645.173	645.338	645.434	645.354	645.231	645.050	644.830	644.864	645.176
WALL HEIGHT	3.406	3.870	4.249	4.704	5.502	5.900	5.982	5.887	5.884	5.856	5.659	5.404	5.120	4.811	4.784	5.073
R.L. 632.0																

FOR CONTINUATION REFER TO 3002750-1976

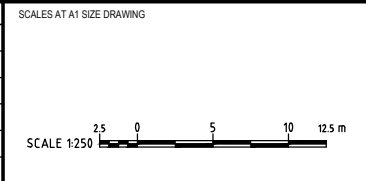
LONGITUDINAL SECTION - RETAINING WALL - CONTROL LINE MW1D  
SCALE 1:250

- NOTE:
- REFER 3002750-RW-1961 & 1962 FOR GENERAL NOTES.
  - REFER 3002750-RW-1961 LEGEND.
  - REFER 3002750-RW-1977 & 1978 FOR DETAILS.

PRELIMINARY

150 mm ON ORIGINAL  
A1

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REV	DATE	AMENDMENT / REVISION DESCRIPTION																																									
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DESIGNER

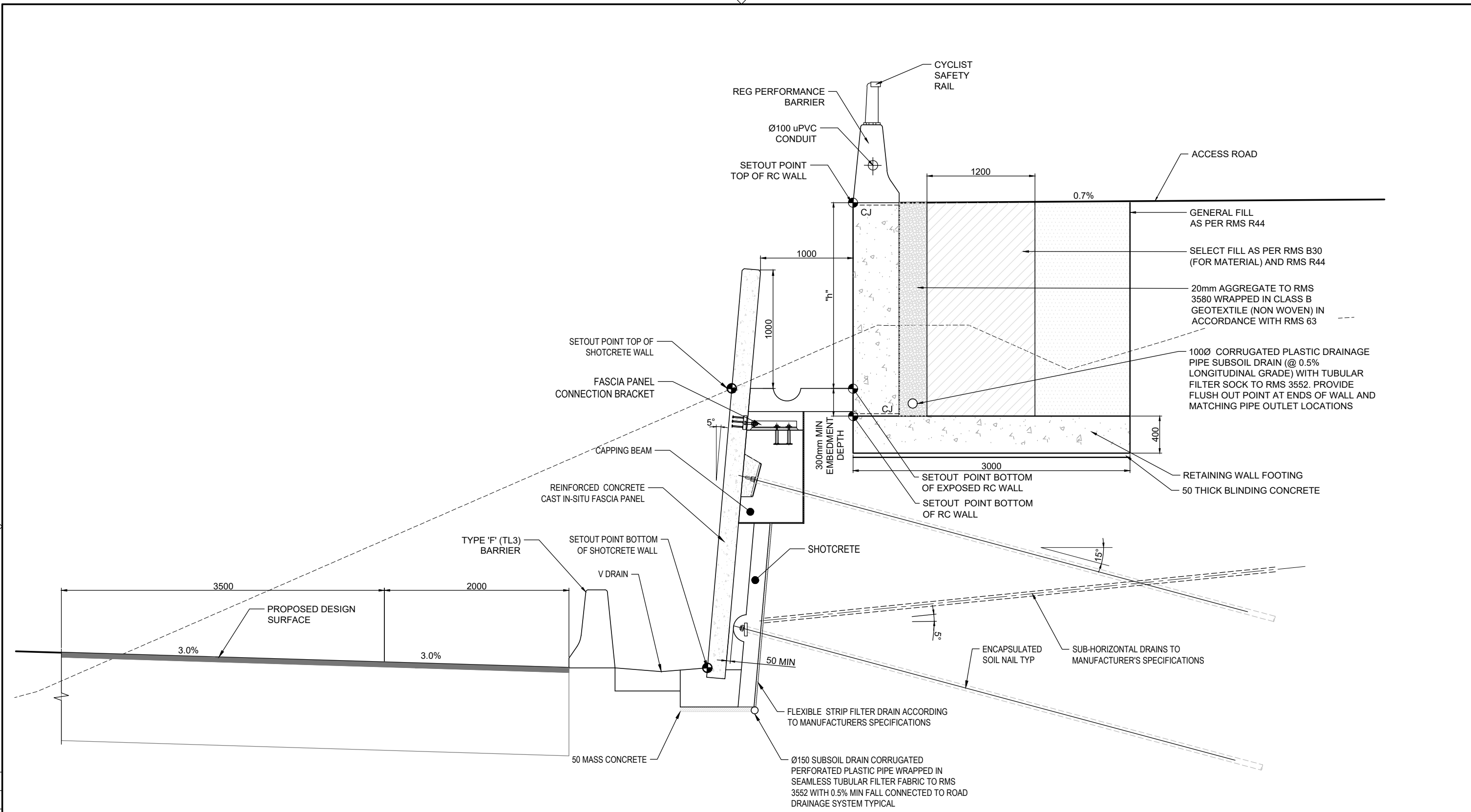
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LYNEHAM ACT 2602 AUSTRALIA  
SMEC PROJECT No 3002750

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ACT Government  
Transport Canberra & City Services

PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION		PROJECT / DRAWING No. 3002750-RW-1975	
RETAINING WALL MW1D PLAN AND LONG SECTION - SHEET 1		REVISION C	SCALE AS SHOWN
PHASE CONCEPT			





TYPICAL RETAINING WALL MW1D  
SCALE 1:20

NOTES:  
REFER 3002750-RW-1978 FOR TABLE.  
REFER 3002750-RW-1987 FOR SOIL NAIL DETAILS.

PRELIMINARY

150 mm ON ORIGINAL  
A1

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					DESIGN CHECK	V.VIGNESWARAN
					PROJECT MANAGER	S.RAVEN
					PROJECT DIRECTOR	D.KEEP
SCALE 1:20			SCALES AT A1 SIZE DRAWING		DESIGNER <b>SMEC</b> Member of the Surlana Jurong Group SMEC AUSTRALIA PTY LTD © ABN 47 065 475 149 SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE LYNEHAM ACT 2602 AUSTRALIA SMEC PROJECT No 3002750	
CLIENT <b>ACT</b> Government Transport Canberra & City Services			PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION RETAINING WALL MW1D TYPICAL DETAILS - SHEET 1		SCALE AS SHOWN	
PHASE CONCEPT			PROJECT / DRAWING No. 3002750-RW-1977		REVISION C	

TABLE 2.1 - MW1D Shotcrete Wall - Cut Section

Wall Chainage	Bar Size	Hole Size	Max. Wall Height	Max. Reinforced Concrete Wall Height at the Top**	No. of Rows	Vertical Distance from Top of the Wall	Horizontal Spacing	Soil nail Declination (degrees)	Soil nail Length	Design Bond Material	Design Nail Load (Working)
	(mm)	(mm)	(m)	(m)		(m)	(m)		(m)		(kn)
0 to 304	24	150	5	1.7	3	0.5	1.5	15	6.5	Very low to low strength Rock	170
						2			6.5		170
						3.5			6.5		170

\*Soil nail vertical distance from top of the wall may vary due to site constraint.

\*\* For reinforced concrete wall material and foundation requirements refer to drawing 3002750-rw-1960 and table 1.1

TABLE 2.2 - MW1D Reinforced Concrete Wall - Fill Section

Wall Chainage	MC00 Chainage		Max. Wall Exposed Height "h" (m)	Founding Material
	From	To		
0 to 304	726	1030	1.7	Very Low strength rock/Very Stiff Clay

TABLE 2.3

DESCRIPTION	UNIT WEIGHT (kN/m <sup>3</sup> )	FRICTION ANGLE (CONSTANT VOL) (DEG)	COHESION (EFFECTIVE) (kPa)
VERY LOW TO LOW STRENGTH ROCK	22	35	10

150 mm ON ORIGINAL  
A1

DRAWING FILE LOCATION / NAME  
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PLOT DATE  
13 Nov 2020

TIME  
09:48:35

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C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION

WVR No.	APPROVAL	TITLE	NAME
0013	DK	DRAFTER	D.PIGRAM
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		DESIGN CHECK	V.VIGNESWARAN
		PROJECT MANAGER	S.RAVEN
		PROJECT DIRECTOR	D.KEEP

SCALES AT A1 SIZE DRAWING

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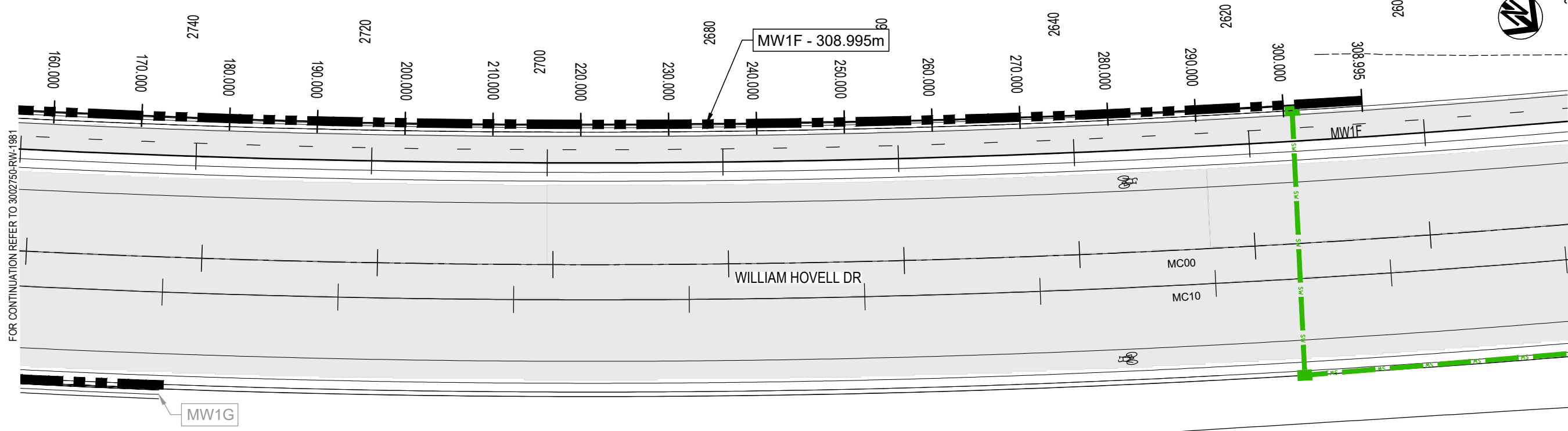
PROJECT TITLE  
WILLIAM HOVELL DRIVE DUPLICATION

RETAINING WALL  
MW1D  
TYPICAL DETAILS - SHEET 2

SCALE AS SHOWN	PHASE CONCEPT	PROJECT / DRAWING No. 3002750-RW-1978	REVISION C
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PRELIMINARY





SHOTCRETE RETAINING WALL (CUT) MW1F  
SCALE 1:250

STATION	EXISTING LEVELS	BOTTOM OF WALL LEVELS	TOP OF WALL LEVELS	WALL HEIGHT
160.000	612.089	608.661	613.491	-4.811
170.000	612.179	608.722	613.572	-4.851
180.000	611.740	608.755	613.140	-3.866
190.000	611.600	608.779	613.000	-2.221
200.000	611.386	608.788	612.774	-3.987
210.000	611.461	608.782	612.844	-0.693
220.000	611.657	608.760	613.043	-2.283
230.000	611.705	608.724	613.082	-4.359
240.000	611.474	608.672	612.875	-4.202
250.000	611.296	608.606	612.634	-0.029
260.000	610.712	608.524	611.876	-3.352
270.000	610.301	608.427	611.323	-2.896
280.000	609.801	608.315	610.680	-2.364
290.000	609.214	608.188	609.952	-1.763
300.000	608.654	608.046	609.380	-1.334
308.995	608.852	607.905	609.575	

LONGITUDINAL SECTION - RETAINING WALL - CONTROL LINE MW1F  
SCALE 1:250

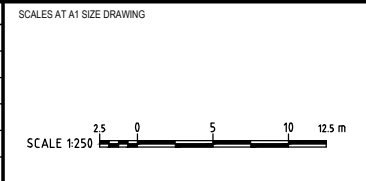
- NOTE:
- REFER 3002750-RW-1961 & 1962 FOR GENERAL NOTES.
  - REFER 3002750-RW-1961 LEGEND.
  - REFER 3002750-RW-1986 & 1987 FOR DETAILS.
  - REFER 3002750-RW-1988 FOR TABLES.

PRELIMINARY

150 mm ON ORIGINAL  
A1

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APPROVAL	TITLE	NAME
DK	DRAFTER	D.PIGRAM
DK	DRAFTING CHECK	K.CURLEY
DK	DESIGNER	G.PINCOMBE
	DESIGN CHECK	V.VIGNESWARAN
	PROJECT MANAGER	S.RAVEN
	PROJECT DIRECTOR	D.KEEP



DESIGNER

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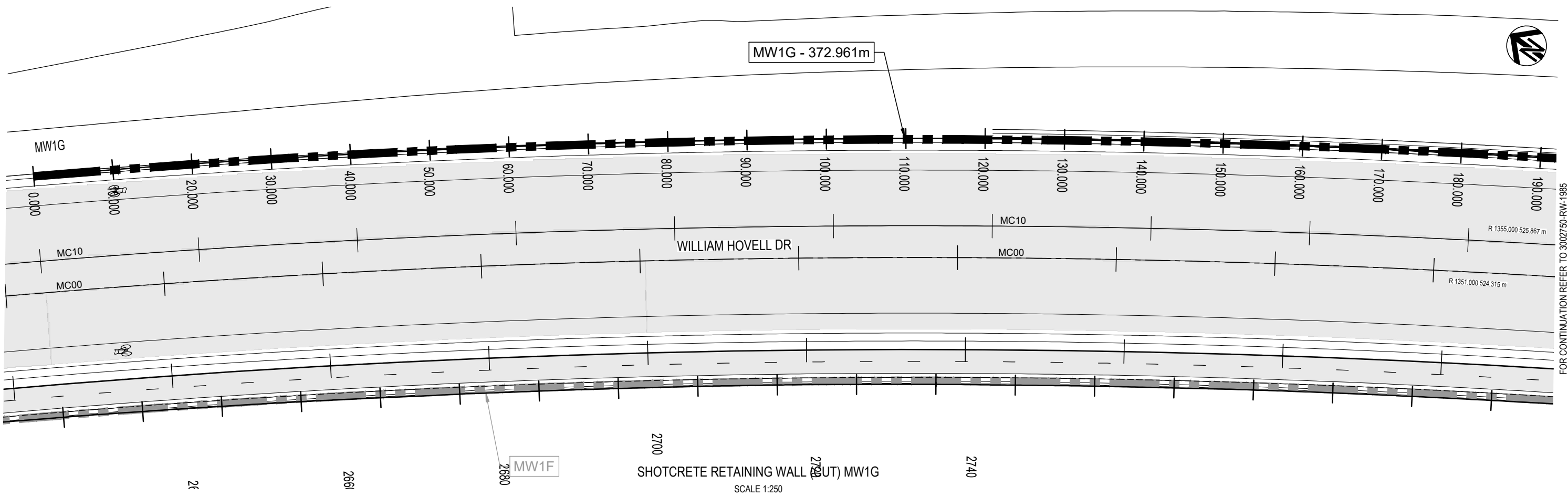
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**ACT**  
 Government  
 Transport Canberra & City Services

PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION		REVISION C	
RETAINING WALL MW1F		PROJECT / DRAWING No. 3002750-RW-1982	
SCALE AS SHOWN	PHASE CONCEPT	REVISION C	



MW1G - 372.961m



SHOTCRETE RETAINING WALL (OUT) MW1G  
SCALE 1:250

STATION	EXISTING LEVELS	BOTTOM OF WALL LEVELS	TOP OF WALL LEVELS	WALL HEIGHT	R.L. 599.0
0.000	611.329	609.030	611.969	-2.539	
10.000	611.614	609.156	612.328	-3.173	
20.000	612.091	609.267	609.219	-1.543	
30.000	612.344	609.365	613.064	-3.699	
40.000	612.650	609.447	613.371	-3.926	
50.000	613.000	609.516	613.722	-4.207	
60.000	613.239	609.569	613.964	-4.364	
70.000	613.541	609.609	614.259	-4.657	
80.000	613.842	609.634	614.586	-4.957	
90.000	613.999	609.645	614.743	-5.098	
100.000	614.090	609.641	614.833	-5.191	
110.000	614.284	609.623	614.968	-5.345	
120.000	614.602	609.592	615.352	-5.760	
130.000	614.377	609.557	615.122	-5.565	
140.000	614.019	609.508	614.764	-5.266	
150.000	613.633	609.445	614.375	-4.930	
160.000	613.403	609.368	614.123	-4.756	
170.000	613.171	609.276	613.893	-4.618	
180.000	612.834	609.169	613.560	-4.390	
190.000	612.781	609.048	613.503	-4.556	

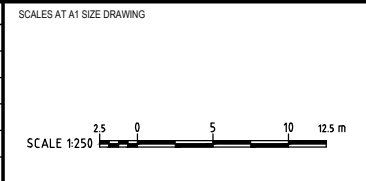
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SCALE 1:250

- NOTE:
- REFER 3002750-RW-1961 & 1962 FOR GENERAL NOTES.
  - REFER 3002750-RW-1961 LEGEND.
  - REFER 3002750-RW-1986 & 1987 FOR DETAILS.
  - REFER 3002750-RW-1988 FOR TABLES.

150 mm ON ORIGINAL  
A1

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0014	DK	DRAFTING CHECK	K.CURLEY
0015	DK	DESIGNER	G.PINCOMBE
		DESIGN CHECK	V.VIGNESWARAN
		PROJECT MANAGER	S.RAVEN
		PROJECT DIRECTOR	D.KEEP



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SMEC PROJECT No 3002750

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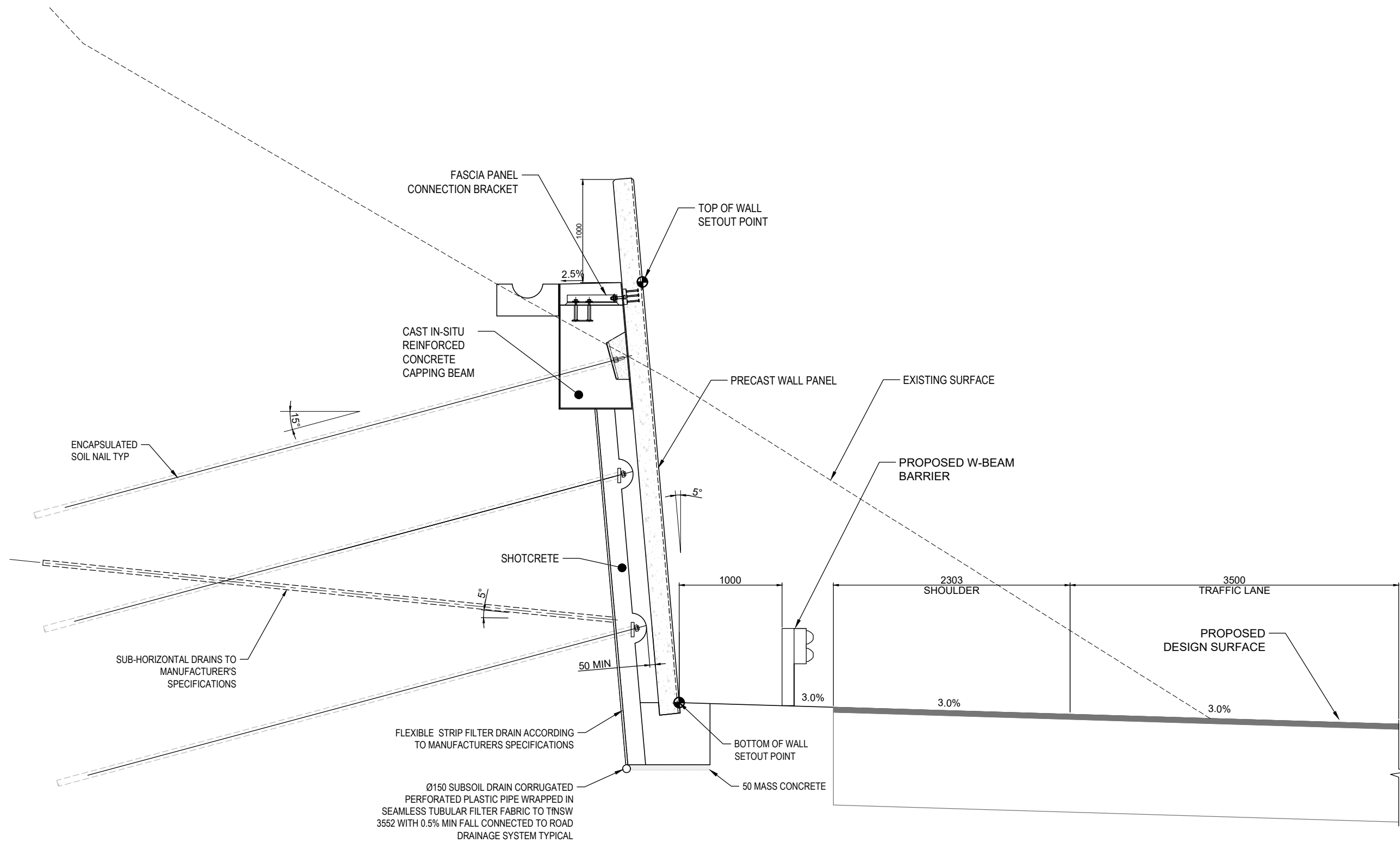
Transport Canberra & City Services

PROJECT TITLE WILLIAM HOVELL DRIVE DUPLICATION		REVISION C
RETAINING WALL MW1G PLAN AND LONG SECTION - SHEET 1		PROJECT / DRAWING No. 3002750-RW-1984
SCALE AS SHOWN	PHASE CONCEPT	

FOR CONTINUATION REFER TO 3002750-RW-1985

FOR CONTINUATION REFER TO 3002750-RW-1985





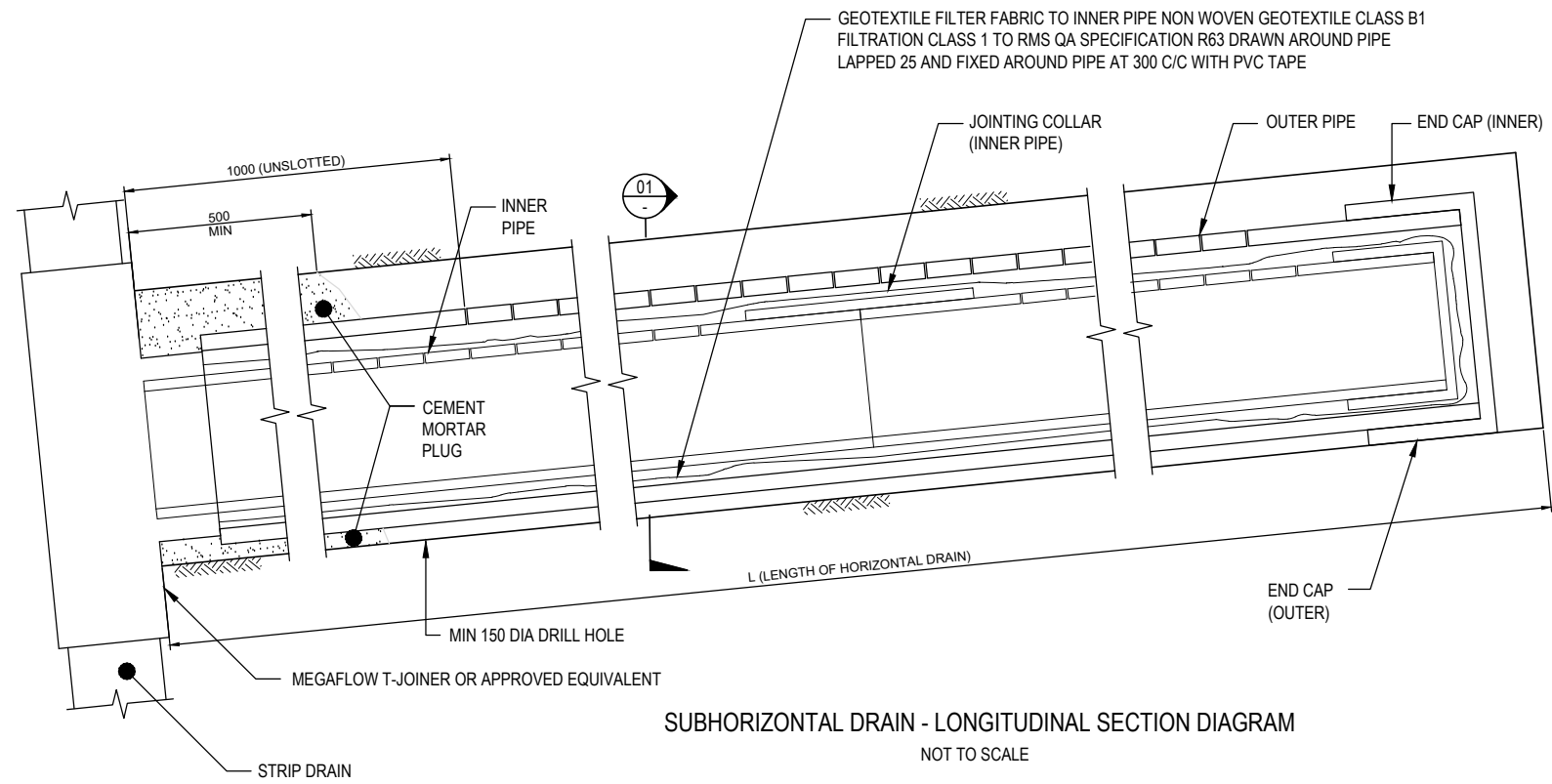
TYPICAL RETAINING WALL MW1G  
SCALE 1:20

NOTE:  
FOR TABLE REFER 3002750-RW-1988.

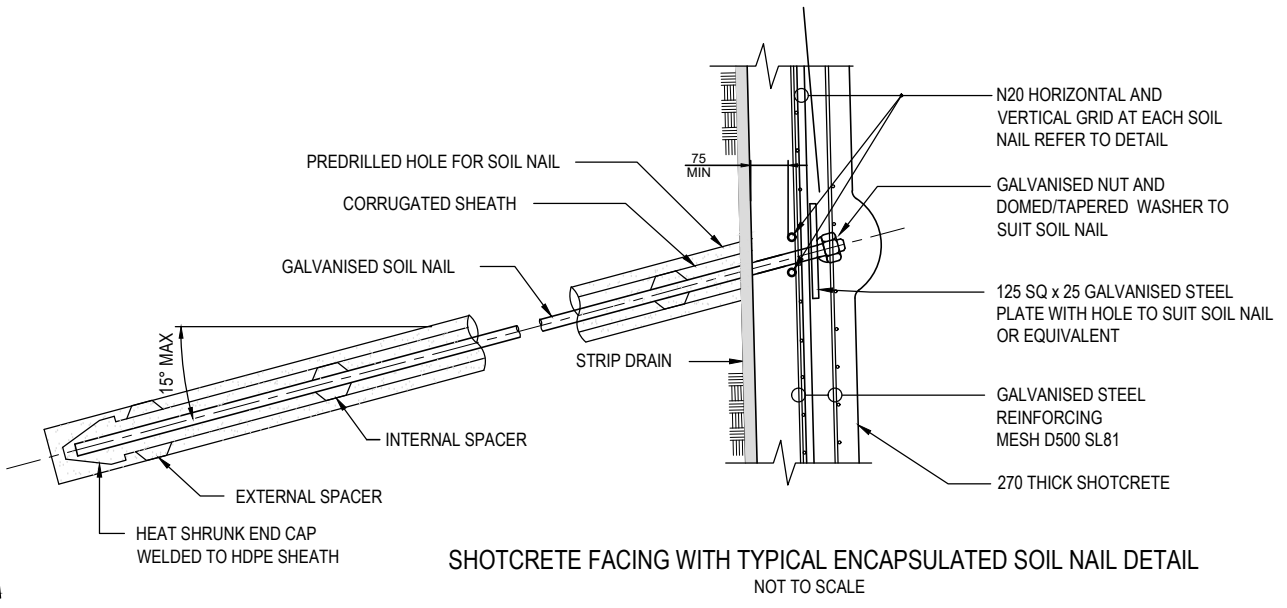
PRELIMINARY

150 mm ON ORIGINAL  
A1

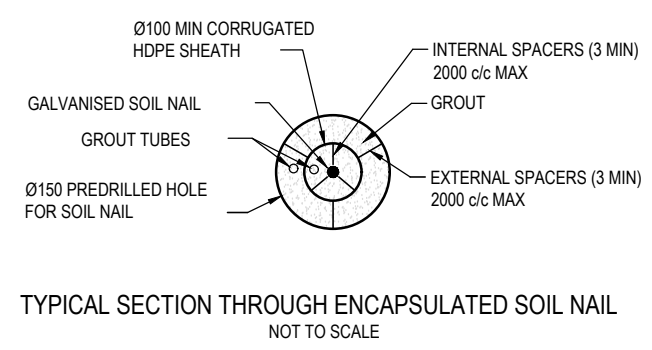
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							DESIGN CHECK	V.VIGNESWARAN
							PROJECT MANAGER	S.RAVEN
							PROJECT DIRECTOR	D.KEEP
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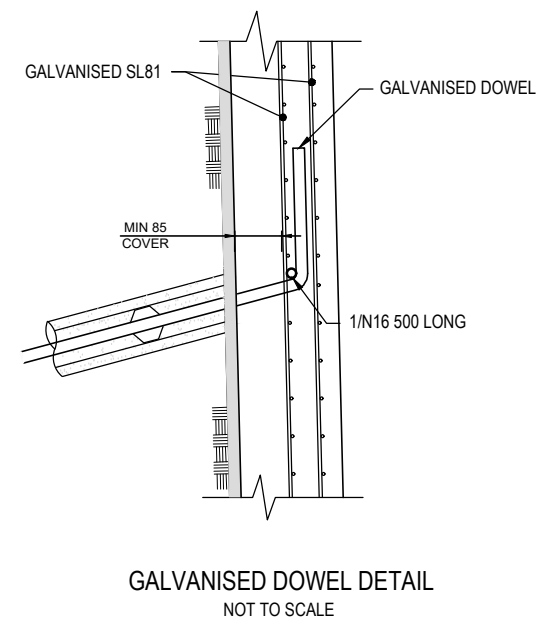
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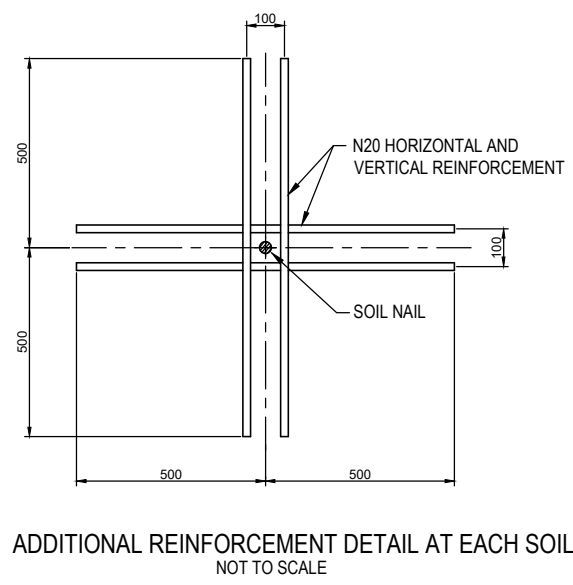
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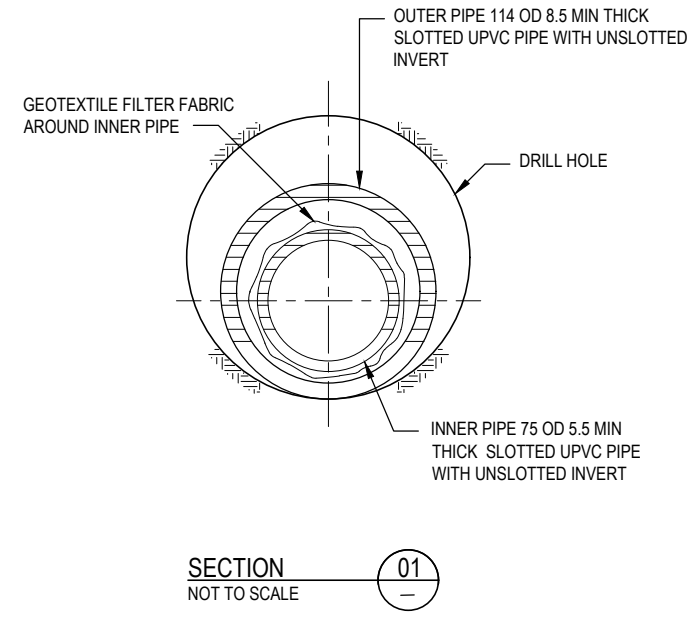
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ADDITIONAL REINFORCEMENT DETAIL AT EACH SOIL NAIL  
NOT TO SCALE



SECTION 01  
NOT TO SCALE

150 mm ON ORIGINAL  
A1

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		B	08.10.2020	PRELIMINARY SKETCH PLAN	0014	DK	DRAFTING CHECK	K.CURLEY								
		C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015	DK	DESIGNER	G.PINCOMBE								
				DESIGN CHECK				V.VIGNESWARAN								
				PROJECT MANAGER				S.RAVEN								
				PROJECT DIRECTOR				D.KEEP								

PRELIMINARY

TABLE 3.1 - MW1F Shotcrete Wall

Wall Chainage	Bar Size	Hole Size	Max. Wall Height	No. of Rows	Vertical Distance from Top of the Wall	Horizontal Spacing	Soil nail Declination (degrees)	Soil nail Length	Design Bond Material	Design Nail Load (Working)
	(mm)	(mm)			(m)			(m)		(m)
0 to 100	25	150	4.5	2	0.5	1.5	15	4	Very Stiff Clay	66
					2			4	Very low to low strength Rock	115
100 to 180			5.8	3	0.5	1.5	15	6.5	Very Stiff Clay	110
					2			6.5	Very low to low strength Rock	170
					3.5			6.5	Very low to low strength Rock	170
180 - 308.995			4.5	2	0.5	1.5	15	4	Very Stiff Clay	66
	2	4			Very low to low strength Rock			115		




TABLE 3.2 - MW1G Shotcrete Wall

Wall Chainage	Bar Size	Hole Size	Max. Wall Height	No. of Rows	Vertical Distance from Top of the Wall	Horizontal Spacing	Soil nail Declination (degrees)	Soil nail Length	Design Bond Material	Design Nail Load (Working)
	(mm)	(mm)			(m)			(m)		(m)
0 to 60	25	150	4.5	2	0.5	1.5	15	4	Very Stiff Clay	66
					2			4	Very low to low strength Rock	115
60 to 210			5.8	3	0.5	1.5	15	6.5	Very Stiff Clay	110
					2			6.5	Very low to low strength Rock	170
					3.5			6.5	Very low to low strength Rock	170
210 - 372.961			4.5	2	0.5	1.5	15	4	Very Stiff Clay	66
	2	4			Very low to low strength Rock			115		

\*Soil nail vertical distance from top of the wall may vary due to site constraint.

150 mm ON ORIGINAL

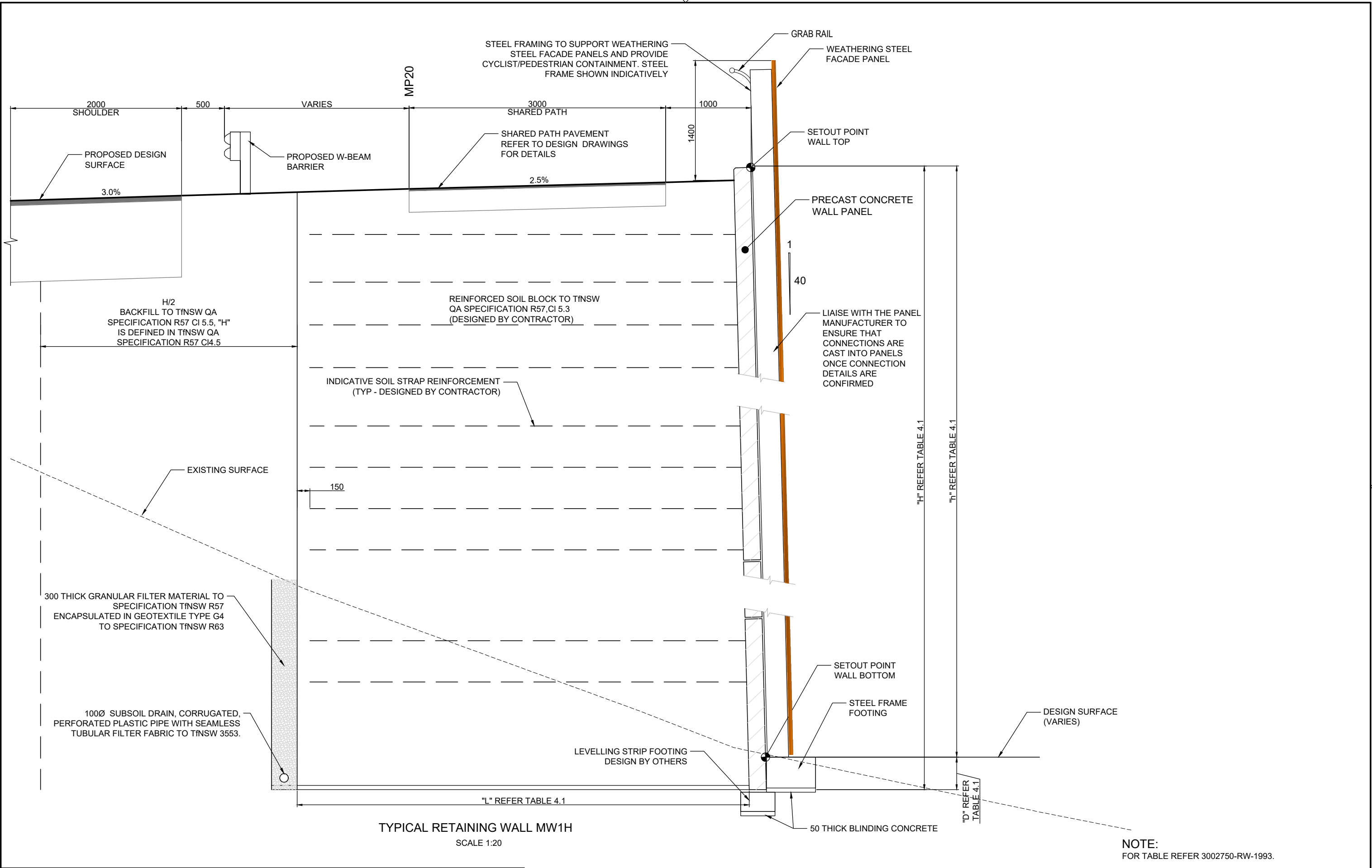
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100  
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70  
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EXTERNAL REFERENCE FILES			WVR No.	APPROVAL	TITLE	NAME
A	01.09.2020	PRELIMINARY SKETCH PLAN	0013	DK	DRAFTER	D.PIGRAM
B	08.10.2020	PRELIMINARY SKETCH PLAN	0014	DK	DRAFTING CHECK	K.CURLEY
C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015	DK	DESIGNER	G.PINCOMBE
					DESIGN CHECK	V.VIGNESWARAN
					PROJECT MANAGER	S.RAVEN
					PROJECT DIRECTOR	D.KEEP
SCALE AT A1 SIZE DRAWING				DESIGNER		
				 <p style="font-size: 8px;">Member of the Surlana Jurong Group SMEC AUSTRALIA PTY LTD © ABN 47 065 475 149 SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE LYNEHAM ACT 2602 AUSTRALIA SMEC PROJECT No 3002750</p>		
CLIENT				PROJECT TITLE		
 <p style="font-size: 8px;">ACT Government Transport Canberra &amp; City Services</p>				WILLIAM HOVELL DRIVE DUPLICATION  RETAINING WALL MW1F & MW1G TYPICAL DETAILS - SHEET 3		
SCALE AS SHOWN		PHASE CONCEPT		PROJECT / DRAWING No. 3002750-RW-1988		REVISION C

PRELIMINARY







TYPICAL RETAINING WALL MW1H  
SCALE 1:20

NOTE:  
FOR TABLE REFER 3002750-RW-1993.

PRELIMINARY

150 mm ON ORIGINAL  
A1

DRAWING FILE LOCATION / NAME V:\Vault\Projects\3002750\CAD\DWG\17_SC_Struct\RETAINING_WALLS\3002750-RW-1992.dwg		PLOT DATE 13 Nov 2020		TIME 10:00:00	
EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.
		A	01.09.2020	PRELIMINARY SKETCH PLAN	0013
		B	08.10.2020	PRELIMINARY SKETCH PLAN	0014
		C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015
		APPROVAL	TITLE	NAME	
		DK	DRAFTER	D.PIGRAM	
		DK	DRAFTING CHECK	K.CURLEY	
		DK	DESIGNER	G.PINCOMBE	
			DESIGN CHECK	V.VIGNESWARAN	
			PROJECT MANAGER	S.RAVEN	
			PROJECT DIRECTOR	D.KEEP	
SCALES AT A1 SIZE DRAWING		DESIGNER		CLIENT	
SCALE 1:20		 Member of the Surlana Jurong Group SMEC AUSTRALIA PTY LTD ABN 47 065 475 149 SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE LYNEHAM ACT 2602 AUSTRALIA SMEC PROJECT No 3002750		 Transport Canberra & City Services	
		PROJECT TITLE		WILLIAM HOVELL DRIVE DUPLICATION	
				RETAINING WALL MW1H TYPICAL DETAILS - SHEET 1	
SCALE	PHASE	PROJECT / DRAWING No.	REVISION		
AS SHOWN	CONCEPT	3002750-RW-1992	C		

TABLE 4.1 - MW1H Reinforced Earth

Wall Chainage		Max. Wall Exposed Height "h" (m)	Min. Required Embedment Depth "D" (mm)	Total Wall Height "H" (m)	Minimum Required Base Width "L" (m)	Founding Material	Existing Sloping ground in front of the wall
From	To						
0.000	250.000	9.5	2700	12.2	12.5	Very Low strength rock	1V:2H
250.000	311.770	5.5	1900	7.4	9.5	Very Low strength rock	1V:2.5H

150 mm ON ORIGINAL  
A1

150  
140  
130  
120  
110  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

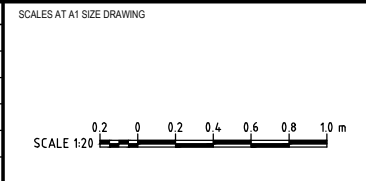
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PLOT DATE  
13 Nov 2020

TIME  
10:00:27

REV	DATE	AMENDMENT / REVISION DESCRIPTION
A	01.09.2020	PRELIMINARY SKETCH PLAN
B	08.10.2020	PRELIMINARY SKETCH PLAN
C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION

WVR No.	APPROVAL	TITLE	NAME
0013	DK	DRAFTER	D.PIGRAM
0014	DK	DRAFTING CHECK	K.CURLEY
0015	DK	DESIGNER	G.PINCOMBE
		DESIGN CHECK	V.VIGNESWARAN
		PROJECT MANAGER	S.RAVEN
		PROJECT DIRECTOR	D.KEEP



DESIGNER

**SMC**  
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SMC AUSTRALIA PTY LTD  
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LYNEHAM ACT 2602 AUSTRALIA  
SMC PROJECT No 3002750

CLIENT

**ACT**  
Government  
Transport Canberra & City Services

PROJECT TITLE  
WILLIAM HOVELL DRIVE DUPLICATION

RETAINING WALL  
MW1H  
TYPICAL DETAILS - SHEET 2

SCALE AS SHOWN	PHASE CONCEPT	PROJECT / DRAWING No. 3002750-RW-1993	REVISION C
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