

**GENERAL**

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ANY AND ALL ARCHITECTURAL DRAWINGS, OTHER CONSULTANTS' DRAWINGS, AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT.
- G2 DIMENSIONS SHALL NOT BE OBTAINED BY SCALING
- G3 SET-OUT DIMENSIONS SHOWN ON DRAWINGS SHALL BE VERIFIED BY BUILDER
- G4 THE FOUNDATION DESIGN RELATES ONLY TO THIS SITE.
- G5 ALL PIERS ARE TO BE INSTALLED IN ACCORDANCE WITH AS 2159 AND THE MANUFACTURER'S INSTRUCTIONS.
- G6 EDGE BEAM STEEL MUST NOT BE CUT UNLESS AUTHORISATION IS OBTAINED FROM THE ENGINEER.
- G7 MINIMUM HEIGHTS OF SLABS ABOVE GROUND FOR HABITABLE AREAS TO BE:
  - 150mm FOR HIGH SIDE OF SLOPING, WELL-DRAINED SITES.
  - 300mm FOR LEVEL, POORLY DRAINED SITES.
- G8 WHERE OVERLAND FLOW POTENTIAL HAS BEEN IDENTIFIED ADDITIONAL DRAINAGE MUST BE PROVIDED BY THE BUILDER TO ENSURE THAT ALL SITES TO BE FREE-DRAINING DURING AND AFTER CONSTRUCTION.
- G9 REFER TO ARCHITECTURAL DRAWINGS TO VERIFY LEVELS BEFORE COMMENCING ANY WORK.

**EARTHWORKS**

- E1 SITE EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE PLANS AND AS:3798.
- E2 WHERE RETAINING WALLS ARE REQUIRED, THEY SHALL BE CONSTRUCTED BEFORE COMPLETION OF THE SITE EARTHWORKS.

**MASONRY**

- M1 ALL MASONRY, WHETHER REINFORCED OR UNREINFORCED, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, AS:3700, AND THE REQUIREMENTS OF THE B.C.A.
- M2 PARTICULAR ATTENTION IS DRAWN TO THE NEED FOR JOINTS IN THE MASONRY AS REQUIRED BY THE B.C.A. AND RELEVANT DOCUMENTS.
- M3 ARTICULATION JOINTS IN BRICKWORK ARE TO BE 10mm WIDE MINIMUM.
- M4 JOINTS TO BE LOCATED AS NOMINATED ON FOOTING PLAN. IF NO FOOTING PLAN PROVIDED JOINTS TO BE LOCATED IN ACCORDANCE WITH B.C.A SECTION 3-3-1-8

**FOUNDATION**

- F1 FOOTINGS HAVE BEEN DESIGNED AS CLASS "E-D" IN ACCORDANCE WITH AS:2870-2011.
- F2 ALL FOUNDATIONS TO BE CONFIRMED BY GEOTECHNICAL CONSULTANT PRIOR TO PLACEMENT OF FOUNDATION REINFORCEMENT.

**PLUMBING**

- P1 ALL PLUMBING ON THIS SITE TO BE ARTICULATED TO ACCOMMODATE POSSIBLE GROUND MOVEMENTS.
- P2 REFER TO OUR DRAWING GFDS-EP-1A FOR TYPICAL DETAILS.

**CONCRETE (1) - GENERAL**

- C1.1 ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH AS:3600 CURRENT EDITION INCLUDING AMENDMENTS.
- C1.2 A VIBRATOR IS TO BE USED FOR THE COMPACTION OF ALL CONCRETE.
- C1.3 CONCRETE SHALL BE CURED BY AN APPROVED METHOD FOR SEVEN (7) DAYS AFTER PLACEMENT.
- C1.4 FORMWORK SHALL NOT BE REMOVED UNTIL THREE (3) DAYS AFTER PLACEMENT OF CONCRETE.
- C1.5 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C1.6 CONCRETE SHALL HAVE THE PROPERTIES SHOWN IN TABLE C1 ON THIS DRAWING U.N.O.

**CONCRETE (2) - REINFORCEMENT**

- C2.1 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY, IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C2.2 COVER TO REINFORCEMENT SHALL BE AS PER TABLE C2 ON THIS DRAWING U.N.O.
- C2.3 REINFORCEMENT LAPS TO CONFORM TO TABLE C3 ON THIS DRAWING U.N.O.
- C2.4 ALL REINFORCEMENT TO CONFORM TO AS:1302. REINFORCEMENT SYMBOLS:
  - 'R' DENOTES ROUND MILD STEEL BAR, GRADE 500
  - 'N' DENOTES NORMAL YIELD DEFORMED BAR, GRADE 500
  - 'SL' DENOTES WELDED FABRIC, GRADE 500
  - 'W' DENOTES HARD DRAWN DEFORMED WIRE, GRADE 500
 THE NUMBER AFTER THE SYMBOL IS THE BAR DIAMETER IN mm.
- C2.4 SITE BENDING OF N BARS SHALL BE DONE COLD WITH POWER OR MECHANICAL TOOLS.
- C2.5 WELDING OF REINFORCEMENT SHALL NOT BE CARRIED OUT WITHOUT APPROVAL OF ENGINEER.
- C2.6 FABRIC LAPS TO CONFORM WITH FIGURE C1 ON THIS SHEET.
- C2.7 FABRIC TO EXTEND 70mm WITH A CROSSWIRE ONTO WALLS U.N.O.

**CONCRETE (3) - COVER**

- C3.1 COVER TO REINFORCEMENT SHALL BE AS PER TABLE C.2 ON THIS DRAWING U.N.O.
- C3.2 COVER TO DOMESTIC FOOTINGS SHALL COMPLY WITH AS:2870.
- C3.3 COVER SHALL NOT BE LESS THAN THE AGGREGATE SIZE NOR THE MAIN BARS.
- C3.4 PIPES, CONDUITS, AND CHASES SHALL NOT BE LOCATED WITHIN THE COVER TO THE REINFORCEMENT.

**TABLE C.1 : CONCRETE CHARACTERISTICS**

ELEMENT	COMPRESSIVE STRENGTH f <sub>c</sub> @ 28 DAYS (MPa)	SLUMP (mm)	MAX. AGG SIZE (mm)
ISOLATED PIERS	20	80	20
SCREW SLAB	25	80	20

**TABLE C.2 : MINIMUM CLEAR CONCRETE COVER  
(FOR DOMESTIC HOUSES)**

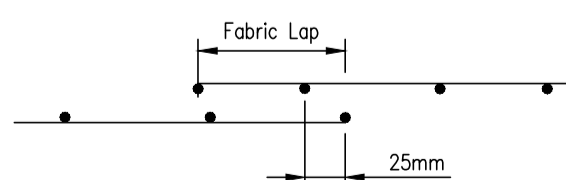
SURFACE CONDITION	COVER (mm)
UNDERSIDE OF SLAB - UNPROTECTED GROUND - GROUND WITH MEMBRANE	40 30
TOPSIDE OF SLAB - EXTERNAL EXPOSED - INTERNAL GARAGE - INTERNAL NORMAL	40 30 20

**NOTE:** MINIMUM COVER REQUIREMENTS INCREASE IN THE PRESENCE OF SALINE SOILS, AGGRESSIVE SOILS, AND/OR WITHIN 50km OF THE COAST. CONTACT ENGINEER FOR REVISED COVER REQUIREMENTS.

**TABLE C3 : MINIMUM REINFORCEMENT LAPS**

MEMBER	LAP	MEMBER	LAP
N12	500	N32	2125
N16	700	LXTM	500
N20	800		
N24	1200	MESH	425 END
N28	1650		225 SIDE

**FIGURE C.1 : MINIMUM FABRIC LAPS**



**REACTIVE CLAY SITE**

- CS1 PENETRATIONS OF THE EDGE BEAM AND FOOTINGS BY PLUMBER SHALL BE SLEEVED.
- CS2 WATER RUN-OFF SHALL BE COLLECTED AND CHANNLED AWAY FROM THE HOUSE DURING CONSTRUCTION.
- CS3 EXCAVATIONS NEAR THE EDGE OF THE FOOTING SYSTEM SHALL BE BACKFILLED IN SUCH A WAY AS TO PREVENT ACCESS OF WATER TO THE FOUNDATION. FOR EXAMPLE, EXCAVATIONS SHOULD BE BACKFILLED ABOVE OR ADJACENT TO THE FOOTING WITH MOIST CLAY COMPACTED BY HAND (RODDING OR TAMPING). POROUS MATERIAL SUCH AS SAND, GRAVEL, OR BUILDING RUBBLE SHOULD NOT BE USED.
- CS4 WATER SHALL NOT BE ALLOWED TO POND IN THE TRENCHES FOR A LONG PERIOD.
- CS5 JOINTS IN PLUMBING PIPES WITHIN 3m OF THE HOUSE UNDER CONSTRUCTION SHALL BE ARTICULATED TO ACCOMMODATE GROUND MOVEMENTS WITHOUT LEAKAGE. SEPTIC TANKS IN PARTICULAR REQUIRE CAREFUL DETAILING.
- CS6 CONCRETE IN BEAMS SHALL BE VIBRATED AND REINFORCEMENT SHALL BE FIXED IN POSITION BY BARS OR CHAIRS OR LIGATURES.
- CS7 TREES MUST BE PLANTED AT LEAST 1.5 TIMES THEIR MATURE HEIGHT AWAY FROM THE BUILDING. ADDITIONALLY ANY EXISTING TREES MUST BE REMOVED TO COMPLY WITH THE ABOVE.
- CS8 IT IS NOTED THAT THE SITE HAS BEEN CLASSIFIED AS EXTREMELY REACTIVE WITH DEEP SEATED MOVEMENTS "E-D" UNDER AUSTRALIAN STANDARD AS:2870 WITH PREDICTED GROUND SURFACE MOVEMENTS GREATER THAN 75mm. FOUNDATIONS DESIGNED UNDER THIS CODE DO NOT GUARANTEE THAT NO MOVEMENT OF THE HOUSE FOUNDATION WILL OCCUR BUT INSTEAD ENDEAVOURS TO LIMIT THE EXPECTED BUILDING MOVEMENT TO ACCEPTABLE LEVELS.

**SCREW PIERS**

- SP1 APPROVED SCREW PIER TYPES ARE AS FOLLOWS:
  - IDEALPIER
  - BLADE PILE
 ALTERNATIVE PILING SYSTEMS MUST BE APPROVED WITH STRUCTURAL ENGINEER.
- SP2 SCREW PIERS TO BE TAKEN TO THE DEPTH OF DESIGN SOIL SUCTION CHANGE (H<sub>s</sub>) PLUS 25%.  
  
NOTE: AT THE SUBJECT SITE H<sub>s</sub> IS APPROXIMATELY 3.0m, THEREFORE PIERS SHOULD BE TAKEN TO APPROXIMATELY 3.75m.
- SP3 SCREW PIERS TO BE FOUNDED IN MATERIAL SUCH THAT EACH PIER PROVIDES A MINIMUM OF 100kN BEARING CAPACITY.
- SP4 INSTALLER OF SCREW PIERS TO CERTIFY THAT BEARING CAPACITY IS ACHIEVED AND SUPPLY FINAL TORQUE/DEPTH RESULTS TO STRUCTURAL ENGINEER FOR FINAL SIGN-OFF CERTIFICATE TO BE ISSUED.
- SP5 SCREW PIERS SUPPORTING LOAD-BEARING COLUMNS TO SUPPORT A MAXIMUM ROOF AREA IN ACCORDANCE WITH TABLE R1 ON THIS SHEET.
- SP6 SCREW PIERS TO BE INSTALLED IN ACCORDANCE WITH AS 2159 AND MANUFACTURER'S INSTRUCTIONS.

**NOTE TO TRUSS MANUFACTURER:**

**TABLE R1:  
MAXIMUM ROOF LOAD FOR SCREWS WITH  
LOAD-BEARING COLUMNS**

COLUMN TYPE	ROOF TYPE	
	TILE	SHEET
590x360 HALF BRICK + 2 POSTS	35m <sup>2</sup>	79m <sup>2</sup>
360x360 HALF BRICK + POST	51m <sup>2</sup>	115m <sup>2</sup>
360x360 FULL BRICK	45m <sup>2</sup>	102m <sup>2</sup>
90x 90 SHS STEEL POST	57m <sup>2</sup>	130m <sup>2</sup>
100x100 TIMBER POST	57m <sup>2</sup>	130m <sup>2</sup>

IF POSTS SUPPORT A LARGER ROOF AREA THAN VALUE GIVEN ABOVE, REFER TO STRUCTURAL ENGINEER.

Checked - JC Approved - JC  
 Design - DF Drawn - DF  
 Scales - AS SHOWN Date - 23.11.2012  
 Document Stage - N/A

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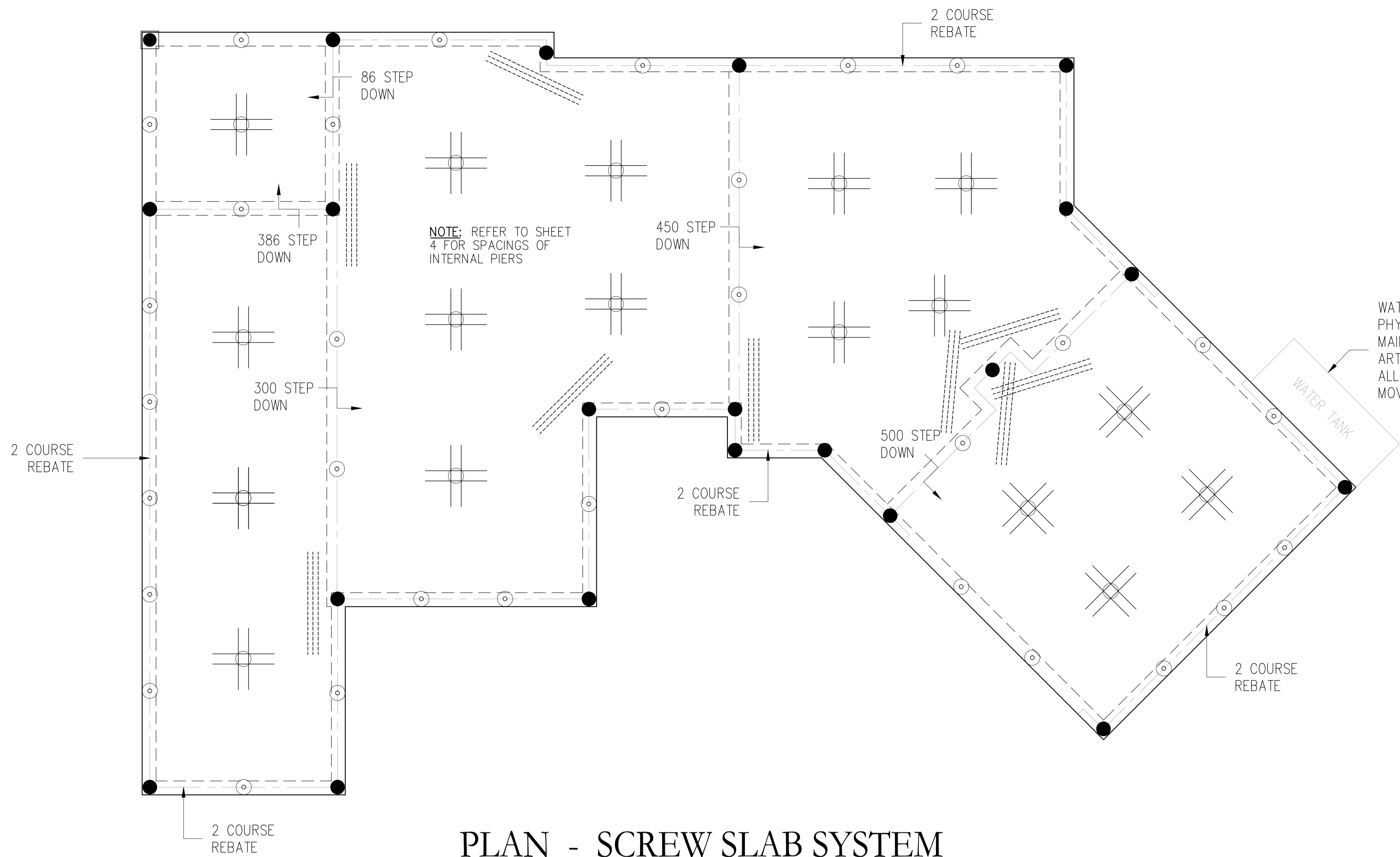
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Drawing title -  
**CONSTRUCTION NOTES**

Project - **PROPOSED RESIDENCE**  
 Client - **N/A**

Site -  
**N/A**

Issue Date	Description	By
A 23.11.2012	FOR INFORMATION	DF
Project	N/A	Sheet No. 1 of 4
Digital Ref:	PLYVD-SCW-NOV12	Issue : N/A
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## PLAN - SCREW SLAB SYSTEM

SCALE - 1:50 (A1), 1:100 (A3)

ALL SLABS TO BE 140mm THICK UNLESS OTHERWISE NOTED

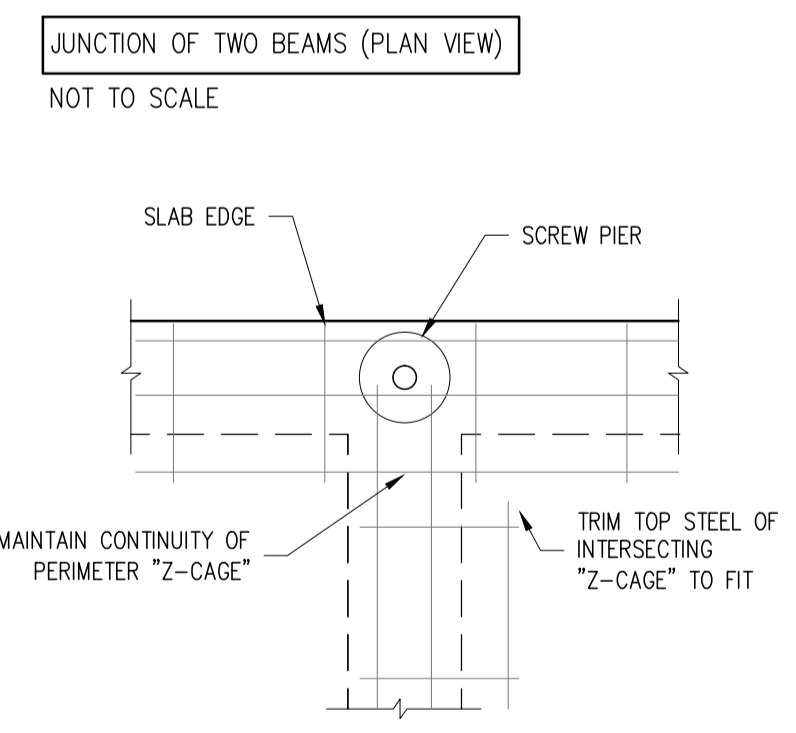
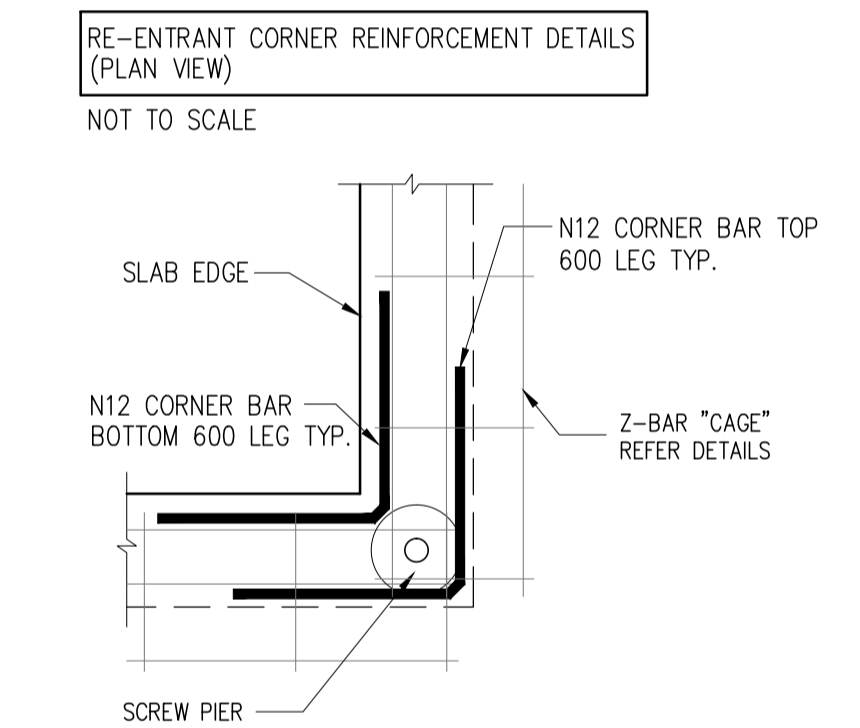
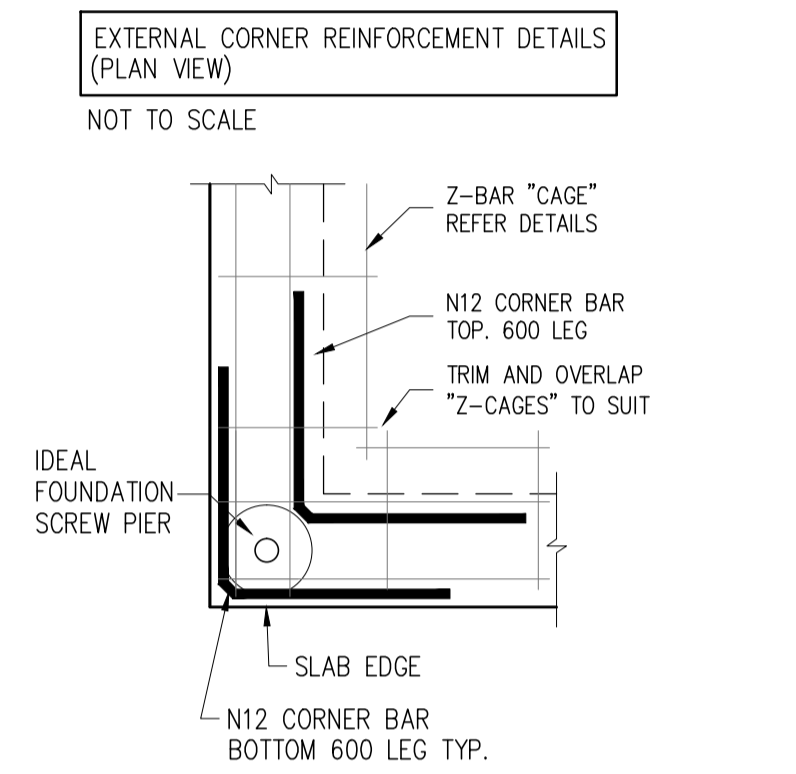
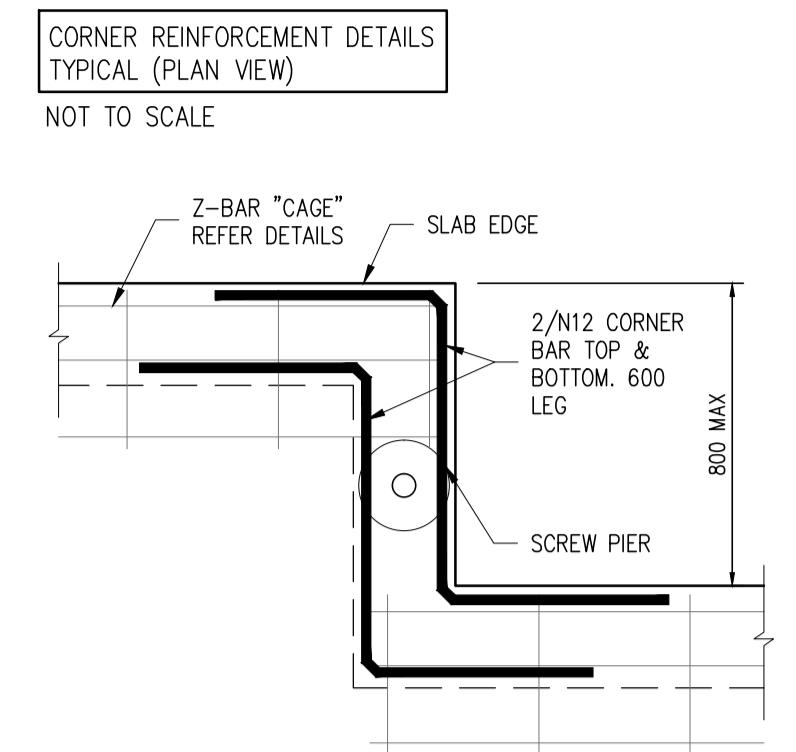
- 'CRITICAL' SCREW PIERS. AT CORNERS OF BEAMS AND OTHER SUCH LOCATIONS
- ⊙ 'BEAM' SCREW PIERS. SPACED AT EQUAL CENTRES BETWEEN CRITICAL PIERS (UNLESS DIMENSIONED OTHERWISE)
- ⊕ 'SLAB' SCREW PIERS. 3000 CAP & 2N12 x 1000 EACH WAY TIED TO TOP OF MESH. SPACED AS PER SHEET 4
- 'COLUMN' SCREW PIER. LOAD BEARING COLUMN ABOVE. REFER TO "MAXIMUM ROOF LOAD" TABLE.
- ⊕ RE-ENTRANT REINFORCEMENT 3/N12 x 2000 (TIE TO TOP OF MESH)

**NOTE:** EXTERNAL SLABS SUCH AS FOOTPATHS, DRIVEWAYS, WATER TANKS ETC., NOT IN THIS DOCUMENTATION, ARE NOT TO BE PHYSICALLY CONNECTED (DOWELLED) TO THE PIERED STRUCTURE.

**NOTE:** DUE TO THE REACTIVITY OF THE SITE THE BUILDER MUST COMPLY WITH CLAUSE 5.5 OF AS-2870 (ADDITIONAL REQUIREMENTS OF H & E SITES) AND OTHER RELEVANT REQUIREMENTS AS NECESSARY.

PROVIDE VERTICAL ARTICULATION JOINTS ON BRICKWORK IN ACCORDANCE WITH THE CEMENT & CONCRETE ASSOCIATION DOCUMENT TN61 - 'ARTICULATED WALLING' (COPY ATTACHED WITH CERTIFICATE)

WATER TANK SLAB NOT PHYSICALLY CONNECTED TO MAIN SLAB. ARTICULATE PLUMBING TO ALLOW FOR DIFFERENTIAL MOVEMENT.



Checked - JC	Approved - JC
Design - DF	Drawn - DF
Scales - AS SHOWN	Date - 23.11.2012
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Drawing title -  
**SCREW SLAB PLAN**

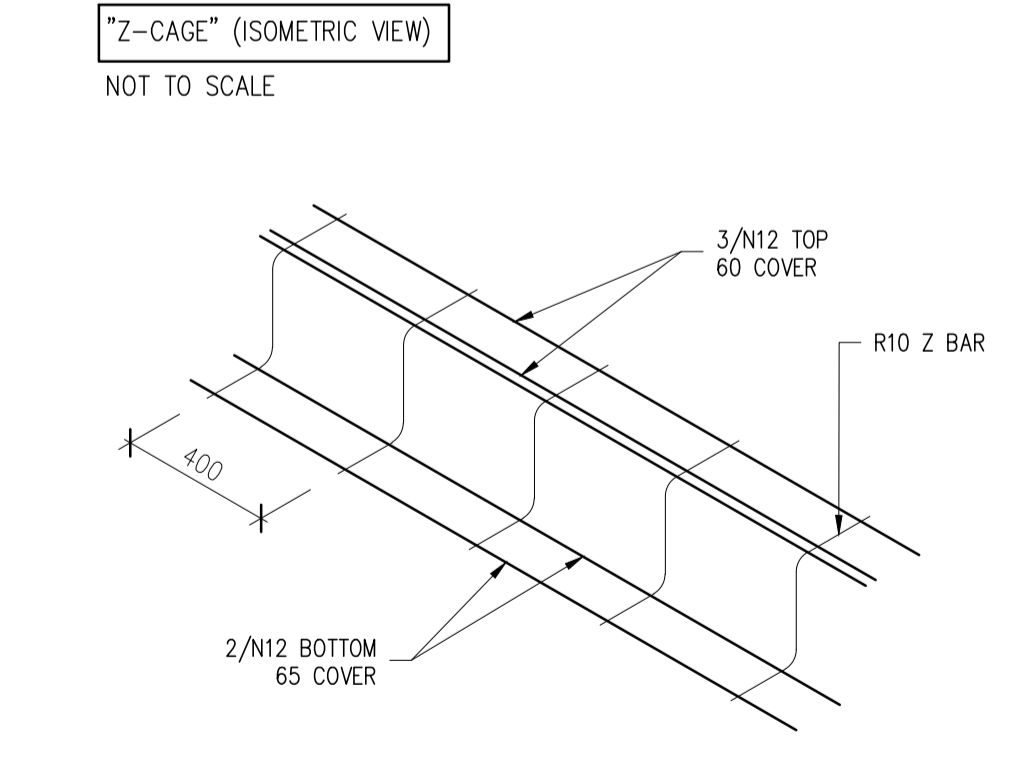
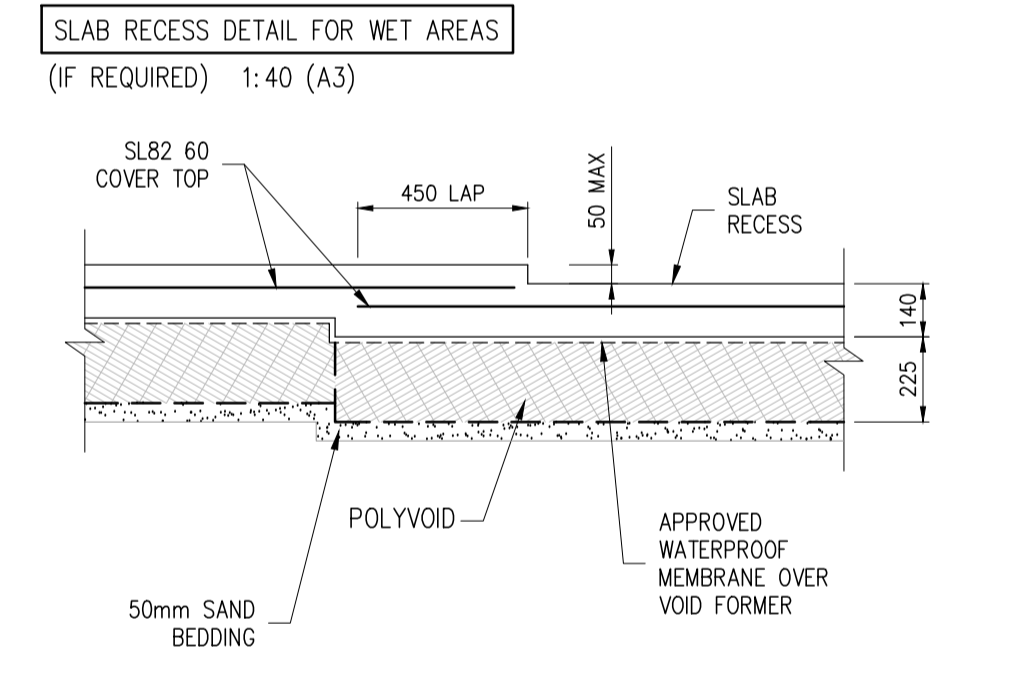
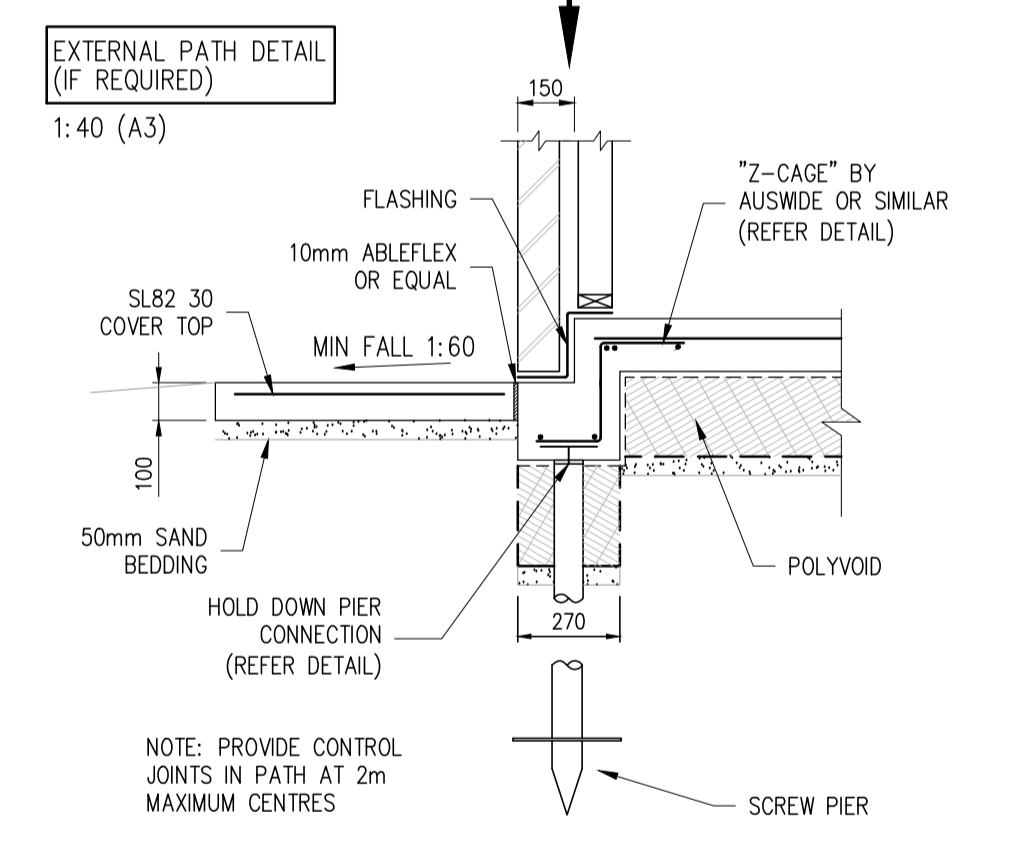
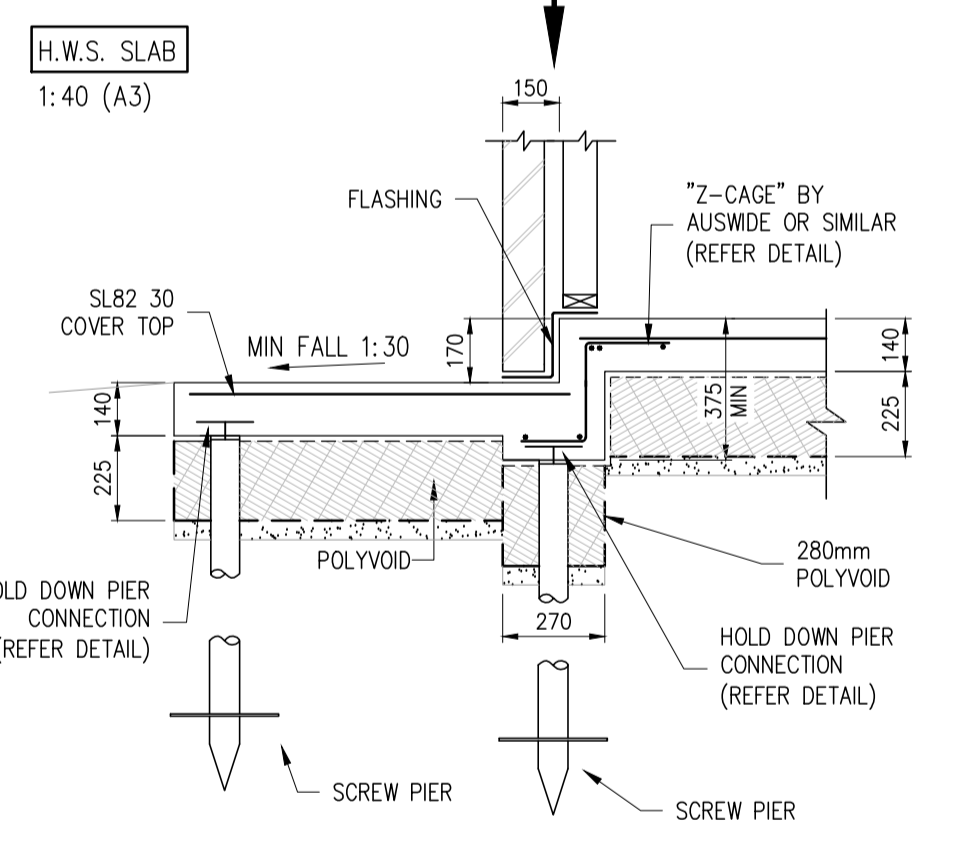
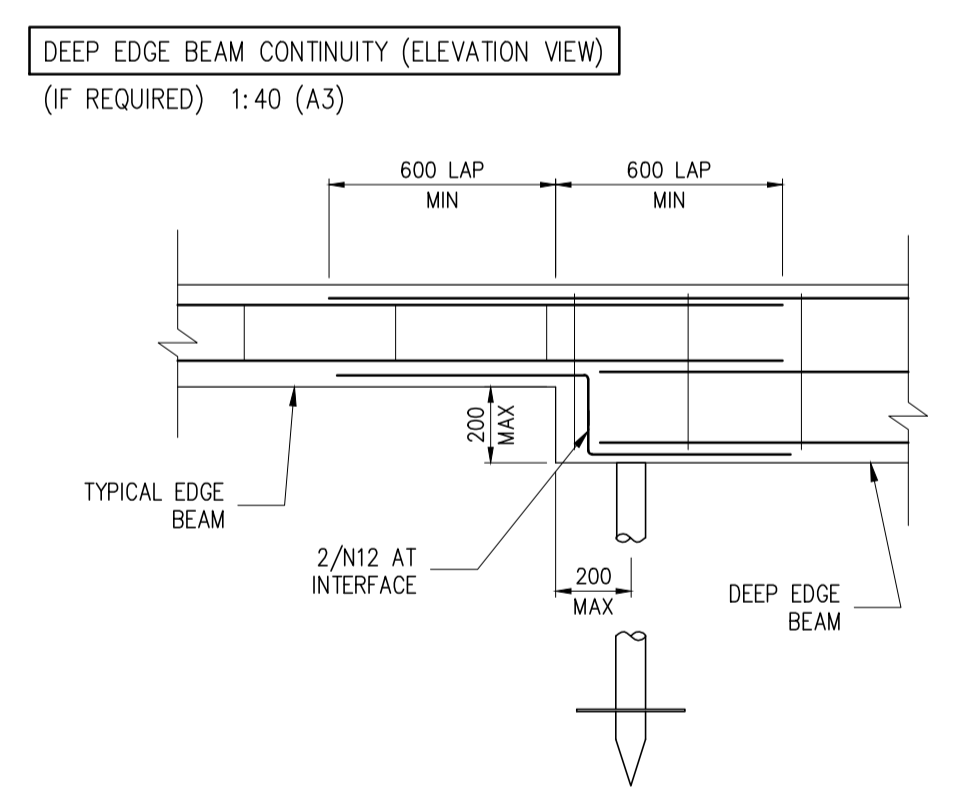
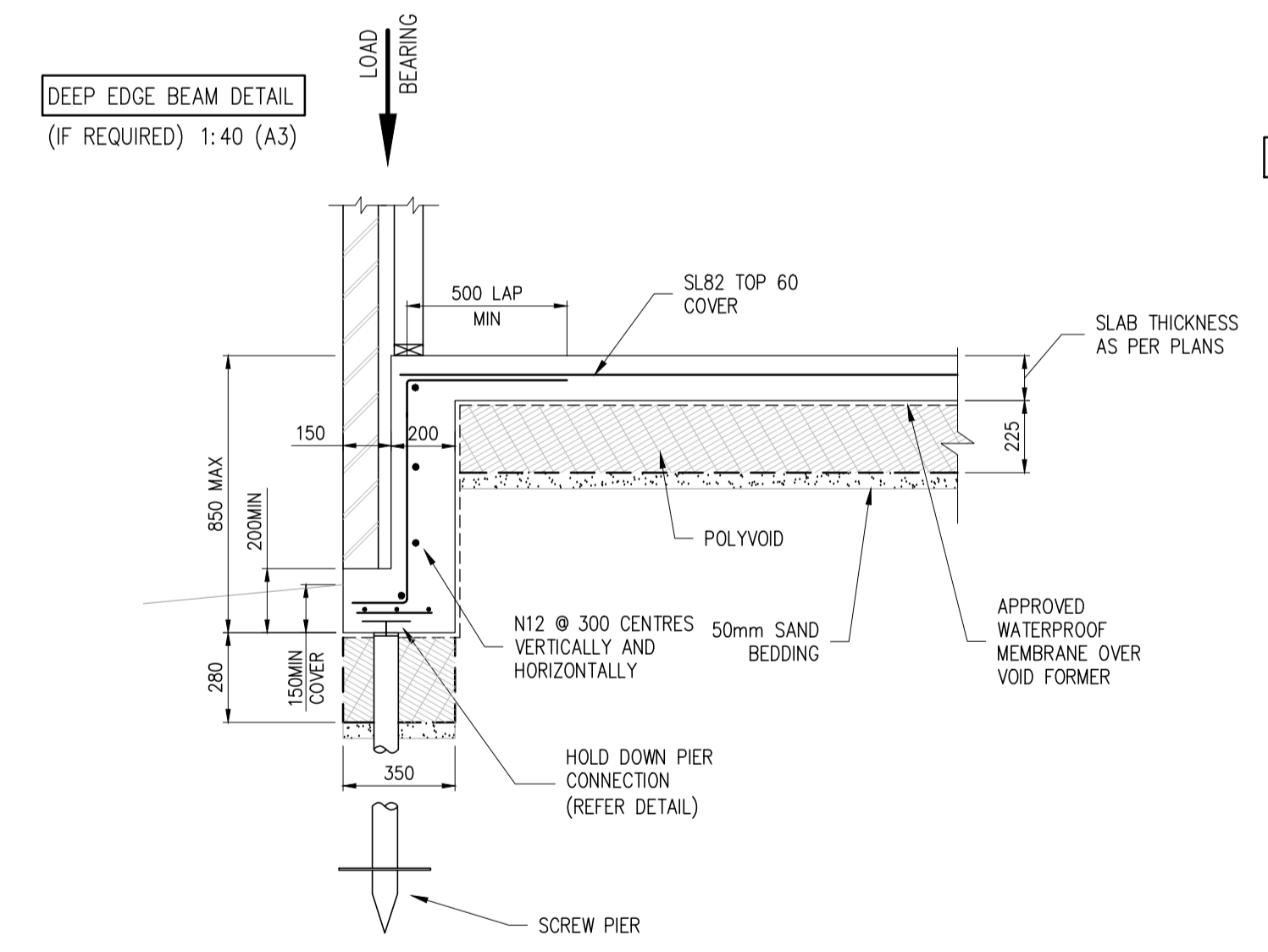
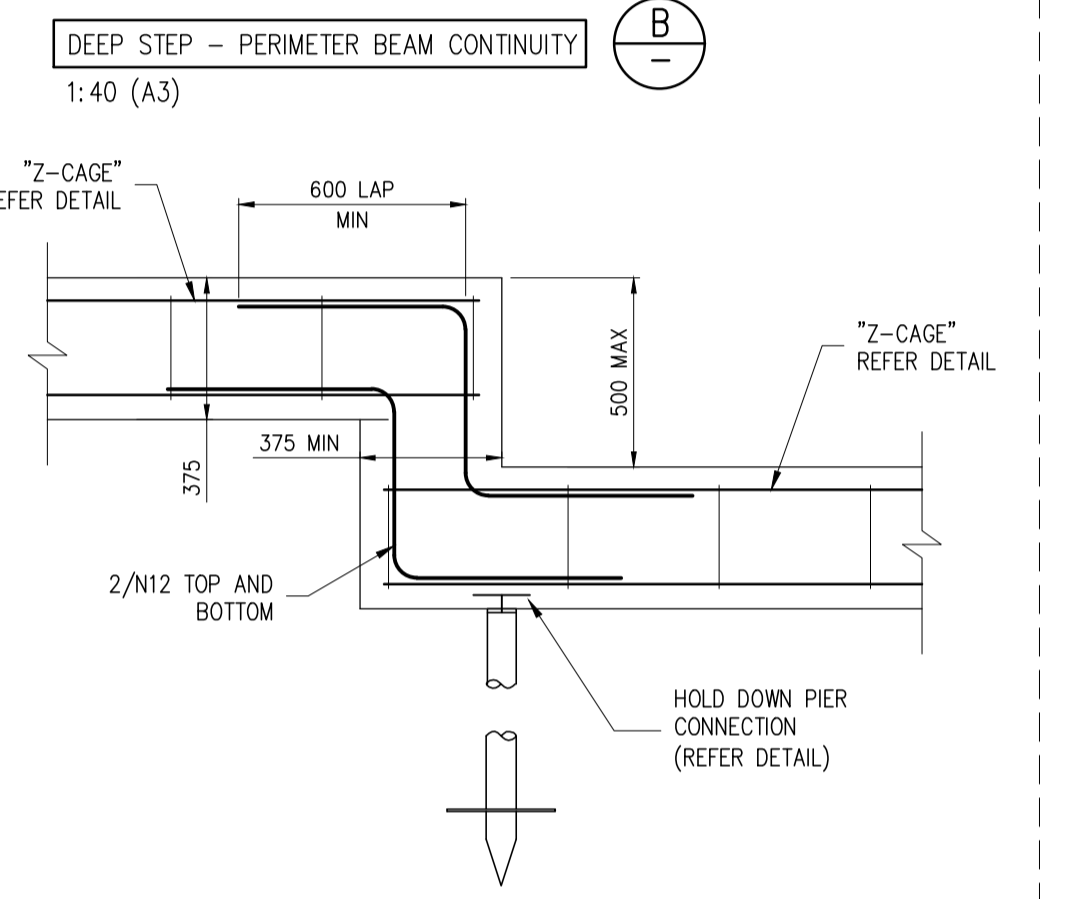
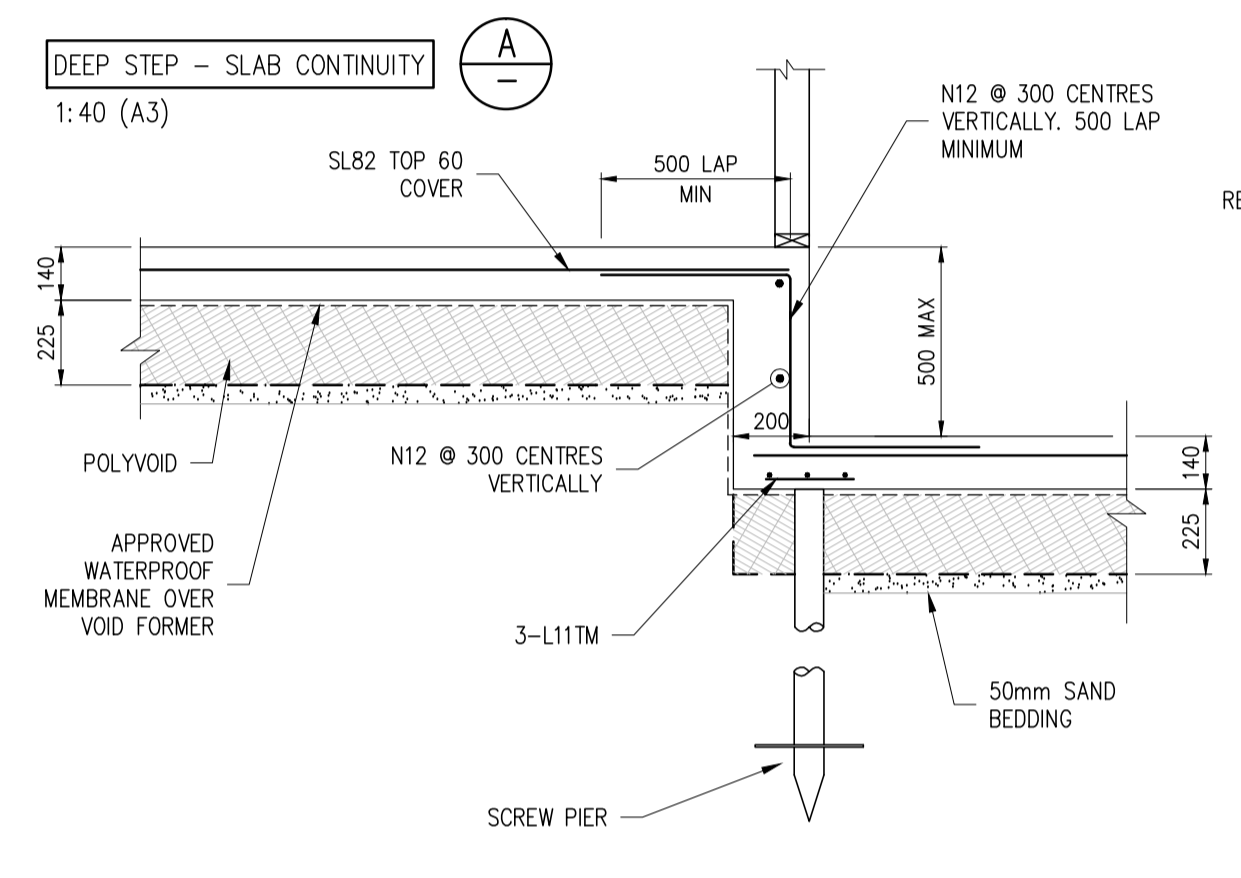
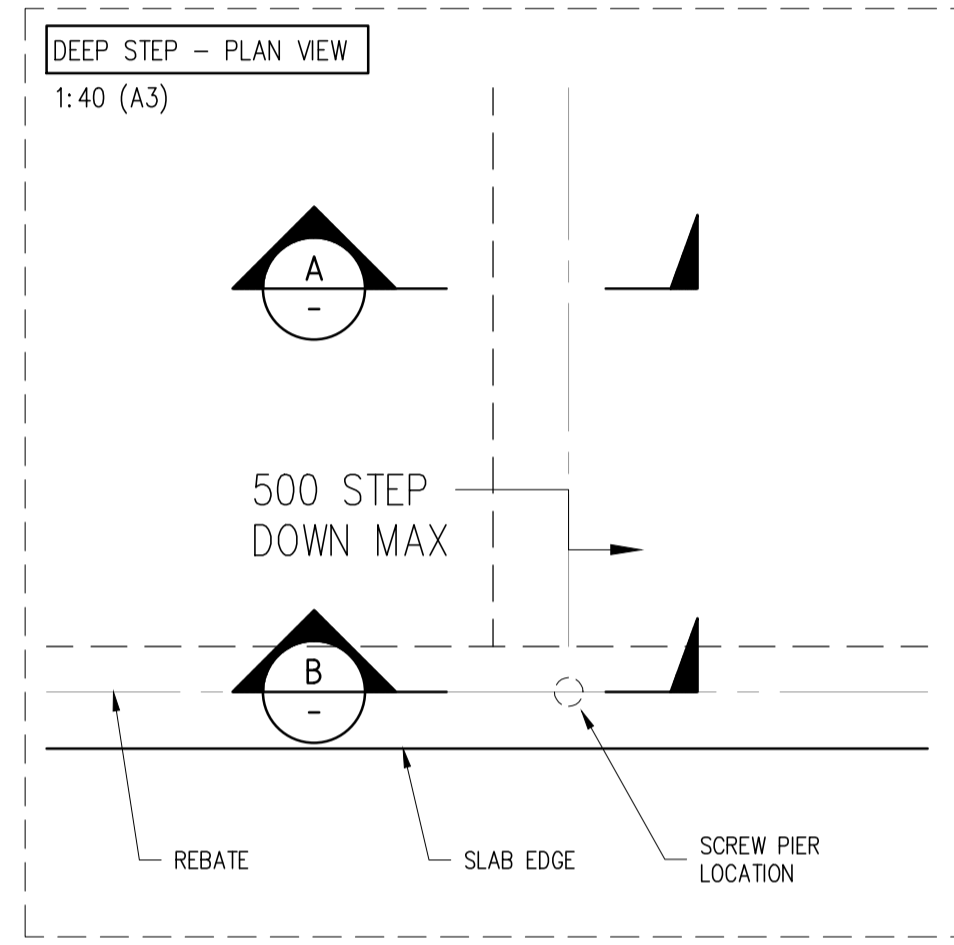
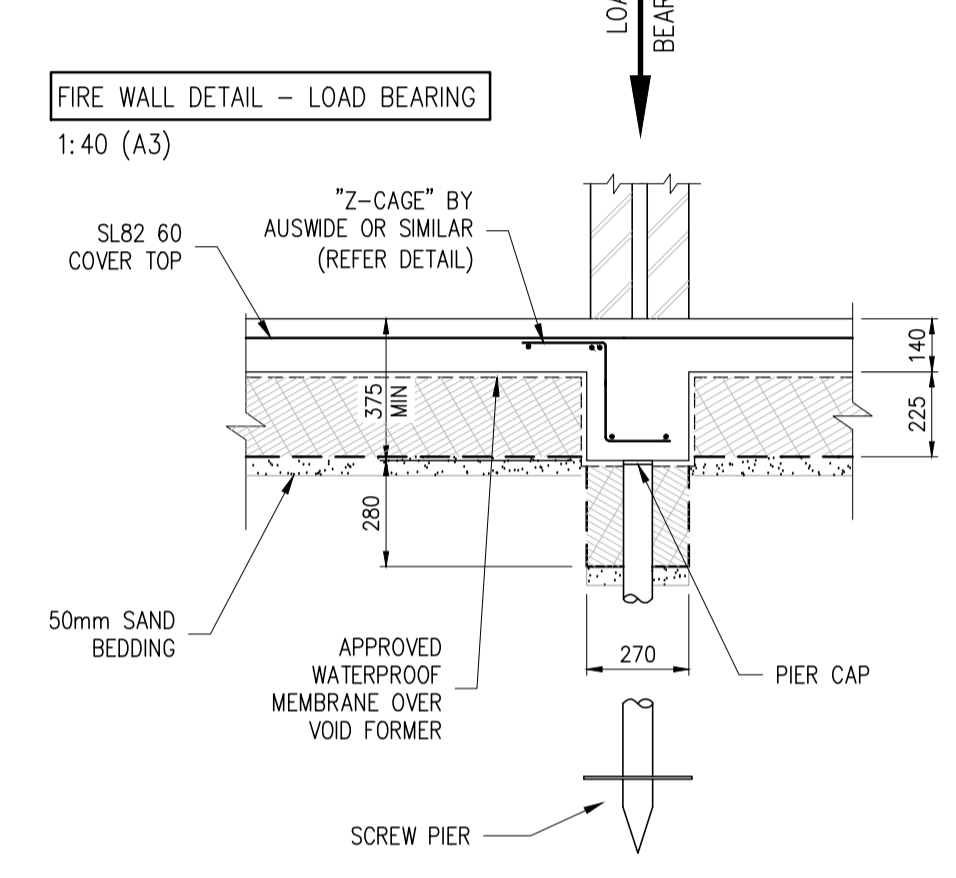
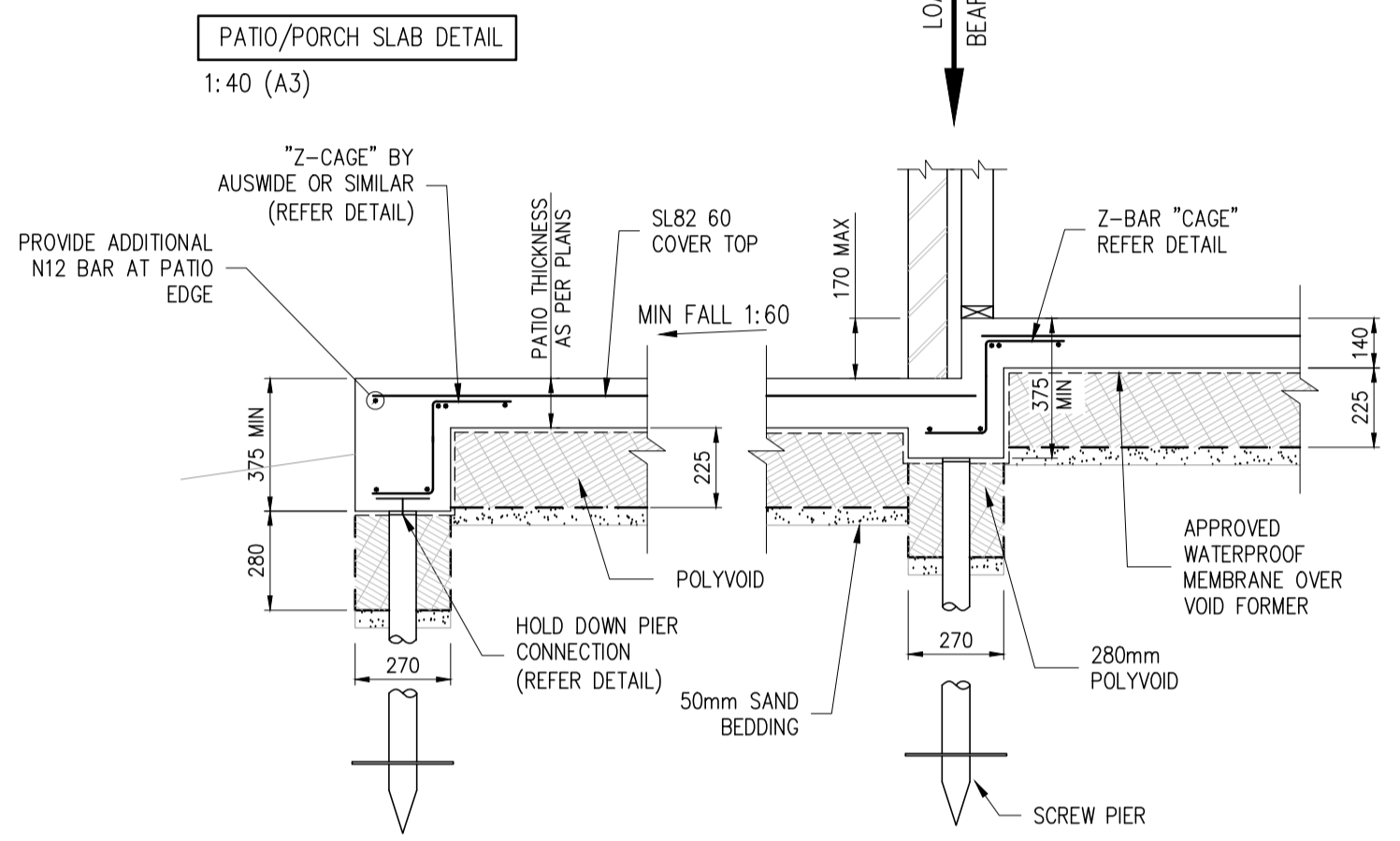
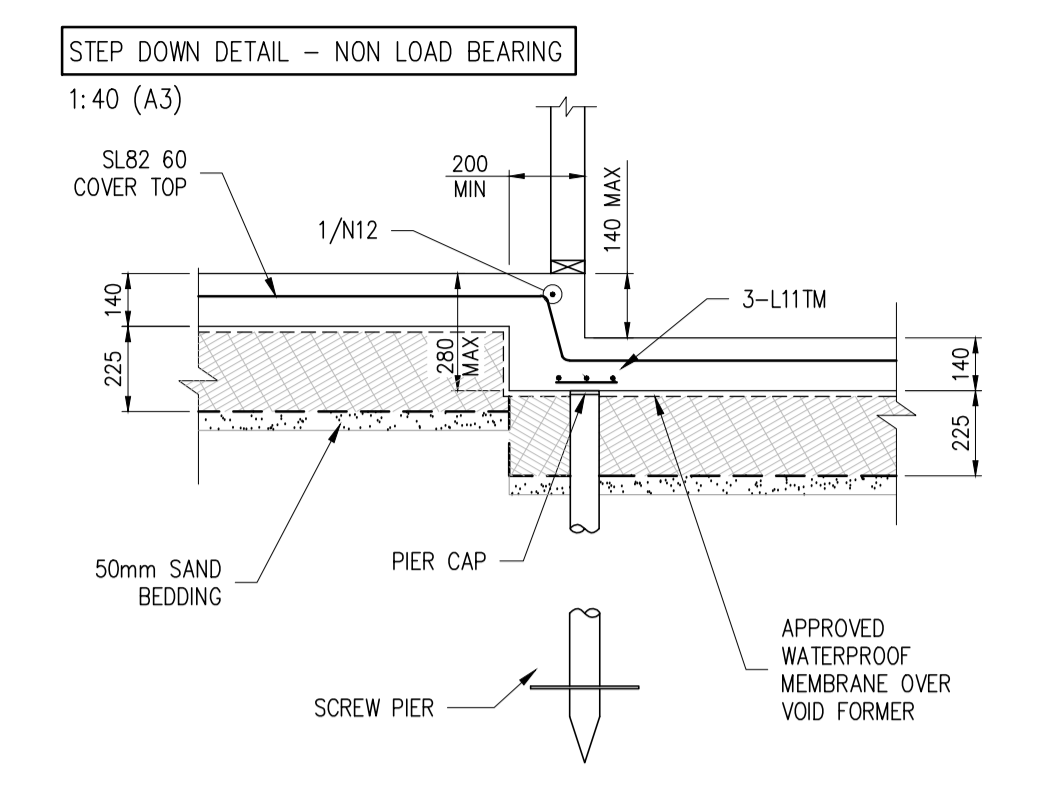
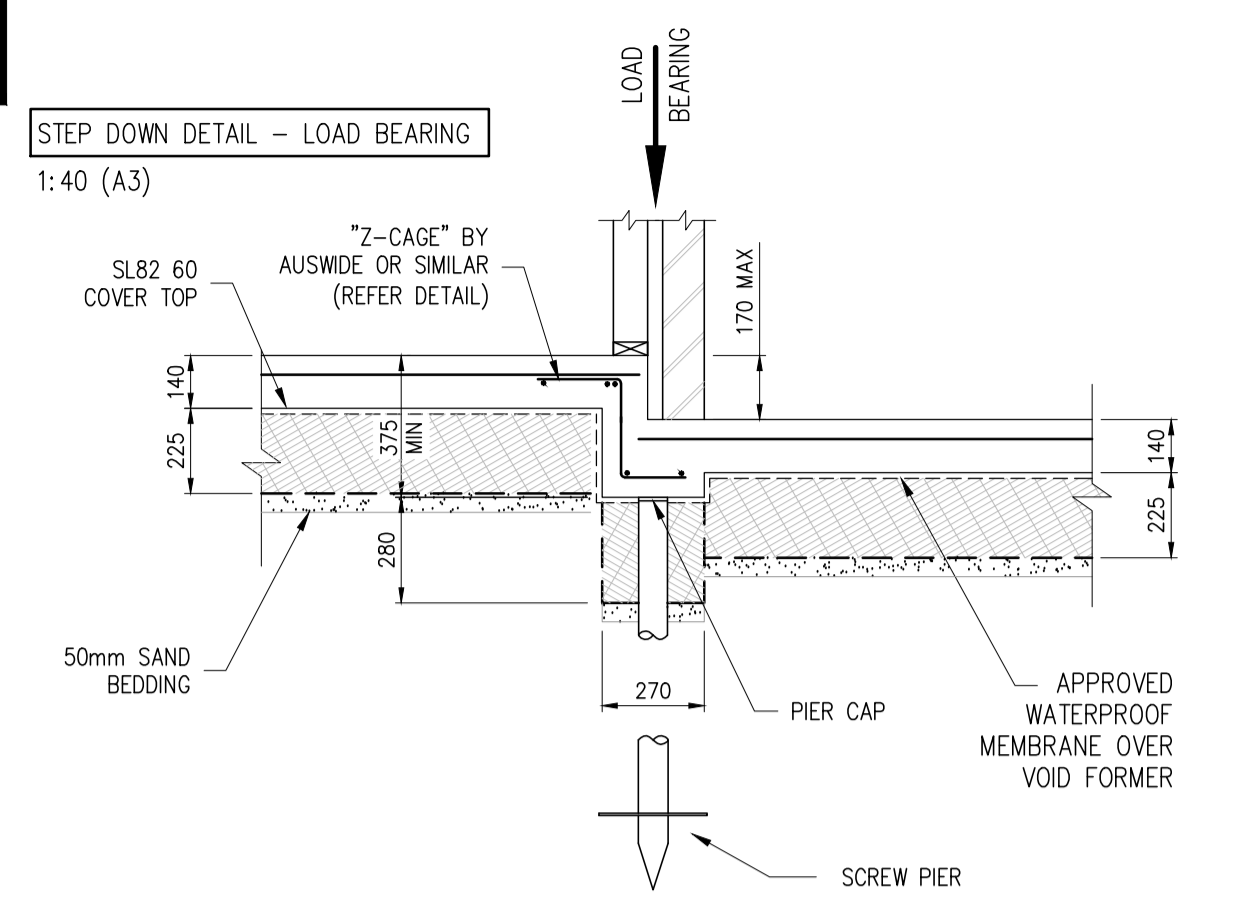
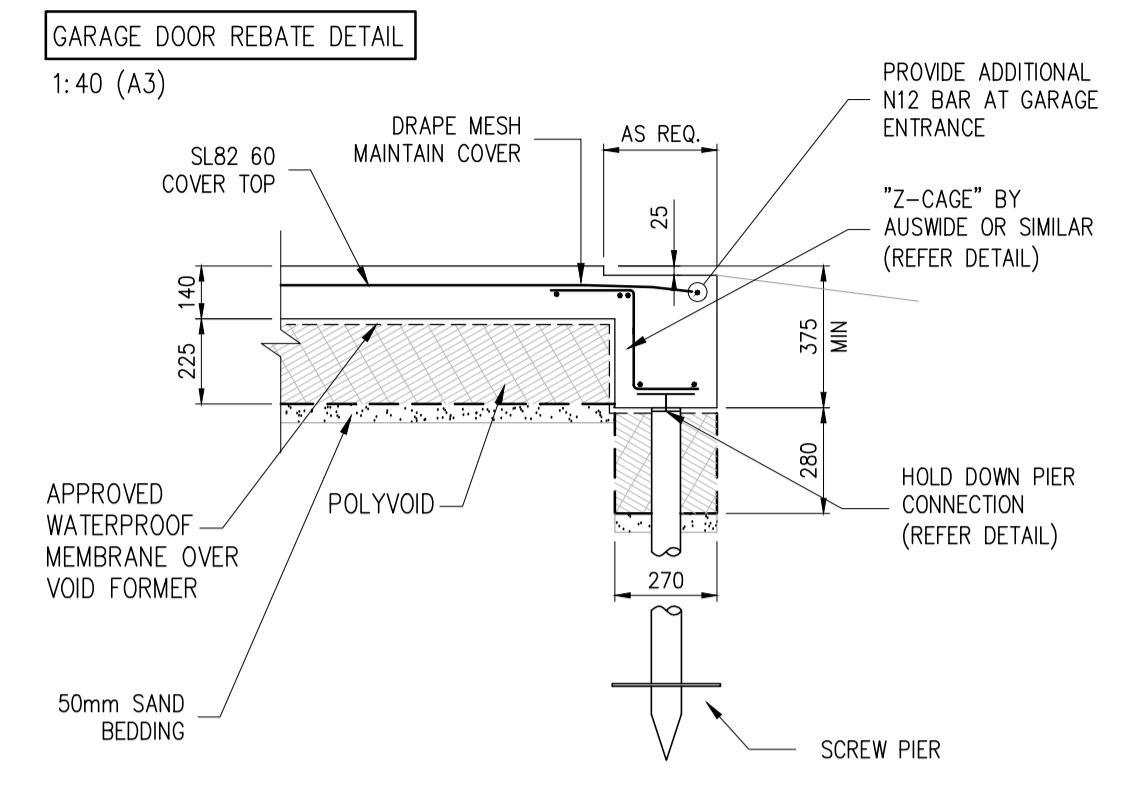
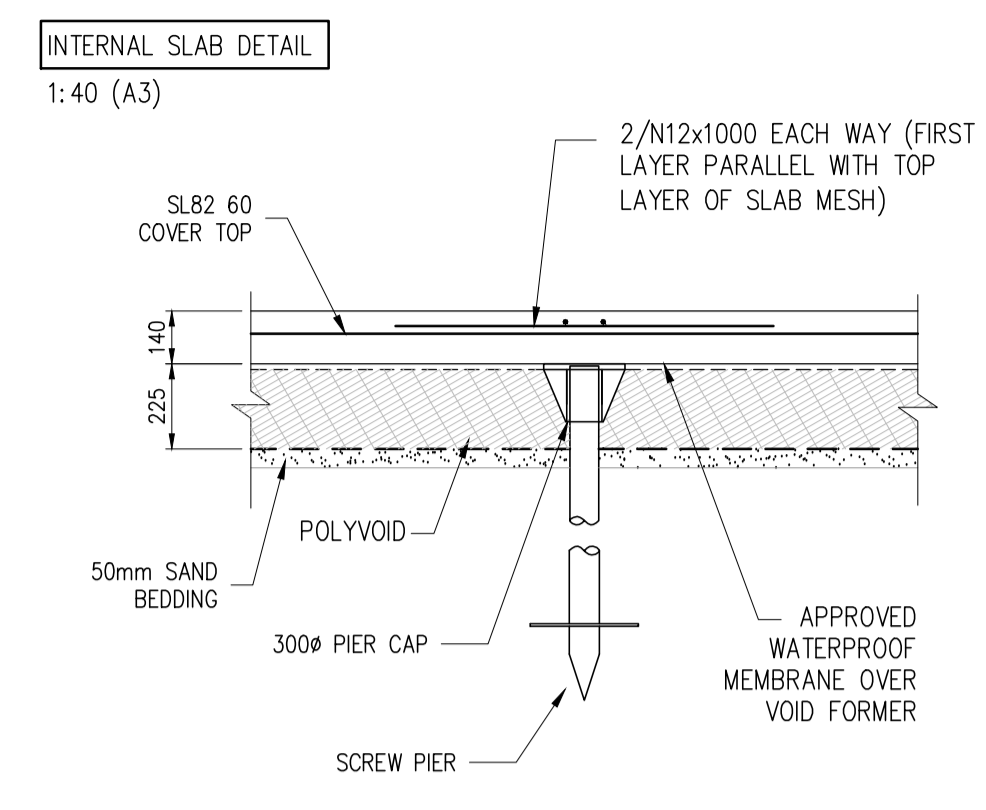
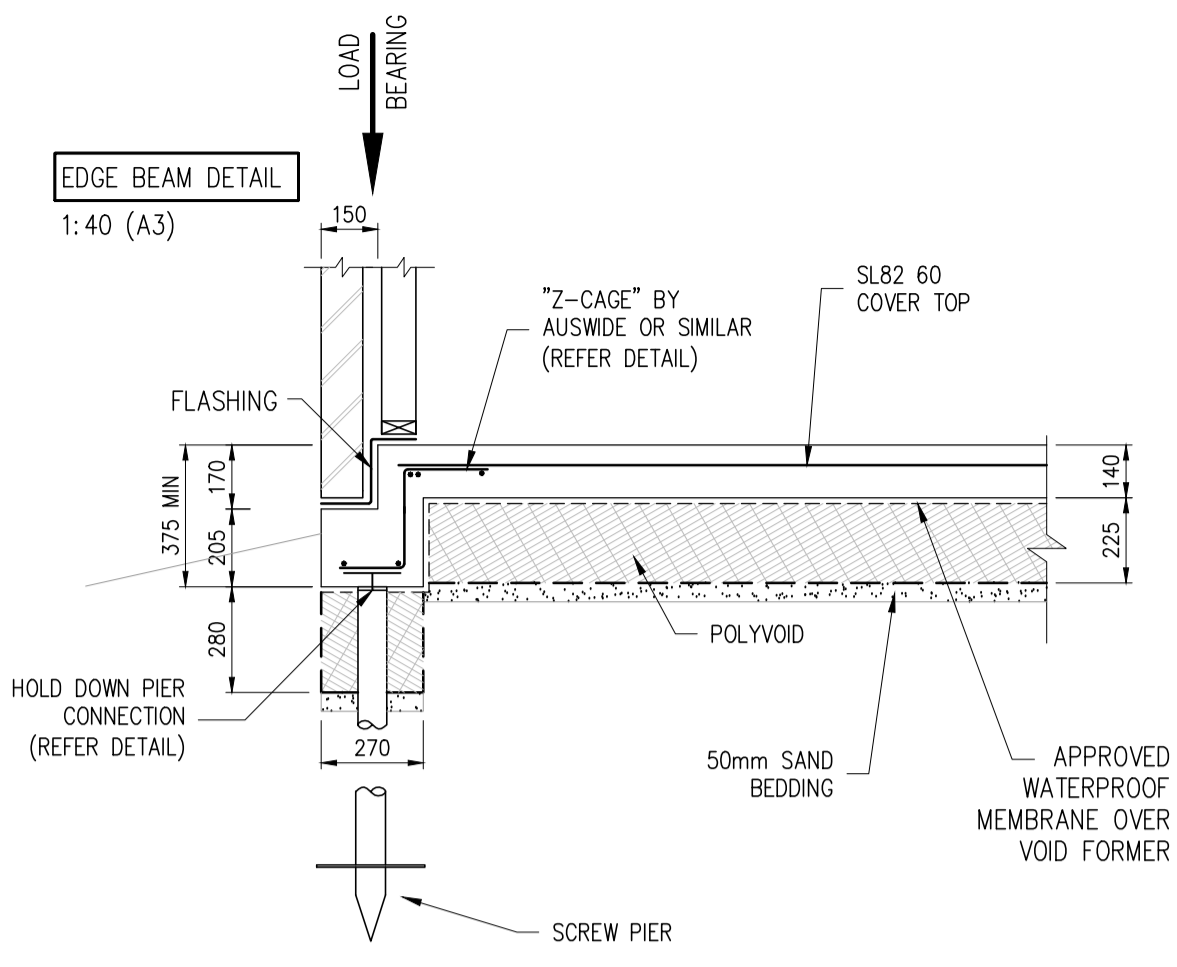
Project - **PROPOSED RESIDENCE**  
 Client - **N/A**

Site - **N/A**

Issue Date	Description	By
A 23.11.2012	ORIGINAL ISSUE	DF
Project	N/A	Sheet No. 2 of 4
Digital Ref:	PLYVD-SCW-NOV12	Issue : N/A

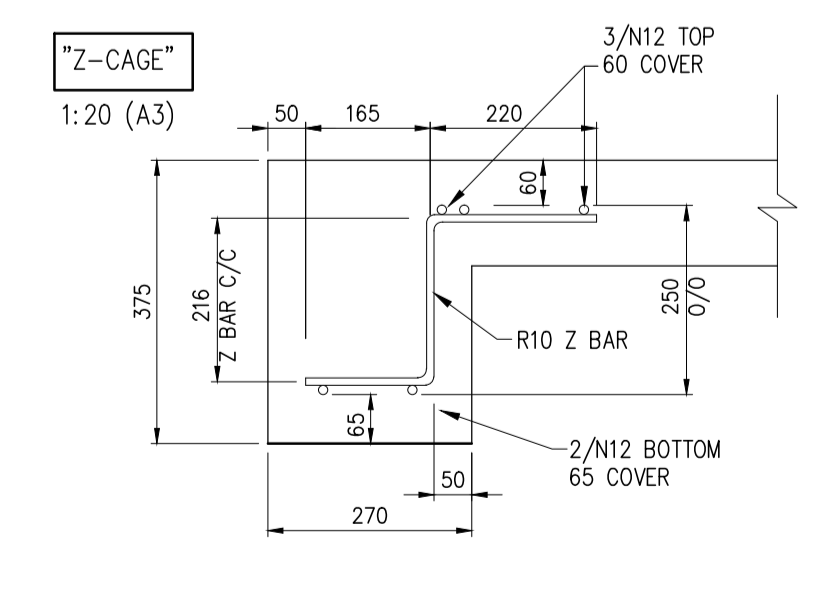
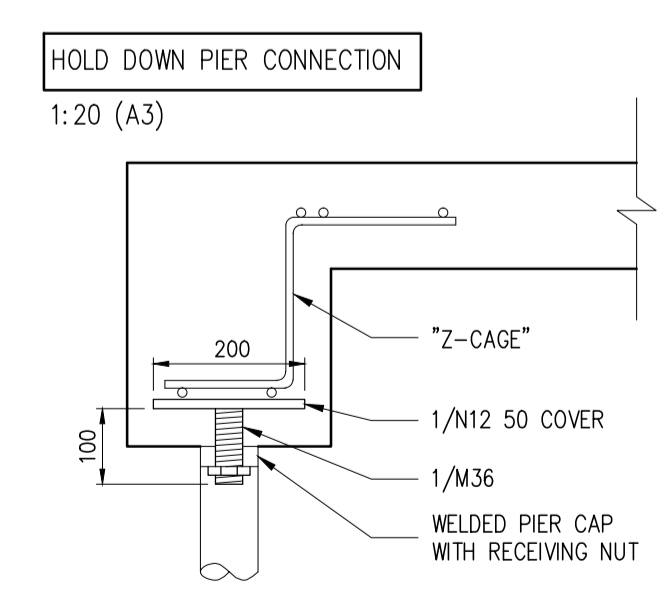
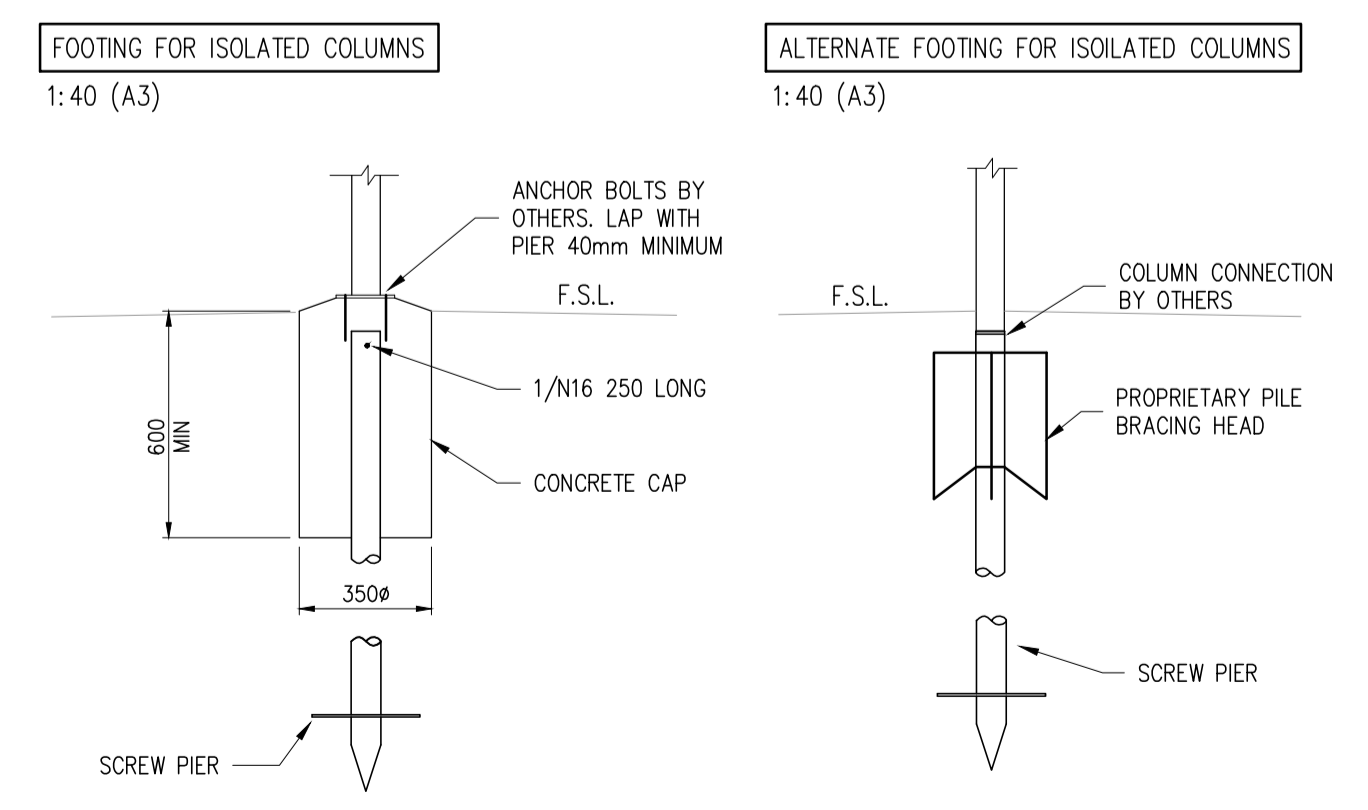
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NOTE: REFER TO SHEET 1 "CONSTRUCTION NOTES" FOR FOUNDING DEPTH OF PIERS.

NOTE: ALL SLABS TO HAVE 225mm POLYVOID UNDER.  
ALL BEAMS TO HAVE 2x140mm POLYVOID UNDER.



Checked - JC Approved - JC  
Design - DF Drawn - DF  
Scales - AS SHOWN Date - 23.11.2012  
Document Stage - N/A

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Drawing title -  
**SECTIONS & DETAILS**

Project - **PROPOSED RESIDENCE**  
Client - N/A

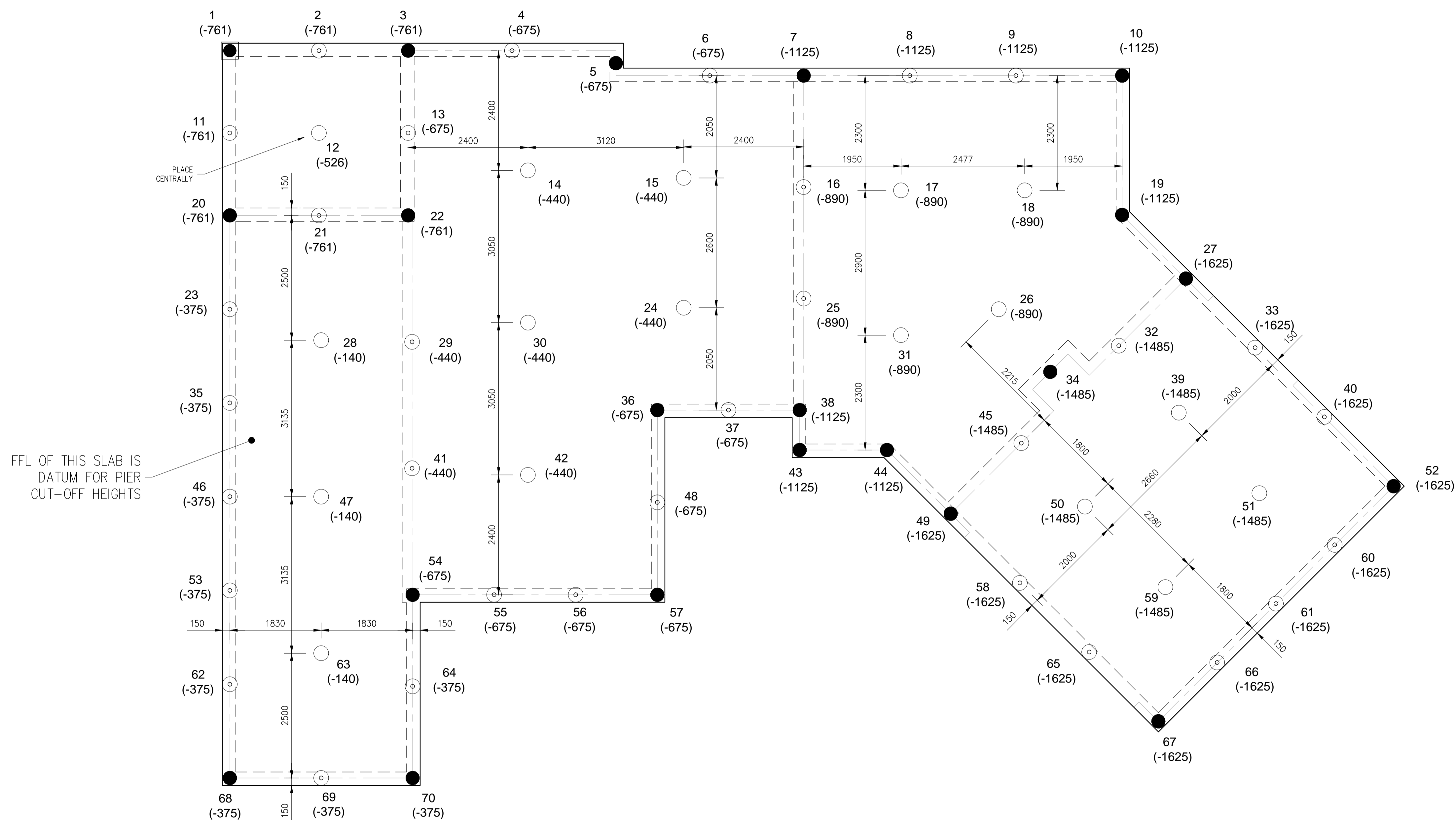
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NOTE: REFER TO SHEET 1 (CONSTRUCTION NOTES) FOR FOUNDING DEPTH OF SCREW PIERS

NOTE: CUTOFF HEIGHTS DO NOT INCLUDE THICKNESS OF SCREW CAPS, LIDS, ETC.

NUMBER OF PIERS: 70



DISCLAIMER:  
SET-OUT DIMENSIONS GIVEN ON THIS PLAN ARE BASED UPON PLANS GIVEN TO KELLEY COVEY GROUP BY THE ARCHITECT.

ANY DISCREPANCIES, CONTACT ENGINEER.

## PLAN - PIER CUT-OFF HEIGHTS

SCALE - 1:50 (A1), 1:100 (A3)

Issue Date	Description	By
A 23.11.2012	ORIGINAL ISSUE	DF

Checked - JC Approved - JC  
Design - DF Drawn - DF  
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Document Stage - N/A



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Drawing title -  
PIER SET-OUT & CUTOFF HEIGHTS

Project - PROPOSED RESIDENCE  
Client - N/A

Site - N/A

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Digital Ref: PLYVD-SCW-NOV12 Issue : A  
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