

BRICK RETAINING WALL NOTES

1. COMPACT ALL GROUND UNDER AND IN FRONT OF RETAINING WALLS TO RESIST 7 BLOWS PER 300mm (STANDARD PERTH SAND PENETROMETER TEST).
2. CONCRETE TO COMPLY WITH AS 3600 & SHALL BE PRE-MIXED FROM AN APPROVED SUPPLIER.

CONCRETE QUALITY:

LOCATION	STRENGTH GRADE	MAX. AGG. SIZE (mm)	SLUMP (mm)
CAVITY	N20	10	100
FOOTINGS	N20	20	80

3. ALL STEEL REINFORCEMENT TO COMPLY WITH AS 1302 & 1303.
4. PROVIDE WALL TIES ACROSS CAVITY AT 343mm (VERTICAL SPACING) x 600 mm (HORIZONTAL SPACING) WITH 75mm MINIMUM EMBEDMENT INTO EACH LEAF. FIX WALL REINFORCEMENT TO TIES TO PREVENT DISPLACEMENT DURING POUR.
5. POUR CONCRETE TO CAVITY IN LIFTS NOT EXCEEDING 500mm TO REQUIRED HEIGHT AND COMPACT BY THOROUGH RODDING OR LIGHT VIBRATION.
6. DO NOT BACKFILL WALL UNTIL WALL HAS BEEN POURED FOR 10 DAYS MIN.
7. PROP RETAINING WALLS DURING BACKFILLING AND COMPACTING. PROPS FOR 3 DAYS MINIMUM AFTER SLAB POUR WHERE SLAB OVER OCCURS.
8. BUILDER TO PROVIDE ADEQUATE DRAINAGE AND WATERPROOFING TO REAR OF RETAINING WALLS.
9. NO PERMANENT DEAD LOADS/CHARGE ON RETAINING WALL IS ASSUMED. A HORIZONTAL BACKFILL ONLY WITH NO STRUCTURE OR TRAFFIC LOADS TO BE CLOSER THAN THE RETAINING HEIGHT AWAY FROM THE WALL.
10. MAX DESIGN LIVE LOAD BEHIND WALL IS 3.0kPa (UNIFORM/DISTRIBUTED).
11. SETION REINFORCEMENT AROUND ALL CORNERS. 450 mm MINIMUM.
12. PROVIDE VERTICAL CONTROL JOINTS TO EXTERNAL RETAINING WALLS AT TWELVE METRE CENTRES (MAX.).
13. THESE DETAILS ARE APPLICABLE TO CLASS A STABLE SUBGRADES. NOTIFY ENGINEER IF SOIL CONDITION IS OTHERWISE.
14. NOTIFY THE ENGINEER IF A FENCE IS TO BE BUILT ALONG TOP OF WALL: WALL DIMENSIONS AND REINFORCEMENT MAY NEED TO BE INCREASED.
15. MASONRY SHALL COMPLY WITH A.S. 3700.
16. MASONRY UNITS SHALL HAVE A MINIMUM UNCONFINED CHARACTERISTIC COMPRESSIVE STRENGTH (f_{cu}) OF 12 MPa U.N.O. (SEE GENERAL NOTES 6.2)
17. MORTAR MIX PROPORTIONS (BY VOLUME) SHALL BE C1 : L1 : S6
18. CONFIRM RETAINING WALL HEIGHTS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS AND ON SITE PRIOR TO COMMENCEMENT OF WORKS.

19. BOND BRICKWORK LEAVES EITHER BY:
 1. HEADER BRICKS AT EACH STEPPED INTERVAL IN WHICH EACH ALTERNATE BRICK IS A HEADER, OR
 2. WALL TIES AT EACH STEPPED INTERVAL AT 400 CTS. MAX. HORIZ.

NOTES

- 1.0 GENERAL
- 1.1 THESE NOTES TO BE READ IN CONJUNCTION WITH SPECIFIC NOTES ON RELEVANT DRAWINGS. ALL NOTES MANDATORY.
- 1.2 ALL DIMENSIONS TO BE CHECKED ON SITE.
- 1.3 THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANT SERVICES DRAWINGS. ANY ALTERATIONS OR REVISIONS TO THE ARCHITECTURAL OR OTHER CONSULTANT SERVICES DRAWINGS (INCLUDING DURING THE DOCUMENTATION PERIOD), WHICH AFFECT THE STRUCTURE ARE TO BE SPECIFICALLY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 1.4 DO NOT SCALE FROM DRAWINGS.
- 1.5 USE LATEST CODES OR AMENDMENTS.
- 1.6 SITE VISITS NOT INCLUDED IN DOCUMENTATION FEE UNLESS SPECIFIED IN WRITING.
- 1.7 ALL TIMBER WORKS & ROOF ANCHORAGE TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS 1708 & BSA.
- 1.8 WIND DESIGN BASED ON TC 3 REGION A, TO A.S. 1170.2 : BUILDER TO CONFIRM WITH LOCAL AUTHORITY & NOTIFY ENGINEER IF OTHERWISE.
- 1.9 IF GROUND SLAB IS TO BE USED AS PART OF THERMITE BARRIER SYSTEM, BUILDER MUST INSPECT SLAB AT 28 DAYS AFTER POUR TO ENSURE NO CRACKS WIDER THAN 0.5mm HAVE OCCURRED. ANY CRACKS EXCEEDING 0.5mm IN WIDTH ARE TO BE REPAIRED USING THERMITE-PROOF EPOXY GROUT. THERMITE BARRIER TO BE IN ACCORDANCE WITH ASS6611
- 1.10 DURING CONSTRUCTION, BUILDER TO ENSURE STRUCTURE REMAINS STABLE AND NO PART IS TO BE OVERSTRESSED.
- 1.11 MAKE DIE ALLOWANCE IN FINISHES FOR DIFFERENTIAL MOVEMENT AT JOINTS OR WHERE DEFERRING MATERIALS OF CONSTRUCTION ARE IN CONTACT.
- 2.0 FOOTINGS
- 2.1 FOOTINGS AND SLABS ON GROUND TO COMPLY WITH AS 2870.
- 2.2 FOOTINGS DESIGNED FOR A CLASS A STABLE SUBGRADE U.N.O. BUILDER TO NOTIFY ENGINEER IF SOIL CONDITION IS OTHERWISE.
- 2.3 FOOTINGS AT LOWEST LEVEL MUST BE FIRST FOOTINGS POURED.
- 2.4 DIFFERENCE IN FOOTING LEVELS IS NOT TO EXCEED HALF THE CLEAR DISTANCE BETWEEN THEM.
- 2.5 LOCATE FOOTINGS CENTRALLY UNDER WALLS & COLUMNS UNLESS OTHERWISE SHOWN.
- 2.6 ANY TREES, STUMPS, OLD EXCAVATIONS, RUBBISH, FILL ETC. TO BE CLEARED OUT AND REPLACED WITH CLEAN, COMPACTED FILL OR CONCRETE AS REQUIRED BY ENGINEER.
- 2.7 ALL SOIL BELOW FOOTINGS AND SLABS ON GROUND SHALL BE COMPACTED FOR A MINIMUM DEPTH OF 75mm IN VIRGIN SOIL AND FOR THE FULL DEPTH OF ALL FILLING SAND TO GIVE PENETRATION RESISTANCE OF 8 BLOWS MINIMUM PER 300mm USING A STANDARD PERTH SAND PENETROMETER (COMPLYING WITH AS 1298F3.3).
- 2.8 OBTAIN APPROVAL OF ALL EXCAVATIONS PRIOR TO CONCRETING.
- 3.0 CONCRETE
- 3.1 ALL CONCRETE TO COMPLY WITH AS 3600 & SHALL BE PRE-MIXED FROM AN APPROVED SUPPLIER.
- 3.2 CONCRETE QUALITY:

LOCATION	STRENGTH GRADE	MAX. AGG. SIZE (mm)	SLUMP (mm)
FOOTINGS	N25	20	80
GRD SLAB (WAREHOUSE)	N32	20	80
GRD SLAB (OFFICE)	N25	20	80

TILT-UP PANEL REFER TO DWG S3

- 3.3 NOTIFY THE ENGINEER AT LEAST 24 HOURS BEFORE PLACING CONCRETE.
- 3.4 BUILD FORMWORK FROM ARCHITECTURAL DRAWINGS. CHECK FOR BUILT-IN FIXINGS, FLASHINGS, TIES, PLUMBING AND ELECTRICAL FITTINGS, DUCTS, VOIDS ETC.
- 3.5 COMPACT CONCRETE BY USING APPROVED IMMERSION VIBRATORS.
- 3.6 BEAMS AND SLABS TO BE POURED MONOLITHICALLY.
- 3.7 LOCATE CONDUITS UNDER TOP STEEL AND OVER BOTTOM STEEL.
- 3.8 ALL LOAD BEARING BRICKWORK AND BLOCKWORK TO BE BUILT HARD UP TO UNDERSIDE OF SLAB BEFORE CONCRETE POURED. USE TWO LAYERS OF P.G.I. OR OTHER APPROVED BETWEEN WALLS AND SLAB.
- 3.9 PROVIDE 2-LAYERS OF PGI (OR SIMILAR APPROVED) BOND BREAKER BELOW ALL UPPER LEVEL WALLS ON SUSPENDED SLAB.
- 3.10 CURE ALL CONCRETE BY KEEPING MOIST FOR 7 DAYS MIN.
- 3.11 USE ONLY ORDINARY PORTLAND CEMENT TYPE A TO CONCRETE.
- 3.12 WHERE BRITTLE FLOOR FINISHES (E.G. TILES) ARE TO BE USED, THE BUILDER IS REFERRED TO CL 5.3.7 OF AS2870 FOR EXTRA MEASURES TO BE TAKEN TO REDUCE THE EFFECT OF SLAB SHRINKAGE CRACKING.
- 3.13 GENERALLY ALL PENETRATIONS REQUIRED IN CONCRETE ARE SHOWN ON THE STRUCTURAL DRAWINGS. THE BUILDER IS TO SEEK THE APPROVAL OF THE ENGINEER IF ANY ADDITIONAL PENETRATIONS ARE REQUIRED.
- 4.0 REINFORCEMENT
- 4.1 PLAIN ROUND BARS (R), HARD DRAWN WIRE BARS (W), HOT ROLLED RIB (S & N) ARE TO COMPLY WITH AS 4671.
- 4.2 FABRIC AND HARD DRAWN STEEL WIRE TO COMPLY WITH AS 4671.
- 4.3 MINIMUM LAPS-FABRIC, ONE SQUARE + 25MM BARS: 40 x BAR DIAMETER U.N.O.
- 4.4 SUPPORT ALL REINF. ADEQUATELY AND ACCURATELY ON APPROVED CHAIRS.
- 4.5 STEEL MARKED:
 UT - UPPER TOP BARS UB - UPPER BOTTOM BARS
 LT - LOWER TOP BARS LB - LOWER BOTTOM BARS
- 4.6 CLEAR COVER TO REINFORCEMENT TO BE:
 FOOTINGS..... 50mm
 SLAB ON GROUND..... 25mm (TOP) (35mm EXPOSED)
 SLABS..... 20mm (30mm EXPOSED)
 BEAMS..... 30mm (30mm EXPOSED)
 COLUMNS..... 40mm (40mm EXPOSED)
 WALL PANELS..... 20mm (35mm EXPOSED)
- 4.7 REINFORCE ALL SLAB RE-ENTRANT CORNERS WITH 2-N16 x 1500 LG. BARS IN MIDDLE OF SLAB AT 45° TO CORNER U.N.O.
- 5.0 FORMWORK
- 5.1 FORMWORK SHALL COMPLY WITH AS 3610
- 5.2 BUILD ALL FORMWORK FROM ARCHITECTURAL DRAWINGS
- 5.3 MINIMUM STRIPPING TIMES
 WALLS AND COLUMNS..... 3 DAYS U.N.O
 BEAMS, SLABS AND STAIRS..... 10 DAYS U.N.O
- 5.4 BRICK PROP SLABS AND BEAMS FOR 28 DAYS MINIMUM
- IF BRICKWORK IS TO BE BUILT ON SLAB, ALLOW CONCRETE TO REACH STRENGTH GRADE. PULL OUT ALL PROPS AND LOAD ALL BRICKS ON SLAB TO ALLOW DEFLECTION TO OCCUR BEFORE BRICKWORK COMMENCED. NO BRICKWORK TO BE BUILT ON PROPPED SLABS.
- 6.0 MASONRY
- 6.1 MASONRY SHALL COMPLY WITH AS 3700
- 6.2 MASONRY UNITS SHALL HAVE A MINIMUM CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH (f_{cu}) OF 12 MPa U.N.O. WITH A MORTAR CLASSIFICATION OF M3 MIX - C1 : L1 : S6 MIX (PROPORTIONS BY VOLUME). USE M4 MORTAR FOR EXTERNAL MASONRY IN SEVERE MARINE ENVIRONMENTS.
- 6.3 LOADBEARING MASONRY SHALL HAVE ALL BED JOINTS AND PERPENDICULARLY BEDDED.
- 6.4 REINFORCE ALL MASONRY WALLS ON SLAB (WHERE NO WALLS UNDER) WITH 2-R6 GALV. RODS PER LEAF, 1c (88mm) UP FROM SLAB AND OVER OPENINGS, EXTENDING 500mm BEYOND OPENINGS.
- 6.5 WHERE MASONRY ABUTS STEEL OR CONCRETE STRUCTURES THEY SHALL BE FIXED WITH APPROVED BRICK TIES EVERY:
 4TH COURSE..... STANDARD AND MODULAR BRICKS UP TO 100MM HIGH
 2ND COURSE..... MASONRY UNIT BETWEEN 100MM AND 200mm HIGH
- 6.6 CUTTING AND CHASING OF LOAD BEARING MASONRY IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6.7 ALL WALL TIES, CONNECTORS & ACCESSORIES, UNITS & SHELF ANGLES ARE TO BE TREATED FOR CORROSION PROTECTION IN ACCORDANCE WITH A.S. 3700 (TABLES F1 TO F6).
- 7.0 STRUCTURAL STEELWORK
- 7.1 ALL STEELWORK TO COMPLY WITH AS 4100
- 7.2 MATERIAL - U.N.O. ALL THE MATERIAL TO BE:
 - GRADE 250 HOT ROLLED PLATES COMPLYING WITH AS 3678
 - GRADE 250 HOT ROLLED FLATS, TFC, TFB, ANGLES 100x10 EA OR 125x75 UA & SMALLER COMPLYING WITH AS 3679.1
 - GRADE 300 UB, UC, PFC AND ANGLES 125x75 EA OR 150x90 UA AND LARGER
 - GRADE 300 WB, WC COMPLYING WITH AS 3679.2
 - GRADE 350 RHS, CHS COMPLYING WITH AS 1163.
- 7.3 ALL WELDING TO COMPLY WITH AS 1554 PARTS 1 AND 2.
- 7.4 ALL WELDS TO DEVELOP FULL STRENGTH OF MEMBERS JOINED U.N.O.
- 7.5 FULLY SEAL ALL HOLLOW SECTIONS USING 5MM PLATES WHERE NECESSARY.
- 7.6 PROVIDE ALL GLEATS, BRACKETS, HOLES, ETC. NOT SHOWN BUT NECESSARY TO COMPLETE THE BUILDING.
- 7.7 UNLESS OTHERWISE SHOWN, ALL BOLTED CONNECTIONS ARE TO DEVELOP FULL STRENGTH OF MEMBERS JOINED.
 (a) 13MM THICK GUSSET FIN AND END PLATES AND 2-N16 8.8/S BOLTS.
 OR (b) 6MM CONTINUOUS GP FILLET WELD.
- 7.8 STEEL BEAMS TO BE FABRICATED WITH NATURAL CAMBER UP.
- 7.9 UNLESS OTHERWISE NOTED, USE:
 (a) 13MM THICK GUSSET FIN AND END PLATES AND 2-N16 8.8/S BOLTS.
 OR (b) 6MM CONTINUOUS GP FILLET WELD.
- 7.10 ALL BOLTED CONNECTIONS TO BE BOLTING CATEGORY 8.8/S U.N.O.
- 7.11 PROVIDE TEMPORARY BRACING DURING ERECTION.
- 7.12 USE 1:2 CEMENT SAND GROUT UNDER ALL SEATING AND BASE PLATES, ENSURING THE SPACE UNDER THE PLATES IS COMPLETELY FILLED.
- 7.13 WHERE MASONRY WALLS ABUT OR ADJACENT TO STEEL COLUMNS: WELD A VERTICAL R10 ROD TO COLUMN. LENGTH OF WELD TO BE 25mm EACH SIDE OF ROD EVERY 350mm. PROVIDE 5MM CLEARANCE BETWEEN ROD AND COLUMN FACE.
- 7.14 ALL INTERNAL STEELWORK TO BE RUSTPROOFED USING A RED OXIDE ZINC PHOSPHATE PRIMER ON CLEANED SURFACES U.N.O.
- 7.15 EXTERNAL STEELWORK TREATMENT TO CONFORM WITH AS/NZS 2312 (HOT DIP GALVANIZED)
- 7.16 COLD FORMED SECTIONS TO CONFORM TO AS 1397 - G 450 (450 MPa MIN. YIELD STRESS).
- 7.17 PROVIDE EXTRA PURLINS & BRIS AS REQUIRED TO SUIT PENETRATIONS AND GUTTERS.
- 7.18 ALL STEELWORK IN CONTACT WITH THE GROUND IS TO BE COATED WITH 2 COATS DULUX AMBERCOAT 385 (MIN DFT 250 MICRONS) OR SIMILAR APPROVED.
- 7.19 PURLINS/GIRTS - PURLINS AND GIRTS ARE TO BE BHP BUILDING PRODUCTS (BHP-PP), STRAMIT, OR OTHER SECTIONS APPROVED IN WRITING BY THE ENGINEER, COMPLYING WITH AS 1397, AND A MINIMUM GALVANIZED COATING OF Z350 (350G/50M).
 GLEAT CONNECTIONS ARE TO BE IN ACCORDANCE WITH ASS STANDARDISED CONNECTIONS OR MANUFACTURER'S RECOMMENDATIONS U.N.O. BOLTING AND BRIDGING TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

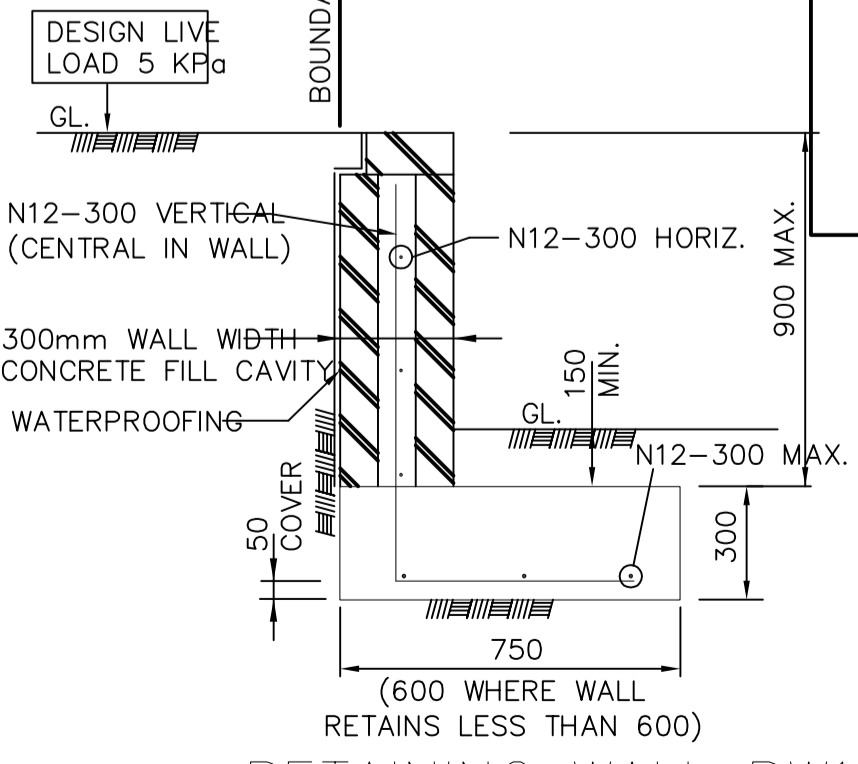
FOOTING & GROUND SLAB PLAN

WAREHOUSE: 125 THICK SLAB, SL72 MESH TOP, 30 COVER
 OFFICE: 100 THICK SLAB, SL62 MESH TOP, 30 COVER

- * BUILDER TO CONFIRM ALL LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
- * PLACE MESH ON APPROVED SUPPORT CHAIRS PRIOR TO CONCRETE PLACEMENT.
- * PROVIDE 2-N16 BARS x 1500 LONG CENTRAL IN SLAB AT ALL RE-ENTRANT CORNERS.
- * INDICATES 25mm RECESS TO WET AREAS. MAINTAIN 100 THICK SLAB. CONFIRM EXTENT WITH ARCH'L DWGS.
- * CJ1, CJ2, CJ3 - SLAB CONTROL JOINT AS PER DWG S2

LEGEND

- COLUMNS:**
 C1 - 100 x 4 SHS
- PAD FOOTING:**
 PF1 - 1200 x 1200 x 300 DP, N12-200 CTS BOTTOM EACH WAY
 PF2 - 1200 x 2500 x 300 DP, N12-200 CTS BOTTOM EACH WAY
 PF3 - 1200 x 1200 x 300 DP, N12-200 CTS BOTTOM EACH WAY
 PF4 - 1000 x 1000 x 350 DP, N12-200 CTS BOTTOM EACH WAY
- STRIP FOOTINGS:**
 SF1 - 800 x 300 DP, L8TM TOP & BOTTOM
 SF2 - 600 x 300 DP, L8TM BOTTOM
 SF3 - 1000 x 300 DP, L8TM BOT



RETAINING WALL RW1

- * CONFIRM EXTENT & LOCATION OF RETAINING WALL WITH ARCH'L DWG'S.
- * REFER TO RETAINING WALL NOTES ABOVE