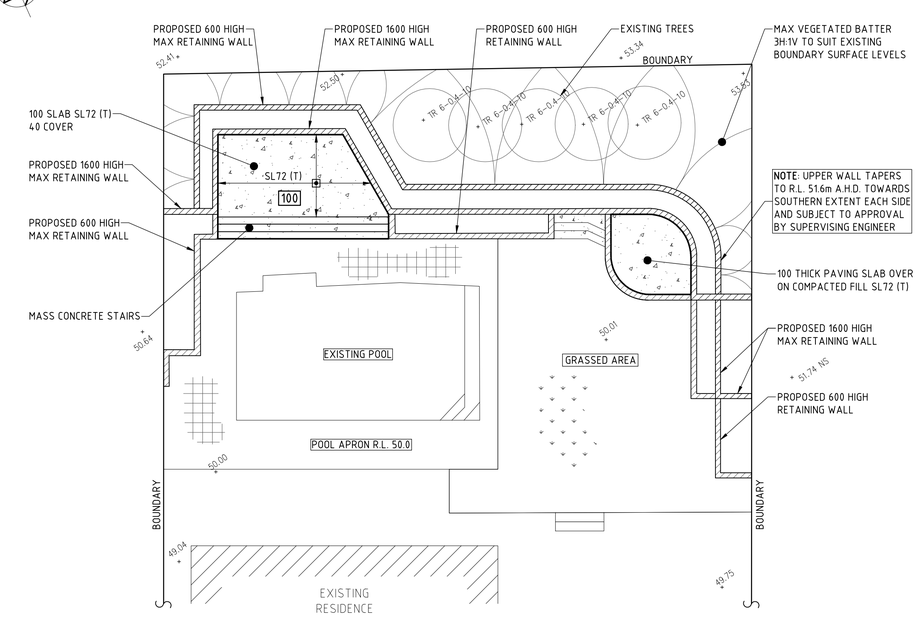
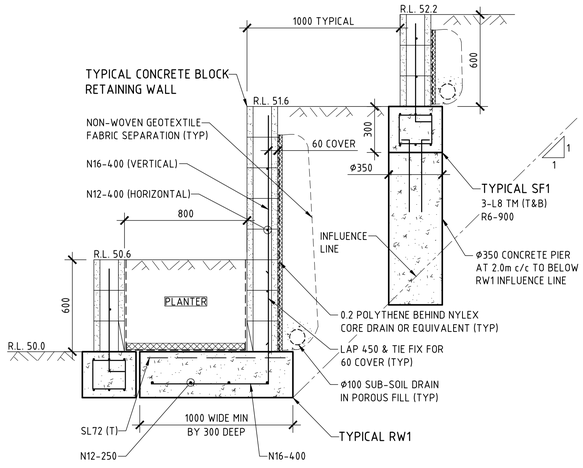


RETAINING WALL PLAN

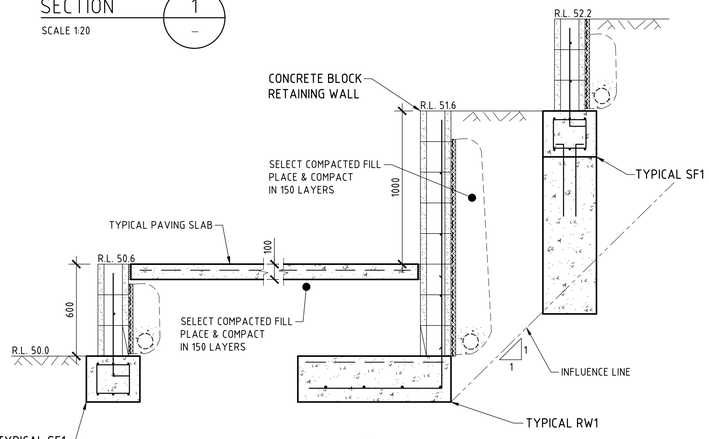
SCALE 1:100

SHOWING NEW RETAINING WALLS AND PAVING SLABS TO BE PROVIDED



SECTION 1

SCALE 1:20



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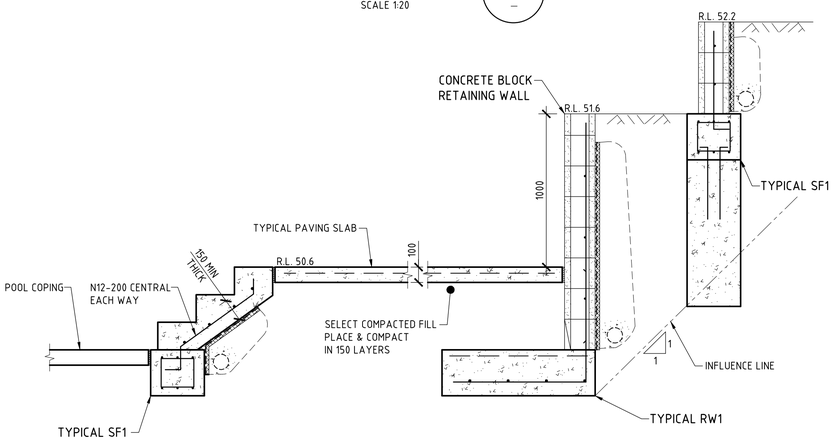
SCALE 1:20



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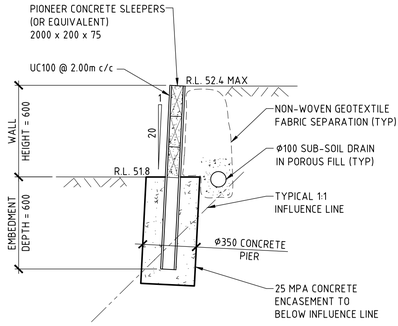
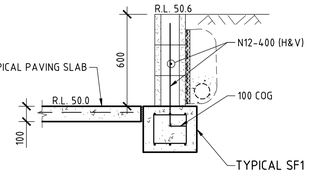


ALTERNATIVE CONCRETE / TIMBER SLEEPER RETAINING WALL DETAIL FOR UPPER LEVEL WALL

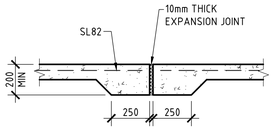
SCALE 1:20



SECTION 2

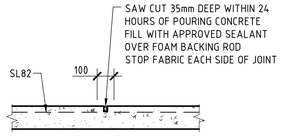
SCALE 1:20

SHOWING TYPICAL LOW HEIGHT RETAINING WALL



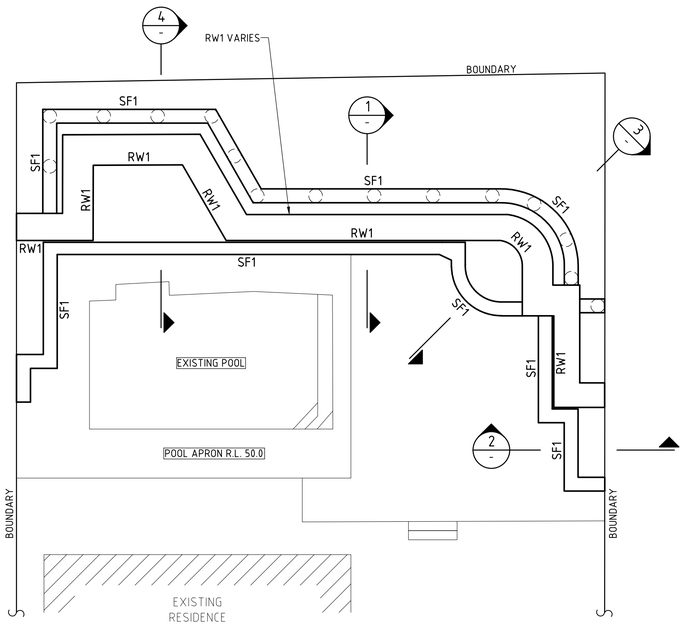
EXPANSION JOINT DETAIL

SCALE 1:20



SAW CUT JOINT DETAIL

SCALE 1:20



RETAINING WALL FOOTING PLAN

SCALE 1:100

NOTE: SUB-SOIL & NEW SURFACE DRAINAGE ELEMENTS TO CONNECT TO THE EXISTING SITE DRAINAGE SYSTEM AND SUBJECT TO APPROVAL BY SUPERVISING ENGINEER

ABBREVIATIONS

U.O.N.	UNLESS OTHERWISE NOTED
T	TOP
B	BOTTOM
H.D.	HOT DIPPED
GALV.	GALVANISED
MIN.	MINIMUM
c/c	CENTRE TO CENTRE
SQ.	SQUARE
TYP.	TYPICAL

ISSUE DATE	REVISION

CONSTRUCTION NOTES

GENERAL

1. These drawings shall be read in conjunction with all architectural and other consultants drawings and specifications and with such other written instructions as may be issued during the course of the contract. All discrepancies shall be referred to the Supervising Officer for decision before proceeding with the work.
2. Dimensions shall not be obtained by scaling the structural drawings.
3. All dimensions shall be verified on site by the Contractor who shall be responsible for their correctness.
4. The contractor shall be responsible for maintaining the structure and neighbouring structures in a safe and stable condition during construction. No part shall be over-stressed.
5. All workmanship and materials shall be in accordance with the requirements of the current SAA Codes and the By-Laws and Ordinances of the relevant Government Authority.

FOUNDATIONS

1. Excavation shall be taken into FIRM NATURAL GROUND the allowable bearing pressure on this material is assumed to be 150 kPa.
2. Foundation material shall be approved immediately before placing concrete.
3. Site Classification to AS 2870 is Class S Site

CONCRETE

1. All workmanship and materials shall be in accordance with AS 3600, current edition with amendments.
2. Concrete quality: All cement shale be Type A Normal Portland Cement.

Element	Slump mm	Max Size Agg. mm	f'c MPa	Special Requirements
FOOTINGS	100	20	25	-
SLAB ON GROUND	80	20	25	-

Strength shall be verified by plant control testing.

3. Clear concrete cover to reinforcement including ties and stirrups shall as follows unless shown otherwise.

Element	Exposure Classification		
	A1 Sheltered locations	B1 External locations over 1km from saltwater shoreline	B2 External locations within 1km of saltwater shoreline
Strip footings	-	50	50
Columns and piers	20	40	50
Beams	20	40	45
Slabs and walls	20	40	45

Note that slabs placed over a membrane on ground are included as A1.

4. Reinforcement symbols:
   N denotes Grade 500 deformed normal ductility bar to AS 4671.
   R denotes Grade 250 plain round normal ductility bar to AS 4671.
   SL denotes Grade 500 low ductility square welded mesh to AS 4671.
   RL denotes Grade 500 low ductility rectangular welded mesh to AS 4671.
   denotes direction of main bars of rectangular fabric (main bars down for bottom reinforcement, main bars up for top reinforcement).
   denotes square fabric.
   denotes extent of reinforcement.
5. All unsupported bars shall be tied in the transverse direction to N12-200 unless otherwise noted.
6. Reinforcement is shown diagramatically and is not necessarily shown in the true projection.
7. Splices in the reinforcement shall be made only in the positions shown. The written approval of the Supervising Officer shall be obtained for any other splices. Where the lap length is not shown it shall be sufficient to develop the full strength of the reinforcement.
8. Welding of reinforcement will not be permitted unless shown on the structural drawings.
9. Fabric lap detail: 25 Min. Lap 2 wires
10. Slab reinforcement shall extend at least 65 onto masonry support walls unless shown otherwise.
11. Concrete sizes shown are minimum and no reductions by ducts, pipes, etc. shall be made without the approval of the Supervising Officer. Sizes do not include thickness of applied finishes.
12. Beam depths are written first and do not include slab thickness.
13. Pipes or conduits shall not be placed within the concrete cover to reinforcement without the approval of the Supervising Officer.
14. No holes or chases other than those shown on the structural drawings shall be made in concrete members without the prior approval of the Supervising Officer.
15. Construction joints where not shown shall be located to the approval of the Supervising Officer.
16. The contractor shall notify the Engineer 24 hours before pouring concrete.
17. The concrete shall be compacted using high frequency vibrators.
18. Columns, piers, and pedestals shall be placed 24 hours (min.) before concrete in slabs or beams over.
19. Curing of all concrete surfaces shall commence immediately after surfaces are finished as specified.

BRICK AND CONCRETE BLOCK MASONRY

1. All workmanship and materials shall be in accordance with AS 3700.
2. Two layers of approved metal based slip joint material shall be laid under all slabs where they bear on brickwork.
3. Walls shown on structural drawings are load bearing walls. Non load bearing walls under slabs shall be separated from the concrete by a minimum of 10mm thick compressible material.
4. No brickwork which is supported by the slab shall be erected until formwork has been removed.
5. Brick mortar to be 1:1:6 proportions by volume of cement, lime and sand.
6. Brick strength of load bearing brickwork to be a minimum of f'uc = 14 Mpa.

REINFORCED CONCRETE BLOCK MASONRY

1. All concrete masonry units shall conform to the requirements of AS 2733.
2. The design strength of concrete masonry shall be:

Element	Strength Grade of Units	Mortar Mix
		Cement, Lime, Sand
RETAINING WALLS	15 MPa (BLOCKS)	1:0.1:3

3. Workmanship involved in placing concrete units shall comply with AS 3700 and all units shall be have fully bedded face shells and cross walls.
4. Clean out holes shall be provided at the base of all reinforced cores.
5. Unless noted otherwise the cores of all concrete masonry units shall be filled with concrete having a characteristic strength at 28 days (f'c) of 20 MPa and a slump of 180mm to 230mm when being placed. the concrete filling shall be thoroughly compacted.
6. Max size of course aggregate in concrete used to fill cores shall be 10mm unless shown otherwise.

STRUCTURAL STEELWORK

1. All workmanship and materials shall be in accordance with AS 4100 and AS 1554 except where varied by the contract documents.
2. Three (3) copies of all shop details shall be submitted to the engineer for approval of structural sufficiency before fabrication.
3. All welds shall be 6mm continuous fillet, all bolts ø20mm, all gussets plates 10mm thick, unless noted otherwise on the drawing.
4. Concrete encased steelwork shall be wrapped with 3mm wire at 100mm centres and shall have a minimum 50 cover of concrete.
5. Steel beams and trusses with span greater than 6m shall be fabricated with an upwards precamber of 1/500 span in each span unless noted otherwise on the drawings.
6. Structural steelwork is to be wire brushed to remove rust and loose mill scale and coated with one coat of approved primed unless noted otherwise on the drawings.
7. All steelwork cast into brickwork is to be hot dipped galvanised.

TIMBER

1. Timber construction is to be in accordance with AS 1720 and the Timber Framing Code AS 1684.
2. Timber stress grade shall be F7 unless noted otherwise.

TITLE

STRUCTURAL DETAILS – RETAINING WALL PLAN 90 ALAMEDA WAY, WARRIEWOOD

DRAWN	DATE	CHECKED	SCALE @ A1
JBP	25 AUGUST 2020	BE Civil (Hons) MIE Aust.	1:100 1:20

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DRAWING NO. SHEET – 1

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