

PROJECT: 8 UNIT DEVELOPMENT

ADDRESS: 183 GREAT OCEAN ROAD, APOLLO BAY VIC 3233

WB CIVIL STRUCTURAL ENGINEERS

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DISCLAIMER

CIVIL/STRUCTURAL DESIGN ENGINEER WB CIVIL STRUCTURAL ENGINEERS MUST NOT BE HELD RESPONSIBLE FOR ANY CLAIM ARISING DUE TO MISTAKES, OMISSIONS AND SUBSTANDARD WORKMANSHIP BY PROJECT BUILDER OR ITS SUB BUILDERS AND SUPPLIERS

DIMENSIONS

SETTING-OUT OF ANY ELEMENT MUST BE DONE AS PER ARCHITECTURAL PLANS. DIMENSIONS PROVIDED ON THESE PLANS MUST ALWAYS BE CHECKED AGAINST ARCHITECTURAL PLANS. STRUCTURAL ENGINEER (MOBILE: 0401023328) MUST BE KEPT INFORMED IMMEDIATELY OF ANY DISCREPANCY AND CLARIFICATION SOUGHT BEFORE SETTING-OUT AND CONCRETING IS ORGANISED.



WARNING

ALL SERVICES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY AND EXACT LOCATION IS TO BE CONFIRMED ON SITE BY BUILDER PRIOR TO COMMENCEMENT OF ANY WORKS.

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

WB CIVIL STRUCTURAL
ENGINEERS & BUILDERS

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REGISTERED ENGINEER
REGISTERED BUILDER
VICTORIAN BUILDING AUTHORITY

PRIYAN WIJEYERATNE
EC 19060, D-BU 22220
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M.Eng(Struct), M.Tech.(Mgt.), BSc(Civil)

PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

SHEET NO: **1/32**

SCALE: AS SHOWN

DATE: 18/09/2017



| | | | |
|------|------------------------------------|------------|-------|
| G | REVED. AS PER BS LETTER 11/12/2017 | 16/12/2017 | PW |
| F | REVED. AS PER BS LETTER 09/11/2017 | 06/12/2017 | PW |
| E | INFILTRA. MOD. ISSUED FOR PERMIT | 01/11/2017 | PW |
| D | ISSUED FOR PERMIT | 31/10/2017 | PW |
| C | ISSUED FOR PERMIT | 22/10/2017 | PW |
| B | ISSUED FOR REVIEW ONLY | 15/10/2017 | PW |
| A | ISSUED FOR REVIEW ONLY | 9/10/2017 | PW |
| REV. | REMARKS/COMMENTS | DATE | APRV. |

GENERAL REQUIREMENTS

GENERAL

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT’S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER OR ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- G2. ALL DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECT’S DRAWINGS OR FROM SITE. ENGINEER’S DRAWINGS MUST NOT BE SCALED.
- G3. DURING CONSTRUCTION THE BUILDER SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- G4. MATERIAL AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH THE RELEVANT SAA CODES, BCA/NCC REQUIREMENTS UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATION.
- G5. THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRA INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT BEFORE WORK COMMENCES.
- G6. THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS:-

| AREA | LIVE LOAD |
|-------------------------|---|
| FLOOR | 1.5 kPa |
| ROOF | 0.25 kPa ‘OR’ (1.8/A + 0.12) WHICHEVER IS GREATER |
| BALCONY (IF APPLICABLE) | 2.0 kPa |

- G7. FOUNDATION MATERIAL TO BE APPROVED BEFORE POURING CONCRETE FOR A SAFE BEARING CAPACITY OF: 50kPa,WAFFLE SLAB 100kPa.....STRIP FOOTING
- G8. ALL DETAILS SHOWN IN WBCSE DRAWING SETS ARE FOR STRUCTURAL PURPOSES ONLY. THE ARCHITECT AND BUILDER MUST ENSURE ALL CONSTRUCTION REQUIREMENTS SET BY THE BCA/NCC ARE MET. THIS OFFICE SHOULD BE CONTACTED IF ANY CLARIFICATION IS REQUIRED.

STRUCTURAL STEELWORK

- S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 1250 AND/OR AS4100.
- S2. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS 1554.
- S3. HIGH STRENGTH BOLTING SHALL BE IN ACCORDANCE WITH AS 1511.
- S4. TWO COPIES OF THE SHOP DETAIL DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEERS AND APPROVAL OF SAME OBTAINED BEFORE COMMENCING FABRICATION. APPROVAL WILL NOT COVER DIMENSIONS OR LAYOUT.
- S5. THE BUILDER SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED SUCH TEMPORARY BRACING AS IS NECESSARY TO STABILIZE THE STRUCTURE DURING ERECTION.
- S6. CAMBER TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS, ETC.,TO BE 2mm FOR EVERY 1M OR SPAN UNLESS OTHERWISE NOTED.
- S7. ALL CLEAT AND DRILLING FOR FIXING OF TIMBER MEMBERS, ETC., TO BE PROVIDED BY FABRICATOR.
- S8. EXCEPT WHERE OTHERWISE SHOWN CONNECTIONS SHALL HAVE 6mm CONTINUOUS FILLET WELDS, 2-M16 8.8/S BOLTS IN 1.5mm CLEARANCE HOLES AND 10mm THICK CLEAT PLATE.
- S9. CONCRETE ENCASED STEELWORK SHALL BE WRAPPED WITH SLAB FABRIC, UNLESS OTHERWISE SHOWN.
- S10. STEELWORK SHALL BE THOROUGHLY WIRE BRUSHED AND GIVEN ONE SHOP COAT OF APPROVED PRIMER EXCEPT THAT NONE SHALL BE APPLIED AT CONTACT SURFACES WHERE H.S. BOLTS USED.
- S11. ALL STEEL BEAMS AND LINTELS ARE TO HAVE 100mm MIN. END BEARING UP TO 1.0m & 150mm MIN. END BEARING OVER 1.0m, UNLESS OTHERWISE NOTED.
- S12. STEEL FRAMING MUST BE PROTECTED FROM CORROSION WHERE REQUIRED IN ACCORDANCE WITH BCA 2016 3.4.2.2

CONCRETE

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.
- C2. CONCRETE COVER TO ALL REINFORCEMENT (FINISHES NOT INCLUDED).

| ELEMENT | FORMED AND SHELTERED | FORMED AND EXPOSED | NO FORM WORK |
|-----------------|----------------------|--------------------|--------------|
| SLABS AND WALLS | 20mm | 30mm | 65mm |
| BEAMS | 25mm | 40mm | 65mm |
| COLUMNS | 40mm | 50mm | 75mm |
| FOOTINGS | | 65mm | 75mm |

- C3. CONCRETE SIZES SHOWN DO NOT INCLUDE FINISH AND MUST NOT BE REDUCED OR HOLED IN ANY WAY WITHOUT THE ENGINEER APPROVAL.
- C4. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.
- C5. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE PROPERLY FORMED AND LOCATED TO THE APPROVAL OF THE ENGINEER.
- C6. REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- C7. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- C8. REINFORCEMENT SYMBOLS:- L LOW DUCTILITY BARS TO AS 4671 : 2001 N NORMAL DUCTILITY BARS TO AS 4671 : 2001 E SEISMIC (EARTHQUAKE) DUCTILITY BAR TO AS 4671 : 2001 THE NUMBER FOLLOWING THE BAR SYMBOL IS THE NOMINAL BAR DIAMETER IN MILLIMETRES.
- C9. CAMBER TO BEAMS AND SLABS SHALL BE 2mm FOR EVERY 1M OF SPAN UNLESS OTHERWISE NOTED.
- C10. ALL CONCRETE SHALL BE GRADE 20MPa - 100mm SLUMP (U.N.O.)
- C11. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION SO AS NOT TO BE DISPLACED DURING CONCRETING ON APPROVED BAR CHAIRS AT 1.0m MAX CRS BOTH WAYS. WHERE REQUIRED PROVIDE SUPPORT BARS N16 AT 1.0M MAX CRS.
- C12. CONCRETE TO BE KEPT FREE OF SUPPORTING BRICKWORK BY TWO LAYERS OF A SUITABLE MEMBRANE (MALTHOID, ETC.), OR AS DIRECTED BY THE ENGINEER. VERTICAL FACES OF CONCRETE TO BE KEPT FREE BY 10mm THICKNESS OF BITUMINOUS CANITE.
- C13. WHERE WALLS ARE NON-LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM CONCRETE OR BRICKWORK BY 10mm THICK CANITE.
- C14. ALL REINFORCEMENT FOR ANY ONE POUR SHALL BE COMPLETELY PLACED AND TIED PRIOR TO INSPECTION BY THE ENGINEER OR ARCHITECT. NO CONCRETE SHALL BE POURED UNTIL REINFORCEMENT HAS BEEN INSPECTED AND APPROVED.
- C15. WHERE SLABS AND BEAMS ARE TO SUPPORT BRICKWORK OVER, FORMWORK AND PROPS MUST BE REMOVED BEFORE COMMENCEMENT OF BRICKWORK.
- C16. TRENCH MESH IN BEAMS TO BE LAID CONTINUOUSLY WITH EACH LAYER BEING LAPPED FOR ITS FULL WIDTH AT INTERSECTIONS AND FOR A MINIMUM OF 500mm AT SPLICES. THE TRENCH MESH SHALL BE OVERLAPPED BY THE WIDTH OF THE FABRIC AT T & L JUNCTIONS.
- C17. AS A GENERAL POLICY, WBCSE DO NOT RECOMMEND THE USE OF POLISHED CONCRETE. THE OWNER SHOULD BE MADE AWARE BY THE BUILDING DESIGNER AND BUILDER THAT CONCRETE IS A NATURAL MATERIAL AND THE POSSIBILITY OF SURFACE CRACK FORMATION MAY OCCUR AND CANNOT BE GUARANTEED EITHER IN THE SHORT OR LONG TERM, WE HIGHLY RECOMMEND CURING THE SLAB USING AN APPROVED CURING SPRAYED MEMBRANE.
- C18. WHEN NEW FOOTING IS ABUTTED TO THE ADJACENT STRUCTURES OF NEIGHBOURING BUILDING AT BOUNDARY, A MINIMUM OF 10mm THICK “ABLEFLEX” (OR APPROVED EQUIVALENT) MUST BE PLACED BETWEEN STRUCTURES (UNLESS OTHERWISE NOTED ON ENGINEERING DRAWINGS TYPICAL)

BRICKWORK

- B1. THE UNCONFINED COMPRESSIVE STRENGTH OF A BRICK UNIT TO BE MIN. OF 15MPa AND COMPRESSIVE STRENGTH OF MASONRY TO BE A MIN. OF 5.4 MPa
- B2. THE MORTAR MIX FOR BRICKWORK SHALL BE 1:1:6
- B3. FOR NON-LOAD BEARING WALLS SEE NOTE C13.
- B4. ARTICULATION (OR EXPANSION) JOINT SPACING MUST BE IN ACCORDANCE WITH AS4773.1 – 2015, AS4773.2 – 2015 & TECHNICAL NOTE 61 (AUG 2008) FOR ARTICULATED WALLING UNLESS NOTED OTHERWISE.
- B5. ALL WALL TIES MUST BE GALVANISED.

STRUCTURAL TIMBER

- T1. ALL TIMBER FRAMING IS TO BE IN ACCORDANCE WITH AS 1684–2010 RESIDENTIAL TIMBER FRAMED CONSTRUCTION.
- T2. ALL TIMBER STRESS GRADES NOMINATED SHALL BE IN ACCORDANCE WITH THE RELEVANT CODES AND MEANS THE STRUCTURAL QUALITY OF A TIMBER SECTION (REFER TO AS 1720).
- T3. TIMBER SHALL BE STORED AND HANDLED SO AS NOT TO BE DETRIMENTAL TO THEIR PERFORMANCE OR DAMAGE THEM. REFER APPENDIX H AS 1684–2:2010
- T4. ALL TIMBER SHALL BE DRY, IE: LESS THAN 15% MOISTURE CONTENT AT THE TIME OF CONSTRUCTION AND SHALL BE PROTECTED AND/OR TREATED AS NOTED.
- T5. ALL TIMBER BEAMS AND LINTELS ARE TO BEAR ON DOUBLE STUDS (ONE JAMB AND ONE BEARING STUD), UNLESS OTHERWISE NOTED.
- T6. BEAMS/STUDS HAVING MORE THAN 1 MEMBER TO BE NAIL LAMINATED TOGETHER IN ACCORDANCE WITH AS 1684–2010.
- T7. ALL EXPOSED TIMBER TREATMENT MUST BE IN ACCORDANCE WITH EXPOSURE CLASSIFICATION AS1684.2 TABLE B1, MINIMUM H3 TREATED OR DURABLE SPECIES TO BE ADOPTED TYPICAL U.N.O.

FRAMING

- F1. PROVIDE SOLID BLOCKING (45 WIDE x D-25 DEEP) SECURELY NAILED TO JOISTS/RAFTERS (D=DEPTH OF JOIST/RAFTER) AT 1800 MAX. CRS.
- F2. ALL EXTERNAL OR EXPOSED STEELWORK TO BE HOT DIP GALVANISED.
- F3. WATERPROOFING TO ARCHITECTS DETAILS.
- F4. ALL TIMBER FRAMING & BRACING NOT SHOWN TO COMPLY WITH AS1684 TIMBER FRAMING MANUAL.
- F5. ALL BRICKWORK LINTELS TO ARCHITECTS DETAILS. ALL BRICKWORK LINTELS TO COMPLY WITH F.3.3.3.5 OF B.C.A 2012 VOLUME 2.
- F6. ALL BEAMS/GIRDER & HIP TRUSSES TO BE SUPPORTED ON DOUBLE STUDS EACH END U.N.O.
- F7. ALL LINTELS TO BE SUPPORTED ON SINGLE STUD AND JAMB STUD U.N.O.
- F8. ALL TRUSSES & WALL FRAMES TO MANUFACTURER’S DESIGN & DETAILS.
- F9. TRUSS DIRECTION ASSUMED AS SHOWN (IF APPLICABLE). CONTACT THIS OFFICE IF DIFFERENT TRUSS LAYOUT IS USED SO LINTELS ETC CAN BE REDESIGNED (IF REQUIRED).
- F10. ALL TIMBER LINTELS TO BE DESIGNED BY THE TRUSS MANUFACTURER. TYPICAL U.N.O
- F11. BUILDER TO SUPPLY MANUFACTURERS TRUSS LAYOUT TO THIS OFFICE FOR APPROVAL PRIOR TO CONSTRUCTION. TRUSS DESIGN MUST BE IN ACCORDANCE WITH AS1720 AND AS1684. TRUSS FABRICATOR/BUILDER IS RESPONSIBLE FOR PROVIDING ADEQUATE ROOF/WALL BRACING TO ENSURE STABILITY OF THE STRUCTURE IN ACCORDANCE TO AS1684.
- F12. ALL INTERNAL WALLS TO BE NON-LOAD BEARING (TYPICAL) UNLESS HATCHED OTHERWISE ON PLANS.

INSPECTIONS

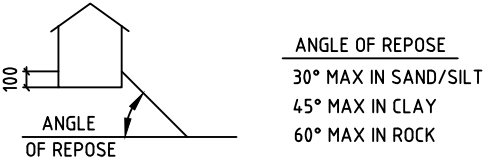
ALL STRUCTURAL WORK MUST BE INSPECTED AND APPROVED IN WRITING PRIOR TO ANY WORK PROCEEDING. 48 HOUR MIN. NOTICE IS REQUIRED FOR ALL INSPECTIONS.

SITE DRAINAGE

- D1. AT THE TIME OF THE PREPARATION OF THIS DOCUMENT, IF THE DRAINAGE DESIGN WAS NOT PREPARED OR CERTIFIED BY THIS OFFICE THEN THE DRAINAGE SYSTEM MAY NEED TO BE DOCUMENTED BY A SUITABLY QUALIFIED PERSON TO COMPLY WITH AS2870–2011. THE DRAINAGE DESIGNER SHOULD ENSURE THAT THE ELEMENTS OF THE DRAINAGE SYSTEM DESIGN ARE CONSIDERED WITH RESPECT TO THE PROPOSED FOOTING SYSTEM.WE RECOMMEND THAT WBCSE OR AN EQUIVALENT CERTIFIED PRACTITIONER, REVIEW ALL THE DOCUMENTATION TO ENSURE COMPLIANCE.
- D2. SITES SHOULD BE DRAINED SO THAT WATER CANNOT POND AGAINST OR NEAR THE HOUSE. THE GROUND IMMEDIATELY ADJACENT TO THE HOUSE SHOULD BE GRADED TO FALL 50mm OVER THE FIRST METRE.WHERE THIS IS IMPRACTICABLE (IE: ON SEVERAL SLOPING SITES) USE A.G. DRAINS ADJACENT TO FOOTINGS WHERE THE GROUND FALLS TOWARDS THE BUILDING.

FOOTING: ANGLE OF REPOSE

- A1. FOOTING MUST NOT UNDERMINE EXISTING FOOTING OR BE UNDERMINED BY PROPOSED EXCAVATION.
- A2. ENSURE ADEQUATE ANGLE OF REPOSE AT ALL TIMES (REFER DETAILS BELOW).
- A3. NOTIFY THIS OFFICE IF FOOTING UNDERMINE OCCURS.
- A4. PIPE DEPTH & LOCATION MUST BE CONFIRMED PRIOR TO CONSTRUCTION.



OH & SAFETY

- O1. FOR ALL WORKS CONDUCTED ON THIS PROJECT, THE BUILDER SHALL HAVE ALL APPROPRIATE AND SUFFICIENT SAFETY MEASURES AND PROCEDURES IN PLACE.
- O2. DEEP TRENCHES MAY EXIST ON THIS SITE. BUILDER TO ENSURE NECESSARY SAFETY MEASURES ARE TAKEN TO PREVENT FALL AND TRIPPING HAZARDS ARE ELIMINATED.
- O3. FOR LARGE SPAN BEAMS (SAY6000mm), BUILDER TO ENSURE SEAT PLATES/ANGLES TO STEEL COLUMNS FOR MAJOR BEAMS AND LINTELS ARE INSTALLED FOR SAFER CONNECTION, BOLTING AND SITE WELDING.
- O4. ADEQUATE PROPPING MAY BE REQUIRED FOR ANY RETAINING/LOAD BEARING WALLS ON BOUNDARIES. TEMPORARY SHORING MAY BE REQUIRED.
- O5. PROVISIONS SHALL BE MADE FOR APPROPRIATE DISTANCE FOR ROOF BATTENS/RAFTERS TO PROVIDE A SAFE WORKING PLATFORM DURING ROOF INSTALLATION AND WORKING AT HEIGHTS.
- O6. BUILDER MAY NEED TO BE AWARE OF APPROPRIATE MEASURES TO DEAL WITH HAZARDOUS MATERIALS SUCH AS ASBESTOS THAT MAY BE FOUND IN SERVICE PITS.
- O7. IF A CRANE IS REQUIRED, THE BUILDER IS TO PROVIDE ADEQUATE SAFETY MEASURES FOR CRANE USAGE AROUND POWER LINES.
- O8. IF ANY DIGGING IS REQUIRED OUTSIDE OF SITE BOUNDARIES, INFORMATION REGARDING EXISTING COUNCIL ASSETS NEED TO BE SOUGHT FROM “DIAL BEFORE YOU DIG”.
- O9. THE SAFETY CONCERNS AND HAZARDS IDENTIFIED ABOVE REPRESENT COMMONLY OCCURRING RISKS. THE LIST DOES NOT COVER THE FULL RANGE OF RISK AVOIDANCE MEASURES REQUIRED.

DOWNPIPE & GUTTER NOTES:

THEY ARE TO BE IN ACCORDANCE WITH NCC PART 3.5.2, AS 3500.3 AND AS 3500.5. A DOWNPIPE MUST NOT SERVE MORE THAN 12m OF GUTTER LENGTH AND BE LOCATED WITHIN 1.2m FROM A VALLEY. WHERE DOWNPIPES ARE LOCATED GREATER THAN 1.2m FROM A VALLEY, PROVISION FOR OVERFLOW MUST BE MADE TO THE GUTTER. EAVE GUTTERS ARE TO BE PROVIDED WITH OVERFLOW PROVISIONS ALONG THE LENGTH OF THE GUTTERING IN ACCORDANCE WITH AS 3500.3

| | | |
|----|---------------------------------------|------------------|
| 1 | Structural Steel Design | AS4100 |
| 2 | Structural Reinforced Concrete Design | AS3600 |
| 3 | Structural Timber Framing | AS1684 |
| 4 | Timber Structures Design | AS1720 |
| 5 | Domestic Slab Design | AS2870 |
| 6 | Brickwork | AS3700 |
| 6 | Wind Analysis & Design | AS1170 |
| 7 | Access & Mobility | AS1428 |
| 8 | Welding | AS1554 |
| 9 | Bolts & Nuts | AS1252 |
| 10 | Cold formed Steel | AS 4600 |
| 11 | Bolts & Nuts | AS1252 |
| 12 | Stormwater Drainage | AS3500 |
| 13 | Glazing | AS 1288/AS2047 |
| 14 | Water Proofing to Wet Areas | AS3740/BCA 4-3-1 |

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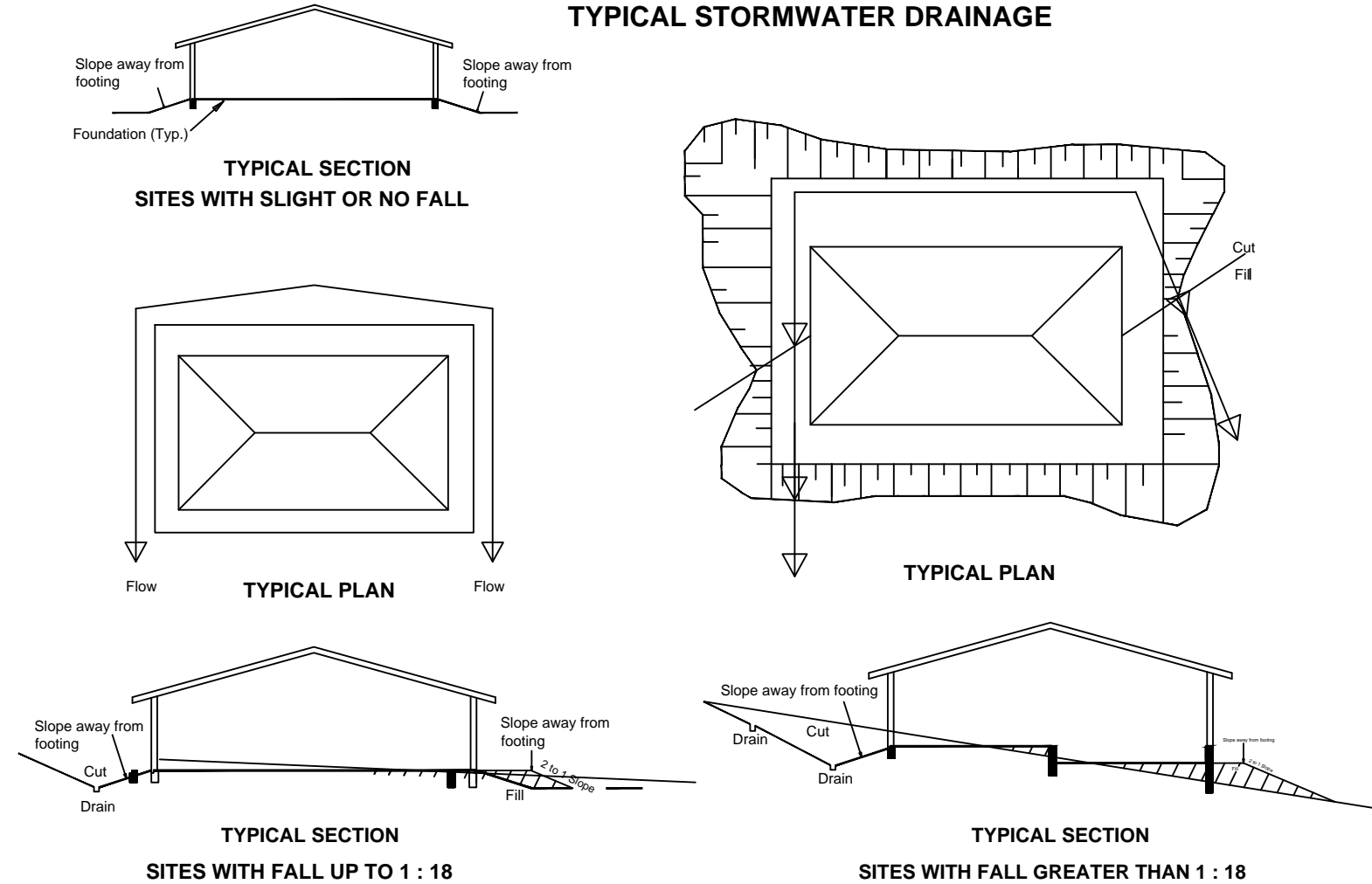
SCALE: AS SHOWN

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SITE DRAINAGE REQUIREMENTS

TYPICAL STORMWATER DRAINAGE



- MAINTENANCE:**
- THE MAINTENANCE OF THE SITE AROUND A NEW HOME IS AN IMPORTANT FACTOR IN THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM
 - THE PRIMARY OBJECTIVE OF THIS MAINTENANCE IS TO MINIMISE THE VARIATION IN SOIL MOISTURE LEVEL AROUND THE FOOTING THAT COULD LEAD THE EXCESSIVE SOIL MOVEMENT AND POSSIBLE DISTRESS THE SUPERSTRUCTURE AND/OR FOOTING. WHEN THE SLAB FORMS PART OF THE TERMITE BARRIER SYSTEM FOR THE HOUSE, THEN IT IS ALSO NECESSARY TO MAINTAIN THE EFFECTIVENESS OF THAT BARRIER BY APPROPRIATE MAINTENANCE ACTIVITIES.
 - WHEN A CONCRETE SLAB-ON-GROUND IS USED AS PART OF THE TERMITE BARRIER SYSTEM AS OUTLINED IN AS3660.1, THEN IT CANNOT BE TOO HIGHLY STRESSED THAT REGULAR INSPECTION AND MAINTENANCE OF THE SLAB SURROUNDING BY A COMPETENT PROFESSIONAL IS REQUIRED TO ENSURE THAT ANY TERMITE INFESTATION IS DETECTED AND TREATED PROMPTLY.
 - ONGOING MAINTENANCE AND INSPECTION ON A REGULAR BASIS IS A REQUIREMENT OF AS3660.1 AND OWNER SHOULD BE CLEARLY ADVISED IF THEIR RESPONSIBILITIES TO ENSURE THAT THEIR INVESTMENT IS PROPERLY PROTECTED.
 - LEAKING TAPS, DOWNPIPES, SEWERS, GUTTERS AND DRAINAGE CAN ALSO AFFECT THE MOISTURE CONTENT OF THE SOIL AND THESE MUST BE INSPECTED REGULARLY TO ENSURE AGAINST DAMAGE TO THE FOOTINGS. SIMILARLY, GUTTERS, DOWNPIPES AND COLLECTION POINTS CAN GET BLOCKED WITH LEAF AND OTHER DEBRIS, PREVENTING THE EFFECTIVE DRAINAGE OF STORMWATER AWAY FROM THE HOUSE. REGULAR INSPECTIONS AND MAINTENANCE SHOULD BE CARRIED OUT TO PREVENT BLOCKAGE.
 - IT IS IMPORTANT FOR BUILDER TO MAKE THE HOMEOWNER AWARE OF THE MAINTENANCE ISSUES ASSOCIATED WITH ENSURING THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM.

- LANDSCAPING**
- THE WORKS ON GARDENS SHALL NOT IMPACT ON DRAINAGE REQUIREMENTS, SUBFLOOR VENTILATION AND WEEPHOLE DRAINAGE SYSTEMS. GARDEN BEDS ADJACENT TO THE BUILDING SHALL BE AVOIDED. CARE SHALL BE TAKEN TO AVOID OVERWATERING OF GARDENS CLOSE TO THE BUILDING FOOTINGS. (AS 2870 Cl. B2.3(b))
 - PLANTING OF TREES SHALL BE AVOIDED NEAR THE FOUNDATION OF A BUILDING OR NEIGHBOURING BUILDING AS THEY CAN CAUSE DAMAGE DUE TO DRYING OF THE CLAY AT SUBSTANTIAL DISTANCES. TO REDUCE THE POSSIBILITY OF DAMAGE TREES SHOULD BE RESTRICTED TO A DISTANCE FROM THE HOUSE AS FOLLOWS:
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS E SITES.
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS H1 AND CLASS H2 SITES
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS M SITES
 - WHERE ROWS OR GROUPS OF TREES ARE INVOLVED, THE DISTANCE FROM THE BUILDING SHOULD BE INCREASED. REMOVAL OF TREES FROM THE SITE CAN ALSO CAUSE SIMILAR PROBLEMS. (AS 2870 B2.3 (c))

DRAINAGE REQUIREMENTS

GENERAL

THESE DRAINAGE AND OTHER REQUIREMENTS FORM PART OF THE FOOTING DESIGN.

DEFECTIVE SURFACE DRAINAGE IS A COMMON FACTOR IN REACTIVE CLAY FOUNDATION MOVEMENT PROBLEMS. THE EFFECTIVE DRAINAGE OF THE SITE IS A PREREQUISITE FOR SATISFACTORY PERFORMANCE OF A FOUNDATION SYSTEM.

THE BUILDER'S RESPONSIBILITY IS TO MAKE THE OWNER AWARE OF THE IMPORTANCE OF SURFACE DRAINAGE, EVEN IF IT IS NOT PART OF BUILDER'S CONTRACT TO CONSTRUCT SURFACE DRAINAGE.

LANDSCAPING AND OTHER FINISHING SITE WORKS MUST BE INCORPORATED WITH WELL DESIGNED SURFACE DRAINAGE TO MITIGATE ANY ADVERSE IMPACT ON A FOUNDATION SYSTEM.

DRAINAGE NOTES

- ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2871-2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGH AND REACTIVE SITES
- SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION
- THE BASES OF TRENCHES SHALL SLOPE AWAY FROM THE BUILDING
- WHERE PIPES PASS UNDER THE FOOTING SYSTEM, CLAY PLUGS ARE TO BE ADOPTED TO PREVENT THE INGRESS OF WATER
- FOR BUILDINGS ON HIGHLY REACTIVE SITES, DRAINER SHALL PROVIDE DRAINAGE ARTICULATION TO ALL STORMWATER, SANITARY PLUMBING DRAINS AND DISCHARGE PIPES IN ACCORDANCE WITH CLAUSE 5.6.4 PLUMBING REQUIREMENTS WHEREIN FLEXIBLE JOINTS IMMEDIATELY OUTSIDE BUILDING AND COMMENCING WITHIN 1m OF THE BUILDING PERIMETER ARE REQUIRED TO ACCOMMODATE THE REQUIRED DIFFERENTIAL MOVEMENT BASED ON THE SOIL CLASSIFICATION. REFER TO TABLE BELOW FOR MINIMUM REQUIREMENTS FOR EXPANSION AND ALLOWABLE FITTINGS
- FLEXIBLE JOINTS ARE REQUIRED AT ENTRY & EXIT OF SLAB/FOOTINGS. SURFACE WATER MUST BE DIVERTED AWAY FROM THE DWELLING AND GRADED AWAY FROM ALL FOUNDATIONS TO GIVE A SLOPE OF NOT LESS THAN 60mm OVER THE FIRST 1000mm FROM THE DWELLING
- SUBSURFACE DRAINS TO REMOVE GROUND WATER SHALL BE DETAILED BY THE DESIGN ENGINEER. FURTHERMORE, DAMP-PROOF MEMBRANE IN ACCORDANCE WITH CLAUSE 5.6.3 OF AS 2870 SHALL BE INSTALLED FOR GROUNDWATER DRAINAGE ON AGGRESSIVE SOILS

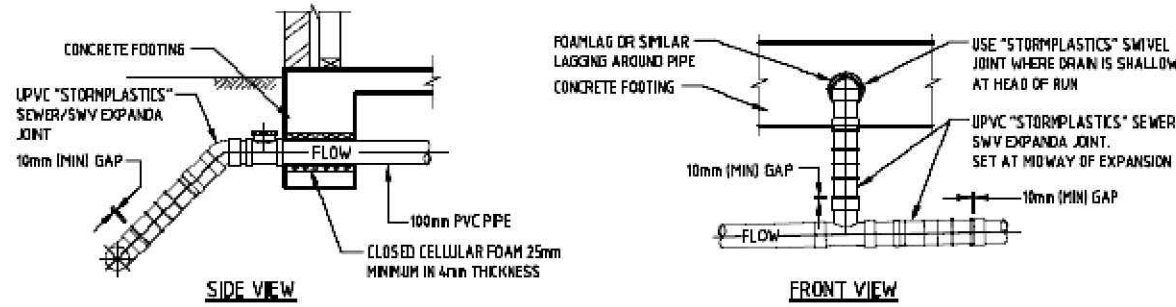
SITE DRAINAGE REQUIREMENTS

CONSTRUCTION STAGE

THESE TECHNICAL REPORT HAS RECOMMENDED THE USE OF A CERTAIN FOOTING THAT IS APPROPRIATE FOR THIS SITE. WHILE MAKING THIS RECOMMENDATION IT HAS BEEN ASSUMED THAT CERTAIN SITE DRAINAGE REQUIREMENTS AS PER AS2870:2001 HAS BEEN MET.

DURING THE CONSTRUCTION OF THE FOOTING THE FOLLOWING SITE DRAINAGE REQUIREMENTS ARE LISTED AS BEING PART OF THE FINAL FOOTING DESIGN BY THE DESIGN ENGINEER.

- MUST PREVENT WATER PONDING AGAINST OR NEAR THE FOOTING
- THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO A FALL OF 60mm MIN. AWAY FROM THE FOOTING OVER A DISTANCE OF 1000mm (1.20) AND SHAPED TO PREVENT PONDING OF WATER (THIS INCLUDES THE GROUND UP HILL FROM THE FOOTING ON A CUT/FILL SITE) - WHERE FILLING IS PLACED ADJACENT TO THE BUILDING, THE FILLING SHALL BE COMPACTED AND GRADED TO ENSURE DRAINAGE AWAY FROM FOOTINGS OR
- ALL COLLECTED STORMWATER MUST BE DISCHARGED TO A LEGAL POINT OF DISCHARGE
- SURFACE DRAINAGE OF THE SITE SHALL BE CONTROLLED FROM THE START OF THE SITE PREPARATION AND CONSTRUCTION. SURFACE DRAINAGE INCLUDES SURFACE WATER RUN-OFF AND BUILDING WATER (ROOF/100% CONCRETE) RUN-OFF
- ALL WATER RUN-OFF SHALL BE CONTROLLED AT ALL TIMES
- USE TEMPORARY DOWNPIPES TO COLLECT WATER FROM A ROOFED BUILDING FRAME
- WHEN SILT PITS ARE USED TO GATHER SURFACE WATER FROM AREAS ADJACENT TO THE FOOTINGS, THESE SILT PITS ARE TO BE AT LEAST 1000mm AWAY FROM THE FOOTING AND CONNECTED TO THE STORMWATER SYSTEM WITH A SOLID PIPE
- STORMWATER DRAINS SHALL BE AT LEAST 90mm AND HAVE A MINIMUM FALL OF 1:100 AND 100mm COVER UNDER THE SOIL AND/OR PAVED AREAS
- INSPECTED OPENINGS SHOULD BE PROVIDED AT EACH PIPE CONNECTION POINT AND AT A NOMINAL SPACING OF 2.5m
- AVOID UNDERMINING THE FOOTING WITH ANY TRENCHES OR PIPE OR PITS UNLESS THE FOOTING HAS BEEN DESIGNED TO ALLOW FOR SUCH SITUATION. SUB-SURFACE DRAINAGE IS REQUIRED TO REMOVE ANY UNWANTED GROUND WATER BY MEANS OF 90mm SLOTTED PIPE IN A 300mm WIDE TRENCH (MIN. FALL OF 1:100). BASE OF THE TRENCH IS FILLED WITH 10mm CRUSHED ROCK OR SIMILAR COVERING THE SLOTTED PIPE
- AG DRAINS MUST NOT BE INSTALLED WITHIN 1500mm FROM ANY FOOTING
- AG DRAINS MUST BE INSTALLED AT THE BASE OF ALL SITE CUTS THAT EXCEED 400mm IN HEIGHT, ALONG THE HIGH SIDE OF A SLOPING SITE AND POSSIBLY ALONG THE LOW SIDE OF A SLOPING SITE ALONG THE BOUNDARY, TO BE CONNECTED TO



FLEXIBLE PIPE CONNECTIONS FOR CLASS "H" AND "E" SITES, (AND CLASS "P" SITES WITH HIGHLY REACTIVE SOILS WHERE SPECIFIED IN THE SOIL REPORT)

SEWER & STORMWATER PIPE CONNECTION DETAIL

SCALE: N.T.S.

| MINIMUM REQUIREMENTS FOR SEWER RETICULATION | | | | | |
|---|-------------------|----------|-------------------------------|--------------------|---------|
| SITE CLASS | SEWER EXIT POINTS | | MIN. EXPANSION JOINT CAPACITY | ALLOWABLE ROTATION | LAGGING |
| | SWIVEL | EXPANDER | | | |
| M | 0 | 0 | - | - | MIN. 20 |
| H1 | 1 | 1 | 60MM | 15° | MIN. 40 |
| H2/H2-D | 2 | 1 | 90MM | 15° | MIN. 40 |
| E | 2 | 1 | 120MM | 15° | MIN. 40 |
| P | 2 | 1 | 90MM (UNO) | 15° | MIN. 40 |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

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PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

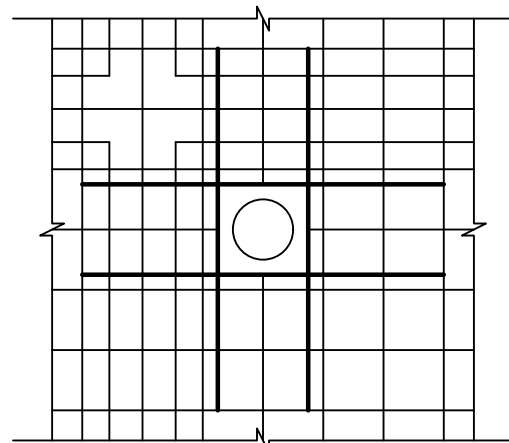
SHEET NO: 3/32

SCALE: AS SHOWN

DATE: 18/09/2017

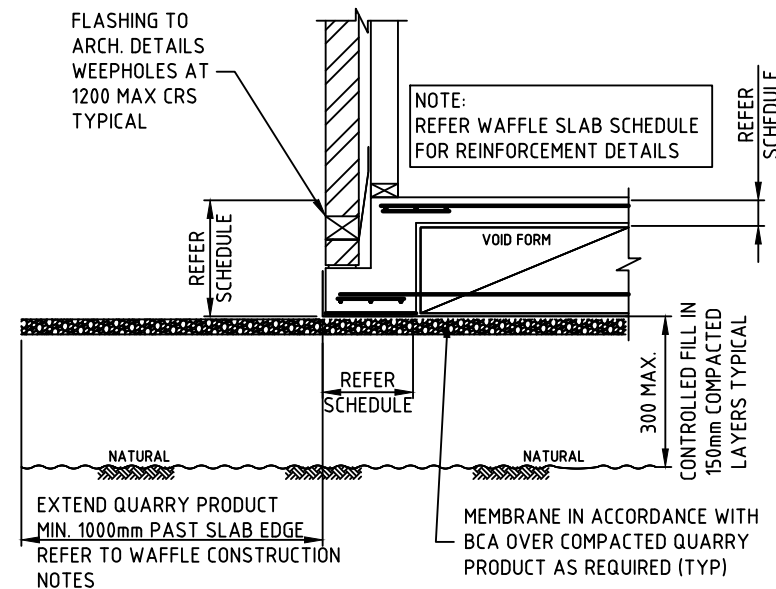


TYPICAL WAFFLE SLAB BEAM DETAILS 1 - NTS

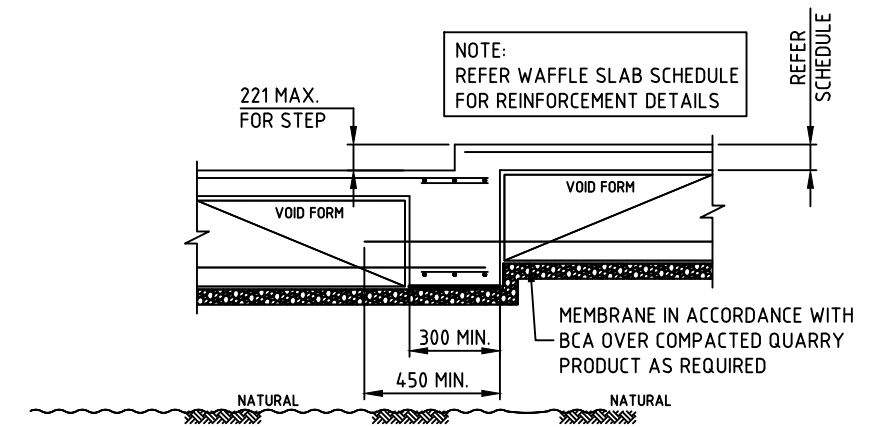


TYPICAL SLAB
PENETRATION DETAIL

NOTE:
ADDITIONAL BARS MUST BE PLACED AROUND
PIPE OPENING IF SLAB FABRIC WIRES ARE CUT,
DAMAGED OR BENT (TYPICAL)

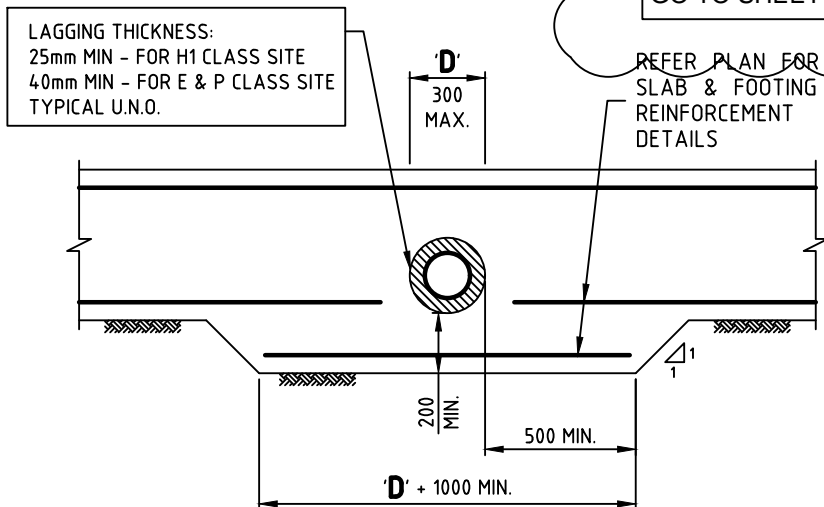


TYPICAL EXTERNAL RIB DETAIL

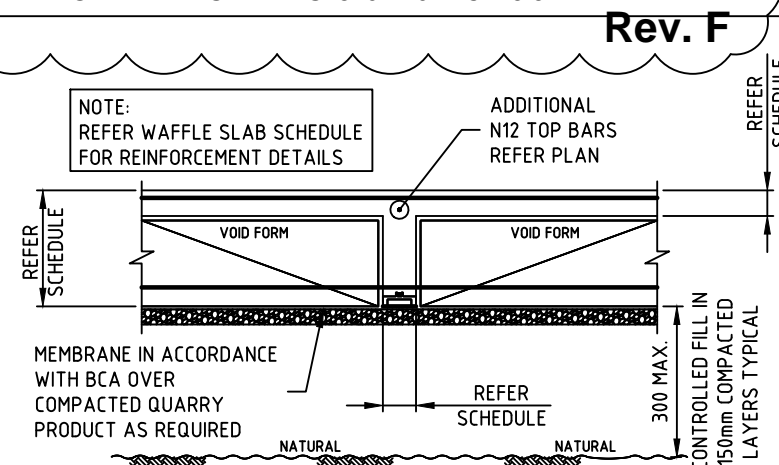


TYPICAL STEPDOWN DETAIL
AT GARAGE/PORCH

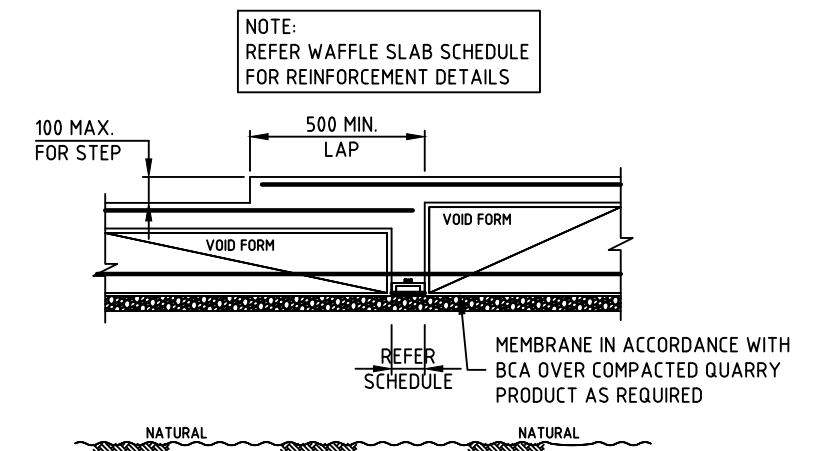
- NOTE 1**
ENSURE A LEVELLED WORKING GROUND SURFACE/FILING MATERIAL IS WELL COMPACTED PRIOR TO PLACEMENT OF WAFFLE PODS. FILL PLACED DUE TO CUT/FILL OPERATIONS SHALL BE COMPACTED AS "CONTROLLED FILL" IN ACCORDANCE WITH AS 2870-2011 6.4.2.(a). COMPACTION DENSITY TO BE VERIFIED. DEPTH OF FILL NOT TO EXCEED 300MM.
- NOTE 2**
SUITABLE QUARRY PRODUCTS INCLUDE WELL GRADED QUARRY SAND OR RUBBLE HAVING A MAXIMUM PARTICLE SIZE OF 20MM. LEVELLED & COMPACTED.
- NOTE 3**
EXTERNAL / INTERNAL RIBS WIDER THAN 300MM SHALL BE REINFORCED WITH AN ADDITIONAL N12 OR N16 (WHICHEVER SPECIFIED IN SCHEDULE) BAR TOP & BOTTOM FOR EVERY ADDITIONAL 110MM I WIDTH (TYP.).
- NOTE 4**
REINFORCEMENT SHOWN ON SHEET 5&6 ARE INDICATIVE ONLY. GO TO SHEET NOS. 7, 8 & 9 SLAB SCHEDULES FOR SPECIFIED REINFORCEMENT.
- NOTE 5**
GO TO SHEET 3 FOR PIPE FLEXIBLE JOINTING DETAIL AS PER AS2870 - 2011 CL. 6.6



TYPICAL PENETRATION THROUGH
FOOTING DETAIL



TYPICAL INTERNAL RIB DETAIL



TYPICAL SLAB RECESS
(SHOWER) DETAIL

CLIENT:
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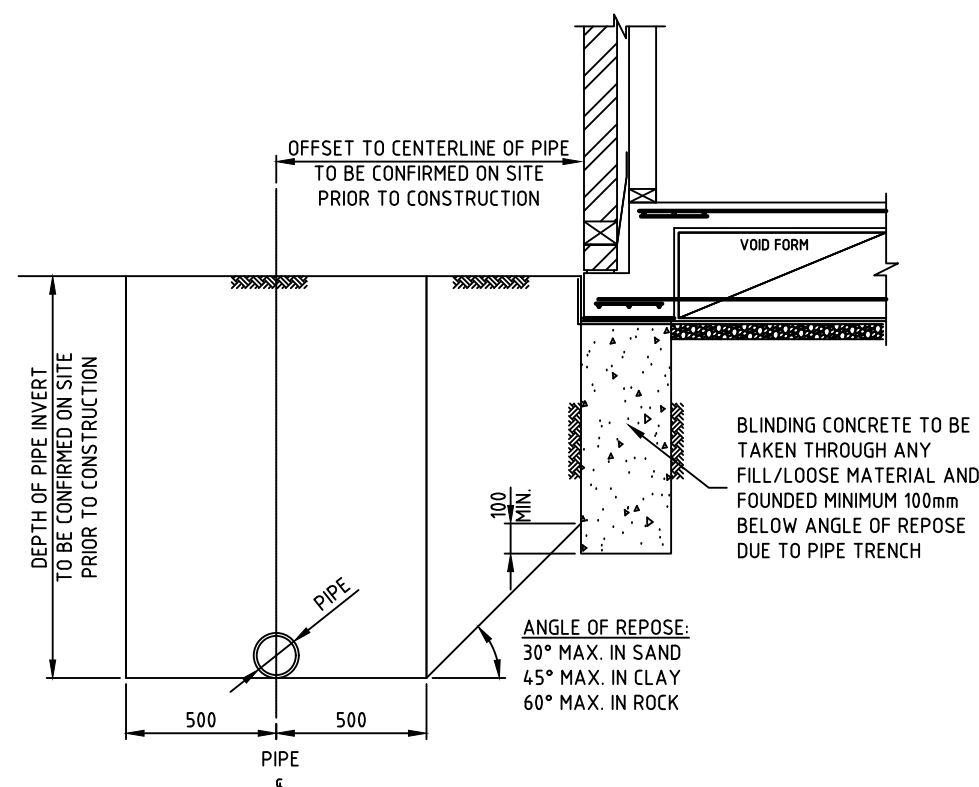
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SCALE: AS SHOWN

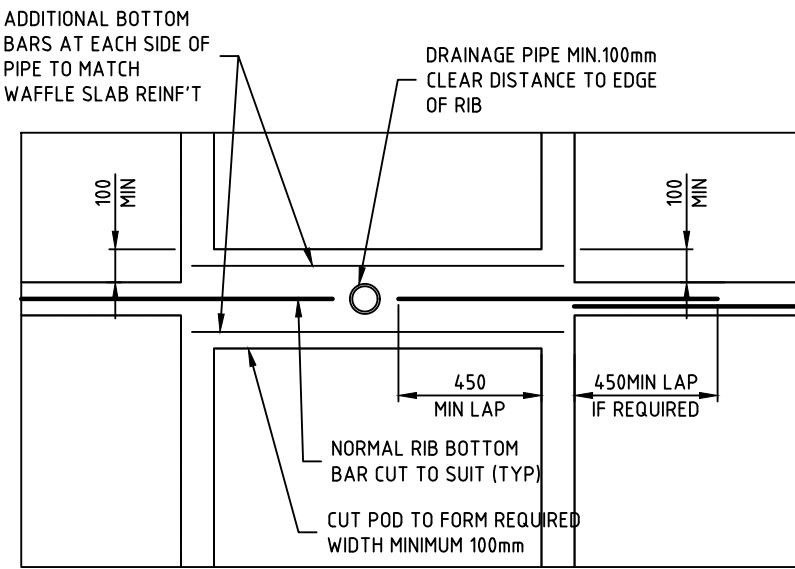
DATE: 18/09/2017



TYPICAL WAFFLE SLAB BEAM DETAILS 2 - NTS

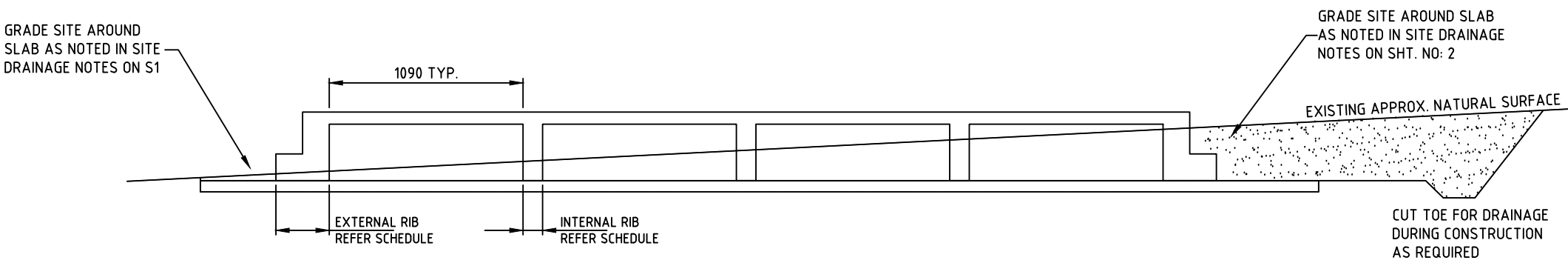


TYPICAL ANGLE OF REPOSE DETAIL
(IF REQUIRED)



TYPICAL PIPE THROUGH WAFFLE RIB
PLAN VIEW

- NOTES:**
- 0.2mm THICK POLYETHYLENE MEMBRANE TO BE APPROVED, TAPED AROUND PIPES AND LAPPED A MINIMUM OF 200mm.
 - MINOR PENETRATION IS ACCEPTABLE AS PER AS2870 C5.3.3.
 - 30mm COVER FOR BEAM REINFORCEMENT, AT SPLICES (500mm LAP FOR N12 BARS, 700mm LAP FOR N16 BARS) AND FULL BEAM WIDTH AT INTERSECTIONS.
 - SLAB REINFORCEMENT COVER TO HAVE 20mm MINIMUM, LAP LENGTH TO BE MINIMUM 225mm OR 2 CROSS WIRES AND SHOULD BE SUPPORTED ON BAR CHAIRS, SPACE OF BAR CHAIRS SHOULD NOT EXCESS 1000mm CRS BOTH WAYS.
 - CONCRETE SHALL BE VIBRATED INTO PLACE AND REINFORCEMENT SHALL BE FIXED IN POSITION BY BAR CHAIRS OR SIMILAR APPROVED.
 - TRANSPORTATION, POURING, VIBRATION AND CURING OF CONCRETE SHOULD BE IN ACCORDANCE WITH GOOD BUILDING PRACTICE.



TYPICAL SECTION THROUGH WAFFLE SLAB

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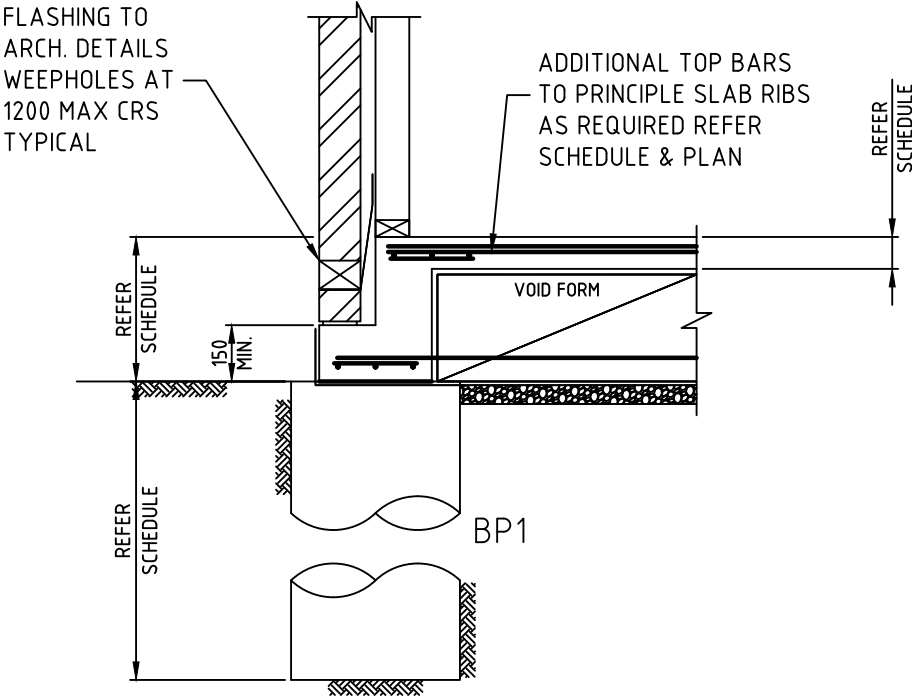
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SCALE: AS SHOWN

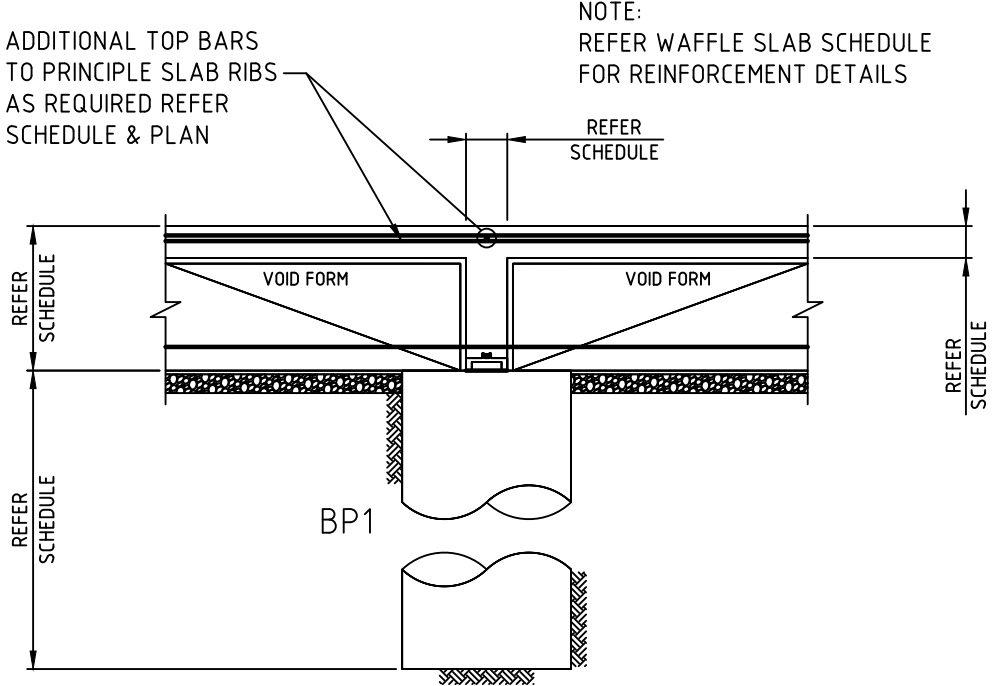
DATE: 18/09/2017



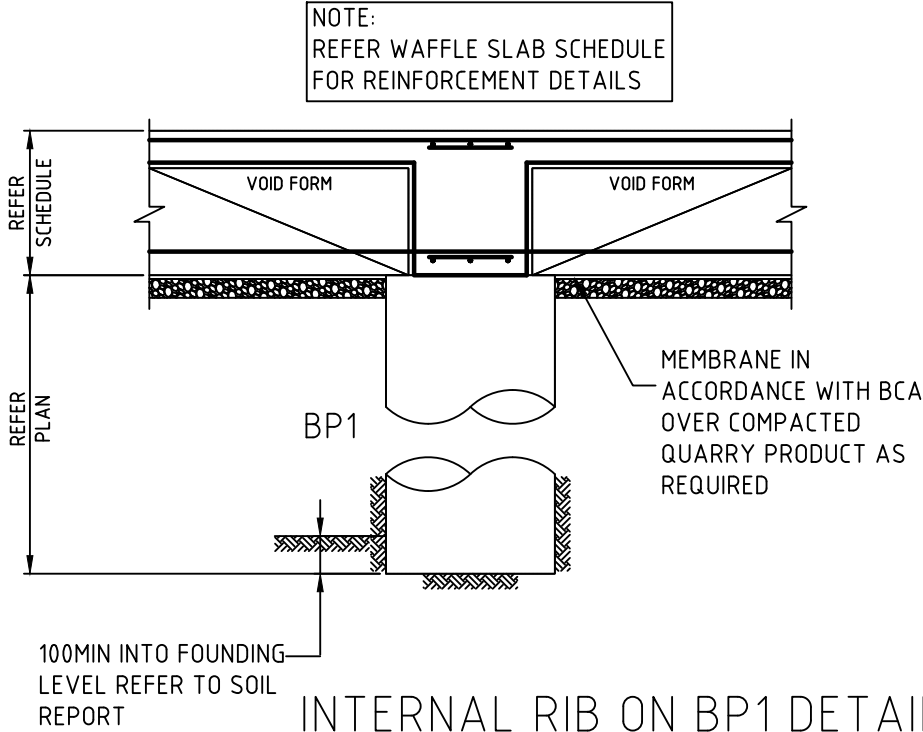
TYPICAL WAFFLE SLAB BEAM DETAILS 3 - NTS



TYPICAL EXTERNAL RIB ON PIER



TYPICAL INTERNAL RIB ON PIER

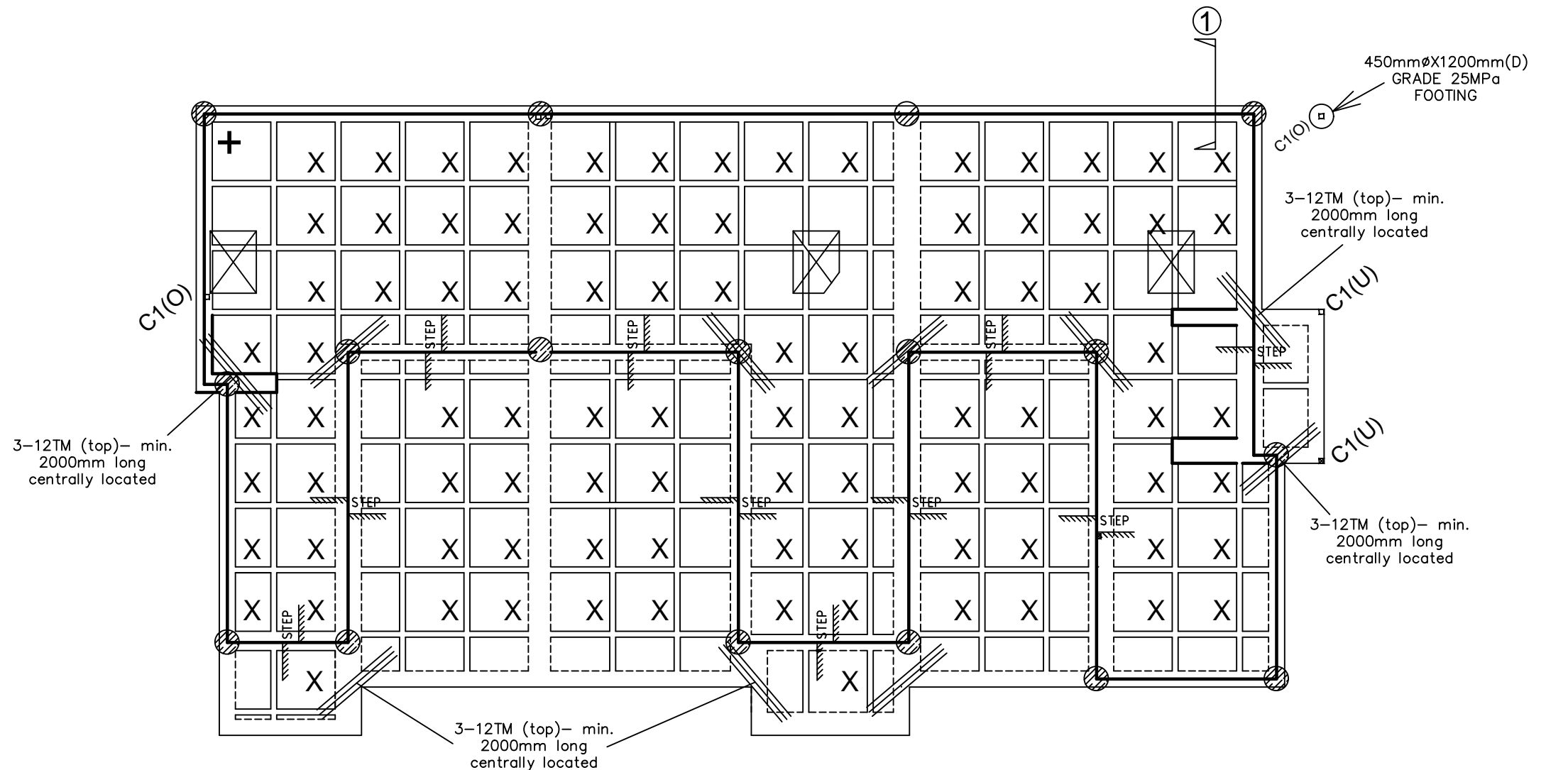


INTERNAL RIB ON BP1 DETAIL

| | | | | | |
|--|--|--|---|--|--|
| CLIENT: PROFILE HOMES SAM TOBOLOV JOB NO: PROFILE/DEV/2017/1 | WB CIVIL STRUCTURAL ENGINEERS & BUILDERS ABN: 84119322436 OFFICE: NO: 9, NUMERING COURT, MELTON, VIC 3337 Mobile: 0401023328 / Ph: 03 9746 0089 Email: priyan@wbcse.com.au | REGISTERED ENGINEER REGISTERED BUILDER VICTORIAN BUILDING AUTHORITY PRIYAN WIJEYERATNE EC 19060, D-BU 22220 M.I.E.(AUST), C.P.ENG. M.Eng(Struct), M.Tech.(Mgt.), BSc(Civil) | PROJECT: 8 RESIDENTIAL UNITS DEVELOPMENT PROJECT ADDRESS: 183 GREAT OCEAN ROAD, APOLLO BAY VIC 3233 | SHEET NO: 6/32 SCALE: AS SHOWN DATE: 18/09/2017 | |
|--|--|--|---|--|--|

WAFFLE SLAB DETAIL - UNITS 1, 2, & 3

(SEE SHT. NO: 10 OF 31)



NOTE: IT IS BUILDER'S RESPONSIBILITY, TO DRAIN SURFACE & ROOF STORMWATER AWAY FROM FOUNDATION DURING & AFTER BUILDING

WAFFLE SLAB SCHEDULE

Overall Slab Depth - 400mm
Void form height - 300mm
Slab thickness - 100mm
Internal beam/rib width - 110mm
External beam width - 300mm
Stem width min. - 150mm
Pod size - 1090mmx1090mmx300mm
X - Denotes standard pods
+ - Denotes optional setout point
>>Vapour barrier in accordance with BCA to be lapped 200mm min. and taped at lap-joints, to be laid on a 50mm quarry product.
>>Concrete strength to be 25MPa at 28 days with a slump of 100mm at pouring.

REINFORCEMENT

TOP

Slab mesh - SL82
Internal beam/rib - No Reo.
External beam 1-N12 (tied to mesh)

BOTTOM

Internal beam/rib - 1-N12
External beam - 3-11TM-200

MINIMUM LAP LENGTHS

3-L11TM: 500mm
SL 92/82 Mesh: 250mm
N12 bars: 500MM

BEAM CORNERS & AT 'T's

LAPS TO BE FULL WIDTH OF BEAM

FINISH SLAB LEVELS

As per Architectural Plans = 4.700

PREPARATION FOR WAFFLE BASE

As per AS2870 and Soil Report.

- If the fill is only up to 300mm use clay and compact well (spread it in 2x150mm layers and compact well).
- If the fill is more than 300mm (max 600mm) use well compacted granular material (spread it in 150mm layers and compact well).
- Granular material - Sand (well graded sand) or Crushed Rock (class 2, max size 14mm).
- Finished ground level must always be sloped away from the slab base at a minimum gradient of 2 : 1.
- Slab base must be minimum 100mm higher than surrounding ground level.
- If soil profile encountered on actual site is different to soil report, the Structural Engineer must be informed immediately for instruction.
- All tree roots encountered within and around up to 2.0m from the perimeter of proposed slab must be removed completely to prepare ground for slab base.

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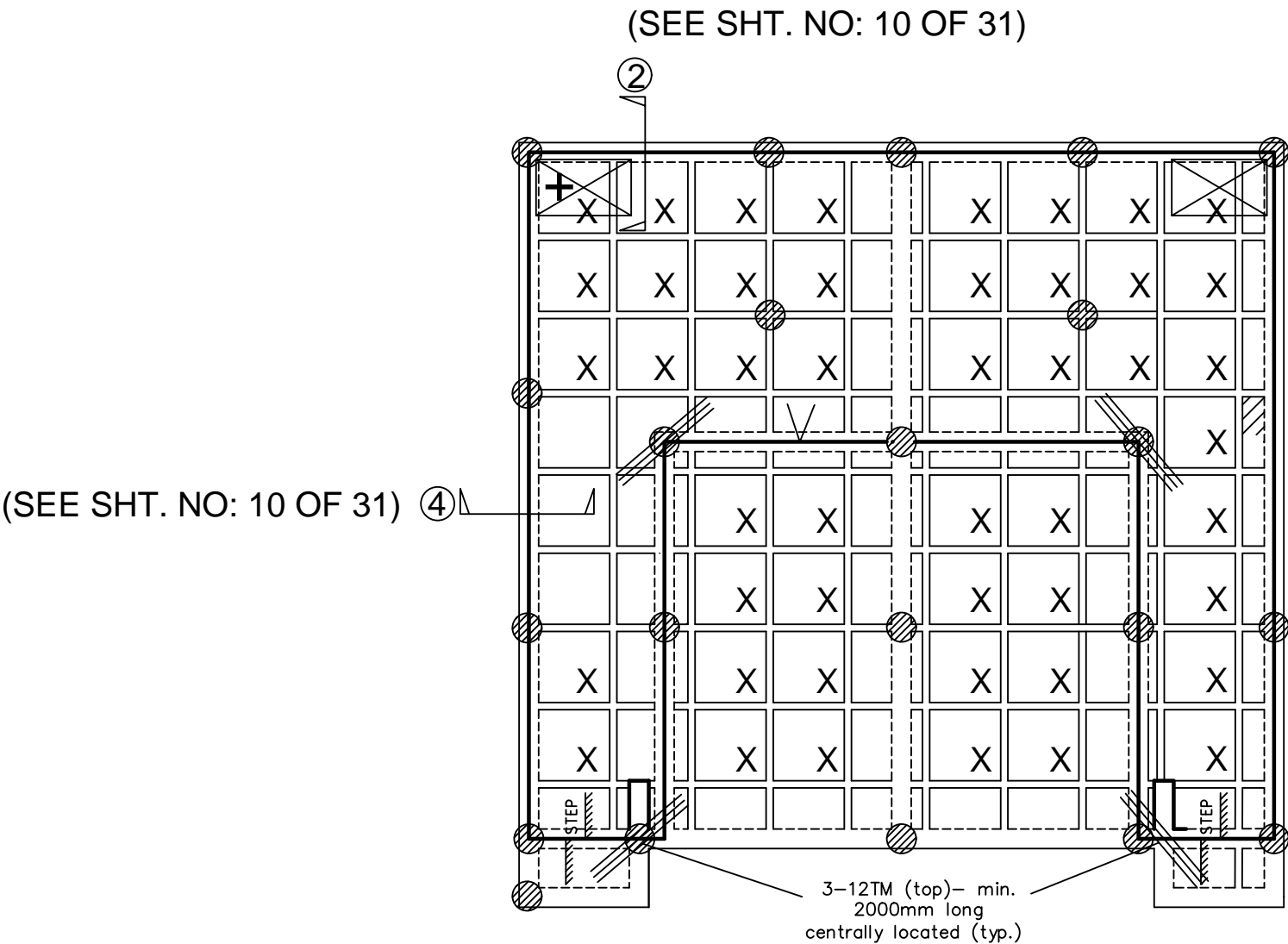
SHEET NO: 7/32

SCALE: AS SHOWN

DATE: 18/09/2017



WAFFLE SLAB DETAIL - UNITS 4 & 5



NOTE: IT IS BUILDER'S RESPONSIBILITY, TO DRAIN SURFACE & ROOF STORMWATER AWAY FROM FOUNDATION DURING & AFTER BUILDING

- SHOWER RECESS AS PER ARCHITECTURAL PLANS. SLAB TO BE THICKENED BY SAME AMOUNT RECESSED (SHT. NO: 4)
- PANELS TO BE FILLED AND COMPACTED WITH GRADE 25MPa CONCRETE WHERE C1 COLUMNS LOCATED (BUILDER TO DETERMINE LOCATIONS)
- BP1 MASS CONCRETE PIERS 20MPa. FOUNDING DEPTH TO BE MIN. 1200mm FROM AVERAGE GROUND LEVEL EXCEPT FOR LINES ALONG NORTHERN EDGE AND BETWEEN UNITS 5 & 6

WAFFLE SLAB SCHEDULE

- Overall Slab Depth - 420mm
- Void form height - 300mm
- Slab thickness - 120mm
- Internal beam/rib width - 110mm
- External beam width - 300mm
- Stem width min. - 150mm
- Pod size - 1090mmx1090mmx300mm
- X - Denotes standard pods
- + - Denotes optional setout point
- >>Vapour barrier in accordance with BCA to be lapped 200mm min. and taped at lap-joints, to be laid on a 50mm quarry product.
- >>Concrete strength to be 25MPa at 28 days with a slump of 100mm at pouring.

REINFORCEMENT TOP

- Slab mesh - SL82
- Internal beam/rib - 1-N16 (every second b/w)
- External beam 3-12TM-200 (tied to mesh)

BOTTOM

- Slab mesh - SL82
- Internal beam/rib - 1-N16 (every rib b/w)
- External beam - 3-12TM-200

MINIMUM LAP LENGTHS

- 3-L11TM: 500mm
- SL 92/82 Mesh: 250mm
- N16 bars: 600MM

BEAM CORNERS & AT 'T's

LAPS TO BE FULL WIDTH OF BEAM

FINISH SLAB LEVELS

As per Architectural Plans = 4.700

PREPARATION FOR WAFFLE BASE

As per AS2870 and Soil Report.

- If the fill is only up to 300mm use clay and compact well (or spread it in 2x150mm layers and compact well).
- If the fill is more than 300mm (max 600mm) use well compacted granular material (or spread it in 150mm layers and compact well).
- Granular material - Sand (well graded sand) or Crushed Rock (class 2, max size 10mm).
- Finished ground level must always be sloped away from the slab base at a minimum gradient of 2 : 1.
- Slab base must be minimum 100mm higher than surrounding ground level.
- If soil profile encountered on actual site is different to soil report, the Structural Engineer must be informed immediately for instruction.
- All tree roots encountered within and around up to 2.0m from the perimeter of proposed slab must be removed completely to prepare ground for slab base.

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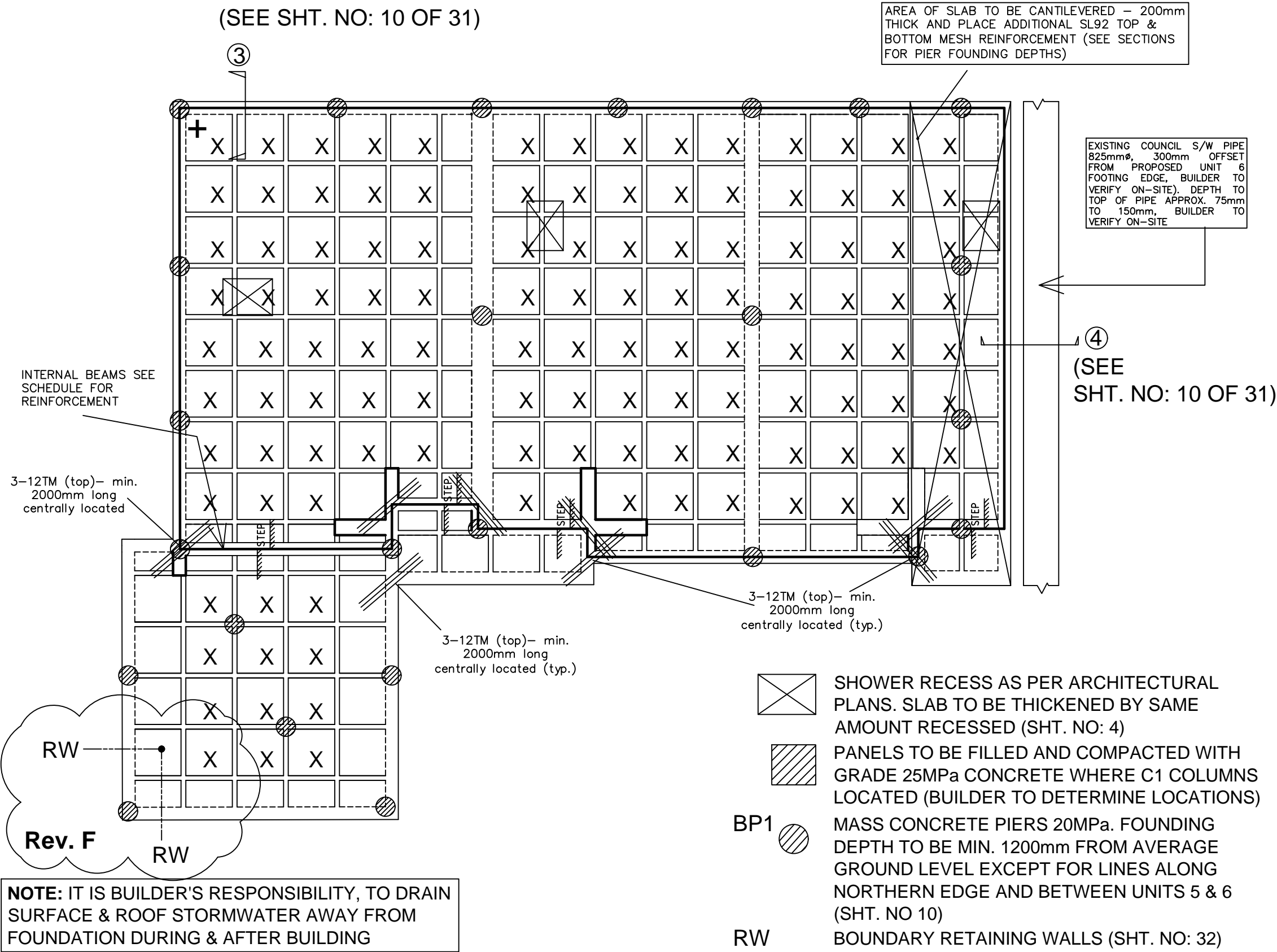
SHEET NO: 8/32

SCALE: AS SHOWN

DATE: 18/09/2017



WAFFLE SLAB DETAIL - UNITS 6, 7, & 8



WAFFLE SLAB SCHEDULE

Overall Slab Depth - 400mm
Void form height - 300mm
Slab thickness - 100mm
Internal beam/rib width - 110mm
External beam width - 300mm
Stem width min. - 150mm
Pod size - 1090mmx1090mmx300mm
X - Denotes standard pods
+ - Denotes optional setout point
>>Vapour barrier in accordance with BCA to be lapped 200mm min. and taped at lap-joints, to be laid on a 50mm quarry product.
>>Concrete strength to be 25MPa at 28 days with a slump of 100mm at pouring.

REINFORCEMENT
TOP
Slab mesh - SL82
Internal beam/rib - No Reo.
External beam 3-11TM-200 (Tied to mesh)
BOTTOM
Internal beam/rib - 1-N12
External beam - 3-11TM-200

MINIMUM LAP LENGTHS
3-L11TM: 500mm
SL 92/82 Mesh: 250mm
N12 bars: 500MM
BEAM CORNERS & AT 'T's
LAPS TO BE FULL WIDTH OF BEAM
FINISH SLAB LEVELS
As per Architectural Plans = 4.700

PREPARATION FOR WAFFLE BASE
As per AS2870 and Soil Report.

- If the fill is only up to 300mm use clay and compact well (or spread it in 2x150mm layers and compact well).
- If the fill is more than 300mm (max 600mm) use well compacted granular material (or spread it in 150mm layers and compact well).
- Granular material - Sand (well graded sand) or Crushed Rock (class 2, max size 10mm).
- Finished ground level must always be sloped away from the slab base at a minimum gradient of 2 : 1.
- Slab base must be minimum 100mm higher than surrounding ground level.
- If soil profile encountered on actual site is different to soil report, the Structural Engineer must be informed immediately for instruction.
- All tree roots encountered within and around up to 2.0m from the perimeter of proposed slab must be removed completely to prepare ground for slab base.

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SHEET NO: 9/32

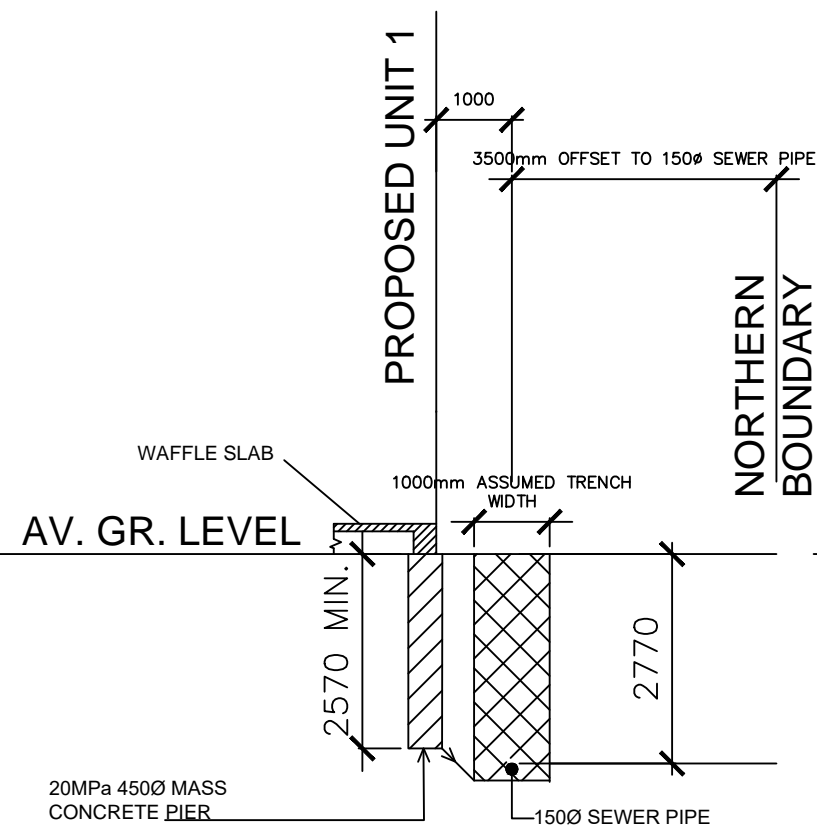
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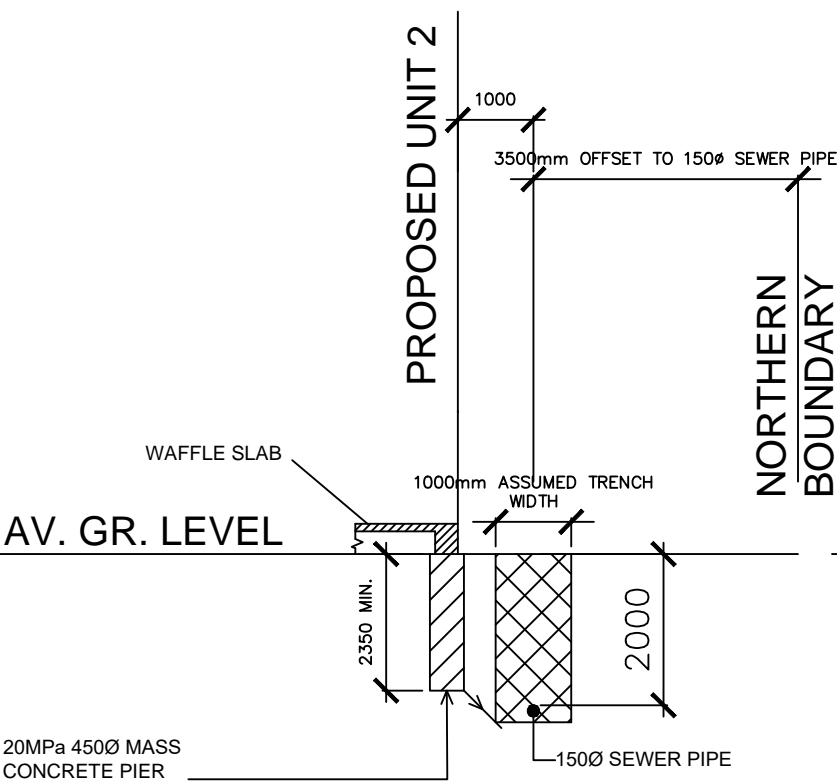


ANGLE OF REPOSE - SECTIONS 1, 2, 3 & 4 - SCALE 1 : 100

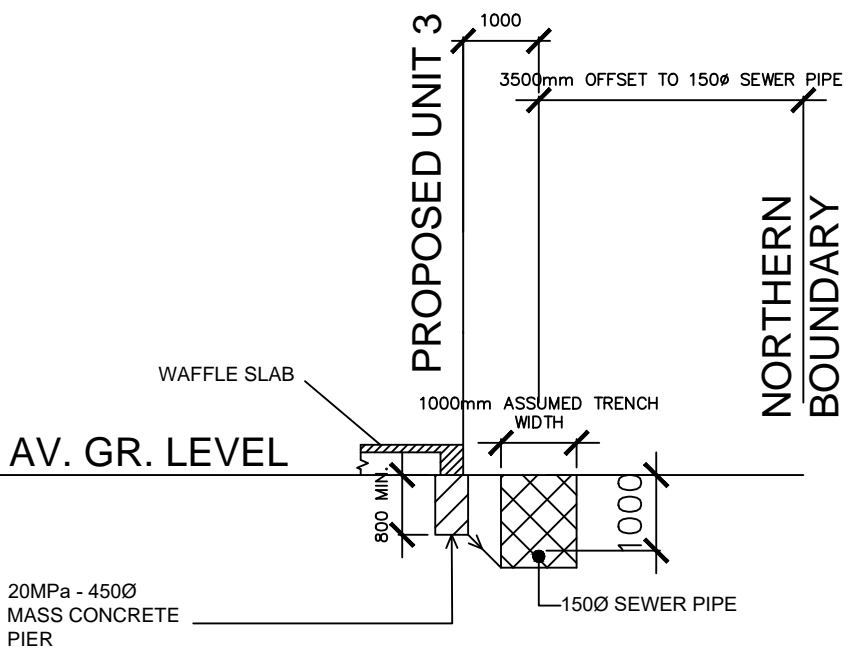
NOTE:
BUILDER MUST VERIFY DEPTHS TO SERVICE PIPES ON SITE
AND DEEPEN MASS CON. PIER AS NECESSARY, MAY USE
15MPa FOR DEEPENING. ANGLE OF REPOSE ASSUMED 45°.



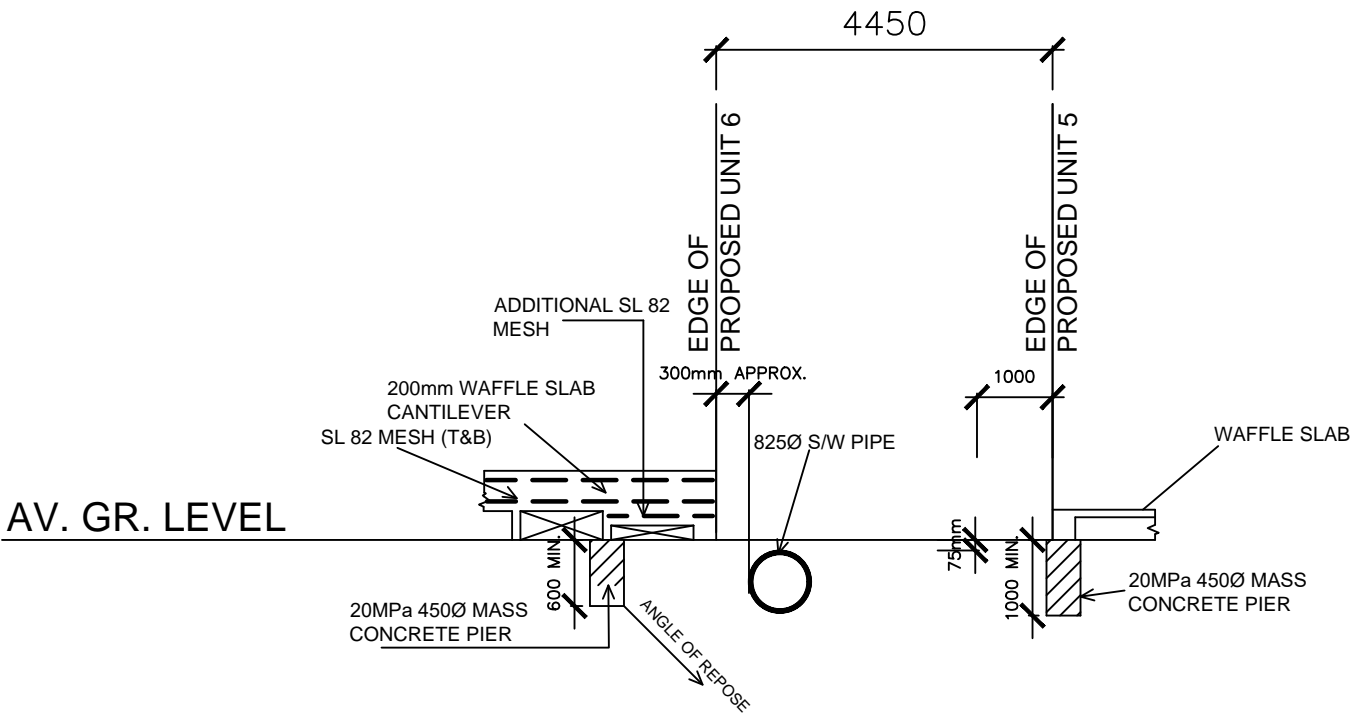
FOOTING SECTION 1 - UNITS 1, 2 & 3
CANTILEVER WAFFLE SLAB & MASS
CONCRETE PIERS FOUNDING DEPTHS



FOOTING SECTION 2 - UNITS 4 & 5
CANTILEVER WAFFLE SLAB & MASS
CONCRETE PIERS FOUNDING DEPTHS



FOOTING SECTION 3 - UNITS 6, 7 & 8
CANTILEVER WAFFLE SLAB & MASS
CONCRETE PIERS FOUNDING DEPTHS



FOOTING SECTION 4 - 4 - UNITS 6 & 5
CANTILEVER WAFFLE SLAB & MASS
CONCRETE PIERS FOUNDING DEPTHS
(CANTILEVERED WAFFLE - UNIT6)
(EXAGGERATED SCALE)

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

WB CIVIL STRUCTURAL
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REGISTERED ENGINEER
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PRIYAN WIJEYERATNE
EC 19060, D-BU 22220
M.I.E.(AUST), C.P.ENG.
M.Eng(Struct), M.Tech.(Mgt), BSc(Civil)

PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

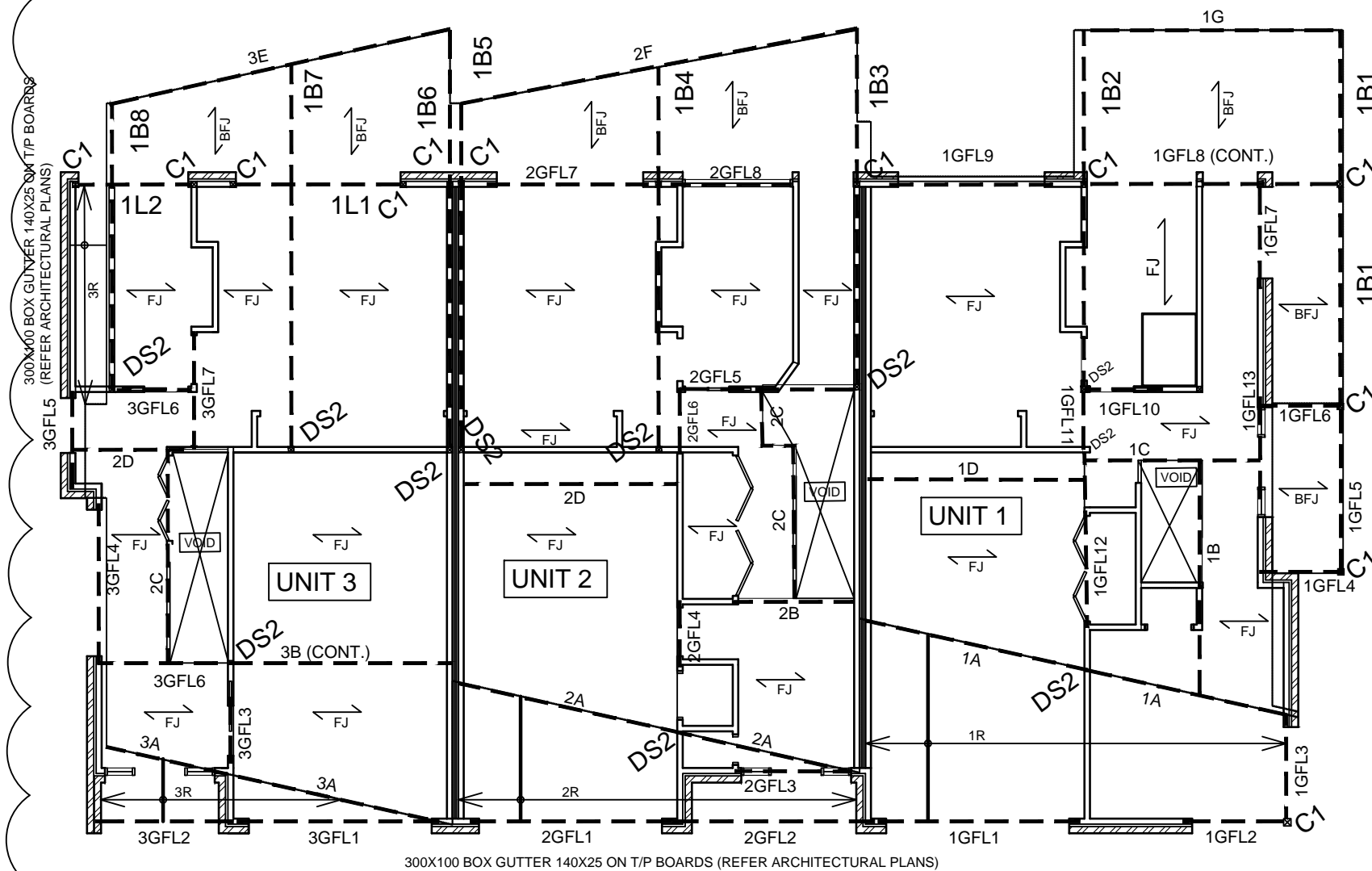
SHEET NO: 10/32

SCALE: AS SHOWN

DATE: 18/09/2017



FIRST FLOOR & LOWER ROOF FRAMING PLAN - SCALE - 1 : 100



UNITS 1, 2 & 3

NOTE:

1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE
STUD SCHEDULE ON SHT. NO: 19
2. BALCONIES TO HAVE TREATED TIMBER

FIRST FLOOR LOWER ROOF
MEMBER SCHEDULE

| MARK | SECTION | REMARKS |
|------|--|---|
| 1B1 | 2/360X45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B2 | 2/360x45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B3 | 2/360x45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B4 | 2/300x45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B5 | 2/300X45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B6 | 2/360X45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B7 | 2/360X45 hySPAN | LAMINATE AS PER AS 1684.2 |
| OR | 180UB22.2 | G 300 |
| 1B8 | 2/200X45 hySPAN | LAMINATE AS PER 1684.2 |
| OR | 180UB22.2 | G 300 |
| C1 | 89X89X89X6 | USE 4XM16 CHEMSET ANCHORS. MIN. 150mm EMBEDMENT INTO CONCRETE. BEAMS TO BE LOCALLY WIDENED. |
| 1L1 | 2/300X63 hySPAN | LAMINATE AS PER 1684.2 |
| OR | 150UB18.0 | G 300 |
| OR | 180X75 PFC | G 300 |
| 1L2 | 300X45 hySPAN | |
| OR | 150UB18.0 | G 300 |
| OR | 125X65 PFC | G 300 |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |
| | USE STUDS AS PER TIMBER STUD SCHEDULE ON SHT NO: 19. WHERE, NO DSx MARK PROVIDED ON FRAMING PLAN USE DS1 A PER SCHEDULE ON SHT. NO: 19 | |

FIRST FLOOR & LOWER ROOF MEMBER SCHEDULE

| MARK | SECTION | REMARKS |
|--|------------------------------|--------------------------|
| 1A | 2/240X45 HYPSPAN | LAMINATE AS PER AS1684.2 |
| 1B | 240X45 HYPSPAN | |
| 1C | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 1D | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 1G | 2/190X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 2A | 2/320X45 HYPSPAN | LAMINATE AS PER AS1684.2 |
| 2B | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 2C | 240X45 MGP12 | |
| 2D | 240X45 MGP15 | |
| 2F | 2/190X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 3A | 2/245X45 HYPSPAN | LAMINATE AS PER AS1684.2 |
| 3B | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 3C | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 3D | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 3E | 2/140X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 1R | 140X45 MGP10 @450 CRS (MAX) | LOWER ROOF |
| 2R | 140X45 MGP10 @ 450 CRS (MAX) | LOWER ROOF |
| 3R | 140X45 MGP10 @ 450 CRS (MAX) | LOWER ROOF |
| MARK & SECTION | | REMARKS |
| 1GFL1 = 1GFL2 = 1GFL3 = 1GFL4 = 1GFL5 = 1GFL6 = 1GFL7 = 1GFL8 = 1GFL12 = 1GFL13 = 190X45 MGP12 | | UNIT 1 - LINTELS |
| 1GFL9 = 2/190X45 MGP12 | | UNIT 1 = LINTELS |
| 1GFL10 = 1GFL11 = 140X45 MGP12 | | UNIT 1 = LINTELS |
| 2GFL1 = 2GFL8 = 190X45 MGP12 | | UNIT 2 = LINTELS |
| 2GFL2 = 2GFL3 = 2GFL4 = 2GFL5 = 2GFL6 = 140X45 MGP12 | | UNIT 2 = LINTELS |
| 2GFL7 = 2/190X45 MGP12 | | UNIT 2 = LINTELS |
| 3GFL2 = 3GFL3 = 3GFL5 = 3GFL6 = 3GFL7 140X45 MGP12 | | UNIT 3 = LINTELS |
| 3GFL1 = 190X45 MGP12 | | UNIT 3 = LINTELS |
| 3GFL4 = 2/190X45 MGP12 | | UNIT 3 = LINTELS |
| BFJ = FJ = 240X45 MGP10 @ 450mm CRS (MAX.) NOTE: BALCONY JOISTS TO BE TREATED & FALL OUTWARDS | | |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

**WB CIVIL STRUCTURAL
ENGINEERS**

ENGINEERS & BUILDERS
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M.Eng(Struct)., M.Tech.(Mgt.), BSc(Civil)

PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

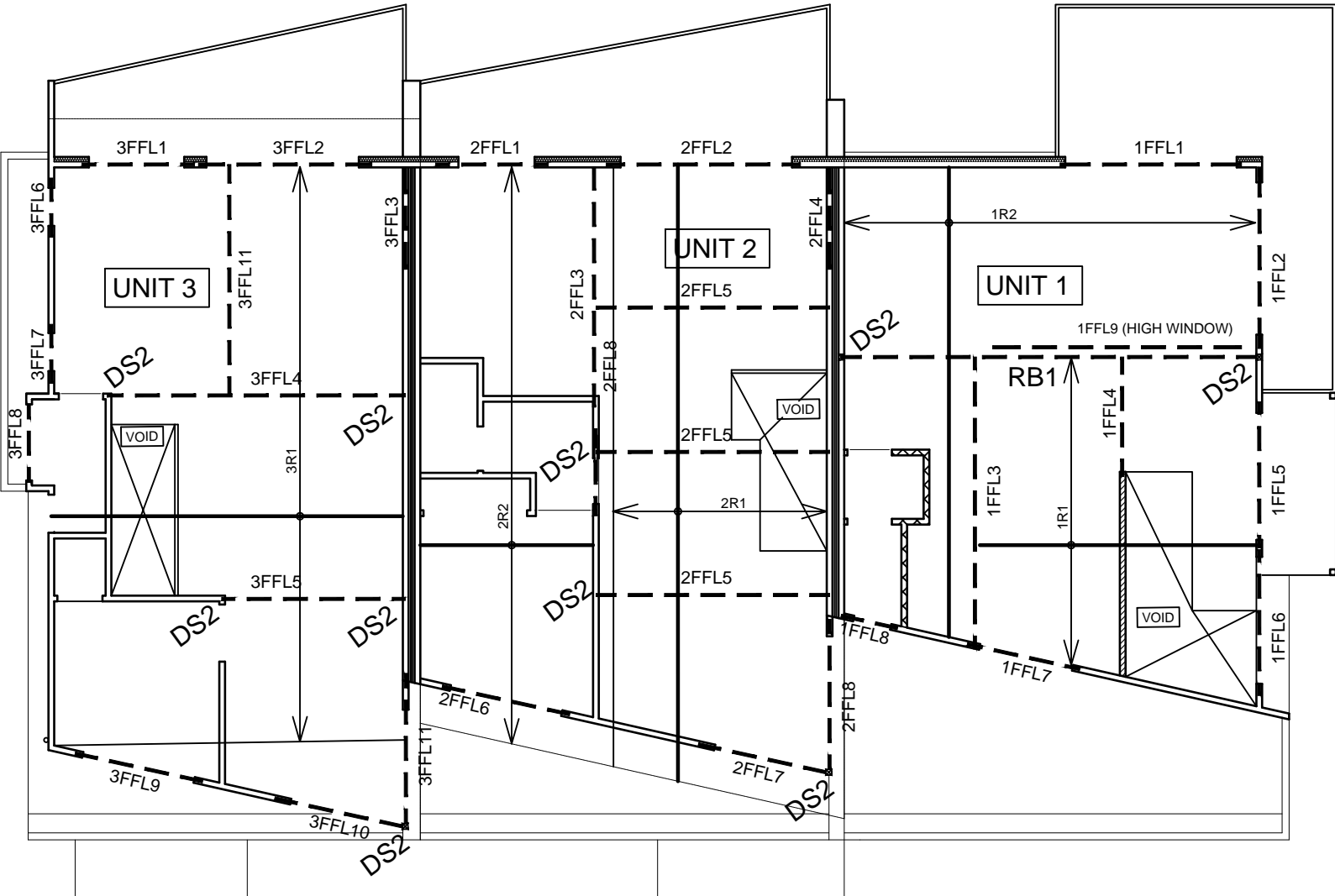
SHEET NO: 11/32

SCALE: AS SHOWN

DATE: 18/09/2017



ROOF FRAMING PLAN - SCALE - 1 : 100



UNITS 1, 2 & 3

- NOTE:**
1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE STUD SCHEDULE ON SHT. NO: 19)
 2. BALCONIES TO HAVE TREATED TIMBER

| ROOF MEMBER SCHEDULE | | |
|---|--|-----------------------------|
| MARK | SECTION | REMARKS |
| RB1 | 2/400X45 hySPAN | |
| OR | 150UB18.0 | G 300 |
| MARK & SECTION | | REMARKS |
| 1FFL1 = 1FFL2 = 190X45 MGP12 | | UNIT 1 - LINTELS |
| 1FFL5 = 1FFL6 = 1FFL7 = 1FFL9 = 140X45 MGP12 | | UNIT 1 - LINTELS |
| 1FFL8 = 90X45 MGP10 | | UNIT 1 - LINTELS |
| 1FFL3 = 2/400X45 HYSpan | | UNIT 1 - BEAM |
| 1FFL4 = 300X75 F7 | | UNIT 1 - BEAM |
| 1R1 = 140X45 MGP10 @ 450 CRS | | UNIT 1 RAFTERS |
| 1R2 = 190X45 MGP10 @ 600 CRS | | UNIT 1 RAFTERS |
| 2FFL1 = 2FFL6 = 2FFL7 = 2FFL8 = 140X45 MGP12 | | UNIT 2 - LINTELS |
| 2FFL2 = 190X45 MGP12 | | UNIT 2 - LINTEL |
| 2FFL4 = 120X45 MGP12 | | UNIT 2 - LINTELS |
| 2FFL3 = 240X63 HYSpan | | UNIT 2 - BEAM |
| 2FFL5 = 250X75 F7 | | UNIT 2 - BEAM |
| 2R1 = 140X45 MGP10 @ 450 CRS | | UNIT 2 - RAFTERS |
| 2R2 = 190X45 MGP10 @ 600 CRS | | UNIT 2 - RAFTERS |
| 3FFL6 = 3FFL7 = 90X45 MGP10 | | UNIT 3 - LINTELS |
| 3FFL8 = 90X45 MGP12 | | UNIT 3 - LINTEL |
| 3FFL3 = 120X45 MGP12 | | UNIT 3 - LINTEL |
| 3FFL1 = 3FFL2 = 3FFL9 = 3FFL10 = 140X45 MGP12 | | UNIT 3 - LINTELS |
| 3FFL5 = 190X45 MGP15 | | UNIT 3 - LINTEL |
| 3FFL11 = 300X75 F7 | | UNIT 3 - BEAM |
| 3FFL4 = 300X45 HYSpan | | UNIT 3 - BEAM |
| 3R1 = 190X45 MGP10 @600CRS | | UNIT 3 - RAFTERS |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |
| | USE STUDS AS PER TIMBER STUD SCHEDULE ON SHT NO: 19 WHERE, NO DSx MARK PROVIDED ON FRAMING PLAN USE DS1 AS PER SCHEDULE ON SHT. NO: 19 | |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

WB CIVIL STRUCTURAL
ENGINEERS & BUILDERS

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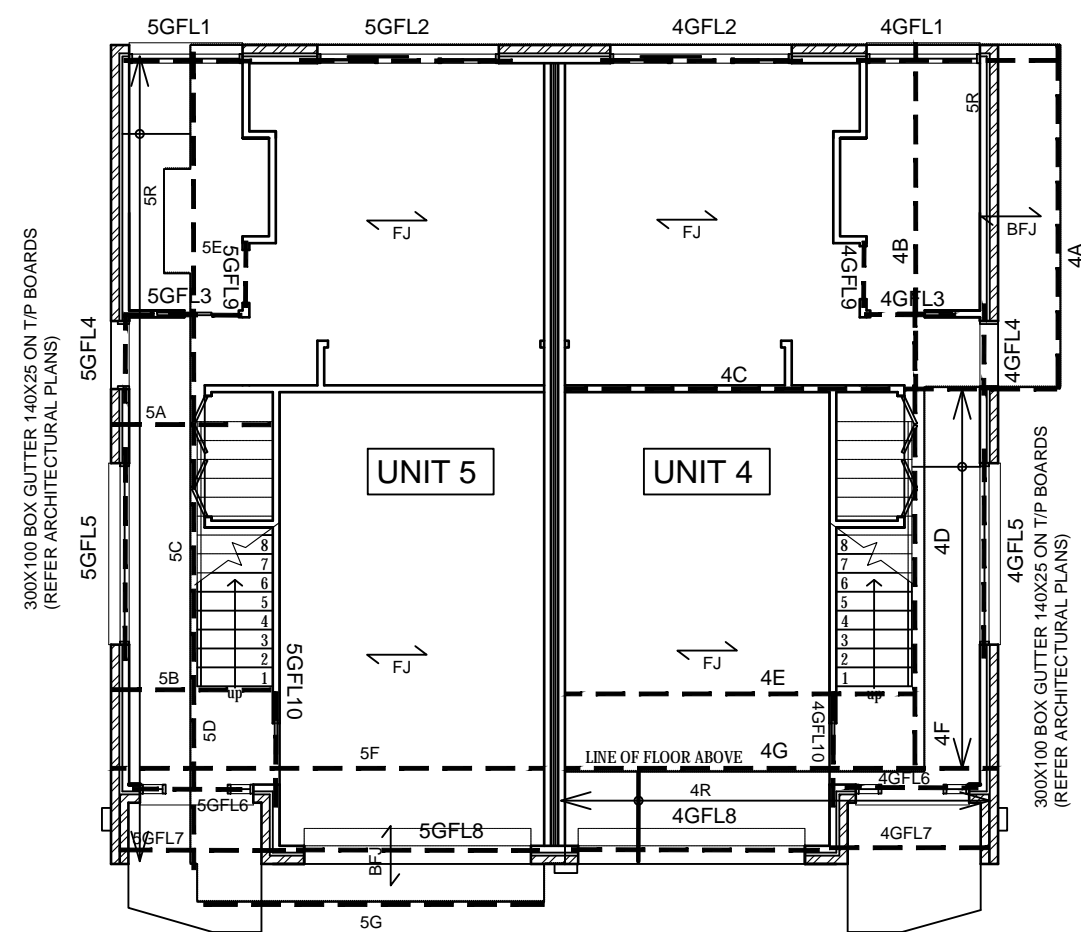
PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

SHEET NO: 12/32

SCALE: AS SHOWN

DATE: 18/09/2017

FIRST FLOOR & LOWER ROOF FRAMING PLAN - SCALE - 1 : 100



UNITS 4 & 5

NOTE:

1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE
STUD SCHEDULE ON SHT. NO: 19
2. BALCONIES TO HAVE TREATED TIMBER

FIRST FLOOR & LOWER ROOF
MEMBER SCHEDULE

| MARK | SECTION | REMARKS/CONNECTIONS |
|------|--|---|
| 4A | 2/190X45 MGP12 | LAMINATE AS PER AS1684.2 |
| 4B | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 4C | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 4D | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 4E | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 4F | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 4G | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 5A | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 5B | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 5C | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 5D | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 5E | 2/240X45 HYPAN | LAMINATE AS PER AS1684.2 |
| 5F | 2/240X45 MGP15 | LAMINATE AS PER AS1684.2 |
| 5G | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 4R | 140X45 MGP10 @ 600CRS (MAX) | LOWER ROOF - RAFTERS |
| 5R | 140X45 MGP10 @ 600 CRS (MAX) | LOWER ROOF - RAFTERS |
| BFJ | 190X45 MGP10 @ 450 CRS (MAX) | BALCONY - JOISTS TO FALL OUTWARDS AND TREATED |
| FJ | 240X45 MGP10 @ 450 CRS (MAX) | FLOOR JOISTS |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |

FIRST FLOOR MEMBER
SCHEDULE

| MARK & SECTIONS | REMARKS/CONNECTIONS |
|--|---|
| 4GFL1 = 2/140X45 MGP12 | UNIT 4 - LINTEL |
| 4GFL2 = 2/190X45 MGP12 | UNIT 4 - LINTEL |
| 4GFL3 = 4GFL4 = 4GFL5 = 4GFL6 = 4GFL7 = 4GFL9 = 140X45 MGP12 | UNIT 4 - LINTELS |
| 4GFL8 = 190X45 MGP12 | |
| 4GFL10 = 2/140X45 MGP15 | UNIT4 - LINTEL |
| 5GFL1 = 2/140X45 MGP12 | UNIT 5 - LINTEL |
| 5GFL2 = 2/190X45 MGP12 | UNIT 5 - LINTEL |
| 5GFL3 = 5GFL4 = 5GFL5 = 5GFL6 = 5GFL7 = 5GFL8 = 5GFL9 = 140X45 MGP12 | UNIT 5 - LINTELS |
| 5GFL10 = 2/140X45 MGP15 | UNIT 5 - LINTELS |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 SAME APPLIES TO TSx/QSx/FSx |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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ENGINEERS & BUILDERS**
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**REGISTERED ENGINEER
REGISTERED BUILDER
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M.Eng(Struct)., M.Tech.(Mgt.), BSc(Civil)

PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

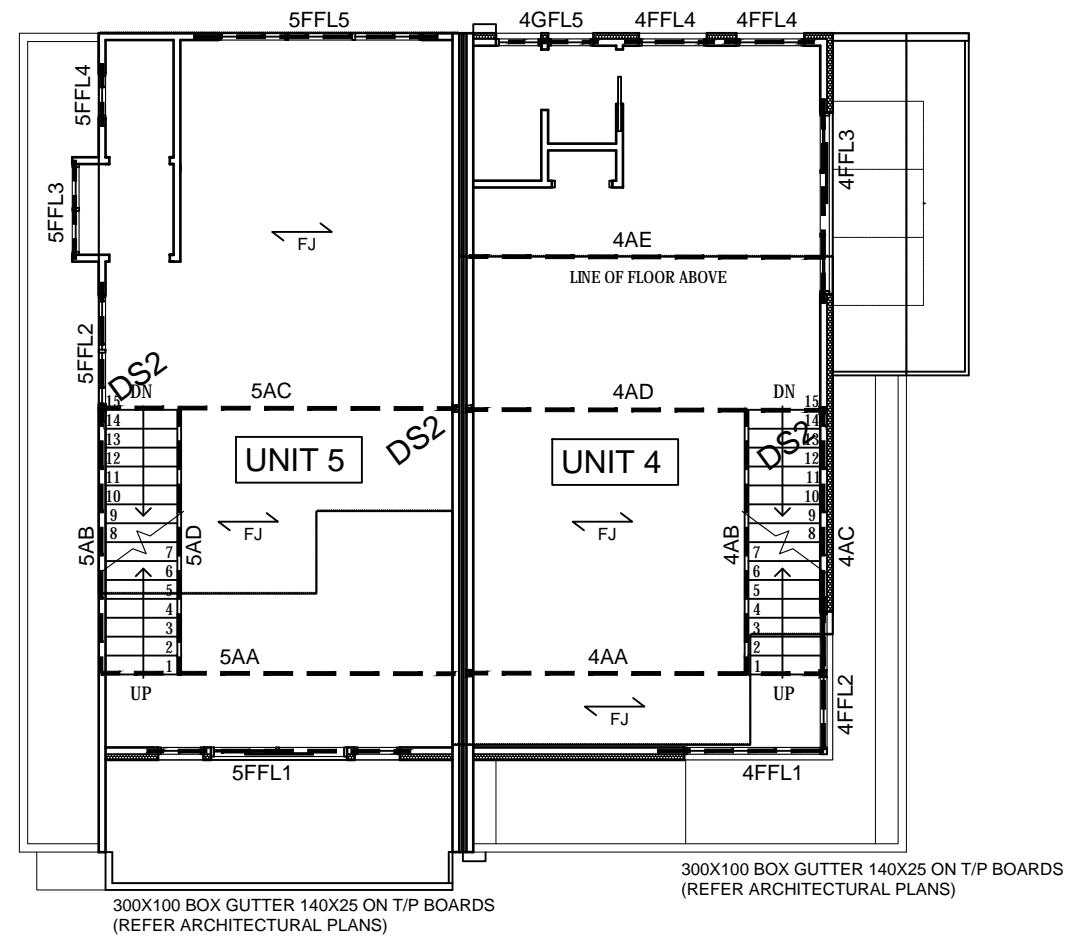
SHEET NO: 13/32

SCALE: AS SHOWN

DATE: 18/09/2017



SECOND FLOOR FRAMING PLAN - SCALE - 1 : 100



UNITS 4 & 5

NOTE:

1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE
STUD SCHEDULE ON SHT. NO: 19
2. BALCONIES TO HAVE TREATED TIMBER

SECOND FLOOR & LOWER ROOF MEMBER SCHEDULE

| MARK & SECTION | | REMARKS/CONNECTIONS |
|----------------|--|--------------------------------|
| 4AA | 2/300X45 HYSpan OR 180UB18.1 (G300) | LAMINATE AS PER AS1684.2 |
| 4AB | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 4AC | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 4AD | 2/300X45 HYSpan OR 180UB18.1 (G300) | LAMINATE AS PER AS1684.2 |
| 4AE | 2/360X45 HYSpan | LAMINATE AS PER AS1684.2 |
| 5AA | 2/400X45 HYSpan | LAMINATE AS PER AS1684.2 |
| 5AB | 2/240X45 MGP10 | LAMINATE AS PER AS1684.2 |
| 5AC | 2/300X63 HYSpan OR 180UB18.1 (G300) | LAMINATE AS PER AS1684.2 |
| 5AD | 2/240X45 MGP12 | LAMINATE AS PER AS1684.2 |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |

SECOND FLOOR MEMBER SCHEDULE

| MARK & SECTION | | REMARKS |
|--------------------------------|--|-----------------------------|
| 4FFL3 = 2/190X45 MGP15 | | UNIT 4 - LINTEL |
| 4FFL4 = 4FFL5 = 2/90X45 MGP10 | | UNIT 4 - LINTEL |
| 4FFL1 = 4FFL2 = 2/150X45 HYPAN | | UNIT 4 - BEAM |
| 5FFL2 = 5FFL5 = 2/140X45 MGP12 | | UNIT 5 - LINTEL |
| 5FFL6 = 140X45 MGP12 | | UNIT 5 - LINTEL |
| 5FFL3 = 5FFL4 = 2/90X45 MGP10 | | UNIT 5 - LINTEL |
| 5FFL1 = 2/90X45 HYPAN | | UNIT 5 - BEAM |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

**WB CIVIL STRUCTURAL
ENGINEERS**

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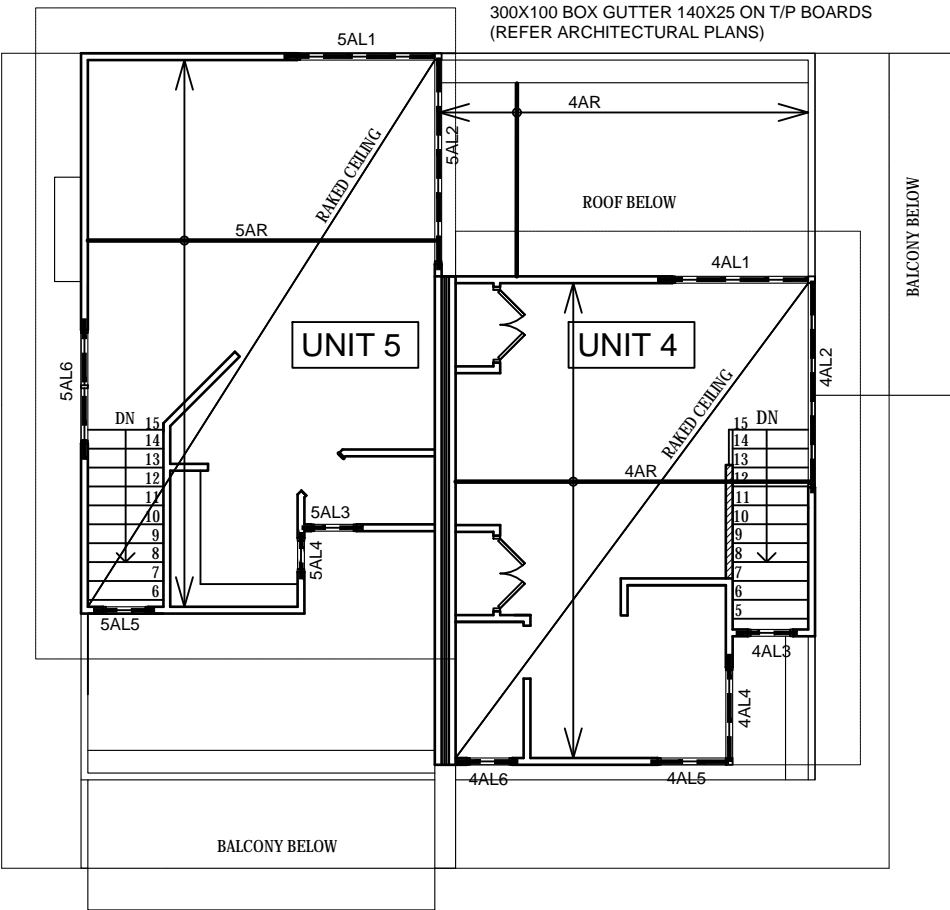
SHEET NO: 14/32

SCALE: AS SHOWN

DATE: 18/09/2017



ATTIC FRAMING PLAN - SCALE - 1 : 100



UNITS 4 & 5

- NOTE:**
- 1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE STUD SCHEDULE ON SHT. NO: 19)
 - 2. BALCONIES TO HAVE TREATED TIMBER

ATTIC MEMBER SCHEDULE

| MARK & SECTION | | REMARKS |
|----------------|-----------------------------|------------------|
| 4AL1 | = 140X45 MGP12 | UNIT 4 - LINTEL |
| A4L2 | = 2/140X45 MGP12 | UNIT 4 - LINTEL |
| A4L3 | = 90X45 MGP10 | UNIT 4 - LINTEL |
| A4L4 | = A4L5 = 140X45 MGP10 | UNIT 4 - LINTELS |
| A4L6 | = 90X45 MGP10 | UNIT 4 - LINTEL |
| 5AL1 | = 5AL2 = 140X45 MGP12 | UNIT 5 - LINTELS |
| 5AL3 | = 5AL4 = 5AL5 = 90X45 MGP10 | UNIT 5 - LINTELS |
| 5AL6 | = 140X45 MGP10 | UNIT 5 - LINTELS |
| 4AR | 190X45 MGP12 @ 600 CRS | ATTIC RAFTERS |
| 5AR | 190X45 MGP12 @ 600 CRS | ATTIC RAFTERS |

Rev. F

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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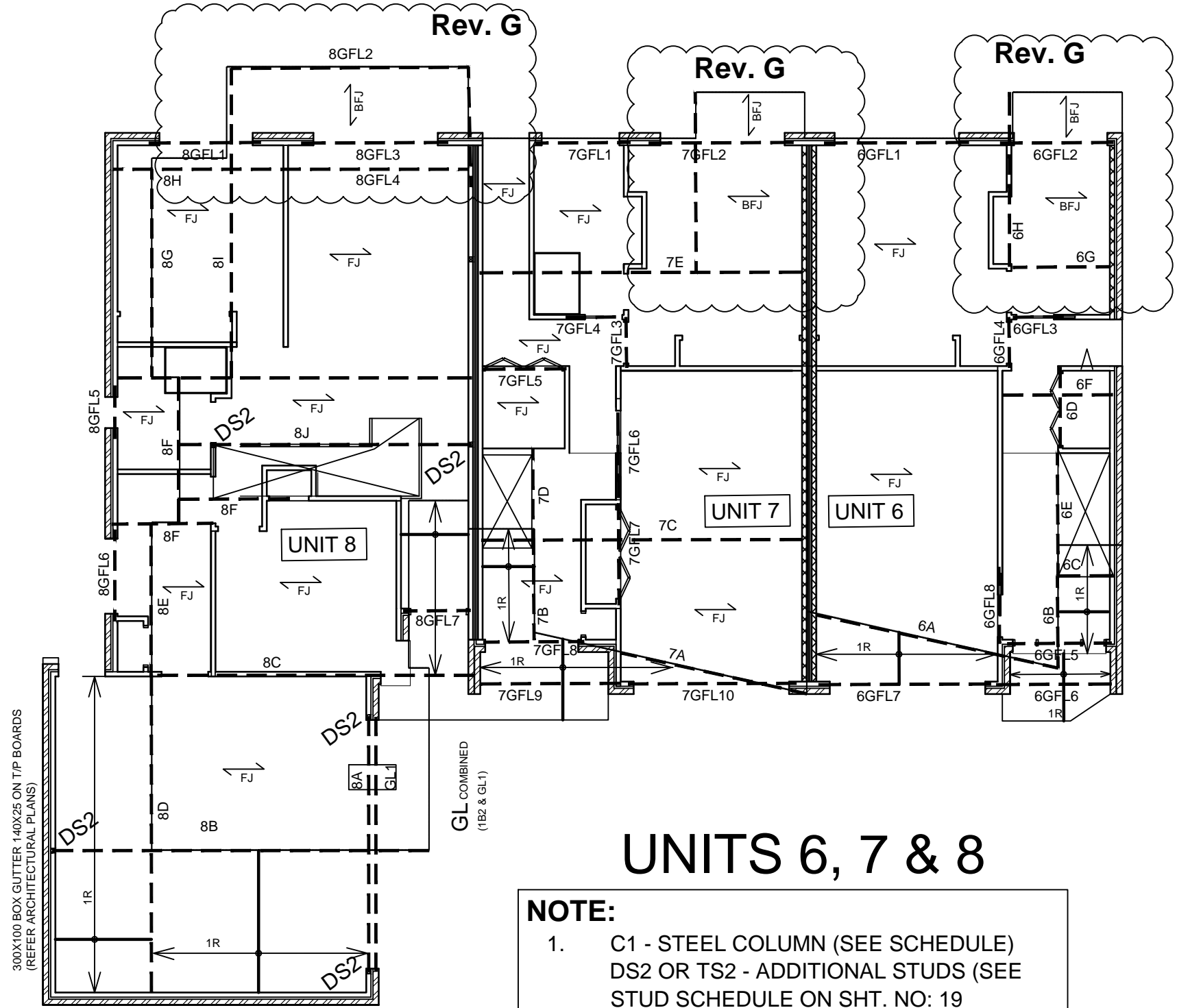
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SCALE: AS SHOWN

DATE: 18/09/2017



FIRST FLOOR & LOWER ROOF FRAMING PLAN - SCALE - 1 : 100



UNITS 6, 7 & 8

- NOTE:**
1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE STUD SCHEDULE ON SHT. NO: 19)
 2. BALCONIES TO HAVE TREATED TIMBER

FIRST FLOOR & LOWER ROOF MEMBER SCHEDULE

| MARK | SECTION | REMARKS/CONNECTIONS |
|---|--|-----------------------------|
| USE SEPARATE BEAMS (TIMBER/STEEL) OR COMBINED IN UNIT 8 OVER GARAGE ROLLER DOOR | | |
| 8A | 2/400X63 hySPAN | LAMINATE AS PER 1684.2 |
| OR | 200UB25.4 | G 300 |
| GL1 | 150X12 PL HOR. 200X10 PL VER. G300 | |
| GL2 | 240X10 PL HOR. 200X10 PL VER. G300 | |
| 8B | 2/450X63 hySPAN | LAMINATE AS PER 1684.2 |
| OR | 250UB31.4 | G 300 |
| 8C | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 8D | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 8E | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 8F | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 8G | 2/240X45 MGP12 | DOUBLE FLOOR JOISTS |
| 8H | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 8I | 2/240X45 MGP12 | DOUBLE FLOOR JOISTS |
| 8J | 360X63 hySPAN | |
| OR | 180UB22.2 | G 300 |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |
| USE STUDS AS PER TIMBER STUD SCHEDULE ON SHT NO: 19. WHERE, NO DSx MARK PROVIDED ON FRAMING PLAN USE DS1 AS PER SCHEDULE ON SHT. NO: 19 | | |

FIRST FLOOR & LOWER ROOF MEMBER SCHEDULE

| MARK | SECTION | REMARKS/CONNECTIONS |
|---|----------------|---------------------|
| 7A | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 7B | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 7C | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 7D | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 7E | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 7F | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6A | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6B | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6C | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6D | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6E | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6F | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6G | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6H | 2/240X45 MGP10 | DOUBLE FLOOR JOISTS |
| 6GFL1 = 2/190X45 MGP12 | | UNIT 6 - LINTELS |
| 6GFL2 = 190X45 MGP12 | | UNIT 6 - LINTELS |
| 6GFL3 = 6GFL4 = 6GFL6 = 6GFL8 = 140X45 MGP12 | | UNIT 6 - LINTELS |
| 6GFL5 = 6GFL7 = 190X45 MGP12 | | UNIT 6 - LINTELS |
| 7GFL1 = 7GFL7 = 7GFL8 = 7GFL10 = 190X45 MGP12 | | UNIT 7 - LINTELS |
| 7GFL2 = 2/190X45 MGP12 | | UNIT 7 - LINTELS |
| 7GFL3 = 7GFL4 = 7GFL5 = 7GFL6 = 7GFL9 = 140X45 MGP12 | | UNIT 7 - LINTELS |
| 8GFL1 = 8GFL2 = 8GFL3 = 190X45 MGP12 | | UNIT 8 - LINTELS |
| 8GFL4 = 2/240X45 MGP15 | | UNIT 8 - LINTELS |
| 8GFL5 = 90X45 MGP10 | | UNIT 8 - LINTELS |
| 8GFL6 = 8GFL7 = 140X45 MGP10 | | UNIT 8 - LINTELS |
| FJ = 240X45 MGP10 @ 450mm CRS (MAX.) BFL = 190X45 MGP10 @ 450mm CRS (MAX.) NOTE: BALCONY JOISTS TO BE TREATED & FALL OUTWARDS | | |

Rev. F

Rev. G

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

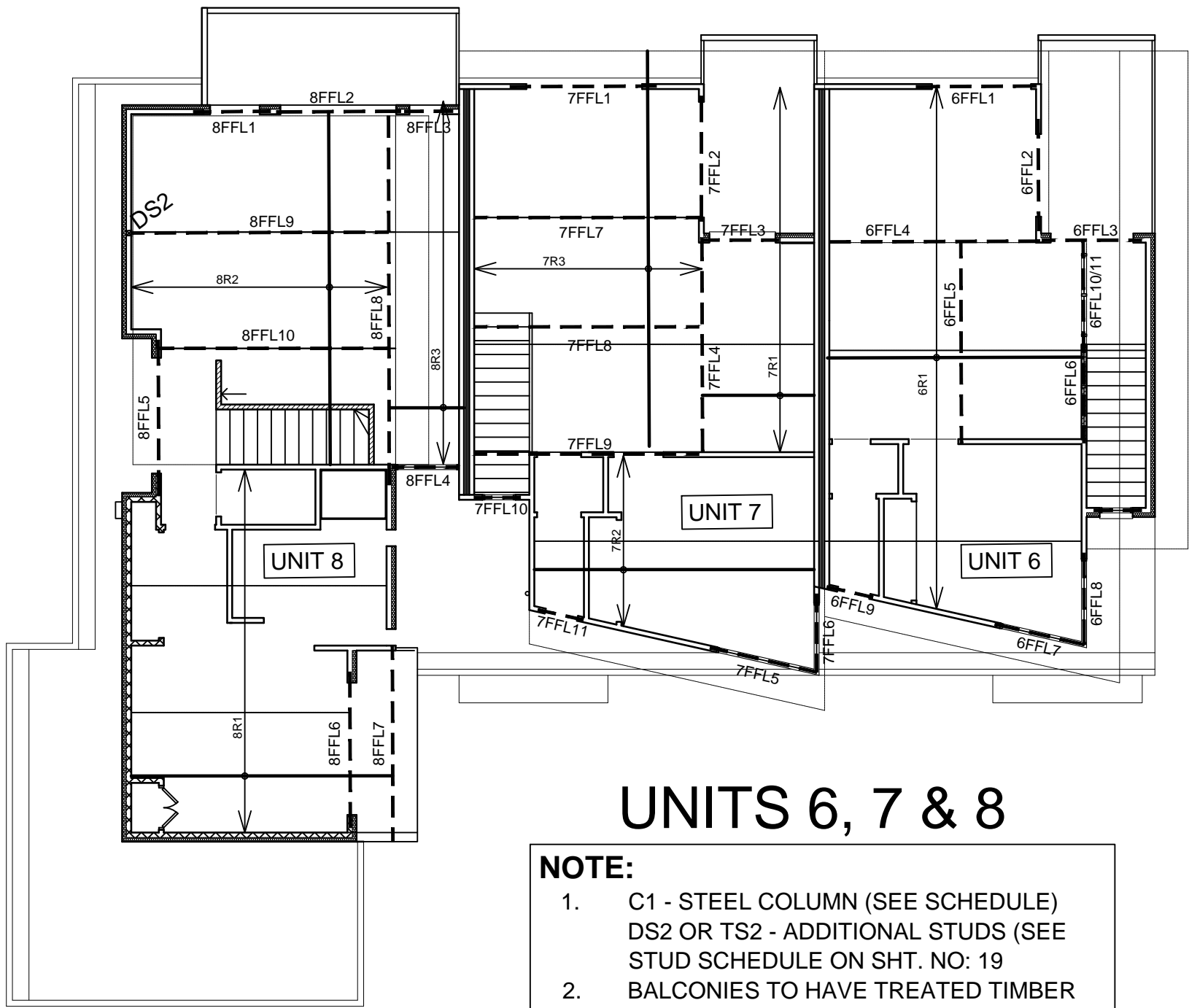
SHEET NO: 16/32

SCALE: AS SHOWN

DATE: 18/09/2017



ROOF FRAMING PLAN - SCALE - 1 : 100



NOTE:

1. C1 - STEEL COLUMN (SEE SCHEDULE)
DS2 OR TS2 - ADDITIONAL STUDS (SEE STUD SCHEDULE ON SHT. NO: 19)
2. BALCONIES TO HAVE TREATED TIMBER

| ROOF MEMBER SCHEDULE | | |
|---|--|-----------------------------|
| MARK | SECTION | REMARKS/CONNECTIONS |
| 6FFL1 = 6FFL2 = 6FFL3 = 6FFL7 = 6FFL8 = 6FFL9 = 140X45 MGP12 | | UNIT 6 - LINTELS |
| 6FFL10 = 6FFL11 = 120X45 MGP12 | | UNIT 6 - LINTELS |
| 6FFL4 = 6FFL6 = 200X63 HYPSPAN | | UNIT 6 - BEAMS |
| 6FFL5 = 250X75 F7 | | UNIT 6 - BEAMS |
| 6R1 = 170X45 MGP10 @600 CRS | | UNIT 6 - RAFTERS |
| 7FFL1 = 140X45 MGP12 | | UNIT 7 - LINTEL |
| 7FF2 = 190X45 MGP10 | | UNIT 7 - LINTEL |
| 7FFL3 = 140X45 MGP10 | | UNIT 7 - LINTEL |
| 7FFL4 = 240X45 MGP12 | | UNIT 7 - LINTEL |
| 7FFL5 = 140X45 MGP12 | | UNIT 7 - LINTEL |
| 7FFL6 = 140X45 MGP12 | | UNIT 7 - LINTEL |
| 7FFL10 = 7FFL11 = 90X45 MGP10 | | UNIT 7 - LINTEL |
| 7FFL7 = 7FFL8 = 7FFL9 = 300X75 F7 | | UNIT 7 - BEAMS |
| 7R1 = 90X45 MGP10 @600 CRS | | UNIT 7 - RAFTERS |
| 7R2 = 170X45 MGP10 @ 600 CRS | | UNIT 7 - RAFTERS |
| 7R3 = 90X45 MGP10 @ 450 CRS | | UNIT 7 - RAFTERS |
| 8FFL1 = 8FFL3 = 8FFL4 = 140X45 MGP12 | | UNIT 8 - LINTELS |
| 8FFL2 = 8FFL5 = 8FFL6 = 8FFL7 = 190X45 MGP12 | | UNIT 8 - LINTELS |
| 8FFL9 = 2/300 X45 HYPSPAN | | UNIT 8 - BEAM |
| 8FFL10 = 300X75 F7 | | BEAMS |
| 8R1 = 170X45 MGP10 @ 600 CRS | | UNIT 8 - RAFTERS |
| 8R2 = 90X45 MGP10 @ 600 CRS | | UNIT 8 - RAFTERS |
| 8R3 = 90X45 @ 600 CRS | | UNIT 8 - RAFTERS |
| DSx | REFER TO TIMBER STUD SCHEDULE ON SHT. NO: 19 | SAME APPLIES TO TSx/QSx/FSx |
| USE STUDS AS PER TIMBER STUD SCHEDULE ON SHT NO: 19. WHERE, NO DSx MARK PROVIDED ON FRAMING PLAN USE DS1 AS PER SCHEDULE ON SHT. NO: 19 | | |

Rev. F

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SHEET NO: 17/32

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DATE: 18/09/2017



FRAMING TIMBER MEMBER GRADES & SIZES

TIMBER FRAMING MEMBERS (U.N.O)

STUDS:

90X35 MGP10 AT 600 MAX CRS 1ST FLOOR (MAX. HEIGHT 2700mm)
90 x 35 MGP10 AT 450 MAX. CRS. (MAX. GROUND FLOOR HEIGHT 2700mm)
90 x 45 MGP10 AT 450 MAX. CRS. (HEIGHT 2700-3000mm)
90 x 45 MGP12 AT 450 MAX. CRS. (HEIGHT 3000-3600mm)
(NOGGINGS AT MIDHEIGHT)
2-90 x 45 MGP12 AT 450 MAX. CRS. (HEIGHT 3600-4200mm)
(NO NOTCHING OF STUDS)
(NOGGINGS AT 1/3 HEIGHT)

DOUBLE STUDS: 2-90 x 45 MGP10 STUDS U.N.O.

FIX END STUD WALL TO MASONRY WALLS WITH
M10 DYNABOLT AT TOP, BOTTOM AND 1200 MAX. CRS. TYPICAL

WALL PLATES:

UPPER STOREY: TOP PLATE - 1 X 45 x 90 MGP10 NOT TRENCHED
BTM PLATE - 45 x 90 MGP10 NOT TRENCHED
LOWER STOREY: TOP PLATE - 45 x 90 MGP10 NOT TRENCHED
BTM PLATE - 45 x 90 MGP10 NOT TRENCHED
FIXED TO SLAB WITH 75mm MASONRY NAILS AT 600mm MAX. CRS .
(FOLLOW TABLE 9.4 AS 1684.2)
REFER BRACING PLAN FOR FIXING REQUIREMENTS
PROVIDE DOUBLE TOP PLATES IF SUPPORTING METAL ROOF TRUSS

STUDS AT SIDE OPENINGS:

| | |
|------------------|-----------------|
| OPENING WIDTH | STUDS: |
| UP TO 1200MM | 1-90 x 35 MGP10 |
| 1200MM TO 1800MM | 2-90 x 45 MGP10 |
| 1800MM TO 2400MM | 2-90 x 45 MGP10 |

WALL BRACING:

BRACING OF ALL STUD WALLS TO BE IN ACCORDANCE WITH THE RESIDENTIAL TIMBER
FRAMING CONSTRUCTION AS 1684.2-2010. U.N.O.

FIXING REQUIREMENTS:

GENERAL: REFER TO AS1684.2-2010 RESIDENTIAL TIMBER FRAMING
CONSTRUCTION MANUAL TYPICAL FIXING REQUIREMENTS.

MINIMUM JOINT REQUIREMENTS FOR SHEET ROOF STRUCTURES:

| JOINT OR MEMBER: | MINIMUM FIXING DETAILS: |
|---|---|
| RAFTERS & PURLINS | METAL STRAPS, APPROVED FRAMING ANCHORS OR EQUIVALENT SHALL BE USED TO TIE RAFTERS TO TOP WALL PLATES AND TOP WALL PLATES TO STUDS (OR RAFTERS DIRECTY TO STUDS) WITH A MINIMUM OF 300MM x 3.15MM DIAMETER NAILS OR CLOUTS INTO THE SIDE GRAIN ON EACH MEMBER. MAXIMUM SPACINGS OF FASTENINGS SHALL BE 1800MM OR THREE STUD SPACINGS, WHICHEVER IS THE LESSER. |
| LARGE SPAN ROOF MEMBER (SUCH AS TRUSSES OR ROOF BEAMS OF SPAN 6000MM OR GREATER). | AS FOR RAFTERS & PURLINS SPACINGS OF FASTNINGS SHALL NOT EXCEED THE SPACING OF THE ROOF MEMBERS. |

FIXING FOR STRUCTURES IN AREAS SUBJECT TO RELATIVELY HIGH WINDS:

GENERAL: REFER TO AS1684.2 -2010 RESIDENTIAL TIMBER FRAMING CONSTRUCTION MANUAL
ADDITIONAL FIXING REQUIREMENTS.

NOTE: EQUIVALENT TIMBER GRADE CAN BE USED TO
REPLACE TIMBER GRADES SPECIFIED

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8 RESIDENTIAL UNITS
DEVELOPMENT
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183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

SHEET NO: 18/32

SCALE: AS SHOWN

DATE: 18/09/2017



TIMBER LINTEL, STUD SCHEDULES & TIMBER GRADES CONVERSION TABLE

| | | | | | | | | | | | | |
|---|---------------------|-------|-----------|-----------|--------|-------|-----------|-----------|-------|-----------|-------|-----------|
| ALL STUDS SHALL BE NAIL LAMINATED IN ACCORDANCE WITH AS1684.2 | | DS1 | DS2 | DS3 | DS4 | TS1 | TS2 | TS3 | QS1 | QS2 | FS1 | FS2 |
| | | 90x45 | 90x45 | 70x45 | 120x45 | 90x45 | 90x45 | 70x45 | 90x45 | 90x45 | 90x45 | 90x45 |
| | | MGP10 | F17 KD HW | F17 KD HW | MGP10 | MGP10 | F17 KD HW | F17 KD HW | MGP10 | F17 KD HW | MGP10 | F17 KD HW |
| LINTEL | NO. OF BEARING STUD | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| | NO. OF JAMB STUD | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| BEAM | NO. OF BEARING STUD | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 |

| TIMBER BEAM/LINTEL CONVERSION TABLE | | | |
|--|------------------|------------------------|------------------------|
| NOTE: ALTERNATIVE SIZE MEMBER CANNOT BE CONVERTED TO THE GIVEN SIZE MEMBER BUILDER MUST CHECK WITH ENGINEER BEFORE SUBSTITUTION | | | |
| GIVEN SIZE | ALTERNATIVE SIZE | | |
| | SMARTLVL 15 | F17 KD HW | HYSpan - LVL |
| 90 x 45 F17 HD HW | 130 x 42 | --- | 150 x 45 |
| 140 x 45 F17 HD HW | 150 x 42 | --- | 150 x 45 |
| 190 x 45 F17 HD HW | 200 x 42 | --- | 200 x 45 |
| 240 x 45 F17 HD HW | 240 x 42 | | 240 x 63 |
| 290 x 45 F17 HD HW | 300 x 42 | --- | 300 x 45 |
| 130 x 42 SMARTLVL 15 | --- | 190 x 45 | 150 x 45 |
| 150 x 42 SMARTLVL 15 | --- | 190 x 45 OR 2-140 x 45 | 200 x 45 |
| 150 x 58 SMARTLVL 15 | --- | 2-140 x 45 | 200 x 45 |
| 200 x 42 SMARTLVL 15 | --- | 240 x 45 OR 2-190 x 45 | 240 x 63 OR 2-200 x 45 |
| 200 x 58 SMARTLVL 15 | --- | 2-190 x 45 | 240 x 63 OR 2-200 x 45 |
| 240 x 42 SMARTLVL 15 | --- | 290 x 45 OR 2-240 x 45 | 240 x 63 OR 2-200 x 45 |
| 240 x 58 SMARTLVL 15 | --- | 2-240 x 45 | 300 x 45 |
| 300 x 42 SMARTLVL 15 | --- | 2-290 x 45 | 360 x 45 OR 2-300 x 45 |
| 300 x 58 SMARTLVL 15 | --- | 2-290 x 45 | 360 x 63 OR 2-300 x 45 |
| 360 x 42 SMARTLVL 15 | --- | 2-290 x 45 | 360 x 63 OR 2-300 x 45 |
| 360 x 58 SMARTLVL 15 | --- | | 400 x 63 OR 2-360 x 63 |

| ANGLE LINTEL TABLE (BL) | | |
|-------------------------|-------------------|--|
| ANGLE LINTEL SPAN (mm) | BRICK HEIGHT | |
| | 800mm MAX. | 3200mm MAX. |
| 0 - 900 | 100 x 100 x 6 EA | 100 x 100 x 8 EA |
| 901 - 1600 | 100 x 100 x 6 EA | 100 x 100 x 10 EA |
| 1601 - 2100 | 100 x 100 x 6 EA | 150 x 100 x 10 UA |
| 2101 - 2600 | 150 x 100 x 8 UA | 150 x 100 x 10 UA + 50 x 10 EXT. PL |
| 2601 - 3100 | 150 x 100 x 8 UA | 150 x 100 x 12 UA + 75 x 12 EXT. PL |
| 3101 - 3600 | 150 x 100 x 12 UA | N/A |

- NOTES:
- 1. ANGLE LINTEL TO EACH MASONRY SKIN TYPICAL
 - 2. SET ANGLES WITH LONG LEG VERTICAL TYPICAL U.N.O.
 - 3. HOT DIP GALVANISED TO ALL EXPOSED ANGLE LINTELS TYPICAL

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DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
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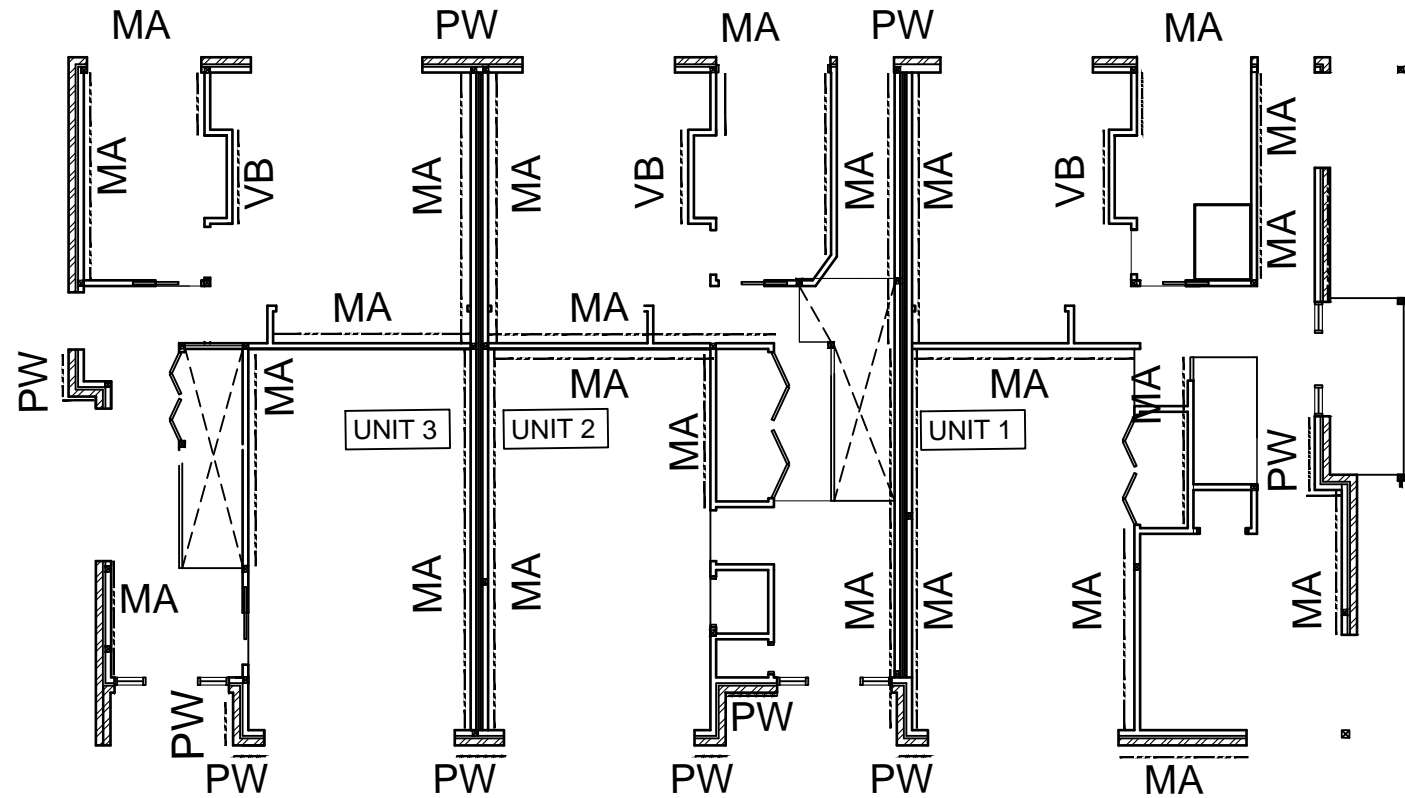
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SCALE: AS SHOWN

DATE: 18/09/2017



BRACING PLANS
UNITS 1, 2, & 3 - NTS



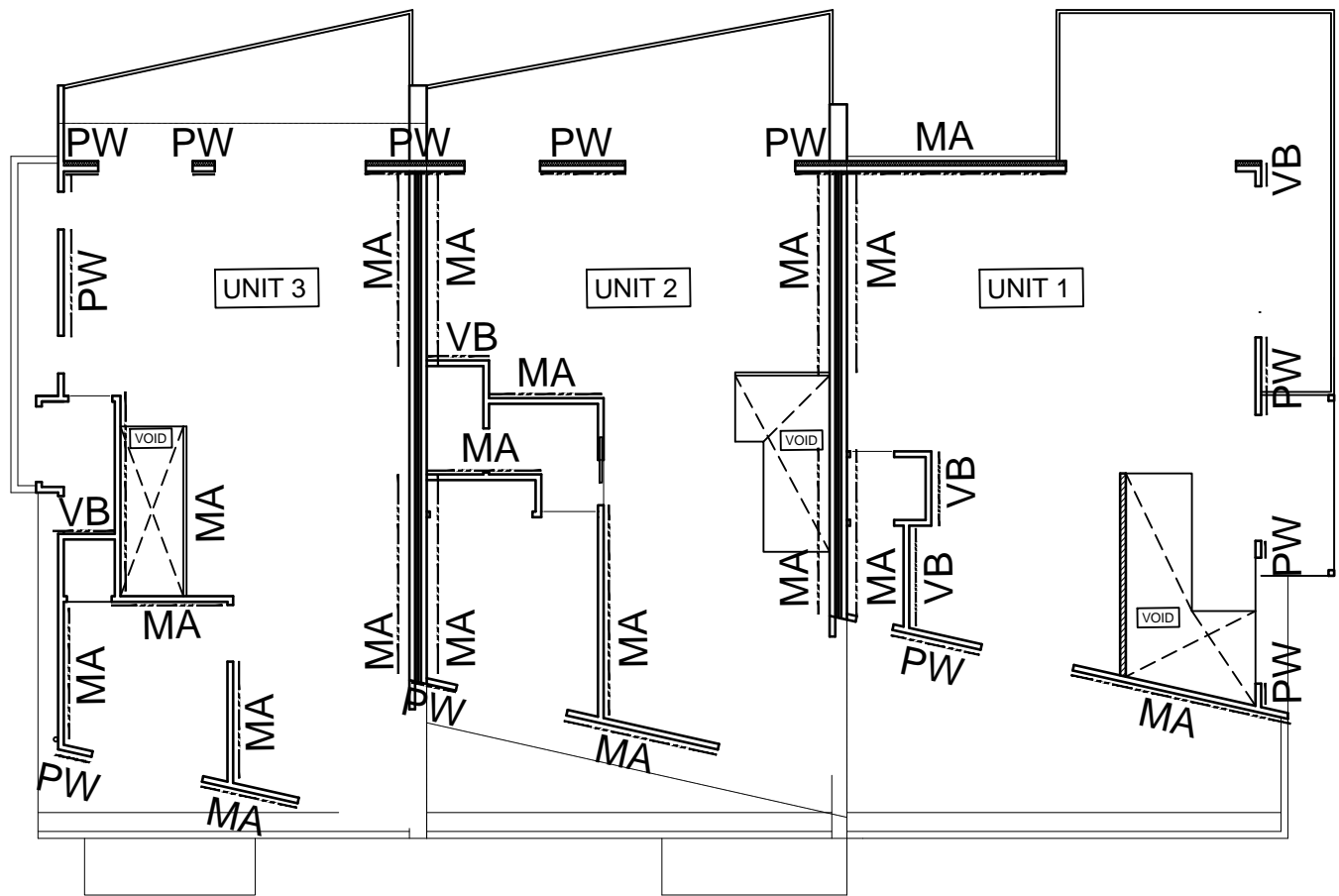
GROUND STOREY

LEGEND

- 1. MA - METAL ANGLE - MIN. 1.5 KN/m
- 2. PW - PLY WOOD - MIN. 3.4 KN/m
- 3. VB - 6mm VILLABOARDS - MIN. 1.0 KN/m (JAMES HARDIE OR SIMILAR FOLLOW MANUF'S MANUAL)

FOLLOW AS 1684.2 TABLE 8.18 FOR SELECTION & FIXING DETAIL FOR BRACING

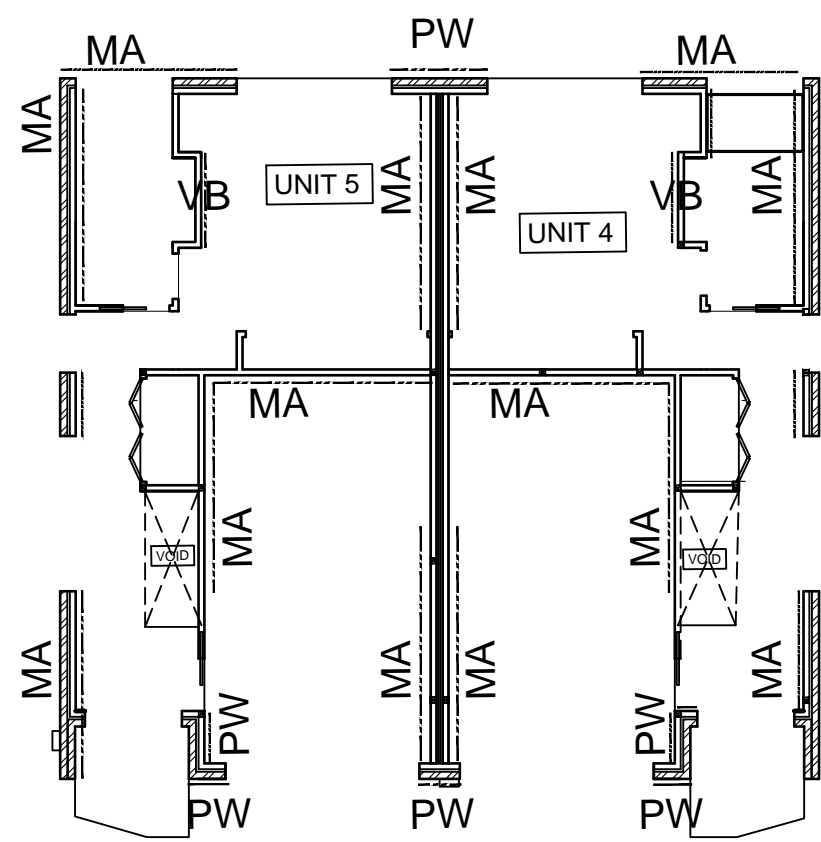
WIND ANALYSIS
REGION = A
TERRAIN CATEGORY = 2
SHIELDING = PS
TOPOGRAPHY = T1
WIND CLASSIFICATION = N2
WIND PRESSURE
SERVICEABILITY LIMIT = 700 Pa
ULTIMATE LIMIT = 1000Pa
WATER PENETRATION = 150Pa



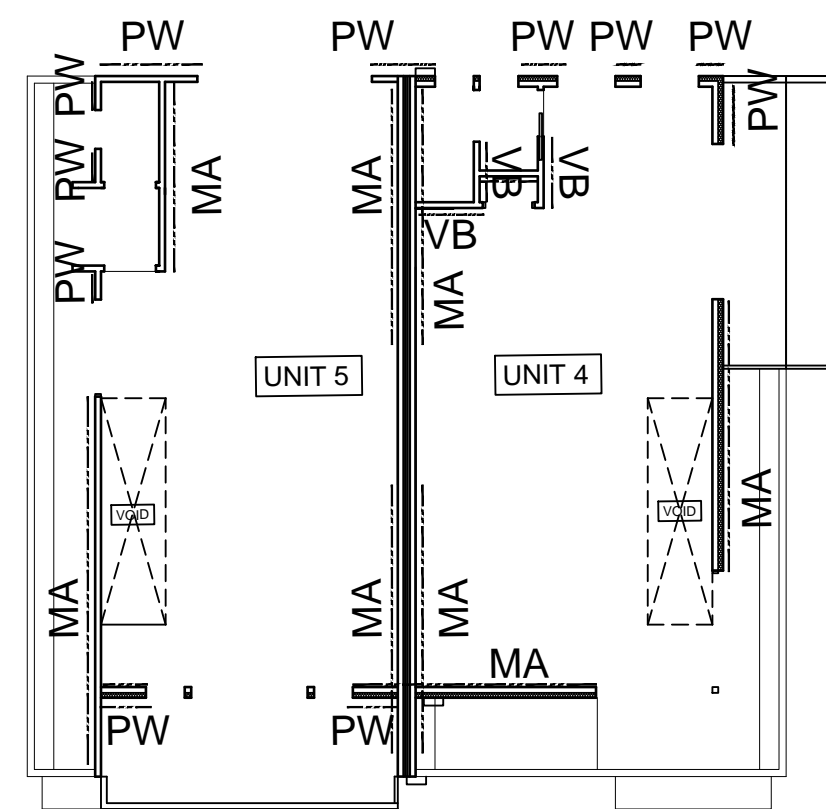
FIRST STOREY

| | | | | | |
|---|---|---|---|---|--|
| <p>CLIENT: PROFILE HOMES SAM TOBOLOV</p> <p>JOB NO: PROFILE/DEV/2017/1</p> | <p>WB CIVIL STRUCTURAL ENGINEERS & BUILDERS ABN: 84119322436 OFFICE: NO: 9, NUMERING COURT, MELTON, VIC 3337 Mobile: 0401023328 / Ph: 03 9746 0089 Email: priyan@wbce.com.au</p> | <p>REGISTERED ENGINEER REGISTERED BUILDER VICTORIAN BUILDING AUTHORITY</p> <p>PRIYAN WIJEYERATNE EC 19060, D-BU 22220 M.I.E.(AUST)., C.P.ENG. M.Eng(Struct)., M.Tech.(Mgt.), BSc(Civil)</p> | <p>PROJECT: 8 RESIDENTIAL UNITS DEVELOPMENT PROJECT ADDRESS: 183 GREAT OCEAN ROAD, APOLLO BAY VIC 3233</p> | <p>SHEET NO: 20/32</p> <p>SCALE: AS SHOWN</p> <p>DATE: 18/09/2017</p> | |
|---|---|---|---|---|--|

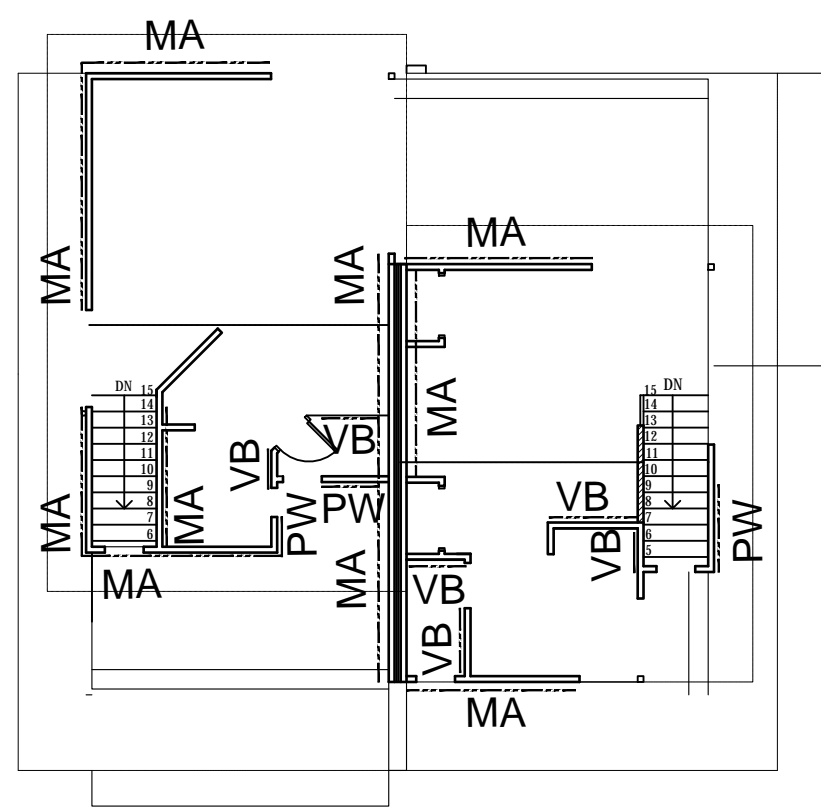
BRACING PLANS 4 & 5 - NTS



GROUND STOREY



FIRST STOREY



SECOND STOREY

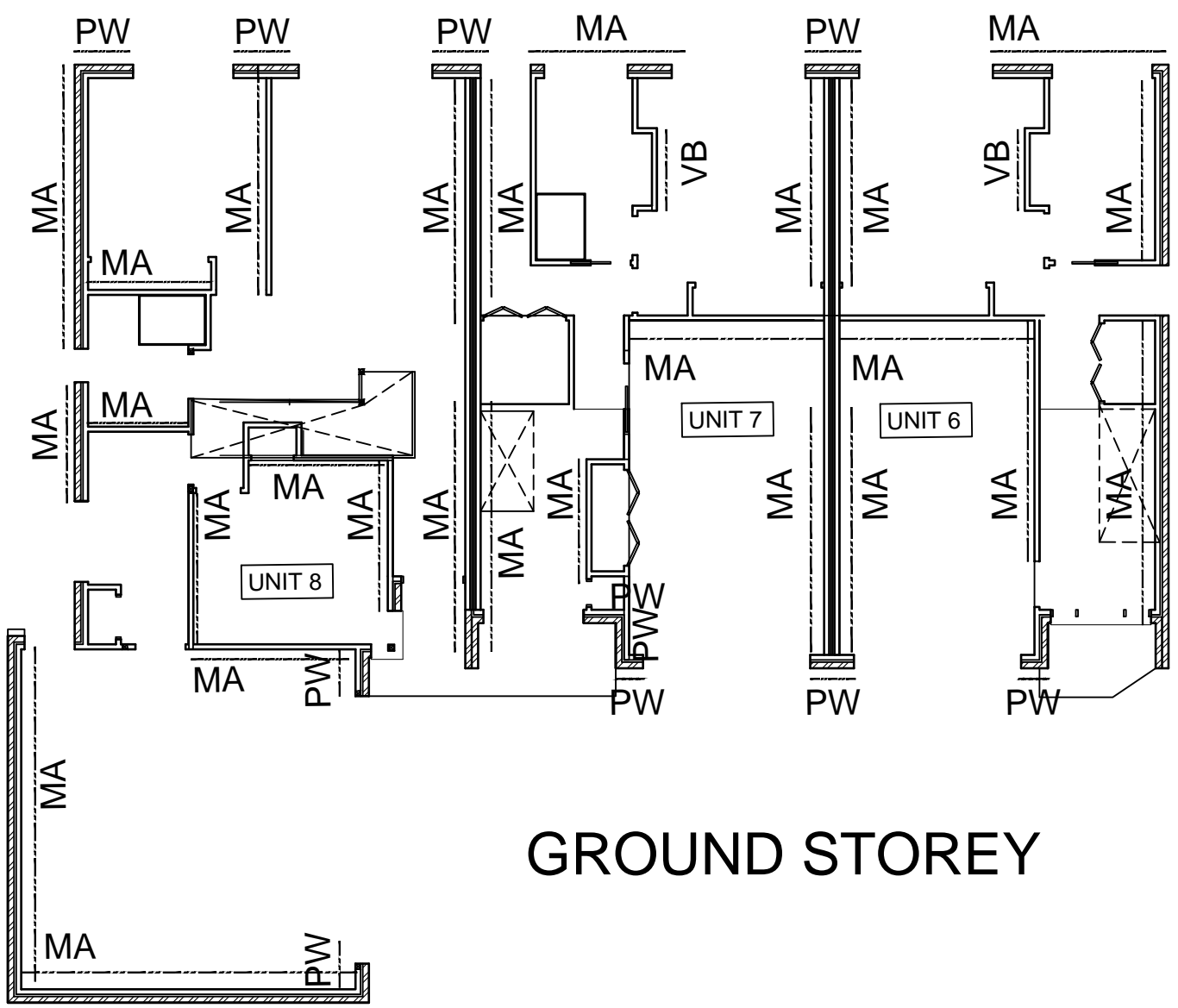
LEGEND

- 1. MA - METAL ANGLE - MIN. 1.5 KN/m
- 2. PW - PLY WOOD - MIN. 3.4 KN/m
- 3. VB - 6mm VILLABOARDS - MIN. 1.0 KN/m (JAMES HARDIE OR SIMILAR FOLLOW MANUF'S MANUAL)

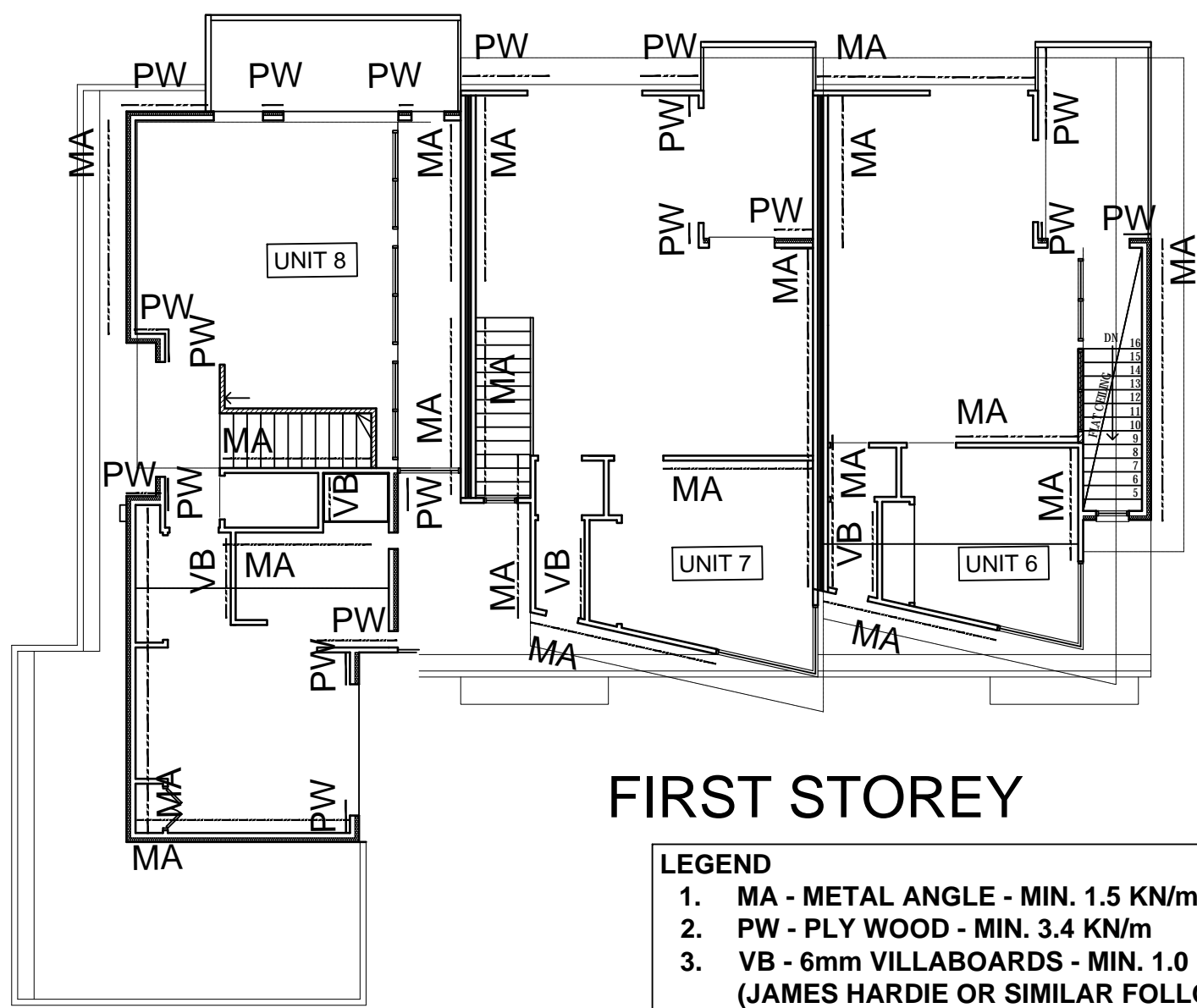
FOLLOW AS 1684.2 TABLE 8.18 FOR SELECTION & FIXING DETAIL FOR BRACING

WIND ANALYSIS
REGION = A
TERRAIN CATEGORY = 2
SHIELDING = PS
TOPOGRAPHY = T1
WIND CLASSIFICATION = N2
WIND PRESSURE
SERVICEABILITY LIMIT = 700 Pa
ULTIMATE LIMIT = 1000Pa
WATER PENETRATION = 150Pa

BRACING PLANS 6, 7, & 8 - NTS



GROUND STOREY



FIRST STOREY

LEGEND

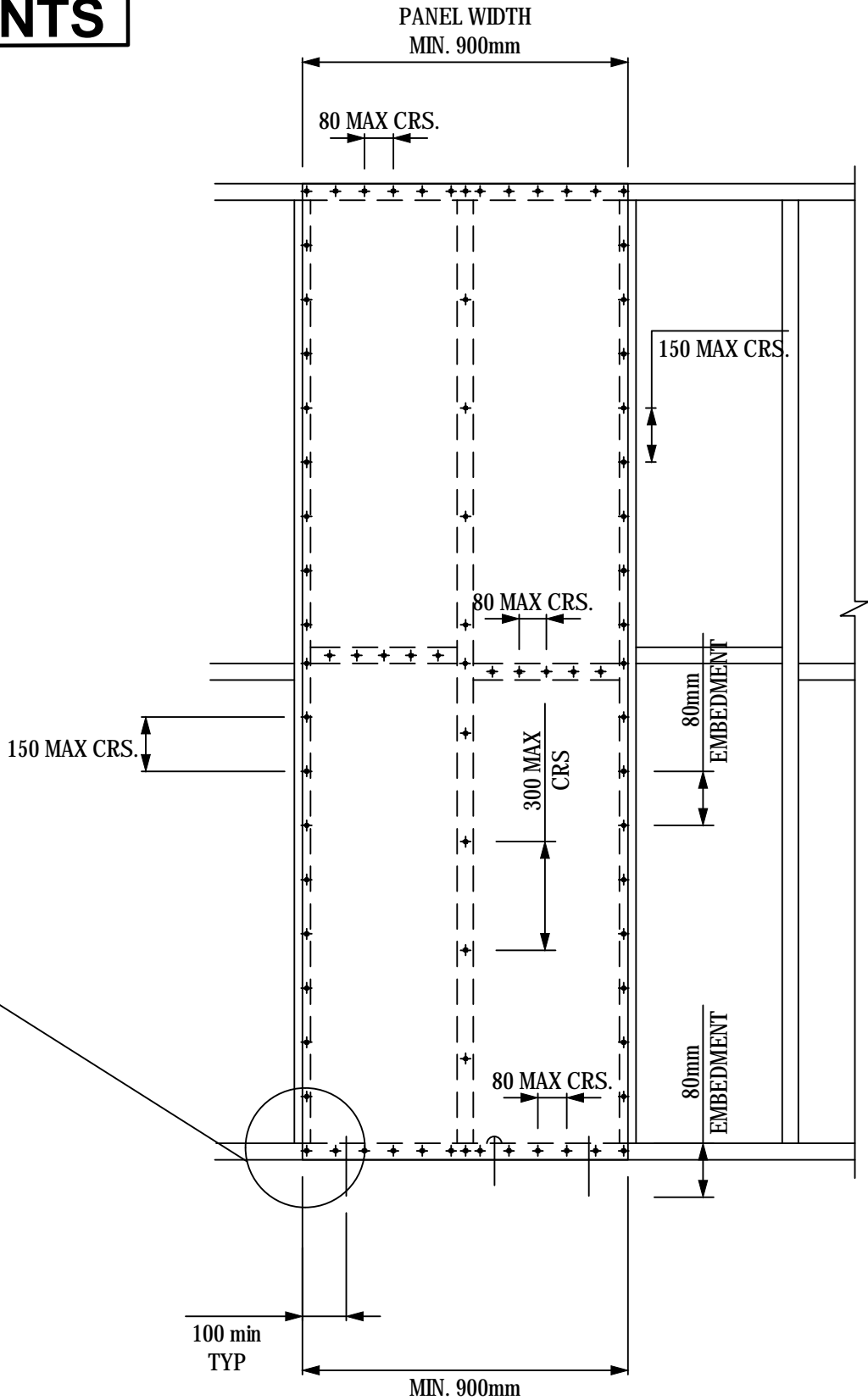
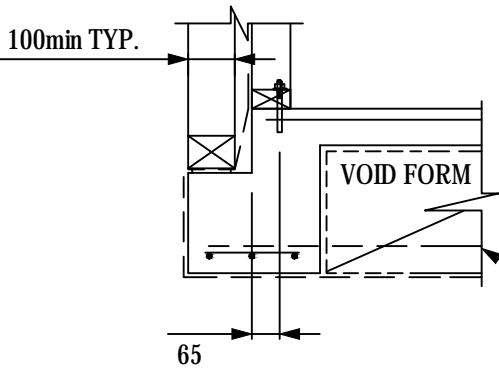
1. MA - METAL ANGLE - MIN. 1.5 KN/m
2. PW - PLY WOOD - MIN. 3.4 KN/m
3. VB - 6mm VILLABOARDS - MIN. 1.0 KN/m
(JAMES HARDIE OR SIMILAR FOLLOW MANUF'S MANUAL)

FOLLOW AS 1684.2 TABLE 8.18 FOR SELECTION & FIXING DETAIL FOR BRACING

WIND ANALYSIS
 REGION = A
 TERRAIN CATEGORY = 2
 SHIELDING = PS
 TOPOGRAPHY = T1
 WIND CLASSIFICATION = N2
 WIND PRESSURE
 SERVICEABILITY LIMIT = 700 Pa
 ULTIMATE LIMIT = 1000Pa
 WATER PENETRATION = 150Pa

WALL BRACING TYPES - TYPICAL 1 - NTS

BRACING WALL PLATE TO CONCRETE
SLAB FIXING DETAIL (END FIXING)



| MINIMUM PLYWOOD THICKNESS (mm) | | |
|--------------------------------|--------------|-----|
| STRESS GRADE | STUD SPACING | |
| | 450 | 600 |
| F8 | 7 | 7 |
| F11 | 4.5 | 4.5 |
| F14 | 4 | 4 |
| F27 | 3 | 3 |

NOTE:
PLYWOOD SHALL BE NAILED TO FRAME
USING 30X2.8Ø GALV. FLAT HEAD NAILS @
CRS INDICATED ON FIGURE.

PLYWOOD BRACING SYSTEM - PW
(BRACING CAPACITY - 3.4kN/m)

CLIENT:
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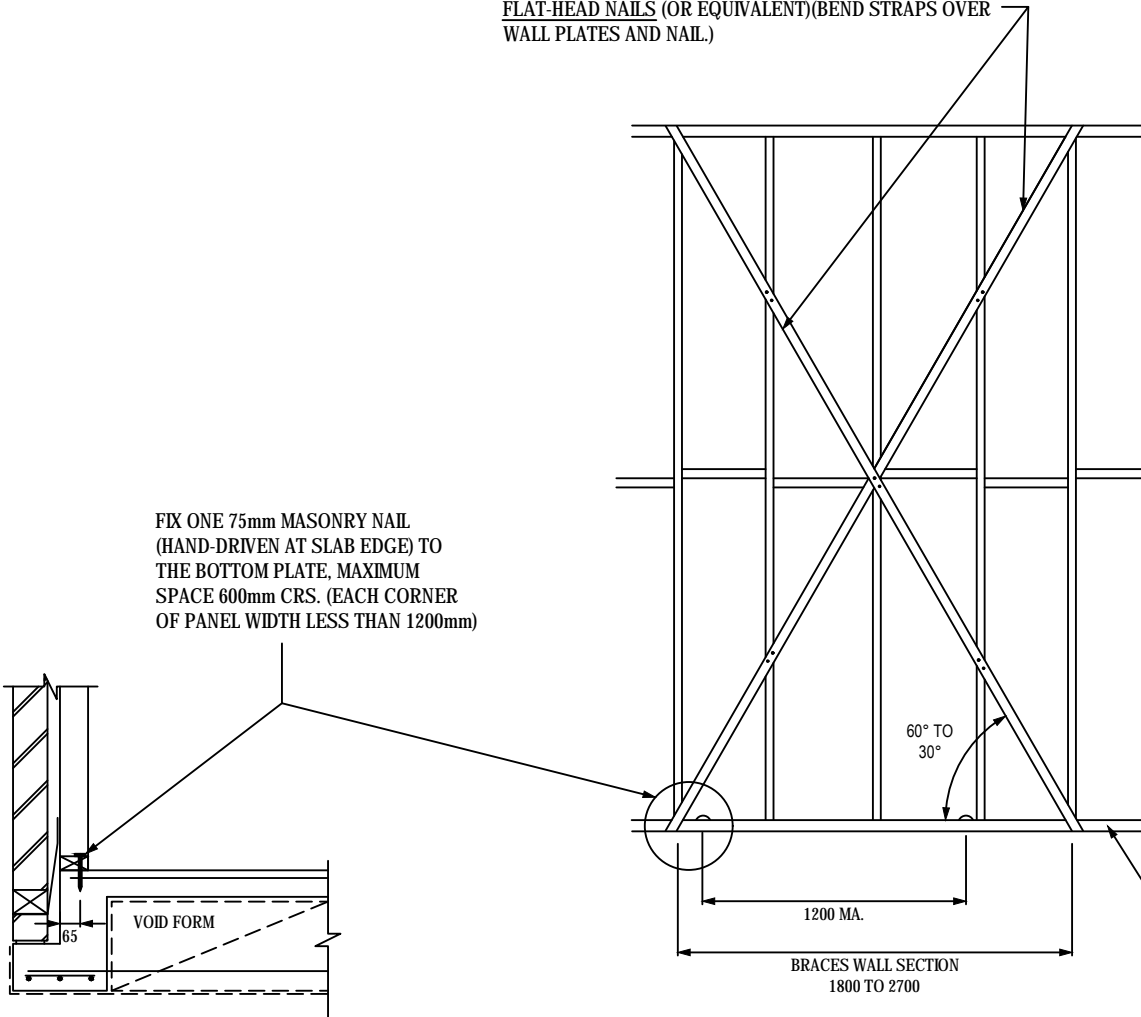
SHEET NO: 23/32

SCALE: AS SHOWN

DATE: 18/09/2017

WALL BRACING TYPES - TYPICAL 2 - NTS

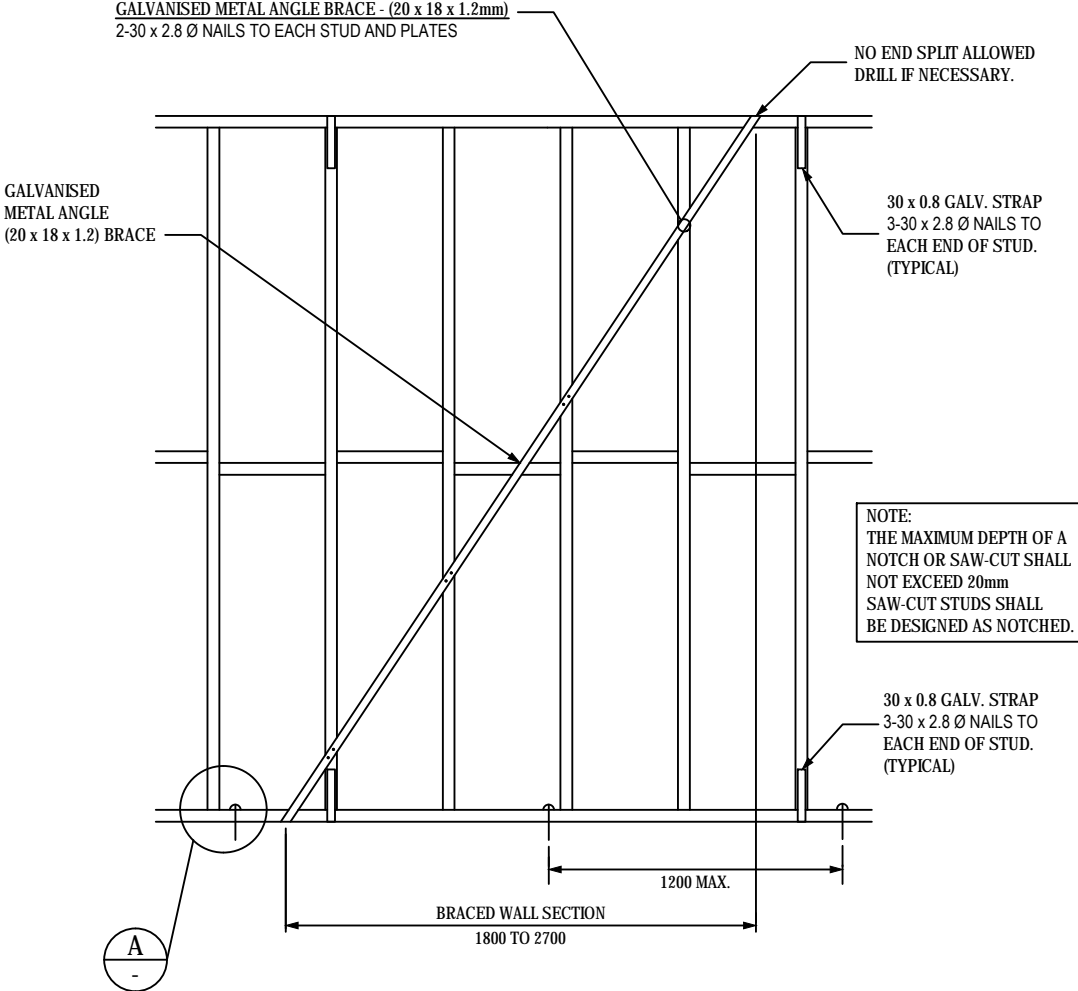
TENSIONED GALVANISED METAL STRAPS
WITH MINIMUM THICKNESS OF 0.8mm AND MINIMUM NET
SECTION OF 15.2mm².
FIXED TO STUDS WITH 1/30x2.8Ø GALVANISED
FLAT PLATES WITH 3/30 x 2.8Ø GALVANISED
FLAT-HEAD NAILS (OR EQUIVALENT)(BEND STRAPS OVER
WALL PLATES AND NAIL.)



**DOUBLE DIAGONAL METAL TENSION STRAPS
BRACING SYSTEM - MA
(BRACING CAPACITY - 1.5kN/m)**

FIX BOTTOM PLATE TO FLOOR
FRAME OR SLAB WITH NOMINAL
FIXING ONLY (SEE AS1684.2
TABLE 9.4)

OR



**DIAGONAL METAL ANGLE BRACES
(BRACING CAPACITY - 1.5kN/m)
DENOTED AS 'MA' ON PLAN**

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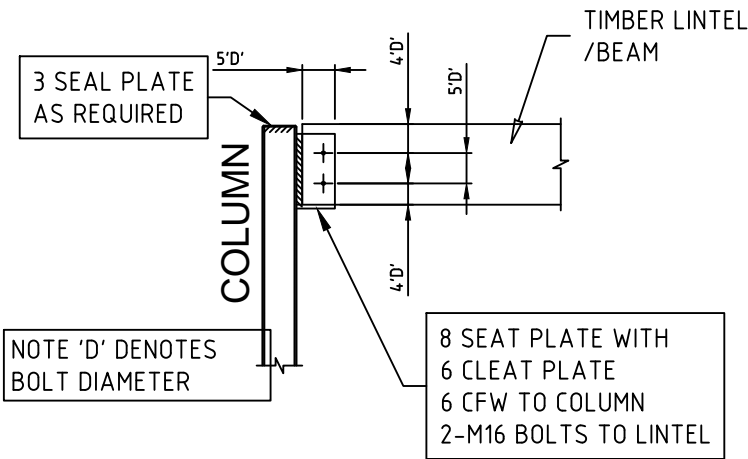
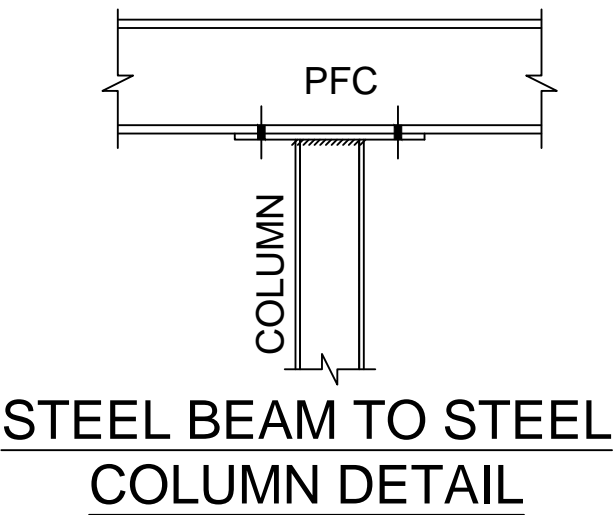
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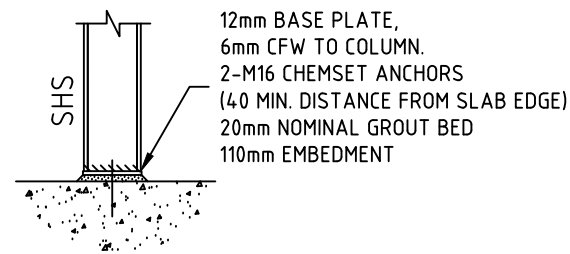
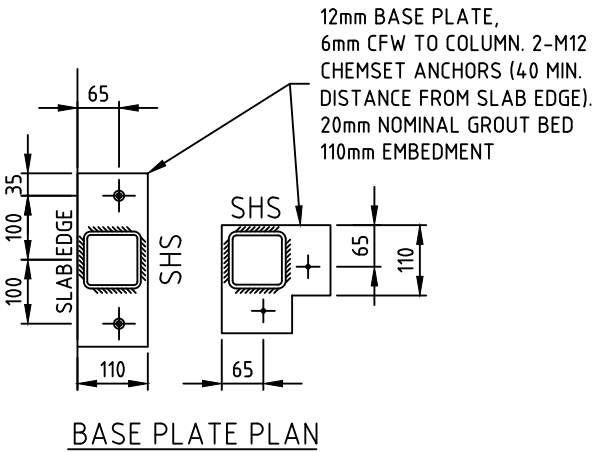
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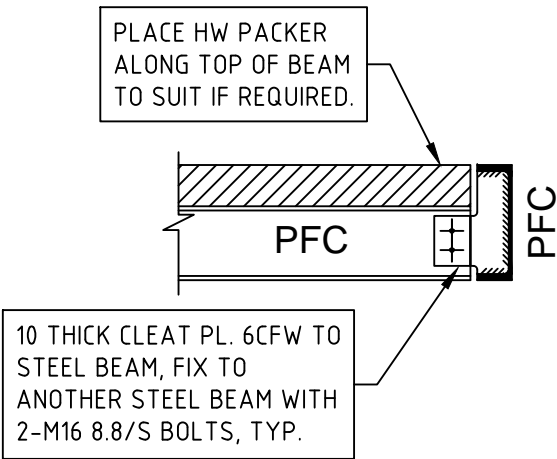
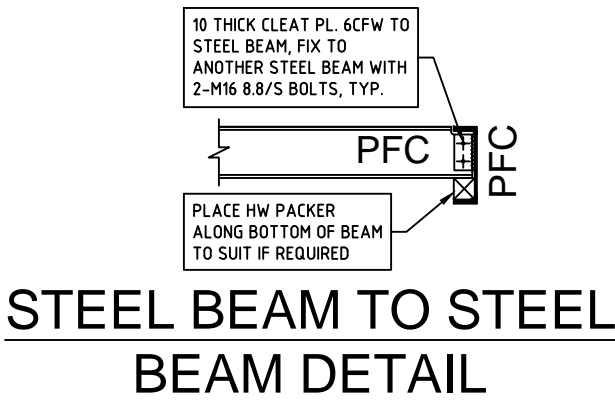
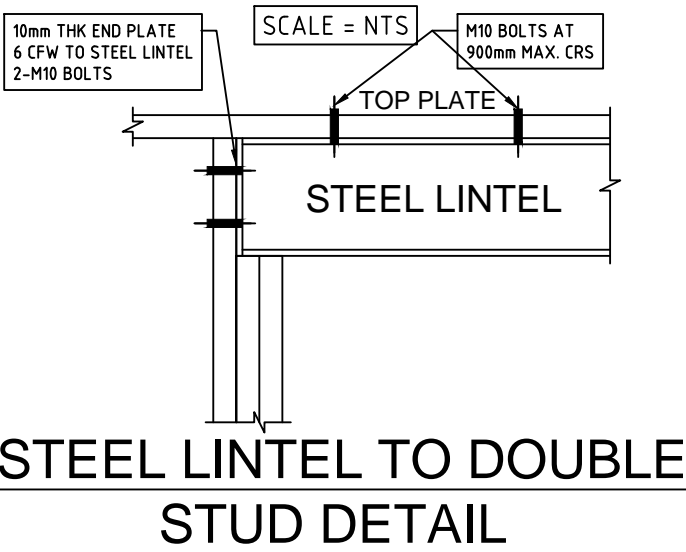
TYPICAL MEMBER JOINTS & STEEL COLUMN BASE PLATE DETAIL 1 - NTS



TIMBER BEAM/LINTEL TO COLUMN CONNECTION DETAIL



TYPICAL COLUMN BASE CONNECTION DETAILS



STEEL BEAM TO STEEL BEAM DETAIL

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M.Eng(Struct)., M.Tech.(Mgt.), BSc(Civil)

PROJECT:
8 RESIDENTIAL UNITS
DEVELOPMENT
PROJECT ADDRESS:
183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

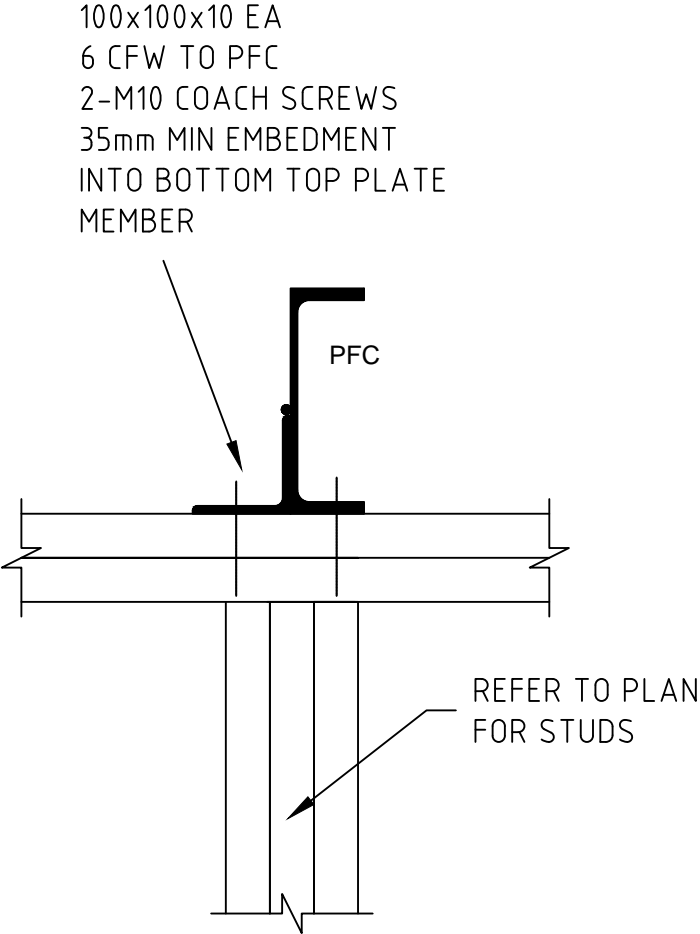
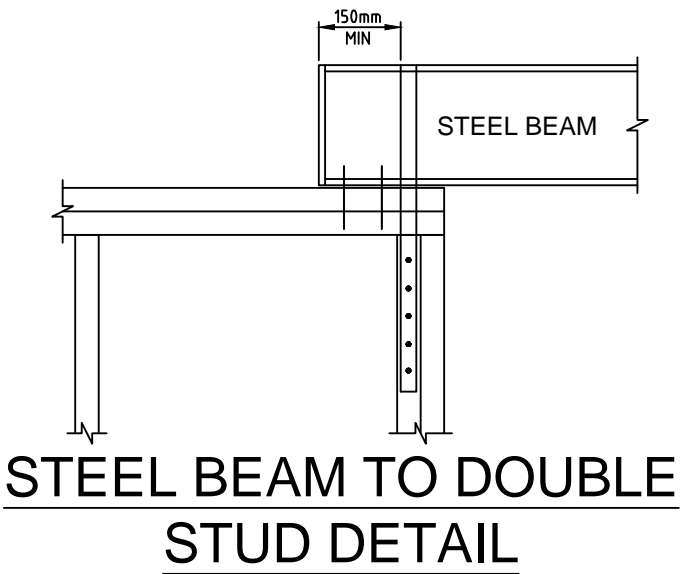
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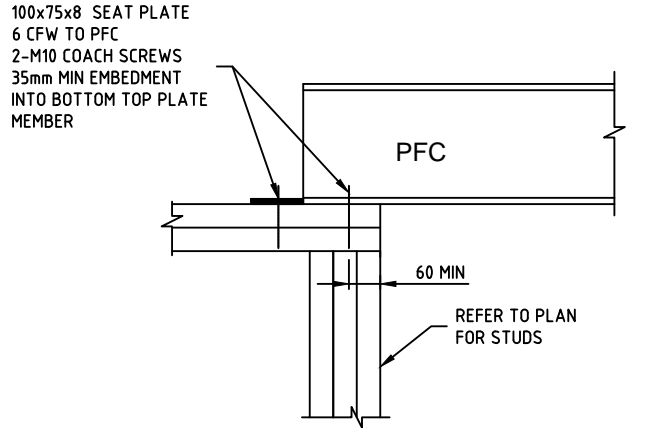
DATE: 18/09/2017



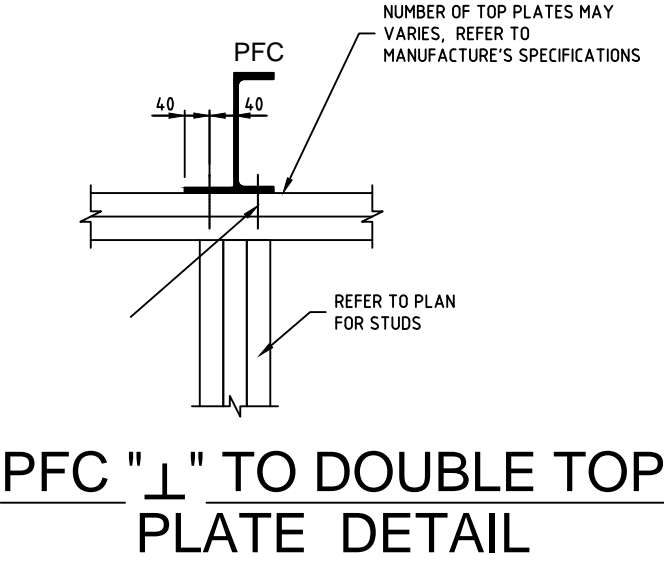
TYPICAL MEMBER JOINT DETAIL 2 - NTS



PFC PERPENDICULAR TO TOP
PLATE DETAIL



PFC PARALLEL TO TOP
PLATE DETAIL



CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

**WB CIVIL STRUCTURAL
ENGINEERS**
ENGINEERS & BUILDERS
ABN: 84119322436
OFFICE:
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REGISTERED ENGINEER
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PROJECT:
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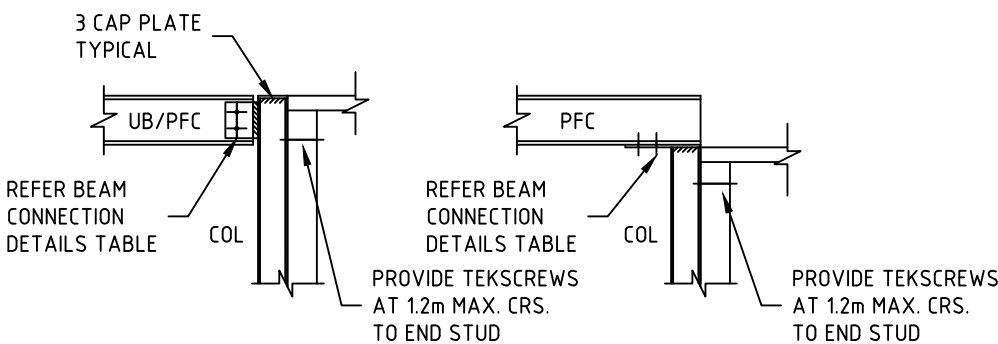
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DATE: 18/09/2017

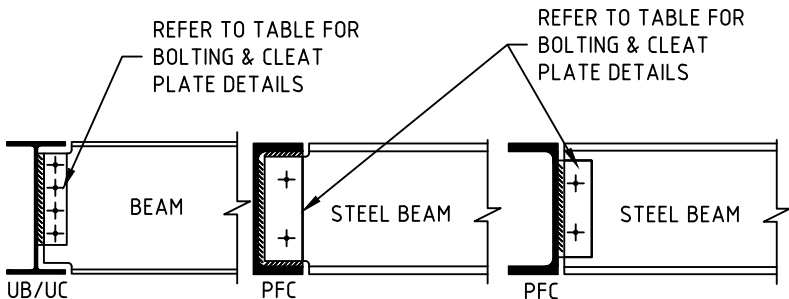


TYPICAL MEMBER JOINT DETAIL 3 - NTS



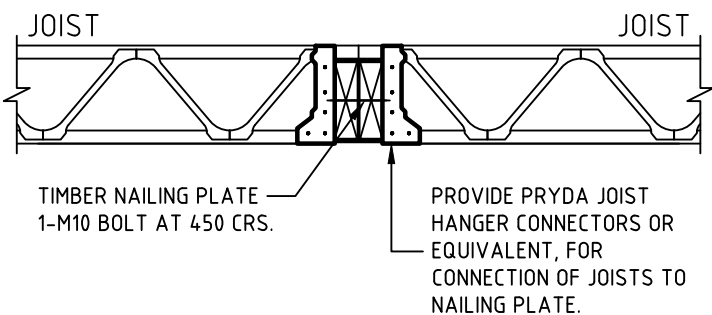
STANDARD STEEL BEAM TO COLUMN DETAILS

- NOTE:
- 1. DETAILS ARE TO BE USED UNLESS NOTED OTHERWISE ON THE DRAWINGS TYPICAL
 - 2. TOP PLATE LOCATION IS INDICATIVE ONLY

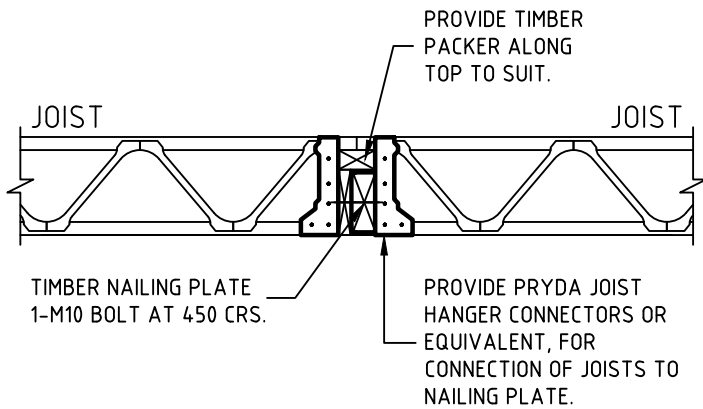


| BEAM CONNECTION DETAILS | | |
|--|-------------------|-----------------------|
| MEMBER SIZE | BOLTS REQUIRED | CLEAT PLATE THICKNESS |
| UPTO 200UB/PFC | 2-M16 8.8/S BOLTS | 10mm |
| UPTO 250UB/PFC | 2-M16 8.8/S BOLTS | 10mm |
| UPTO 360UB/PFC | 3-M20 8.8/S BOLTS | 10mm |
| NOTE: TYPICAL FOR ALL CONNECTIONS (U.N.O. ON DETAILS). | | |

STEEL BEAM TO STEEL BEAM CONNECTION DETAILS



FLOOR JOISTS TO STEEL BEAM CONNECTION DETAIL



FLOOR JOISTS TO STEEL BEAM CONNECTION DETAIL

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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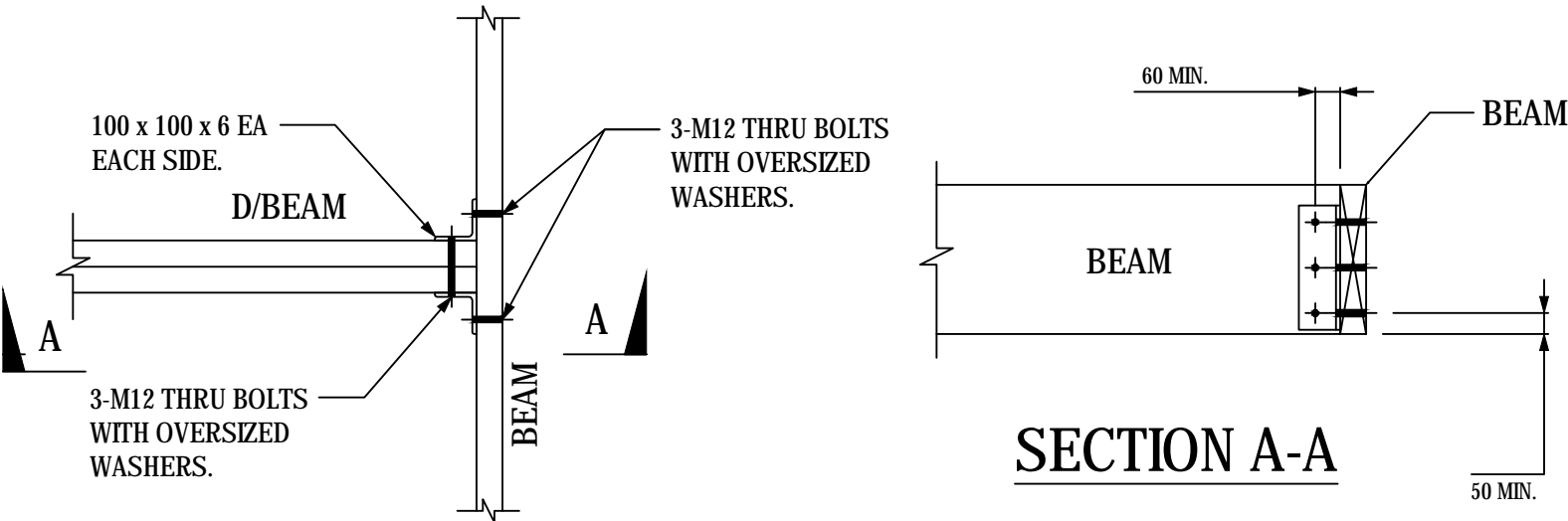
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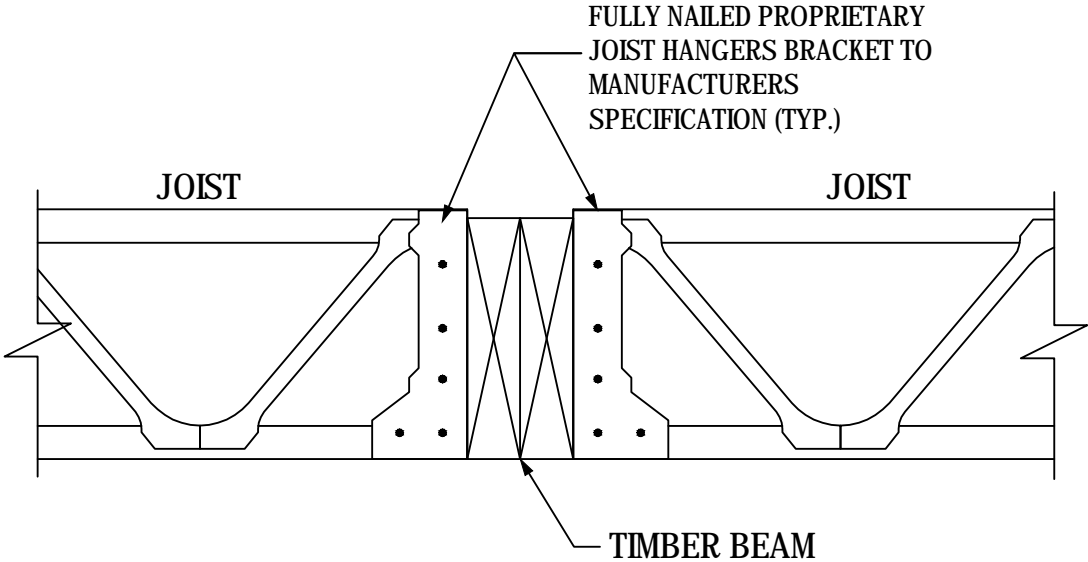
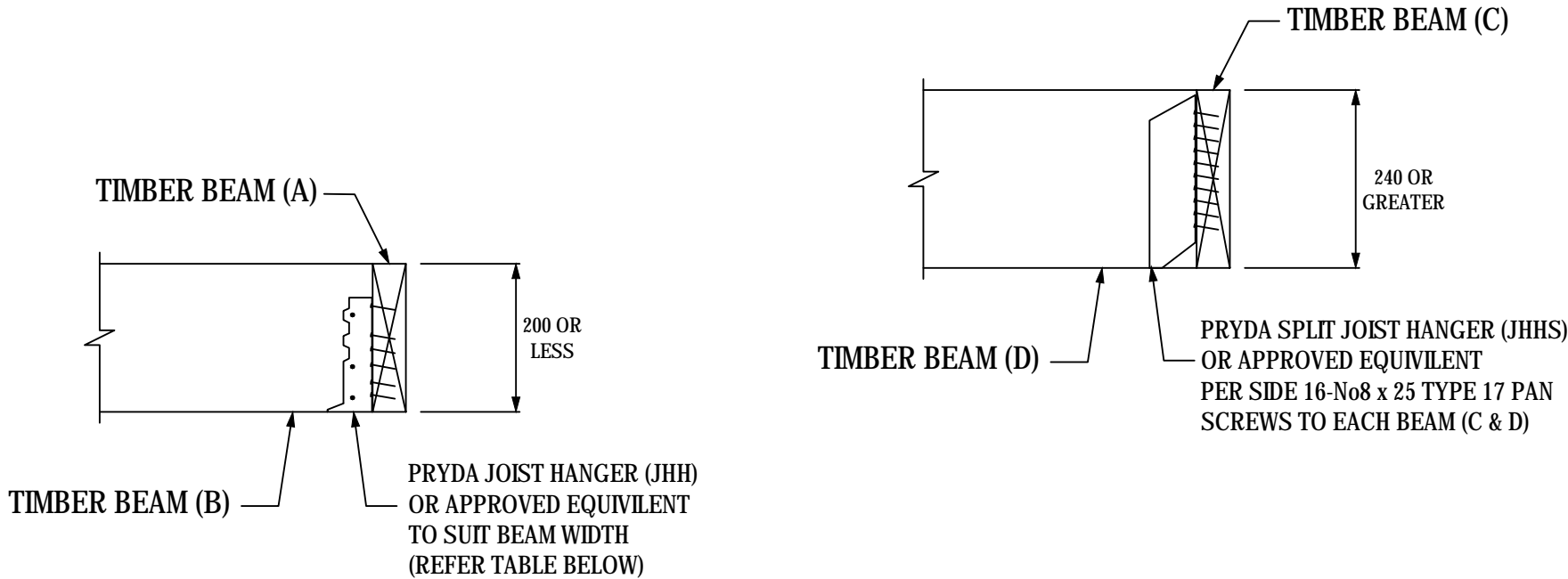
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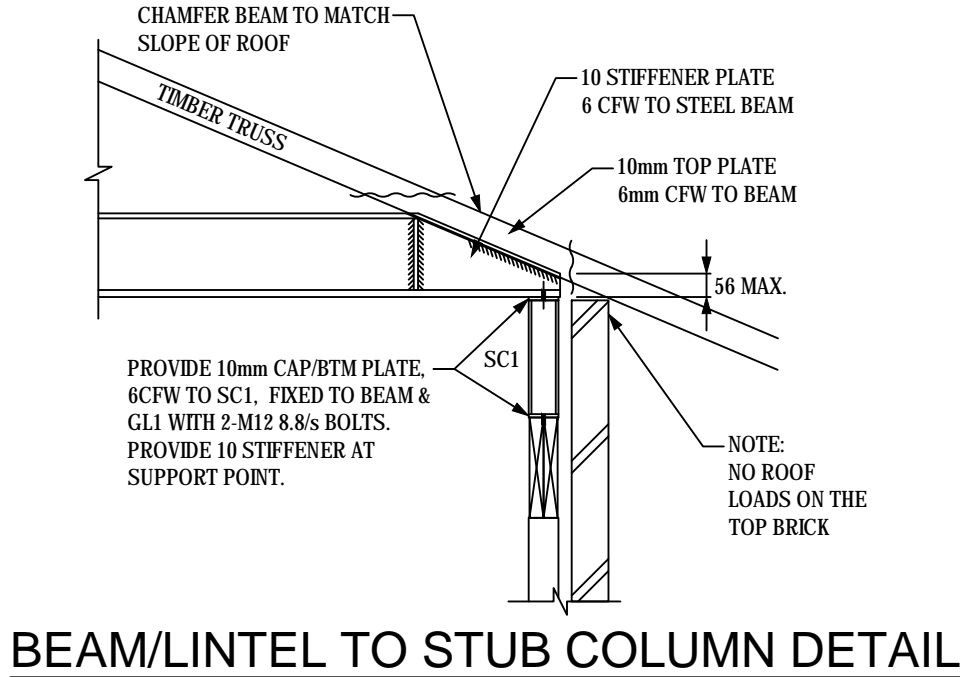
TYPICAL MEMBER JOINT DETAIL 4 - NTS



TIMBER BEAM TO TIMBER BEAM CONNECTION DETAIL



FLOOR JOIST TO TIMBER BEAM CONNECTION DETAIL



BEAM/LINTEL TO STUB COLUMN DETAIL

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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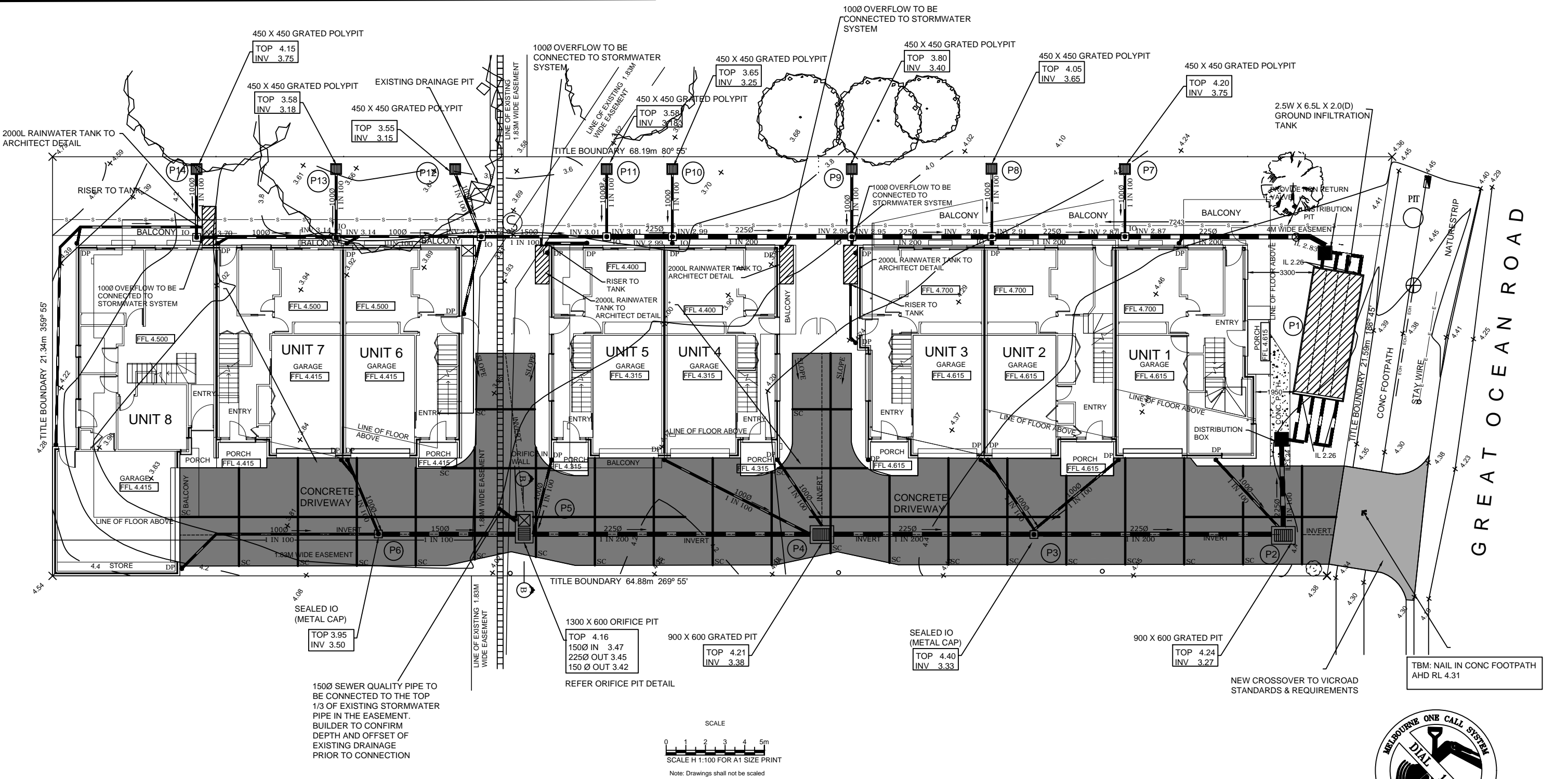
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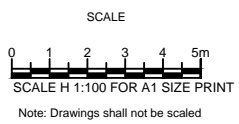
DATE: 18/09/2017



DRAINAGE PLAN (ON-SITE DETENTION)



NOTES :
1. ALL LEVELS ARE IN AHD
2. ALL D/Ps AS PER ARCHITECT DESIGN



WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

WARNING
ALL SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY AND EXACT LOCATION IS TO BE CONFIRMED ON SITE BY BUILDER PRIOR TO COMMENCEMENT OF ANY WORKS.



CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

WB CIVIL STRUCTURAL ENGINEERS & BUILDERS
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8 RESIDENTIAL UNITS
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APOLLO BAY VIC 3233

SHEET NO: 29/32
SCALE: AS SHOWN
DATE: 18/09/2017



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| REV. | REMARKS/COMMENTS | DATE | APRV. |

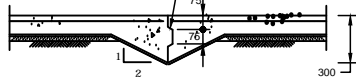
PITS, STEP IRON, PAVEMENT DETAILS & NOTES - NTS

GENERAL NOTE

THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE APPROVED TOWN PLANNING & BUILDING PLANS FOR THE CONSTRUCTION OF 183 GREAT OCEAN ROAD APOLLO BAY

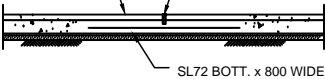
- ALL LEVELS ARE TO A.H.D. OR ARBITRARY DATUM.
- MINIMUM FALL TO 90 & 100 DIA. S.W.D.P.'S TO BE 1 IN 100. MINIMUM FALL TO 150 DIA. S.W.D.P.'S TO BE 1 IN 100. PROVIDE 100 DIA. S.W.P. WHERE NO SIZE SPECIFIED FROM DOWNPIPES WITH INSPECTION OPENINGS AT ALL CHANGES IN GRADE AND/OR DIRECTION AND AT 10 METRE MAXIMUM CENTRES.
- ALL 90, 100 & 150 DIA. PIPEWORK TO BE SEWER GRADE U.P.V.C.
- ALL U.P.V.C. PIPES TO BE SOLVENT WELD JOINTED (S.W.J.) ALL A.C. PIPES TO BE ADJOL JOINTED AND CEMENTED WITH BITUMINOUS JOINTING COMPOUND, ALL R.C. PIPE TO BE SPIGOT/SOCKET JOINTED.
- GRATED SURFACE DRAINS TO BE PROVIDED WHERE LANDSCAPE PREVENTS RUN OFF OF SURFACE WATER.
- ALL DRAINAGE LINES OFF SET 1000mm FROM ADJACENT BUILDING U.N.O.
- ALL SET OUT DIMENSIONS AS PER ARCHITECT'S PLAN.
- ALL GRADES AND OUTFALL INVERT LEVELS ARE TO BE CHECKED ON SITE AND ANY DISCREPANCY IS TO BE REFERRED TO THIS OFFICE BEFORE ANY PIPE LAYING COMMENCES.
- PRIOR TO COMMENCEMENT OF WORKS ON ADJOINING PROPERTIES, BUILDER SHALL REACH AGREEMENT WITH THE OWNER/GOVERNING AUTHORITY AS TO THE TIMING AND EXTENT OF WORKS.
- ALL DRAINAGE WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH SHIRE OF COLAC OTWAY STANDARD DRAINAGE CONSTRUCTION SPECIFICATION AND TO THE SATISFACTION OF THE COUNCIL ENGINEER.
- WHERE PIPES ARE LOCATED UNDER PAVEMENTS, TRENCHES ARE TO BE BACKFILLED WITH CLASS 2A CRUSHED ROCK COMPACTED IN 150mm LAYERS TO 98% OF MAX. DRY DENSITY.
- CARE MUST BE TAKEN WHEN BREAKING INTO COUNCIL DRAINS, KERBS & CHANNELS AND FOOTPATHS AND IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THESE ARE REINSTATED TO THE SATISFACTION OF THE SHIRE OF COLAC OTWAY ENGINEER.
- BUILDER TO ARRANGE FOR ALL SERVICES IN THE VICINITY OF THE ADDRESS (GAS, TELSTRA ETC.) TO BE ACCURATELY LOCATED PRIOR TO COMMENCEMENT OF EXCAVATION AND ALL EXCAVATION AROUND THESE SERVICES ARE TO BE BY HAND AND NOT MACHINERY.
- PAVEMENT DEPTH WILL BE SUBJECT TO SUBGRADE IMPROVEMENT AS DIRECTED BY ENGINEER FOLLOWING RECEIPT OF A SOIL REPORT FROM A GEOTECHNICAL ENGINEER GIVING CALIFORNIAN BEARING RATIOS AND REACTIONS OF SUBGRADE.
- FILLED AREAS: FILLING TO BE BEST EXCAVATED MATERIAL. ALL VEGETATION AND TOPSOIL SHALL BE STRIPPED BEFORE PLACEMENT OF FILL. THE AREA TO BE FILLED SHALL BE CLEARED TO A FIRM FOUNDATION, FILLED AND CONSOLIDATED WITH APPROVED SOIL IN LAYERS NOT EXCEEDING 150mm IN DEPTH AND COMPACTED TO 95% OF MAX DRY DENSITY. ANY SOFT SPOTS ARE TO BE REMOVED AND BACKFILLED WITH CLASS 2A CRUSHED ROCK IN 150mm LAYERS AND COMPACTED TO 95% A.A.S.H.O. (STANDARD).
- ALL DISTURBED AREAS TO BE COVERED WITH 100mm TOPSOIL AND SEEDED WITH GRASS AS DIRECTED. TOPSOIL IS NOT TO BE REMOVED FROM SITE.
- OCCUPIERS/OWNERS CORPORATION TO MAINTAIN ALL DRAINAGE SYSTEMS AT REGULAR INTERVALS

75 x 25 REBATE IN FIRST POUR PAINT FACE WITH BITUMEN PRIOR TO SECOND POUR. STOP REINFORCEMENT AT JOINT.

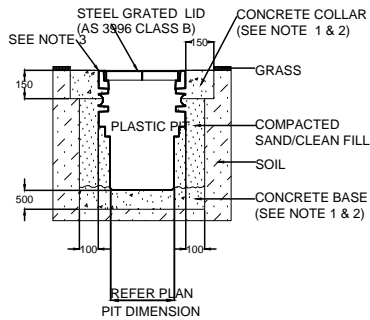


CONSTRUCTION JOINT (CJ)

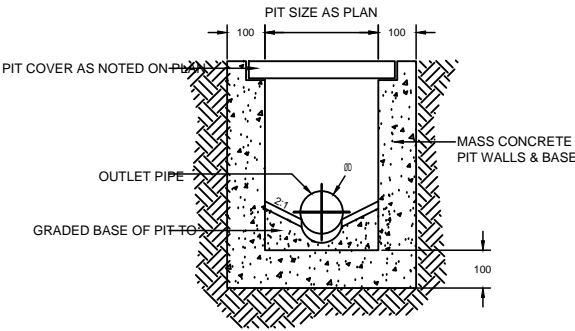
SL72 MESH 50 COVER
50 DP. x 3 W. SAWCUT MADE WITHIN 48 HOURS OF CONCRETE POUR. FILL WITH APPROVED SEALANT



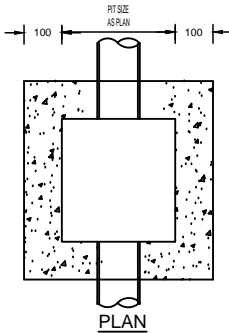
SAW CUT JOINT (SC)



TYPICAL POLY PIT DETAIL (LANDSCAPE AREA)



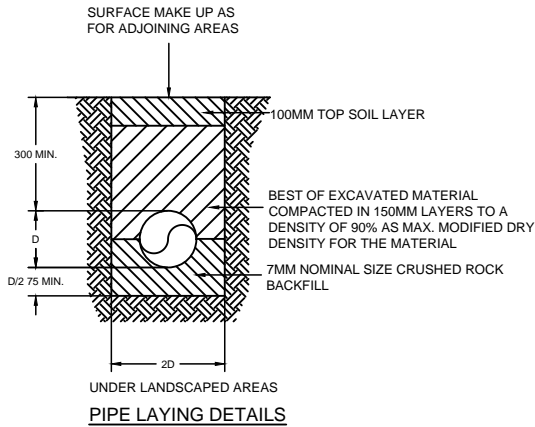
SECTION



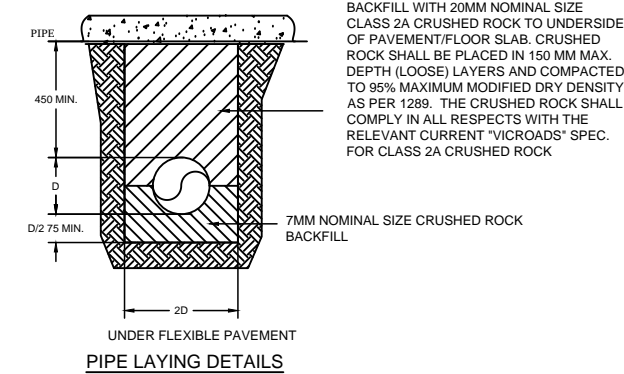
PLAN

TYPICAL PIT DETAIL

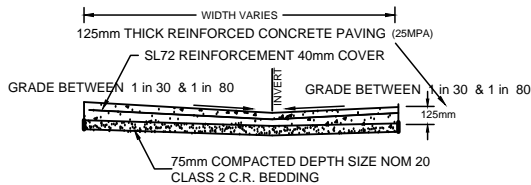
- NOTES:
- REFER TO PLAN FOR RELEVANT DIMENSIONS
 - GATIC TYPE COVERS WHERE SPECIFIED SHALL BE REBATED INTO THE PIT WALLS IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS



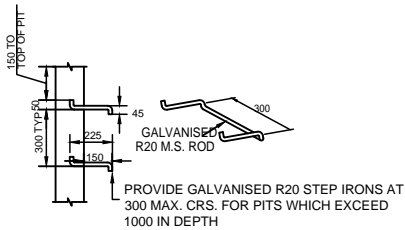
PIPE LAYING DETAILS



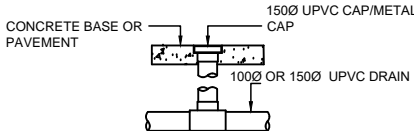
PIPE LAYING DETAILS



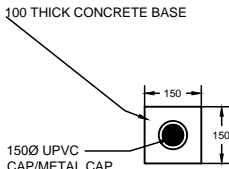
TYPICAL DRIVEWAY CROSS - SECTION



TYPICAL PIT STEP IRON DETAIL



SECTION



PLAN

TYPICAL INSPECTION OPENING DETAIL (IO)

LEGEND

- NATURAL GROUND LEVEL
- UPVC DOWN PIPE
- INSPECTION OPENNING (IO)
- FLOOR WASTE POINT (FW)
- EX. COUNCIL JUNCTION
- NEW JUNCTION PIT (JP)
- NEW GRATED PIT (GP)
- NEW POLY PIT (PP)
- 100mm THK. CONCRETE BASE (FOR PERMEABLE SURFACE)
- STORMWATER PIPE
- FLOOR LEVEL
- CONCRETE DRIVEWAY
- CONCRETE CROSSING
- PERMEABLE CONCRETE DRIVEWAY
- OVERLAND FLOW PATH
- GAS
- SEWER
- WATER
- ELECTRICITY
- ELECTRICITY (O/H)
- TELEC
- EXIST
- FENCE
- EASEMENT
- CONTOUR
- AGRICULTURAL DRAIN
- EX. S/W DRAIN



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CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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PROJECT:
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183 GREAT OCEAN ROAD,
APOLLO BAY VIC 3233

SHEET NO: 30/32

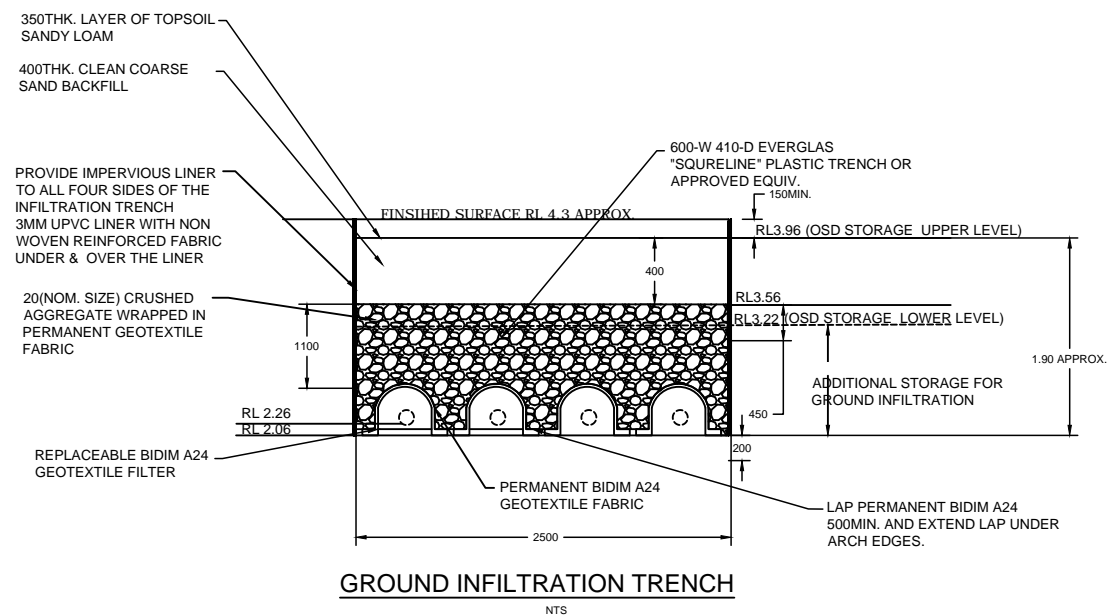
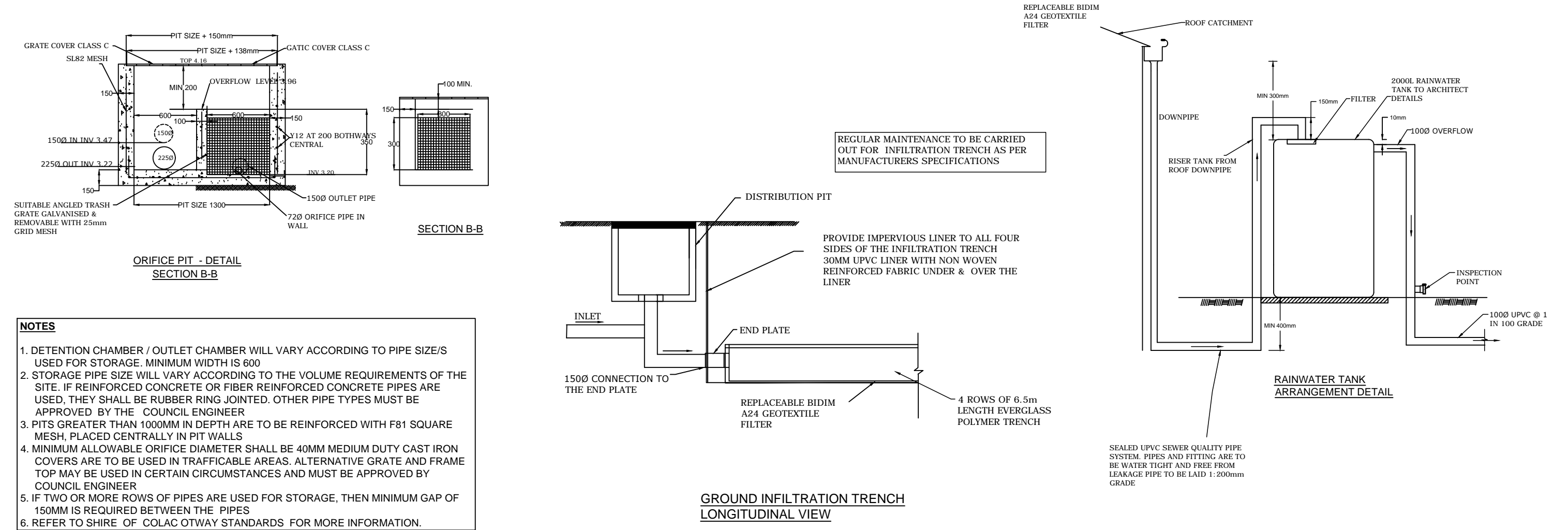
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ORIFICE PIT, RAIN TANK & INFILTRATION BED - NTS



| DETENTION STORAGE | |
|--|--|
| OSD STORAGE REQUIRED - 11.45M3 (10YEAR ARI - 5 MIN STORM) | |
| OSD STORAGE PROVIDED - PITS + PIPES + INFILTRATION FILL | |
| DETENTION STORAGE REQUIRED FOR GROUND INFILTRATION = 22.21 m3 (10YEAR ARI 120MIN STORM) | |
| INFILTRATION STORAGE PROVIDED - STORAGE IN FILL + PIPES+ PITS + POLYMER PIPES = 22.790M3 | |

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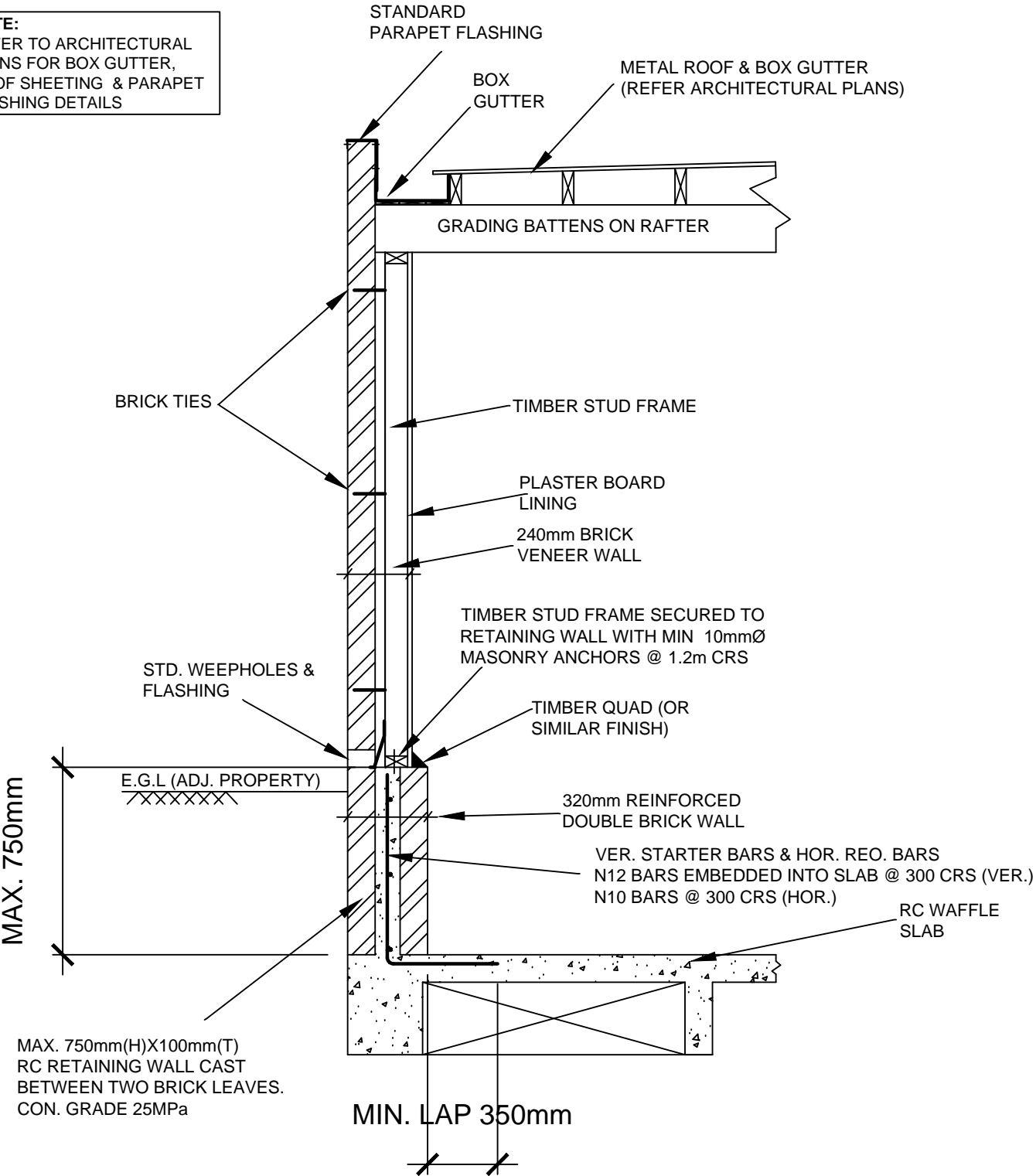
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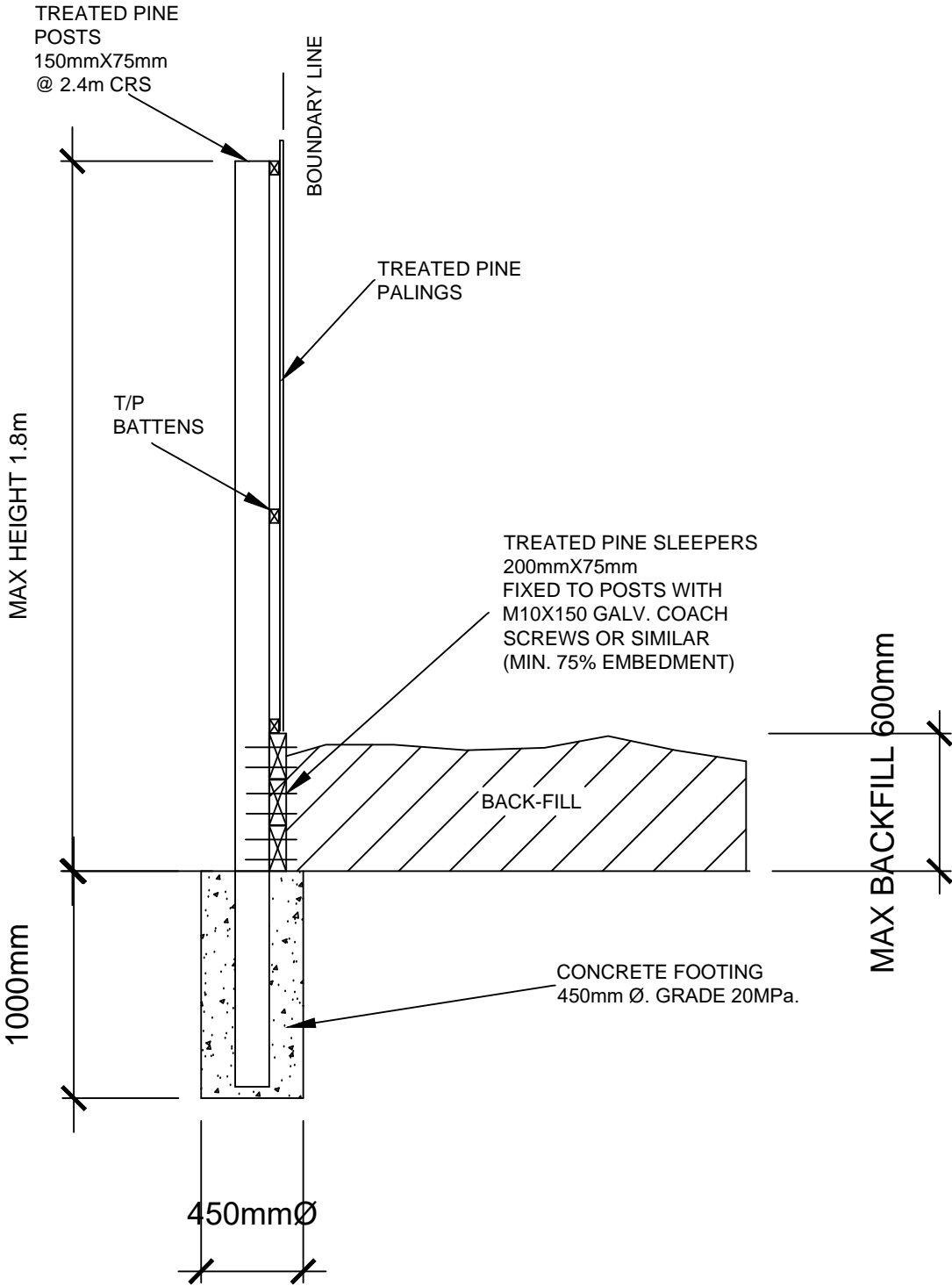
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BOUNDARY RW (SHT. 9/32) - UNIT 8 & PALING FENCE - NTS

NOTE:
REFER TO ARCHITECTURAL
PLANS FOR BOX GUTTER,
ROOF SHEETING & PARAPET
FLASHING DETAILS



DETAIL SECTION OF BOUNDARY
RETAINING WALL - UNIT 8 - NTS



DETAIL SECTION OF SLEEPER
RETAINING WALL & PALING FENCE ON
BOUNDARY

CLIENT:
PROFILE HOMES
SAM TOBOLOV

JOB NO: PROFILE/DEV/2017/1

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