GENERAL

G1. READ THESE NOTES IN CONJUNCTION WITH ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS AND SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED. REFER TO ARCHITECTURAL DRAWINGS FOR SETTING OUT AND DETAIL DIMENSIONS. IN CASE OF DISCREPANCY, PRECEDENCE IS GIVEN TO DRAWINGS, THEN NOTES, THEN SPECIFICATION.
G2. REFER DISCREPANCIES TO SUPERINTENDENT BEFORE PROCEEDING WITH WORK
G3. CHECK STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL SERVICES AND OTHER DRAWINGS FOR REQUIREMENTS FOR PENETRATIONS, CONDUITS, DUCTS, PIPES, etc.
G4. NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES REQUIRED PROPERTIES OF ITEM. SIMILAR ALTERNATIVES HAVING REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
G5. OBTAIN NECESSARY PERMITS AND APPROVALS FROM RELEVANT AUTHORITIES BEFORE COMMENCING WORK ON SITE.
G6. NOTIFY RELEVANT SERVICE AUTHORITIES BEFORE COMMENCING WORK ON SITE.
G7. GIVE TWO WORKING DAYS' (48 HOURS) NOTICE SO THAT INSPECTION MAY BE MADE OF CRITICAL STAGES OF WORK.
G8. DO NOT OBTAIN DIMENSIONS BY SCALING FROM DRAWINGS.
G9. DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES UNO. CHAINAGES ARE IN METRES UNO.
G10. DATUM FOR LEVELS IS AHD.
G11. HAVE SURVEY AND SETTING OUT UNDERTAKEN BY A REGISTERED SURVEYOR.
G12. VERIFY ON SITE SETTING OUT DIMENSIONS AND EXISTING MEMBER SIZES SHOWN ON DRAWINGS BEFORE SHOP DRAWINGS, CONSTRUCTION AND FABRICATION IS COMMENCED.
G13. TAKE PRECAUTIONS TO ESTABLISH LOCATION OF AND PROTECT EXISTING SERVICES AT SITE. SERVICES SHOWN ON DRAWINGS ARE IN APPROXIMATE LOCATIONS ONLY. SERVICES OTHER THAN THOSE SHOWN MAY EXIST ON SITE. HAND EXCAVATE WITHIN ONE METRE OF IN-GROUND SERVICES.
G14. WORKMANSHIP AND MATERIALS TO COMPLY WITH REQUIREMENTS OF SAA CODES, BUILDING CODE OF AUSTRALIA AND BY-LAWS AND ORDINANCES OF RELEVANT BUILDING AUTHORITIES. ALL CODES REFERRED TO ARE THOSE CURRENT (AS AMENDED) AT COMMENCEMENT OF CONTRACT.
G15. ALL STRUCTURES TO HAVE A DESIGN WORKING LIFE OF 50 YEARS.
G16. MAINTAIN STRUCTURE IN A STABLE CONDITION DURING CONSTRUCTION AND PROVIDE TEMPORARY BRACING AND/OR SUPPORT AS REQUIRED. ENSURE NO PART IS OVERSTRESSED. DO NOT PLACE OR STORE BUILDING MATERIALS ON STRUCTURAL MEMBERS WITHOUT SUPERINTENDENT'S APPROVAL.
G17. THESE DRAWINGS DO NOT DETAIL TEMPORARY WORKS. CONSTRUCTION METHODS AND TEMPORARY WORKS ARE RESPONSIBILITY OF THE CONTRACTOR.
G18. DISPOSE OF SURPLUS MATERIAL OFF SITE.
G19. IMPLEMENT SOIL AND WATER MANAGEMENT PROCEDURES TO AVOID EROSION, CONTAMINATION AND SEDIMENTATION OF SITE, SURROUNDING AREAS AND DRAINAGE SYSTEMS.
G20. OBTAIN REQUIREMENTS FOR ADJOINING ELEMENTS TO BE FIXED TO OR SUPPORTED ON WORK AND PROVIDE FOR REQUIRED FIXINGS. PROVIDE FOR TEMPORARY SUPPORT OF ADJOINING ELEMENTS DURING CONSTRUCTION. MAKE GOOD ANY DAMAGE TO EXISTING ELEMENTS AT COMPLETION OF WORKS.
G21. WHERE NEW WORK ABUTS EXISTING, PROVIDE A SMOOTH TRANSITION FREE OF ABRUPT CHANGES.
G22. HAVE TESTING PERFORMED BY AN INDEPENDENT NATA (NATIONAL ASSOCIATION OF TESTING AUTHORITIES) ACCREDITED AUTHORITY, AND PROVIDE TEST REPORTS TO SUPERINTENDENT.
G23. SEPARATE METALS FROM INCOMPATIBLE MATERIALS (eg GALVANIZED AND UNGALVANIZED STEEL, TREATED TIMBER AND STEEL etc.) BY CONCEALED LAYERS OF SUITABLE INERT MATERIALS OF SUITABLE THICKNESSES. USE PLASTIC SLEEVES AND WASHERS FOR BOLTS, etc.
G24. STRUCTURAL WORK HAS BEEN DESIGNED FOR FOLLOWING LOADS:

- PERMANENT DEAD LOAD OF STRUCTURE AS SHOWN ON DRAWINGS
- LIVE LOADS TO AS1170.1:
- SERVICES LOAD (Roof): 0.25 kPa
- SLAB FLOOR 5KPa
- BUILDING DESIGN WORKING LIFE 50 years
- WIND LOADS TO AS1170.2:
- REGION A
- IMPORTANCE LEVEL 2
- TERRAIN CATEGORY 2
- DESIGN BUILDING HEIGHT AS PER BUILDING ELEVATION, 5.83m max.
- TERRAIN/HEIGHT MULTIPLIER (Mz,cat) 0.92
- SHIELDING MULTIPLIER (Ms) 1.0
- TOPOGRAPHIC MULTIPLIER (Mt) 1.0
- REGIONAL WIND SPEED VR (3 sec GUST) 44.98 m/s
- DIRECTIONAL MULTIPLIER 1.0
- DESIGN WIND SPEED Vdes, 42 m/s
- INTERNAL PRESSURE COEFICIENT (Cpi) +0.2, -0.3
- BUILDING CLASS 10a Domestic

G25. SUPPLY RELEVANT SECTIONS OF NOTES TO SUB-CONTRACTORS.
G26. "UNO" DENOTES UNLESS NOTED OTHERWISE.
G27. BUILD, FABRICATE AND PROCURE ONLY FROM DRAWINGS 'ISSUED FOR CONSTRUCTION'.
G28. KEEP ON SITE A COMPLETE SET OF CONTRACT DOCUMENTS (INCLUDING DRAWINGS AND SPECIFICATIONS) AND SITE INSTRUCTIONS.

STRUCTURAL STEEL

S1. ALL STRUCTURAL STEEL FRAMING SHALL BE MANUFACTURED FROM BHP HI-TELSILE STEEL (G450) CONFORMING TO AS1397, UNLESS NOTED OTHERWISE (UNO).
S2. ALL BOLTS SHALL BE M16 8.8 GRADE & TEK SCREWS SHALL BE 12-10X20 (UNO), IN ACCORDANCE WITH AS/NZS 1111 & AS/NZS 1252.
S3. KNEE & APEX BRACKETS SHALL BE THE SAME GRADE AND THICKNESS OF FRAME SECTIONS AS A MINIMUM.
S4. BASE CONNECTION BRACKET TO BE 3MM G450 OR 5MM G300 (UNO).

FOUNDATIONS/SLABS ON GROUND

F1. SLAB AND FOOTING HAS BEEN DESIGNED UP TO A CLASS M TO AS2870. ANY VARIANCE CONSULT ENGINEER
F2. REFER TO GEOTECHNICAL REPORT IF SUPPLIED
F3. FOOTINGS HAVE BEEN DESIGNED FOR A SAFE WORKING BEARING PRESSURE OF 100kPa 200 mm IN UNDISTURBED NATURAL STIFF CLAYS FOR STRIP AND PAD FOOTINGS. STRIP FOOTINGS TO BE FOUNDED 1.0m MINIMUM AND PAD FOOTINGS 1.5m MINIMUM (UNO). REMOVE MATERIAL THAT DOES NOT ACHIEVE THESE PRESSURES. OBTAIN APPROVAL OF FOUNDATION MATERIAL FOR THESE PRESSURES FROM SUPERINTENDENT/BUILDING AUTHORITY.
F4. SLAB PANELS TO BE FOUNDED ON UNDISTURBED NATURAL SOIL WITH ALLOWABLE BEARING CAPACITY OF NOT LESS THAN 100 kPa. REMOVE ANY SOFT SPOTS AND REPLACE WITH COMPACTED CRUSHED ROCK. WHERE SLAB PANELS AND INTERNAL BEAMS ARE FOUNDED ON CONTROLLED FILL, CONTROLLED FILL MUST CONTINUE AT LEAST ONE METRE PAST BUILDING.
F5. "CONTROLLED FILL" IS: SAND FILL UP TO 800 mm DEEP, WELL COMPACTED IN LAYERS <300 mm THICK BY VIBRATING PLATE OR VIBRATING ROLLER, OR NON-SAND FILL UP TO 400 mm DEEP, WELL COMPACTED IN LAYERS <150 mm THICK BY MECHANICAL ROLLER. (CLAY FILL TO BE MOIST DURING COMPACTION), OR OTHER MATERIAL PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATION.
F6. "ROLLED FILL" IS: SAND FILL UP TO 600 mm DEEP COMPACTED IN LAYERS < 300 mm THICK, OR NON-SAND FILL UP TO 300mm DEEP COMPACTED IN LAYERS < 150 mm THICK.
F7. REMOVE TOP SOIL CONTAINING GRASS ROOTS OR OTHER ORGANIC MATTER, RUBBLE AND / OR DEBRIS AND OTHER UNSUITABLE MATERIAL BELOW FOUNDATIONS.
F8. LOCATE FOOTINGS CENTRALLY UNDER WALLS AND COLUMNS UNO.
F9. FOUNDATION LEVELS SHOWN ARE CONTRACT LEVELS. FINAL LEVELS TO BE AS DIRECTED BY SUPERINTENDENT.
F10. BACKFILL OVER EXCAVATION WITH GRADE N7 BLINDING CONCRETE.
F11. KEEP EXCAVATIONS FREE OF WATER. PROVIDE ADEQUATE DRAINAGE TO ENSURE FORMATION IS NOT AFFECTED BY MOISTURE. PREVENT FOUNDATION DRYING OUT DUE TO EXPOSURE. CONSTRUCT FOOTINGS AND BACKFILL AS SOON AS PRACTICABLE AFTER EXCAVATION.
F12. ENSURE EXCAVATIONS ARE STABLE AND PROTECT SURROUNDING PROPERTY AND SERVICES FROM ADVERSE EFFECTS OF GROUND WORKS. PROVIDE TEMPORARY WORKS AS REQUIRED.
F13. USE SUITABLE CONSTRUCTION TECHNIQUES AND EQUIPMENT FOR BACKFILLING ADJACENT TO STRUCTURES TO PREVENT OVERSTRESS AND DAMAGE. BACKFILL EVENLY TO AVOID DIFFERENTIAL SOIL PRESSURES ON STRUCTURES. BACKFILL AGAINST RETAINING WALLS ONLY AFTER SPECIFIED CONCRETE STRE NATURAL MATERIAL ON SITE. BACKFILL TOP 300 mm OF TRENCHES WITH HAND COMPACTED CLAY WITHIN 1500 mm OF BUILDING.
F15. PROVIDE 0.2 mm HIGH IMPACT RESISTANT VIRGIN POLYETHYLENE FILM WATERPROO MEMBRANE TO AS2870 GRADE IR3 ON 50 mm SAND BLINDING WHERE SHOWN ON DRAWINGS. LAP 200 mm AND SEAL WATERPROOF MEMBRANES, TAPE AT PENETRATIONS, etc. TO ENSURE A COMPLETE VAPOUR BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS2870. PREVENT PUNCTURING OR DAMAGE BY PLACING A PLASTIC PLATE UNDER REINFORCEMENT SUPPORTS.
F16. TOP OF CONCRETE SLAB TO BE AT LEAST 150 mm ABOVE ADJACENT GROUND LEVELS. GROUND SURROUNDING BUILDING TO BE SLOPED SO THAT WATER WILL DRAIN AWAY FROM BUILDING TO SUITABLE DISCHARGE POINTS. WHERE ACHIEVED BY FILLING, FILL TO BE LESS PERMEABLE THAN UNDERLYING MATERIAL.
F17. SLOPE SERVICES TRENCHES AWAY FROM BUILDING. BED SERVICES ON COMPACTED MATERIAL COMPATIBLE WITH CLOSED-CELL POLYETHYLENE LAGGING.
F18. FOR SITES CLASSIFIED M OR GREATER REACTIVITY, WHERE SERVICES PASS UNDER FOOTINGS BACKFILL TRENCHES WITH HAND COMPACTED CLAY OR BLINDING CONCRETE FOR 1000 mm EACH SIDE OF FOOTING AGAINST CLEAN, DRY, UNDISTURBED NATURAL MATERIAL. PROVIDE FLEXIBLE JOINTS IN STORMWATER AND WASTEWATER SERVICES AT EXTERIOR OF BUILDING.
F19. FOLLOWING CONSTRUCTION FOUNDATION MAINTENANCE TO BE IN ACCORDANCE WITH CSIRO BUILDING TECHNOLOGY FILE 18 "*FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE: A HOMEOWNER'S GUIDE*" AND RECOMMENDATION PROVIDED BY SFM SOIL REPORT.

FLOOD DESIGN PARAMETERS (IF REQUIRED)

F1. 1." INUNDATION"- THE BUILDING REQUIRES A MINIMUM OF TWO (2) OPPOSING DOOR OPENINGS WITH A MAXIMUM FLOOD HEIGHT OF 1.5M AT A MAX FLOOD VELOCITY OF 0.5M/S;
F2. 2."FLOW" - THE BUILDING REQUIRES A MINIMUM OF FOUR (4) DOOR OPENINGS, MIN OF 1 ON EACH SIDE OF THE STRUCTURE, WITH THE ABSOLUTE MAXIMUM FLOOD HEIGHT OF 0.5M AT A MAX FLOOD VELOCITY OF 1.0 M/S

CONCRETE

C1 WORKMANSHIP AND MATERIALS TO COMPLY WITH AS3600, AS2870, AS3610, AS1379, AS1478, AS3582, AS5100 AND AS3972. FOR LIQUID RETAINING STRUCTURES ALSO COMPLY WITH AS3735.
C2. WET CONCRETE TO BE UNIFORM, HOMOGENEOUS, COHESIVE AND ABLE TO WORK READILY INTO CORNERS AND AROUND REINFORCEMENT COMPLETELY FILLING THE FORMWORK WITHOUT SEGREGATION, EXCESS FREE WATER ON SURFACE, LOSS OF MATERIAL OR CONTAMINATION. CONCRETE TO HAVE GOOD DIMENSIONAL STABILITY AND ABLE TO RESIST PLASTIC SETTLEMENT CRACKING, THERMAL CRACKING AND SHRINKAGE CRACKING.
C3. QUALITY OF CONCRETE ELEMENTS TO BE AS FOLLOWS:

STRUCTURAL ELEMENT	BLINDING	FOOTINGS	SLABS
EXPOSURE CLASSIFICATION	B1	B1	A1
STRENGTH GRADE (MPa)	N7	N25	N25
TRANSFER STRENGTH fcp (MPa)	-	-	-
MINIMUM DENSITY (kg/m3):	-	2350	2300
MAX. AGGREGATE SIZE (mm):	-	10, 14 OR 20	20
MAXIMUM ADIABATIC TEMPERATURE RISE AT 100 HOURS		45°C	45°C
CEMENT TYPE:	GB	GB	GB
MINIMUM CEMENTITIOUS CONTENT (kg/m3):	100	330	330
MAXIMUM CEMENTITIOUS CONTENT (kg/m3):	-	360	360
SUPPLEMENTARY CEMENTITIOUS MATERIAL	CEMENT CONTENT	MINIMUM 10% OF CEMENT CONTENT	MINIMUM 10% OF
MAXIMUM WATER/CEMENTITIOUS RATIO	-	0.45	0.45
MAX. 56 DAY DRYING SHRINKAGE	-	600 x 10-3	600x10-3
REQUIRED ADDITIVES		APPROVAL REQUIRED	APPROVAL REQUIRED

C4. SUPPLEMENTARY CEMENTITIOUS MATERIALS INCLUDE SILICA FUME, FLY ASH, AND GROUND GRANULATED BLAST FURNACE SLAG (GGBFS OR SLAG).
C5. SLUMP TO BE AS REQUIRED FOR PLACEMENT (eg PUMPING, etc), COMPACTION AND FINISHING. USE SUPERPLASTICIZERS AND HIGH RANGE WATER REDUCERS TO AS1478 TO ACHIEVE ADEQUATE WORKABILITY.
C6. MAXIMUM SULPHATE CONTENT OF CONCRETE TO BE LESS THAN 5% BY MASS OF ACID SOLUBLE SO3 TO CEMENTITIOUS MATERIAL.
C7. USE CEMENTITIOUS MATERIALS LESS THAN SIX MONTHS OLD. USE BAGGED CEMENT IN ORDER OF RECEIPT.
C8. FOR BLENDED CEMENT CONTAINING ORDINARY PORTLAND CEMENT PLUS AT LEAST 5% SUPPLEMENTARY CEMENTITIOUS MATERIALS:

- SILICA FUME TO BE LESS THAN 10%, OR
- FLYASH TO BE LESS THAN 25%, OR
- GROUND GRANULATED BLAST FURNACE SLAG TO BE LESS THAN 40%.

FOR DOUBLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN SMALLER OF PERCENTAGES GIVEN ABOVE FOR CONSTITUENTS INCLUDED. FOR TRIPLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN 40%.

C9. ADMIXTURES TO COMPLY WITH AS1478. ADMIXTURES MUST NOT REDUCE STRENGTH OF CONCRETE BELOW SPECIFIED VALUE. USE ADMIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONCRETE ADDITIVES SHALL NOT ENHANCE CORROSION OF REINFORCEMENT, NOR BE DETRIMENTAL TO CONCRETE OR STEEL DURING EXPECTED LIFE OF STRUCTURE. DO NOT USE CHEMICAL ADMIXTURES OR OTHER MATERIALS WITHOUT SUPERINTENDENT'S WRITTEN APPROVAL.
C10. DO NOT USE CALCIUM CHLORIDE. MAXIMUM ACID SOLUBLE CHLORIDE ION CONTENT OF CONCRETE TO BE LESS THAN 0.15% BY MASS OF CEMENTITIOUS MATERIAL. DO NOT USE STRONGLY IONIZED SALTS.
C11. CONCRETE DENOTED WITH STRENGTH GRADE PREFIX S, SUCH AS S40, IS REQUIRED TO HAVE HIGH DURABILITY. PROVIDE CONCRETE WITH:

- AN AVERAGE COMPRESSIVE STRENGTH AT COMPLETION OF CURING NOT LESS THAN 5% OF SPECIFIED f'c.
- COARSE AGGREGATES THAT COMPLY WITH VicRoads MAJOR WORKS SPECIFICATION.
- A TOTAL REACTIVE ALKALI CONTENT NOT GREATER THAN 3.0 kg/m3 Na2 (EQUIVALENT).

C12. CONCRETE DENOTED WITH STRENGTH GRADE PREFIX S, SUCH AS S40, IS REQUIRED TO HAVE HIGH DURABILITY. DO NOT USE METAL INSERTS WITHIN COVER CONCRETE INCLUDING METAL BAR CHAIRS. DO NOT ALLOW CONCRETE TO FALL VERTICALLY WHEN PLACING, OR TO ENTRAP AIR IN ANY OTHER WAY. PLACE CONCRETE IN LAYERS LESSTHAN 300 mm THICK AND VIBRATE EACH LAYER BEFORE PLACING NEXT. PREVENT EVAPORATION OF WATER FROM CONCRETE SURFACES IMMEDIATELY AFTER LAYING. MOIST CURE CONCRETE FOR A MINIMUM OF SEVEN DAYS.
C13. SUBMIT DETAILS OF PROPOSED READY MIXED CONCRETE SUPPLIER, LOCATION OF BATCHING PLANT, CONCRETE MIX DESIGNS, METHOD OF CONCRETE TEMPERATURE CONTROL, MIXING, HANDLING, TRANSPORT, PUMPING, PLACEMENT, COMPACTION, FINISHING, PROTECTION AND CURING, SEQ
C14. PROVIDE DOCUMENTARY EVIDENCE OF PREVIOUS PERFORMANCE AND RELEVANT TEST RESULTS OF MIX DESIGN TARGETS, INCLUDING 3, 7 AND 28 DAY COMPRESSIVE STRENGTHS, CHARACTERISTIC STRENGTH, TEMPERATURE RISE, DRYING SHRINKAGE, LIMITS OF SOLUBLE SALTS AND ALKALI AGGREGATE REACTIVITY etc., BEING CERTIFIED TEST RESULTS MADE ON AT LEAST TWO SEPARATE SAMPLES FROM A NATA REGISTERED LABORATORY EITHER:

- ON CONCRETE OF SAME MIX DESIGN (IN RESPECT OF ALL DETAILS TO BE NOMINATED ABOVE) OF SIMILAR GRADE MADE UNDER PRODUCTION CONDITIONS IN SIMILAR PLANT WITHIN LAST SIX MONTHS, OR
- ON PRELIMINARY TESTS FROM LABORATORY OR PLANT TRIALS OF PROPOSED MIX.

C15. USE READY MIXED CONCRETE MIXED BY BATCH PRODUCTION PROCESS DELIVERED IN AGITATING TRUCKS. FOR EACH BATCH SUPPLY A DOCKET LISTING INFORMATION REQUIRED BY AS1379 CLAUSE 1.8.3 AND FOLLOWING:

- SERIAL NUMBER OF IDENTIFICATION CERTIFICATES OF EACH BATCH
- NAME OF CONCRETE DELIVERY SUPERVISOR
- ELEMENT FOR WHICH CONCRETE WAS ORDERED AND WHERE IT WAS PLACED
- METHOD OF PLACEMENT AND CLIMATIC CONDITIONS DURING POUR
- PROJECT ASSESSMENT CARRIED OUT
- TOTAL AMOUNT OF WATER REQUIRED BY MIX DESIGN
- TOTAL AMOUNT OF WATER ADDED AT PLANT

C16. DO NOT ADD WATER TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT.
C17. MIX CONCRETE TO ENSURE UNIFORM DISTRIBUTION OF CONSTITUENTS.
C20. TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED. PROVIDE RECORD OF SLUMP TESTING TO SUPERINTENDENT. SLUMP MEASURED TO BE NO GREATER THAN TARGET SLUMP WITHIN TOLERANCES GIVEN IN AS1379 CLAUSE 5.2.3.
C24. CONCRETE TESTING TO BE CARRIED OUT BY AN APPROVED INDEPENDENT NATA REGISTERED LABORATORY.
C25. RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PER OF FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AN APPLIED FINISH FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINTS BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH A FLEXIBLE RUBBER STRIP. SET OUT FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINTS, BOLT HOLES etc.
C26. FORMWORK TO BE DESIGNED AND CERTIFIED BY A REGISTERED ENGINEER.
C27. DO NOT SUPPORT FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENT'S WRITTEN APPROVAL.
C28. CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 19.6.2 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED. PROVIDE OPENINGS OR REMOVABLE PANELS FOR INSPECTION AND CLEANING. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR
C29 DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS.FORMANCE OF FORMWORK LIES WITH CONTRACTOR.
C30 PROVIDE HOLES IN REBATE FORMERS, etc, AS REQUIRED TO PREVENT AIR ENTRAPMENT.
C31. CONSTRUCTION TOLERANCES TO BE TO AS3610.
C32. REMOVE FREE WATER, DUST AND DEBRIS, STAINS etc. FROM FORMS, EXCAVATIONS etc. BEFORE PLACING CONCRETE. IN HOT CONDITIONS DAMPEN FORMWORK AND/OR SUB-GRADE BEFORE PLACING CONCRETE.
C33. ELAPSED TIME BETWEEN WETTING OF MIX AND DISCHARGE OF CONCRETE AT SITE MUST BE AS SHORT AS POSSIBLE, AND COMPLY WITH THE FOLLOWING.
C34. USE PLACEMENT METHODS THAT WILL MINIMISE PLASTIC SETTLEMENT AND SHRINKAGE CRACKING. LIMIT VERTICAL FREE FALL BY USE OF CHUTES, etc. KEEP CHUTES VERTICAL, FULL AND IMMERSED IN PLACED CONCRETE. PLACE CONCRETE IN LAYERS AND BLEND SUCCEEDING LAYERS BY COMPACTION. MAINTAIN CONCRETE EDGE IN A PLASTIC STATE. PROPERLY COMPACT CONCRETE USING MECHANICAL VIBRATORS (AND HAND METHODS IF REQUIRED) TO REMOVE AIR BUBBLES AND GIVE MAXIMUM COMPACTION WITHOUT SEGREGATION OF CONCRETE. TAKE CARE TO AVOID CONTACT BETWEEN VIBRATORS AND PARTIALLY HARDENED CONCRETE, FORMWORK OR REINFORCEMENT. DO NOT USE VIBRATORS TO MOVE CONCRETE ALONG FORMS.
C35. OBTAIN SUPERINTENDENT'S WRITTEN APPROVAL OF PLACEMENT METHODS FOR CONCRETE ELEMENTS GREATER THAN 1500 mm HEIGHT.
C36. KEEP ON SITE A LOG BOOK RECORDING EACH PLACEMENT OF CONCRETE INCLUDING DATE, CLIMATIC CONDITIONS, PORTION OF WORK, SPECIFIED GRADE AND SOURCE OF CONCRETE, DELIVERY DOCKET DATA, METHODS OF PLACEMENT AND COMPACTION, PROJECT ASSESSMENT CARRIED OUT, SLUMP MEASUREMENTS, VOLUME AND OTHER NOTABLE MATTERS.
C37. IN COLD WEATHER MAINTAIN TEMPERATURE OF FRESHLY MIXED CONCRETE WITHIN LIMITS SHOWN BELOW. "OUTDOOR" AIR TEMPERATURE IS AIR TEMPERATURE AT TIME OF MIXING, OR PREDICTED OR LIKELY AIR TEMPERATURE DURING NEXT 48 HOURS. BEFORE AND WHILE PLACING CONCRETE MAINTAIN TEMPERATURE OF FORMWORK AND REINFORCEMENT AT > 5C. DO NOT USE CALCIUM CHLORIDE, SALTS, CHEMICALS OR OTHER MATERIAL IN MIX TO LOWER THE FREEZING POINT OF CONCRETE. DO NOT ALLOW FROZEN MATERIALS TO ENTER MIXER. KEEP FORMS, MATERIALS, EQUIPMENT IN CONTACT WITH CONCRETE FREE OF FROST AND ICE. HEAT CONCRETE MATERIALS (OTHER THAN CEMENT) TO MINIMUM TEMPERATURE NECESSARY TO ENSURE TEMPERATURE OF PLACED CONCRETE IS WITHIN LIMITS SPECIFIED. MAXIMUM WATER TEMPERATURE: 60C WHEN PLACED IN MIXER
C38. IN HOT WEATHER PREVENT PREMATURE STIFFENING OF FRESH CONCRETE; REDUCE WATER ABSORPTION AND EVAPORATION LOSSES. MIX, TRANSPORT, PLACE AND COMPACT CONCRETE AS QUICKLY AS POSSIBLE. DURING PLACEMENT TEMPERATURE OF CONCRETE MUST NOT EXCEED TEMPERATURES BELOW.

CONCRETE ELEMENT	TEMPERATURE LIMIT
NORMAL CONCRETE IN FOOTINGS, BEAMS, COLUMNS, WALLS AND SLABS f'C 32MPa	35C
MASS CONCRETE SECTIONS 1 m EACH DIMENSION, OR CONCRETE f'C 40 MPa IN SECTIONS 600 mm THICKNESS	27C

DO NOT MIX CONCRETE WHEN SURROUNDING OUTDOOR SHADE TEMPERATURE 38C.
MAINTAIN TEMPERATURE OF FORMWORK AND REINFORCEMENT AT 32C BEFORE AND DURING PLACING. MAINTAIN SPECIFIED TEMPERATURE OF PLACED CONCRETE BY:

- COOL CONCRETE USING LIQUID NITROGEN INJECTION BEFORE PLACING, OR
- COVER CONTAINER IN WHICH CONCRETE IS TRANSPORTED TO FORMS, OR
- SPRAY COARSE AGGREGATE USING COLD WATER, OR
- USE CHILLED MIXING WATER.

C39. PROTECT FRESH CONCRETE FROM PREMATURE DRYING - PARTICULARLY IN HOT, WINDY OR DRY (LOW HUMIDITY) CONDITIONS, EXCESSIVELY HOT OR COLD TEMPERATURES, RAIN, ETC. PROVIDE WIND BREAKS. MAINTAIN CONCRETE AT A REASONABLY CONSTANT TEMPERATURE WITH MINIMUM MOISTURE LOSS FOR CURING PERIOD.
C40. FOR CONCRETE WITH WATER:CEMENT RATIO LESS THAN 0.5, IN HOT, WINDY OR DRY (LOW HUMIDITY) CONDITIONS SPRAY EXPOSED SURFACES OF FRESH CONCRETE WITH FOG SPRAY APPLICATION OF ALIPHATIC ALCOHOL RETARDANT IMMEDIATELY AFTER PLACEMENT TO REDUCE RISK OF PLASTIC SHRINKAGE CRACKING. IN SEVERE CLIMATIC CONDITIONS CONSIDER REVIBRATING CONCRETE BEFORE IT REACHES INITIAL SET.
C41. COMMENCE CURING OF CONCRETE TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING OR STRIPPING. ENSURE EXPOSED SURFACES ARE NOT STAINED. ACCEPTABLE METHODS OF CURING INCLUDE:

- RETENTION OF FORMWORK
- PONDING OR CONTINUOUS SPRINKLING WITH WATER (MOIST CURING)
- AN IMPERMEABLE MEMBRANE (USE WHITE OR LIGHT COLOURED PLASTIC IN HOT CONDITIONS).
- SEAL AROUND EDGES
- AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET
- STEAM CURING
- AN APPROVED CURING COMPOUND. PROVIDE:
- EFFICIENCY INDEX
- CERTIFIED TEST RESULTS FOR WATER RETENTION TO AS3799 APPENDIX B
- EVIDENCE THAT AN ACCEPTABLE FINAL SURFACE COLOUR WILL BE OBTAINED
- EVIDENCE OF COMPATIBILITY WITH CONCRETE AND APPLIED FINISHES (IF ANY)
- METHODS OF OBTAINING REQUIRED ADHESION FOR TOPPINGS, RENDER ETC.
- C42.CURE CONTINUOUSLY UNTIL NUMBER OF DAYS DURING WHICH AIR TEMPERATURE IS ABOVE 10°C TOTALS:
- 3 DAYS FOR EXPOSURES CLASSIFICATION A1 AND A2
- 7 DAYS FOR EXPOSURE CLASSIFICATION B1, B2 AND C.

C43. DO NOT STRIP FORMWORK PRIOR TO 36 HOURS AFTER PLACEMENT.
C44. STRIP FORMWORK TO AS3600 CLAUSE 19.6. REMOVE FORM TIE BOLTS WITHOUT DAMAGING CONCRETE. PARTS OF BOLTS LEFT IN CONCRETE MUST NOT INTRUDE INTO COVE CONCRETE. FLUSH FILL HOLES USING PRE-MIXED NON-SHRINK CEMENTITIOUS MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY.
C45. FINISH CONCRETE SURFACES TO AS3610 AND AS SHOWN BELOW:
a) FORMED SURFACES:
EXPOSED SURFACES 1C, 2C, 3C 0R 4 REFER TO ARCHITECT HIDDEN SURFACES 5
b) FINISHES AS LAID:
EXPOSED SURFACES STEEL TROWEL UNO HIDDEN SURFACES WOOD FLOAT
C46. STEEL TROWEL FINISH: AFTER MACHINE FLOATING, USE POWER TROWELS TO PRODUCE SMOOTH SURFACES FREE OF DEFECTS. WHEN SURFACE HAS HARDENED SUFFICIENTLY, USE STEEL HAND TROWELS TO PRODUCE FINAL CONSOLIDATED FINISH FREE OF TROWEL MARKS AND UNIFORM IN TEXTURE AND APPEARANCE, SO MAXIMUM DEVIATION FROM 3 m STRAIGHT EDGE IS LESS THAN 3 mm.
C47. BEAM SIZES ARE DESIGNATED DEPTH (INCLUDING SLAB, IF ANY) x WIDTH. PLACE CONCRETE IN SLABS AT SAME TIME AS BEAMS INTEGRAL WITH THEM. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
C48. PROVIDE EXPOSED EDGES AND RE-ENTRANT CORNERS WITH 45 DEGREES x 25 mm CHAMFERS OR FILLETS UNO
C49. PROVIDE AN UPWARDS PRECAMBER AS SHOWN ON DRAWINGS.
C50. FORM CONSTRUCTION JOINTS AND USE ONLY WHERE SHOWN OR WHERE APPROVED BY SUPERINTENDENT. CONSTRUCTION JOINTS IN SLABS TO BE VERTICAL. ENSURE ENTIRE SURFACE IS CLEAN, FREE OF LAITANCE, AND INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF NOT LESS THAN 5 mm WITH AGGREGATE EXPOSED. PRIME EXISTING CONCRETE WITH MASTER BUILDERS' "CONCRESIVE 2525" (IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS) AND PLACE ADJACENT FRESH CONCRETE WITHIN 30 MINUTES OF PRIMING. DAMPEN EXISTING CONCRETE PRIOR TO PLACING ADJACENT FRESH CONCRETE. COAT EXISTING CONCRETE WITH NEAT CEMENT SLURRY PRIOR TO PLACING ADJACENT FRESH CONCRETE.
C51. PROVIDE PROPOSED LOCATIONS AND DETAILS OF CONSTRUCTION JOINTS FOR SUPERINTENDENT'S APPROVAL PRIOR TO CONSTRUCTION.
C52. INSTALL WATERSTOPS ONTO SMOOTH CONCRETE SURFACE. DO NOT SCABBLE CONCRETE BENEATH WATERSTOPS.
C53. SAW CUT CRACK CONTROL JOINTS AS SOON AFTER CASTING AS PRACTICABLE TO AVOID SPALLING OR RAVELLING OF JOINT EDGES, AND WITHIN 16 HOURS OF CASTING TO PREVENT THERMAL AND/OR SHRINKAGE CRACKING OF SLAB. IMMEDIATELY AFTER SAW CUTTING FLUSH OUT JOINTS TO REMOVE SAWING RESIDUE AND INSERT A TEMPORARY FOAMED PLASTIC BEAD TO KEEP JOINT CLEAN PRIOR TO FILLING OR SEALING. PROTECT SAW CUTS FROM WHEEL LOADS FOR AT LEAST ONE WEEK AFTER CUTTING.

PRIOR TO CONSTRUCTION, A SUITABLY QUALIFIED PERSON IS TO ASSESS AND SOIL CONDITIONS. (I.E REACTIVE SOILS, LANDSLIDE , FLOOD). REFER DESIGN ENGINEER

C55. DO NOT INSTALL SEALANTS IF EXPECTED MAXIMUM DAILY TEMPERATURE EXCEEDS 30 DEGREES C. ENSURE RECESSES ARE CLEAN AND DRY PRIOR TO INSTALLING FILLERS OR SEALANTS, AND PREPARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TOLERANCE ON SEALANT WIDTHS +5, -0 mm.
C56. COVER MUST NOT BE LESS THAN SPECIFIED. PROVIDE MINIMUM CLEAR COVER TO REINFORCEMENT AS SHOWN BELOW, EXCEPT WHERE SPECIFIED OTHERWISE:

LOCATION	COVER (mm)
FOOTINGS, UNDERSIDE SLABS ON GROUND, etc. CAST AGAINST THE GROUND	75
SLABS - EXTERIOR	50
SLABS - INTERIOR	40
TOP OF SLAB - INTERIOR	30
ELSEWHERE	50

COVER GIVEN IS ONLY FOR CONCRETE CAST AGAINST FORMWORK OR CONCRETE BLINDING UNO. REQUEST REQUIRED COVER DIMENSION FROM SUPERINTENDENT WHERE CONCRETE IS CAST AGAINST GROUND OR A FLEXIBLE MEMBRANE. CONCRETE THICKNESSES MAY BE INCREASED.

C57. DO NOT MAKE HOLES, CHASES, NOR EMBED PIPES (OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS) WITHOUT APPROVAL OF SUPERINTENDENT. DO NOT PLACE CONDUITS, PIPES etc. WITHIN COVER CONCRETE. LOCATE CONDUITS, PIPES etc. ONLY IN MIDDLE THIRD OF SLAB OR BEAM DEPTH, AND SPACED AT 3 x DIAMETER CENTRES MINIMUM. DO NOT CUT REINFORCEMENT AT PENETRATIONS WITHOUT APPROVAL

REINFORCEMENT

R6. USE MESH SUPPLIED IN FLAT SHEETS UNLESS APPROVED OTHERWISE.
R7. REINFORCEMENT TO BE CLEAN, FREE OF LOOSE MILL SCALE, RUST, OIL, GREASE, MUD OR OTHER MATERIAL THAT MIGHT REDUCE THE BOND BETWEEN REINFORCEMENT AND CONCRETE.
R10. PROVIDE STANDARD COGS AND HOOKS TO AS3600. TERMINATE ENDS OF COLUMN AND BEAM LIGATURES IN A HOOK OF AT LEAST 135 DEGREES. PROVIDE FIRST LIGATURE WITHIN 50 mm OF FACE OF SUPPORT.
R11. PROVIDE N12 DIAGONAL TRIMMER BARS BY 1000 mm LONG AT EACH LAYER OF REINFORCEMENT AT RE-ENTRANT CORNERS, OPENINGS, SERVICE PENETRATIONS etc UNO.
R12. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION. SET REINFORCEMENT OUT AT EQUAL CENTRES WHERE SPACING IS NOT NOMINATED.
R13. SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN SPECIFIED CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES. DO NOT PLACE REINFORCEMENT AFTER CONCRETING HAS COMMENCED. PROVIDE ADEQUATE SUPPORT TO PREVENT DISPLACEMENT OF REINFORCEMENT BY WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.
R14. SUPPORT REINFORCEMENT ON PROPRIETARY CONCRETE, METAL OR PLASTIC SUPPORTS ADEQUATE TO WITHSTAND CONSTRUCTION AND TRAFFIC LOADS AND MAINTAIN DURABILITY OF FINISHED CONCRETE STRUCTURE.
R15. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS OR AS APPROVED BY SUPERINTENDENT. LAP LENGTHS TO COMPLY WITH AS3600, OR FOR SLAB AND WALL REINFORCEMENT WITH BARS AT 150 mm CENTRES WITH THE FOLLOWING UNO:

			BAR SIZE						
LOCATION	COVER	f'c	N12	N16	N20	N24	N28	N32	N36
HORIZONTAL BARS WITH 300 mm CONCRETE BELOW BAR	>30	>20	400	650	950	1300	1700	-	-
	>40	32	400	500	650	850	1000	1350	1650
	>50	>40	400	500	650	750	900	1050	1300
HORIZONTAL BARS WITH 300 mm CONCRETE BELOW BAR, & VERT. BARS	>30	<20	300	550	750	1050	1350	-	-
	>40	32	300	400	500	700	900	1100	1350
	>50	>40	300	400	500	600	700	850	1050

DO NOT INTERPOLATE INTERMEDIATE VALUES OF BAR LENGTHS. STAGGER LAPS WHERE POSSIBLE. LONGITUDINAL BARS IN BEAMS AND COLUMNS, ETC, WILL REQUIRE LONGER LAP LENGTHS.REFER TO as3600 OR THE SUPERINTENDENT. FOR RIDGES LAP LENGTHS MUST BE INCREASED BY 30% IF NOT STAGGERED.

R16. LAY MESH REINFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UNO.
R17. PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCING MESH, SO THAT TWO OUTERMOST WIRES OF ONE SHEET OVERLAP TWO OUTERMOST WIRES OF ADJACENT SHEET BY AT LEAST 25 mm, THUS:

MESH TYPE	END LAP	SIDE LAP
RECTANGULAR MESHES	225	125
SQUARE MESHES SL102 TO SL42	225	225
SL81	125	125
TRENCH MESH	500	N/A

DO NOT LAP MORE THAN THREE SHEETS AT ANY ONE POINT.

R18. USE N12 SPLICE BARS TO LAP ADJACENT SHEETS OF MESH, SPACING OF SPLICE BARS TO MATCH SPACING OF BARS IN MESH, SPLICE BARS TO OVERLAP ADJACENT MESH BY 300 mm MINIMUM.
R19. SPLICE TRENCH MESH BY A LAP OF 500 mm MINIMUM. AT T- AND L-INTERSECTIONS, CONTINUE TRENCH MESH FULL WIDTH OF INTERSECTION. AT L-INTERSECTIONS PROVIDE AN N12 L BAR TO LAP 500 mm WITH OUTSIDE BARS.
R20. DO NOT WELD REINFORCEMENT UNLESS SHOWN ON DRAWINGS OR OTHERWISE APPROVED BY SUPERINTENDENT. WHERE ALLOWED, WELDING OF REINFORCEMENT (INCLUDING TACK-WELDING FOR FIXING PURPOSES) TO COMPLY WITH AS3600 AND AS1554.3. DO NOT WELD REINFORCEMENT WITHIN 75 mm OF A SECTION THAT HAS BEEN BENT (100 mm FOR N28 AND N32 BARS, 125 mm FOR N36 BARS).
EXTENT OF WELD INSPECTION/TESTING TO BE:

- VISUAL SCANNING 100% OF WELDS
- VISUAL EXAMINATION 50% OF WELDS
- RADIOGRAPHIC OR ULTRASONIC 5% OF FILLET WELDS AND 100% OF BUTT WELDS.

R21. DO NOT BEND OR STRAIN REINFORCEMENT IN A WAY THAT MAY CAUSE DAMAGE. BEND DIAMETERS TO BE TO AS3600. BARS TO BE BENT COLD UNO. GRADE 250 BARS MAY BE BENT AT TEMPERATURES UP TO 850°C. DO NOT COOL HEATED BARS BY QUENCHING.
R23. DO NOT CUT, BEND NOR HEAT REINFORCEMENT ON SITE WITHOUT SUPERINTENDENTS PRIOR WRITTEN APPROVAL.
R24. HOT BENDING OF REINFORCEMENT MUST COMPLY WITH AS3600 CLAUSE 19.2.3.1. USE TEMPERATURE INDICATOR PAINTS AND/OR CRAYONS TO ENSURE REINFORCEMENT TEMPERATURE DOES NOT EXCEED MANUFACTURERS RECOMMENDED LIMITS.
R25. DO NOT BEND REINFORCEMENT AFTER GALVANISING OR APPLICATION OF OTHER PROTECTIVE COATINGS.
R26. USE STRAIGHT, SMOOTH HOT DIPPED GALVANISED DOWELS SAWN TO LENGTH WITH SQUARE CUT ENDS FREE OF BURRS. INSTALL DOWELS PARALLEL TO SURFACE OF SLAB AND PERPENDICULAR TO PLANE OF JOINT. MAINTAIN DOWEL ALIGNMENT BY USE OF A SUITABLE SUPPORT ASSEMBLY TO ENSURE HORIZONTAL AND VERTICAL ALIGNMENT TOLERANCE OF 5 IN 400. DO NOT INSERT DOWELS DURING PLACEMENT OF CONCRETE.
R27. USE 10 mm HOT DIPPED GALVANISED DANLEY DIAMOND DOWELS (TEL: 07 3899 3466). INSTALL DOWELS PARALLEL TO SURFACE OF SLAB. MAINTAIN DOWEL ALIGNMENT BY USE OF A SUITABLE SUPPORT ASSEMBLY TO ENSURE HORIZONTAL AND VERTICAL ALIGNMENT TOLERANCE OF 5 IN 400. DO NOT INSERT DOWELS DURING PLACEMENT OF CONCRETE.
R28. PERCUSSION ROTARY DRILL HOLES FOR GROUTED BARS AND THREADED RODS (NOTE: CORED HOLES MUST BE ROUGHENED). HOLE DIAMETER AND INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EMBEDMENT LENGTHS AS SHOWN ON DRAWINGS.
R29. ENSURE DRILLED HOLES FOR GROUTED BARS AND THREADED RODS ARE DRY AND CLEANED THOROUGHLY BEFORE NSTALLING ANCHORS. WIRE BRUSH HOLES AND BLOW OUT WITH COMPRESSED AIR TO REMOVE DUST. FILL HOLE WITH ADHESIVE USING A CAULKING GUN FROM BOTTOM OF HOLE OUTWARDS. DISCARD ADHESIVE FROM FIRST TRIGGER PULL. PROVIDE BARS/THREADED RODS WITH CHAMFERED (CHISELLED) ENDS. BARS TO BE DEGREASED, AND FLAKY RUST REMOVED. ROTATE WHILE INSERTING TO ENSURE FULLY COATED AND PUSH FULLY INTO HOLE. PROTECT FROM DISTURBANCE DURING CURING. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
R38. EMBEDDED FIXTURES (INSERTS, THREADED SOCKETS, FERRULES, BOLTS, AND STAINLESS REINFORCING etc.) WITHIN COVER CONCRETE OR EXPOSED TO AIR MUST NOT BE IN CONTACT WITH REINFORCING STEEL. PROVIDE ISOLATING STRIPS BETWEEN DISSIMILAR STEELS AND TO SEPARATE EXPOSED FIXTURES.

Rev.	Date	Description

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TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	GENERAL NOTES FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S01
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A / A3

BUILDING DESIGNER'S RESPONSIBILITY STATEMENT WITH REGARD TO THE OCCUPATIONAL HEALTH & SAFETY ACT 2004

RISK PREVENTION & MANAGEMENT - BUILDING CONSTRUCTION

DESIGN INTENT:

THE CONSTRUCTION OF THE BUILDING BECOMES A WORKPLACE FOR THOSE INVOLVED IN THE CONSTRUCTION INDUSTRY. AS DESIGNERS IT IS ASSUMED THAT THE BUILDER/CONSTRUCTION MANAGEMENT FOR THE PROJECT ARE AWARE OF AND IS FAMILIAR WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 INCLUSIVE WITH 2007 AND 2012 AMENDMENTS. AT THIS DESIGN STAGE IN RESPONSE TO THE OCCUPATIONAL HEALTH & SAFETY ACT 2004 SECTION 28 ALSO TO MAKE AWARE OF THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS 2007 INCLUDING 2012 AMENDMENTS BY LISTING SOME OF THE BASIC REQUIREMENTS.

RISK & HAZARD IDENTIFICATION

IN PARTICULAR PART 3 DIVISION 2 DUTIES OF EMPLOYERS: CLAUSE 3.3.3 HAZARD IDENTIFICATION - AN EMPLOYER MUST SO FAR AS IS REASONABLY PRACTICABLE, IDENTIFY ANY TASK THAT AN EMPLOYEE IS REQUIRED TO UNDERTAKE AT ANY WORKPLACE THAT INVOLVES A FALL INCLUDING:

- ANY PLANT OR STRUCTURE BEING CONSTRUCTED, DEMOLISHED, INSPECTED, TESTED, MAINTAINED, REPAIRED OR CLEANED;
- ON A FRAGILE, SLIPPERY OR POTENTIALLY UNSTABLE SURFACE;
- USING EQUIPMENT TO GAIN ACCESS TO AN ELEVATED LEVEL;
- ON A SLOPING SURFACE ON WHICH IT IS DIFFICULT TO MAINTAIN BALANCE;
- IN PROXIMITY TO AN UNPROTECTED EDGE;
- IN CLOSE PROXIMITY TO A HOLE, SHAFT OR PIT THAT IS OF SUFFICIENT DIMENSIONS TO ALLOW A PERSON TO FALL INTO THE HOLE SHAFT OR PIT.

SAFETY MANAGEMENT SYSTEM (SMS):

DUTIES OF EMPLOYERS: CLAUSE 3.3.4 CONTROL OF RISK:

- AN EMPLOYER MUST INSURE THAT IF AN EMPLOYEE IS REQUIRED TO UNDERTAKE A TASK THAT INVOLVES A RISK OF A FALL, THE RISK IS CONTROLLED, SO FAR AS IS REASONABLY PRACTICABLE, BY ARRANGING FOR THE TASK TO BE UNDERTAKEN -
  (a) ON THE GROUND; OR
  (b) ON A SOLID CONSTRUCTION.
- IF IT IS NOT REASONABLY PRACTICABLE TO COMPLY WITH THE PREVIOUS STATEMENT OR ONLY PART OF THE TASK MAY BE UNDERTAKEN & A RISK OF A FALL STILL REMAINS, THE EMPLOYER MUST REDUCE THE RISK, SO FAR AS REASONABLY PRACTICABLE, BY ENSURING THAT A PASSIVE FALL PREVENTION DEVICE IS USED.
- IF IT IS NOT REASONABLY PRACTICABLE TO COMPLY WITH THE PREVIOUS TWO STATEMENTS OR ONLY PART OF THE TASK MAY BE UNDERTAKEN & A RISK OF A FALL STILL REMAINS, THE EMPLOYER MUST REDUCE THE RISK, SO FAR AS REASONABLY PRACTICABLE, BY PUTTING IN PLACE A FALL ARREST SYSTEM.
- IF IT IS NOT REASONABLY PRACTICABLE TO COMPLY WITH THE PREVIOUS TWO STATEMENTS OR ONLY PART OF THE TASK MAY BE UNDERTAKEN & A RISK OF A FALL STILL REMAINS, THE EMPLOYER MUST REDUCE THE RISK, SO FAR AS REASONABLY PRACTICABLE, BY PUTTING IN PLACE A FALL ARREST SYSTEM.

HIGH RISK WORK

PART 3.6

DIVISION 1 REGULATION 3.6.1 LISTS THE REQUIREMENTS REGARDING LICENSED WORKERS. REGULATION 3.6.2 STATES THAT AN EMPLOYER MUST NOT USE UNLICENSED EMPLOYEES TO DO HIGH RISK WORK.

- AN EMPLOYER MUST NOT ALLOW AN EMPLOYEE TO DO HIGH RISK WORK UNLESS -
  (a) THE EMPLOYEE HOLDS AN APPROPRIATE HIGH RISK WORK LICENCE IN RELATION TO THAT WORK; OR
  (b) REGULATION 3.6.3 (1)(a) OR 3.6.3 (1)(b) APPLIES TO THE EMPLOYEE

HIGH RISK WORK (CONTINUED)

3.6.3 EXCEPTIONS
- REGULATION 3.6.2 DOES NOT APPLY TO A PERSON -
  (a) WHO IS UNDERTAKING TRAINING FOR THE PURPOSE OF OBTAINING A HIGH RISK LICENCE; OR
  (b) WHO IS A PERSON WHO IS AUTHORISED TO WORK UNDER REGULATION 3.6.10; OR
  (c) WHO IS WORKING UNDER THE TERMS OF THE EXEMPTION GRANTED TO THE PERSON'S EMPLOYER UNDER REGULATION 7.2.2

7.2.2 - THE AUTHORITY MAY EXEMPT AN EMPLOYER, OR CLASS OF EMPLOYER, FROM COMPLYING WITH REGULATION 3.6.2 IN RELATION TO SPECIFIED HIGH RISK WORK THAT THE EMPLOYER SEEKS TO HAVE PERFORMED BY A PERSON, WHO DOES NOT HOLD A HIGH RISK WORK LICENCE (INCLUDING PERSONS WHO ARE UNDER 18 YEARS OF AGE).

HAZARDOUS INDUSTRIES

PART 5.1 CONSTRUCTION

PART 5.1.2 WHAT IS CONSTRUCTION WORK?

(1) IN THESE REGULATIONS CONSTRUCTION WORK MEANS ANY WORK PERFORMED IN CONNECTION WITH THE CONSTRUCTION, ALTERATION, CONVERSION, FITTING OUT, COMMISSIONING, RENOVATION, REFURBISHMENT, DECOMMISSIONING, OR DEMOLITION OF ANY BUILDING STRUCTURE, OR ANY SIMILAR ACTIVITY.

PART 5.1.3 WHAT IS HIGH RISK CONSTRUCTION?

(a) WHERE THERE IS A RISK OF A PERSON FALLING MORE THAN 2 METERS;
.....
(c) INVOLVING DEMOLITION;
.....
(e) INVOLVING STRUCTURAL ALTERATIONS THAT REQUIRE TEMPORARY SUPPORT TO PREVENT COLLAPSE;
(f) INVOLVING A CONFINED SPACE;
(g) INVOLVING A TRENCH OR SHAFT IF THE EXCAVATED DEPTH IS MORE THAN 1.5 METRES;
.....
(n) INVOLVING TILT-UP OR PRECAST CONCRETE;
.....
(p) AT WORKPLACES WHERE THERE IS ANY MOVEMENT OF MOBILE PLANT;
.....

CONSTRUCTION INDUSTRY STATISTICS:

UNLIKE OTHER INDUSTRIES OUTLINED IN WORKSAFE, THE CONSTRUCTION INDUSTRY IS SEPARATED INTO FIVE DISCIPLINES - CARPENTERS, CONCRETERS, PLUMBERS, ROOF WORKERS AND YOUNG WORKERS:

1. THE NUMBER ONE COMMON INJURY FOR CONCRETERS, PLUMBERS AND ROOF WORKERS IS BACK MUSCLE STRAIN AND PAIN FROM MANUAL HANDLING - LIFTING, PUSHING, PULLING, HOLDING, LOWERING THROWING, CARRYING, PACKING, TYPING, ASSEMBLING, CLEANING, SORTING AND USING OBJECTS, TOOLS AND EQUIPMENT FOR LOADING & UNLOADING. HOWEVER THIS IS ONLY THE SECOND HIGHEST INJURY FOR CARPENTERS AND YOUNG WORKERS.
2. THE SECOND HIGHEST INJURY FOR CONCRETERS, PLUMBERS AND ROOF WORKERS IS KNEE STRAIN FROM SLIPS OR TRIPS DUE TO POOR HOUSE KEEPING AND TRAUMATIC INJURIES FROM TOOLS SUCH AS SCREEDS AND HAMMERS . HOWEVER THIS IS ONLY THE THIRD HIGHEST INJURY FOR CARPENTERS AND YOUNG WORKERS.
3. THE THIRD HIGHEST INJURY FOR CONCRETERS, PLUMBERS AND ROOF WORKERS IS HAND AND FINGER CUTS AND BRUISES ALONG WITH SHOULDER STRAINS . HOWEVER THIS IS THE NUMBER ONE INJURY FOR CARPENTERS AND YOUNG WORKERS, INCLUDING AMPUTATION OF HANDS AND FINGERS.

REFER TO JOB SAFETY ANALYSIS AND WORKSAFE COMPLIANCE REQUIREMENTS UNDER RISK PREVENTION & MANAGEMENT - BUILDING USE

RISK PREVENTION & MANAGEMENT - BUILDING USE

DESIGN INTENT:

THE BUILDING OR PARTS OF THE BUILDING FOR WHICH THE STRUCTURE IS USED AS A WORKPLACE HAS BEEN DESIGNED AS FAR AS REASONABLY PRACTICABLE TO BE SAFE AND WITHOUT RISKS TO THE HEALTH OF THE PERSONS USING IT AS A WORKPLACE FOR THE PURPOSE FOR WHICH IT HAS BEEN DESIGNED.
AT THIS DESIGN STAGE IN RESPONSE TO THE OCCUPATIONAL HEALTH & SAFETY ACT 2004 (2012 AMENDMENTS) PART 3 DIVISION 5 SECTION 28 WITH REGARD TO RISKS & HAZARDS THAT EXIST AND CANNOT BE ELIMINATED HAVE CONTROL MEASURES THAT HAVE BEEN SET OUT UNDER THE TERMS OF THE NATIONAL CONSTRUCTION CODE (NCC) AND THE AUSTRALIAN STANDARDS

RISK & HAZARD IDENTIFICATION:

IN PRINCIPLE THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 SECTION 28 AIMS TO SECURE THE HEALTH, SAFETY AND WELFARE OF EMPLOYEES & OTHER PEOPLE AT WORK GIVING THE HIGHEST LEVEL OF PROTECTION POSSIBLE. TO PROTECT THE PUBLIC FROM THE HEALTH AND SAFETY RISKS OF BUSINESS ACTIVITIES. SAFER DESIGNED BUILDINGS & STRUCTURES SUPPORTS SAFE & HEALTHY WORKPLACES LEADING TO THE REDUCTION IN WORKPLACE INJURIES, DISEASE & DEATH.

SAFETY MANAGEMENT SYSTEM (SMS):

RISK SHOULD BE ELIMINATED, IF NOT, RISK SHOULD BE CONTROLLED BY APPLYING RECOGNISED STANDARDS SOLUTIONS AS STATED PREVIOUSLY - THE NATIONAL CONSTRUCTION CODE (NCC), AUSTRALIAN STANDARDS AND WORKSAFE GUIDE LINES

BUILDING SAFETY ANALYSIS:

THE ELIMINATION OR CONTROL REQUIRES APPLICATION OF RECOGNISED STANDARD SOLUTIONS. TECHNICAL PROVISIONS HAVE BEEN STATED ON THESE DRAWINGS IN A VARIETY OF MATTERS WITH REGARD TO BUILDING CONSTRUCTION - THE NATIONAL CONSTRUCTION CODE (NCC) AND THE AUSTRALIAN STANDARDS

JOB SAFETY ANALYSIS:

THE OCCUPATIONAL HEALTH & SAFETY ACT 2004 REQUIRES THAT BUILDING DESIGNERS MAKE OWNERS & MANAGERS AWARE OF DIVISION 5 SECTION 26 - DUTIES OF PERSONS WHO MANAGE OR CONTROL WORKPLACES.

WORKSAFE COMPLIANCE REQUIRES:
CONSTRUCTIVE STRATEGIES TO IDENTIFY WORK SAFETY RISKS AND JOB SAFETY ANALYSIS USING THE STANDARD JOB SAFETY ANALYSIS WORK SHEETS (JSA) OR SAFE WORK METHOD STATEMENT FORMS (SWMS).

1. CONSULTATION REQUIREMENTS
   - WITH EMPLOYEES AND ANY INDEPENDENT CONTRACTORS
   - IDENTIFICATION OF UNSAFE AND HAZARDOUS TASKS
   - ELIMINATION OF HIGH RISK HAZARDOUS TASKS WHERE POSSIBLE
   - CHANGE WORKPLACE AND OBJECTS TO PREVENT/REDUCE/CONTROL RISK
   - PROVIDE TRAINING FOR KNOWLEDGE OF CONDUCT AND PRACTICE
2. SAFE WORKING METHOD STATEMENT
   - FOR EMPLOYEES AND ANY INDEPENDENT CONTRACTORS
   - FOR INSTRUCTION INFORMATION AND CONSULTATION
   - FOR PERFORMANCE OUTCOMES NEGATIVE AND POSITIVE

THE AGRICULTURAL SECTOR STATISTICS:

1. THE NUMBER ONE COMMON INJURY IS BACK MUSCLE STRAIN AND PAIN FROM MANUAL HANDLING - LIFTING, PUSHING, PULLING, HOLDING, LOWERING THROWING, CARRYING, PACKING, TYPING, ASSEMBLING, CLEANING, SORTING AND USING OBJECTS, TOOLS AND EQUIPMENT FOR LOADING & UNLOADING, PARTICULARLY WITH REGARD TO FEED PRODUCE AND ANIMALS.
2. THE SECOND HIGHEST INJURY IS SHOULDER MUSCLE STRESS/ STRAIN FROM HEAVY LIFTING OF BOXES, FREIGHT OR PALLETS. TRAUMATIC JOINT/MUSCLE INJURY OR STRAIN FROM HEAVY LIFTING.
3. THE THIRD MOST COMMON TYPE OF INJURY IS WOUNDS/ LACERATIONS OR FRACTURES DUE TO FALLING LOADS OR FROM BEING CRUSHED BETWEEN MATERIALS AND/OR EQUIPMENT.

COLLECTIVELY THESE THE BULK OF THESE CONDITIONS ARE KNOWN AS MUSCULOSKELETAL DISORDERS (MSD's)

HAZARDOUS MANUAL HANDLING INVOLVES:

1. REPETITIVE OR SUSTAINED APPLICATION OF FORCE, AWKWARD POSTURES OR MOVEMENTS
2. TASKS THAT PEOPLE FIND DIFFICULT DUE TO THE HIGH DEGREE OF FORCE REQUIRED.
3. EXPOSURE TO SUSTAINED VIBRATION
4. MANUAL HANDLING OF UNSAFE LOADS THAT ARE DIFFICULT TO GRASP OR HOLD

MECHANICAL HANDLING:

1. FORKLIFTS CAUSE MORE WORKPLACE DEATHS AND INJURIES THAN ANY OTHER PIECE OF EQUIPMENT.
2. ONE IN THREE FORKLIFT-RELATED INJURIES OCCURS WHEN AN OPERATOR GETS ON OR OFF A FORKLIFT, OFTEN RESULTING IN MUSCO-SKELETAL BACK INJURIES.

MAJOR HAZARD FACILITY (MHF):

1. MAJOR HAZARD FACILITIES REQUIRE WORKSAFE LICENSES FOR COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 AND THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS 2007 INCLUDING 2012 AMENDMENTS.
2. IDENTIFICATION, ASSESSMENTS AND CONTROLS SUPPORTED WITH A COMPLIANCE CHECK LIST WITH THE PROVISION FOR FUTURE MODIFIC.ATIONS AND REVIEW PROCESSES MUST BE IN PLACE AT THE COMPLETION OF THE CONSTRUCTED BUILDING BEFORE SALE OR LEASE

IDENTIFIABLE RISKS:

1. THE COMPLIANT LOADING ZONE AS SHOWN ON THE SITE PLAN REQUIRES CLEAR DEMARCATION FROM THE REST OF THE FLOOR.
2. THE PATHWAY FROM THE OFFICE DOOR TO THE PA DOOR SHOULD BE CLEARLY DEFINED.
3. SAFETY PROCEDURES SHOULD BE OUTLINED FOR THE LOADING AND UNLOADING OF GOODS TO A SERVICE VEHICLE WITHIN THE LOADING ZONE.

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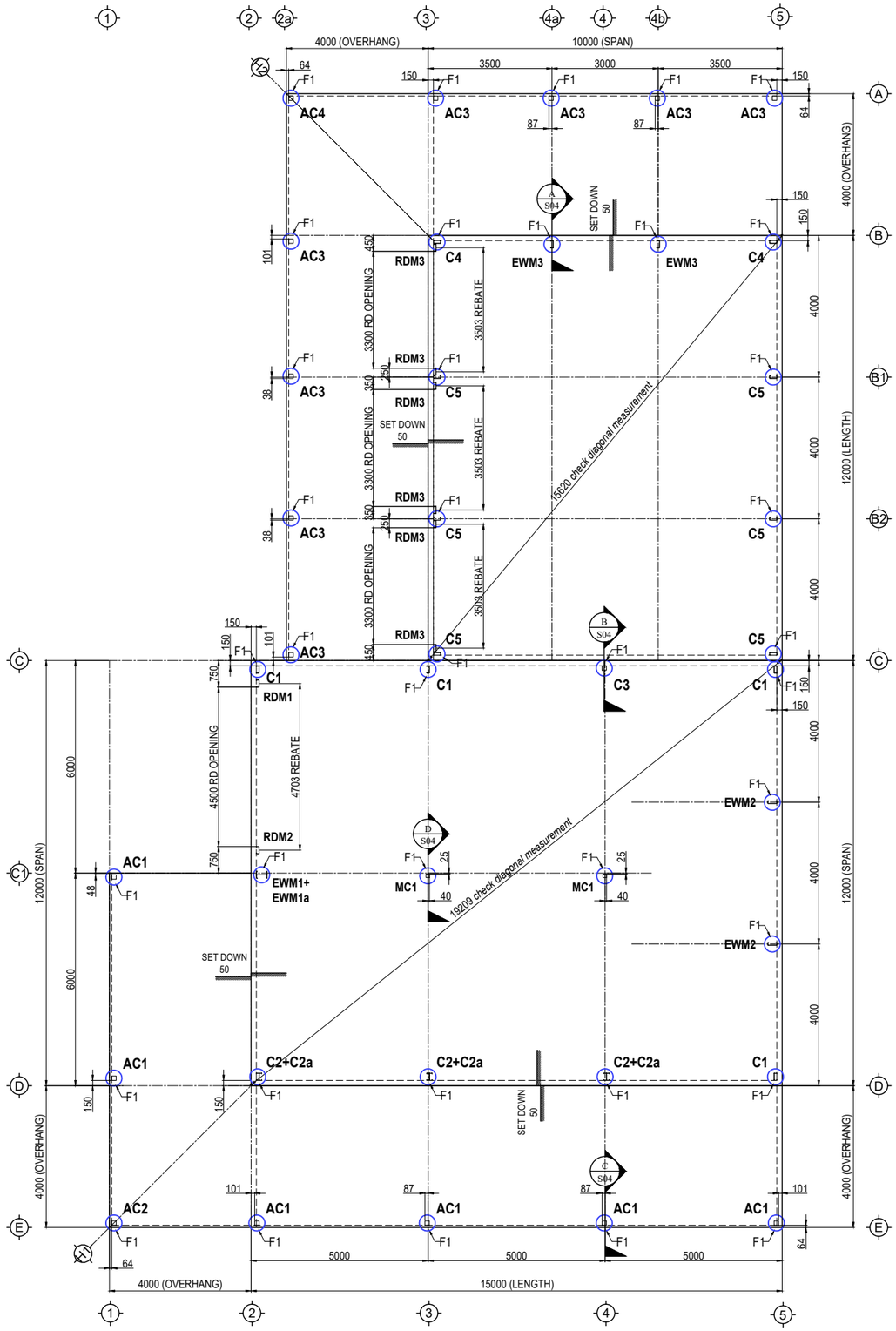
TOTAL SHED SOLUTIONS AUSTRALIA

Title Name :	SPECIFICATION CLASS 10a DOMESTIC FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S02
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



SLAB & FOOTING PLAN

SCALE = 1/150

Rev.	Date	Description

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Vic EC30894,
NT 24748ES, TAS CC814L
PO. BOX 213 MUDGEERABA QLD 4213
Ph: (07) 55 306 214 Email: info@gcma.com.au

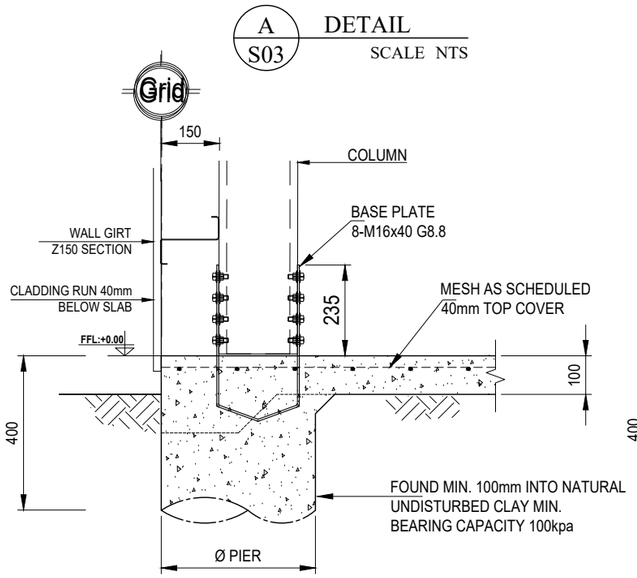
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FOOTING & SLAB PLAN FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S03	
Date	13-MAR-2025	
Rev	A	A3

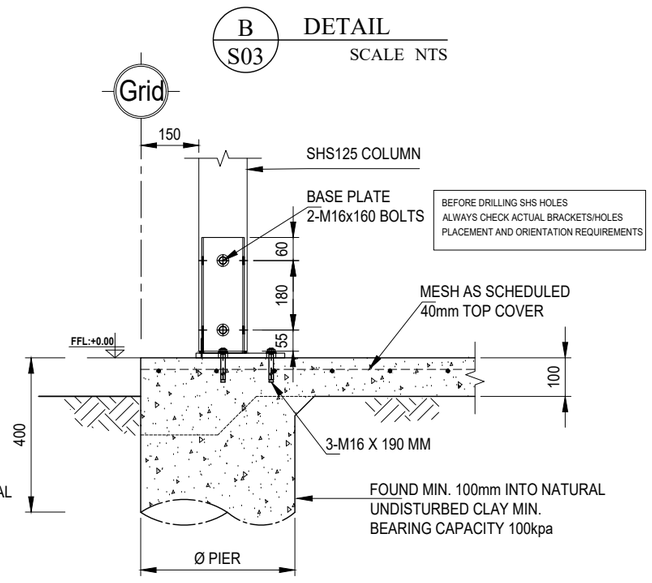
BASE ON SLAB DETAIL

SCALE : N.T.S



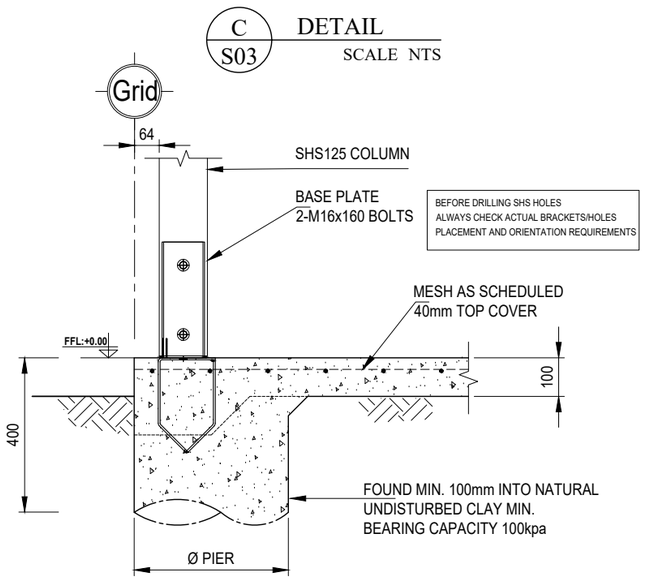
BASE ON SLAB DETAIL

SCALE : N.T.S



BASE ON SLAB DETAIL

SCALE : N.T.S



FOOTING SCHEDULE

QTY	MARK	DIMENSIONS
38	F1	Ø400 x 400 DEEP

SLAB DETAIL

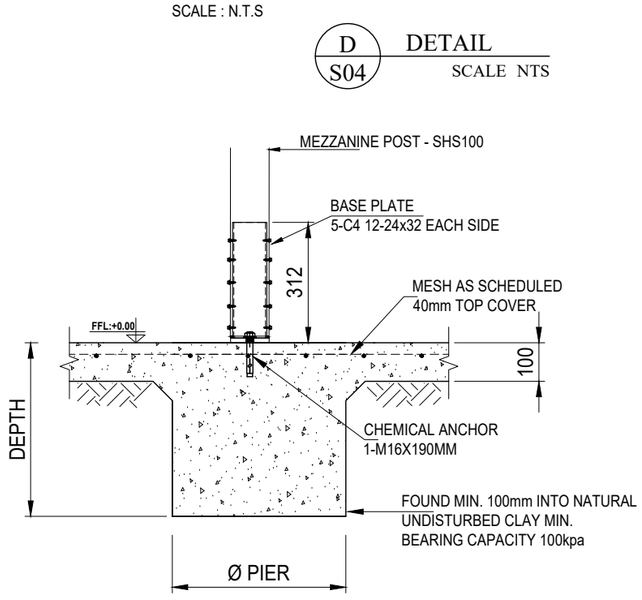
REINFORCEMENT	F72
SLAB THICKNESS	MIN 100mm, 25Mpa

BRACKET SET OUT

QTY	MARK	SECTION
04	C1	C200-24
03	C2+C2a	2/C200-24
01	C3	125 x 125 x 4 SHS
02	C4	C200-19
06	C5	C200-19
06	AC1	125 x 125 x 4 SHS
01	AC2	125 x 125 x 4 SHS
08	AC3	125 x 125 x 4 SHS
01	AC4	125 x 125 x 4 SHS

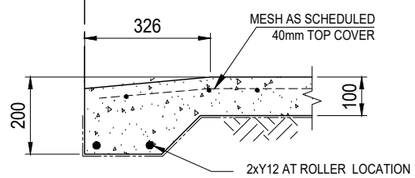
BASE ON SLAB DETAIL

SCALE : N.T.S



R/DOOR REBATE DETAIL

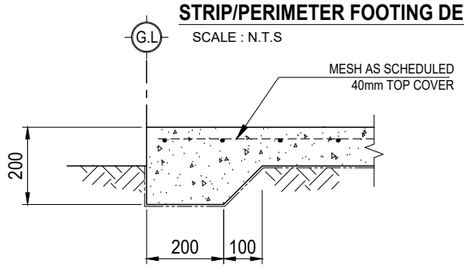
SCALE : N.T.S



STRIP/PERIMETER FOOTING DETAIL AT ROLLER DOOR

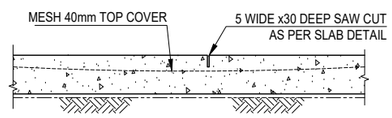
STRIP/PERIMETER FOOTING DETAIL

SCALE : N.T.S



TYPICAL SAWN CUT JOINT DETAIL

SCALE : N.T.S



NOTE

- SLAB & FOOTING TO CAST INTEGRALLY
- THE BASE ON BRACKETS ARE ONLY TO BE USED FOR THE COLUMNS
- THE TOP OF THE FOOTING BASE ON BRACKET NEEDS TO BE 235, 300mm ON SLAB
- PERIMETER FOOTING ARE 200 x 200 DEEP FOR A, S & M SOIL CLASSIFICATIONS ONLY
- CONCRETE STRENGTH TO BE 20mPa AT 28 DAYS
- FOOTING SHOWN FOR SAND AND CLAY - (CLASSES A, S & M AS PER AS2870)
- SUB-STRUCTURE REQUIRES SAFE BEARING PRESSURE AT FOUNDATION LEVEL OF 100kPa
- ANY OTHER SOIL CLASS VOIDS DESIGN – REFER BACK TO ENGINEER
- SHOULD ROCK BE ENCOUNTERED DURING FOOTING EXCAVATION YOU SHALL CONTACT THE DESIGN ENGINEER FOR CLARIFICATION THAT THE DESIGN IS SUITABLE FOR THE SITE CONDITIONS

Rev.	Date	Description

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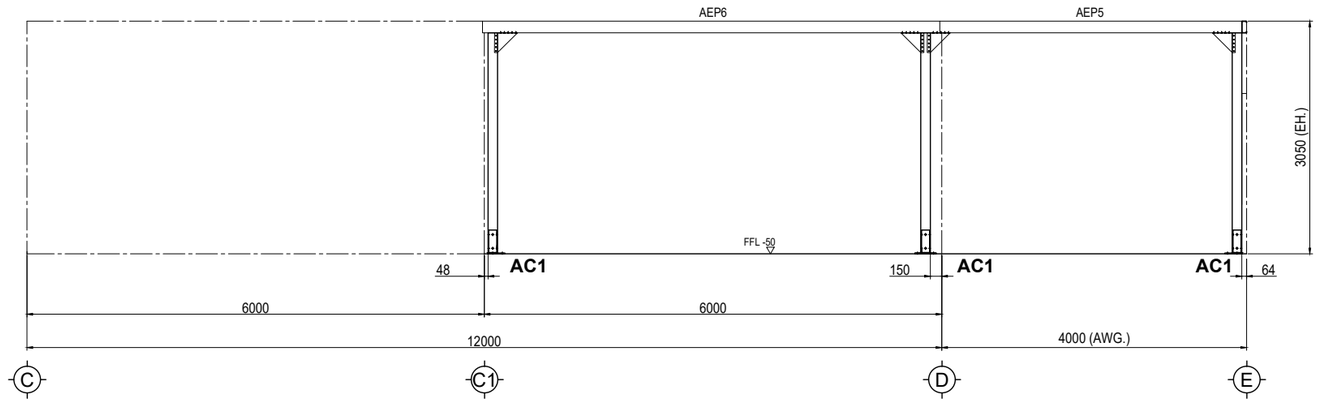
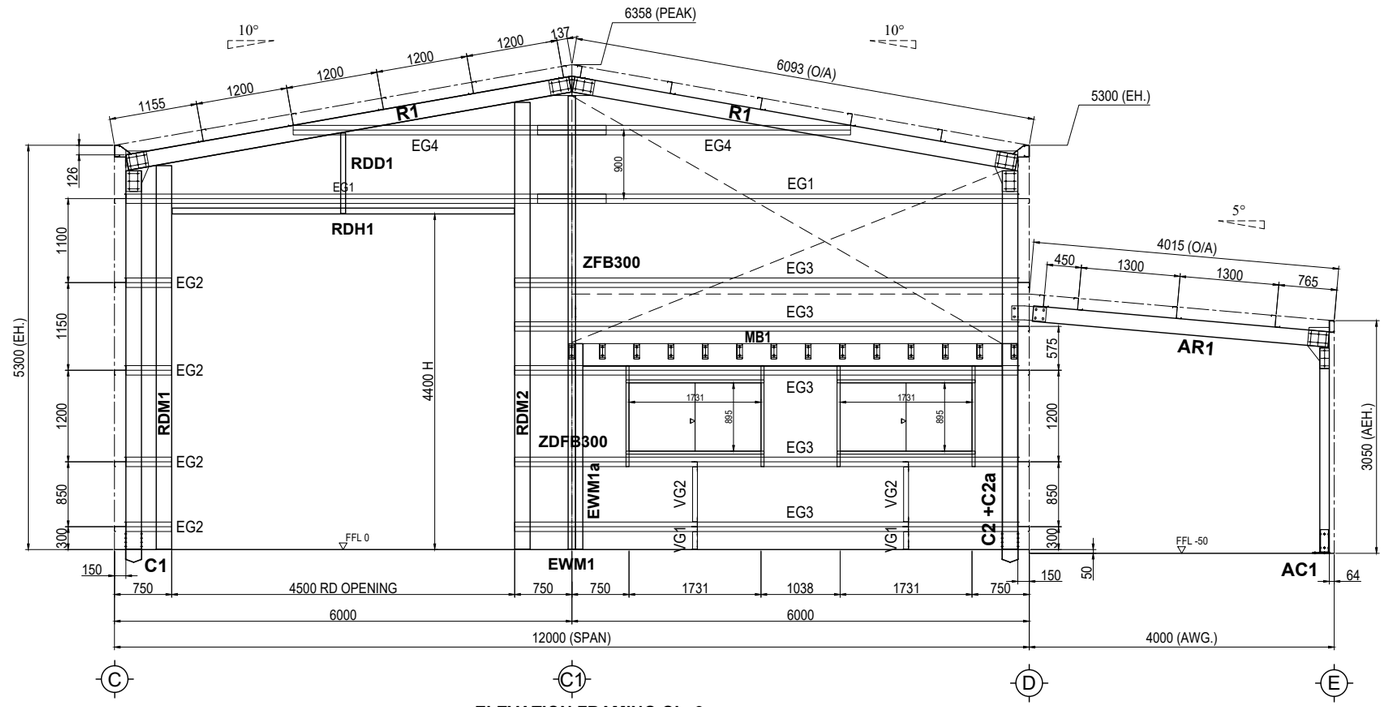
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FOOTING & SLAB PLAN FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S04
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



ELEVATION FRAMING GL. 1

SCALE = 1/90



ELEVATION FRAMING GL. 2

SCALE = 1/90

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

Rev.	Date	Description

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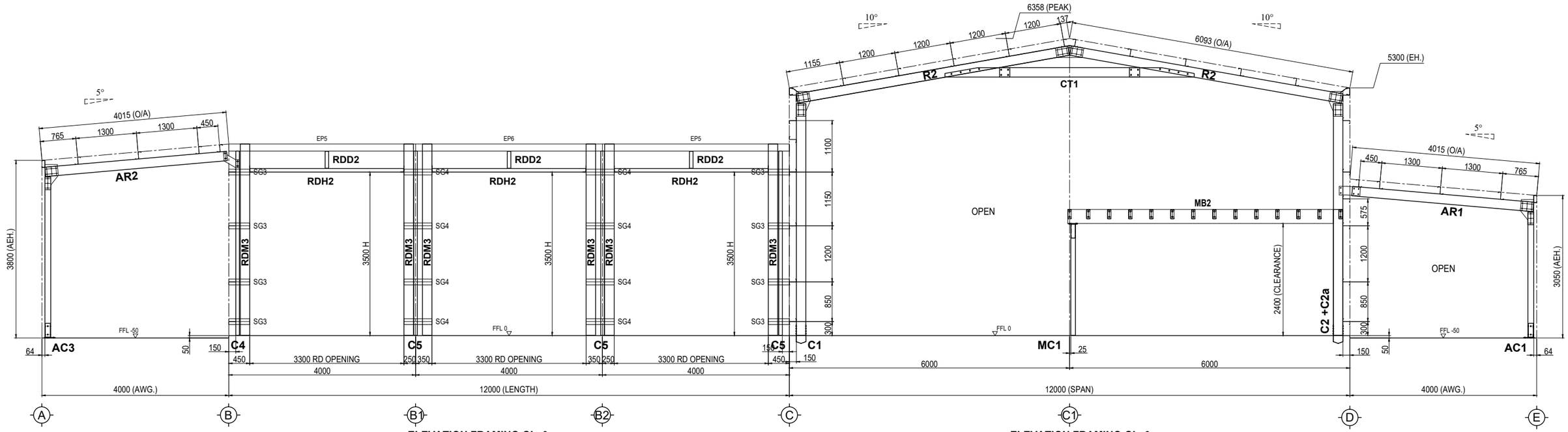
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S05
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Date	13-MAR-2025
		Rev	A A3

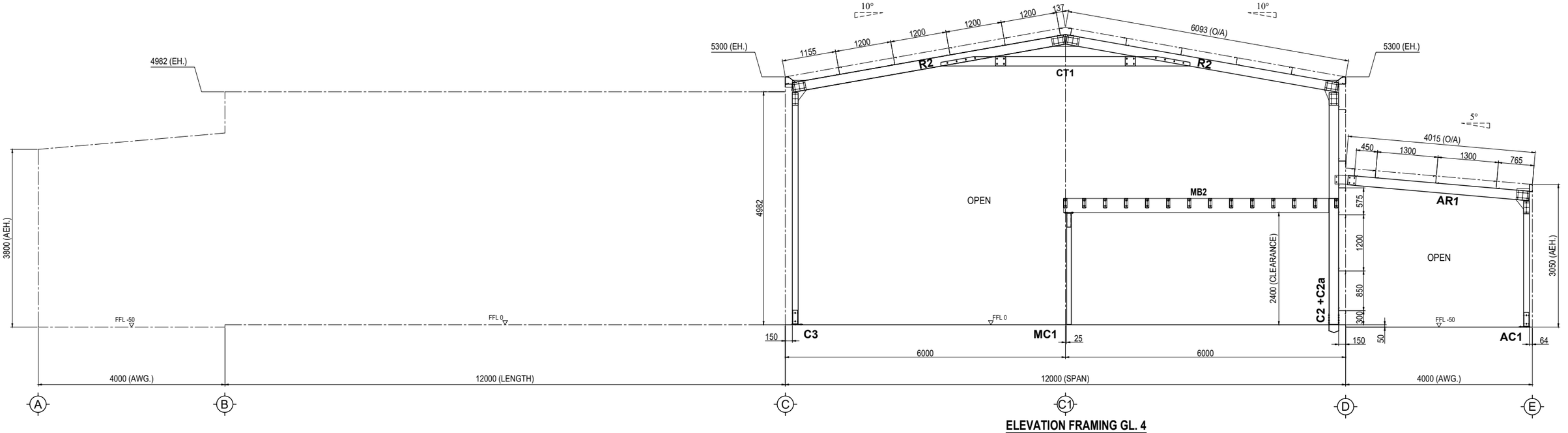


ELEVATION FRAMING GL. 3

SCALE = 1/90

ELEVATION FRAMING GL. 3

SCALE = 1/90



ELEVATION FRAMING GL. 4

SCALE = 1/90

NOTE
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- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

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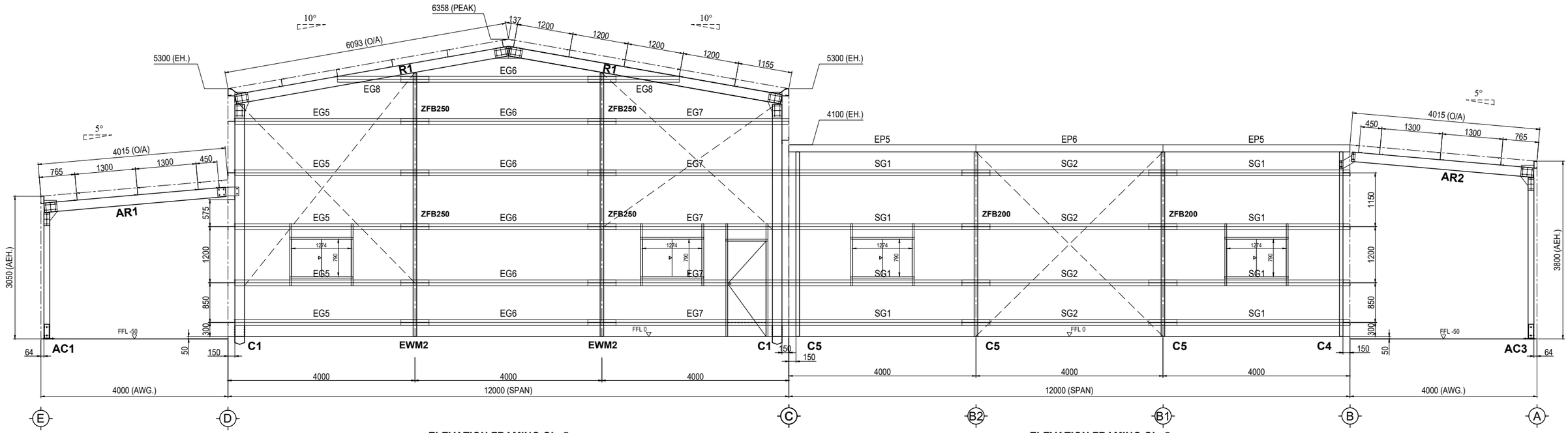
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S06
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3

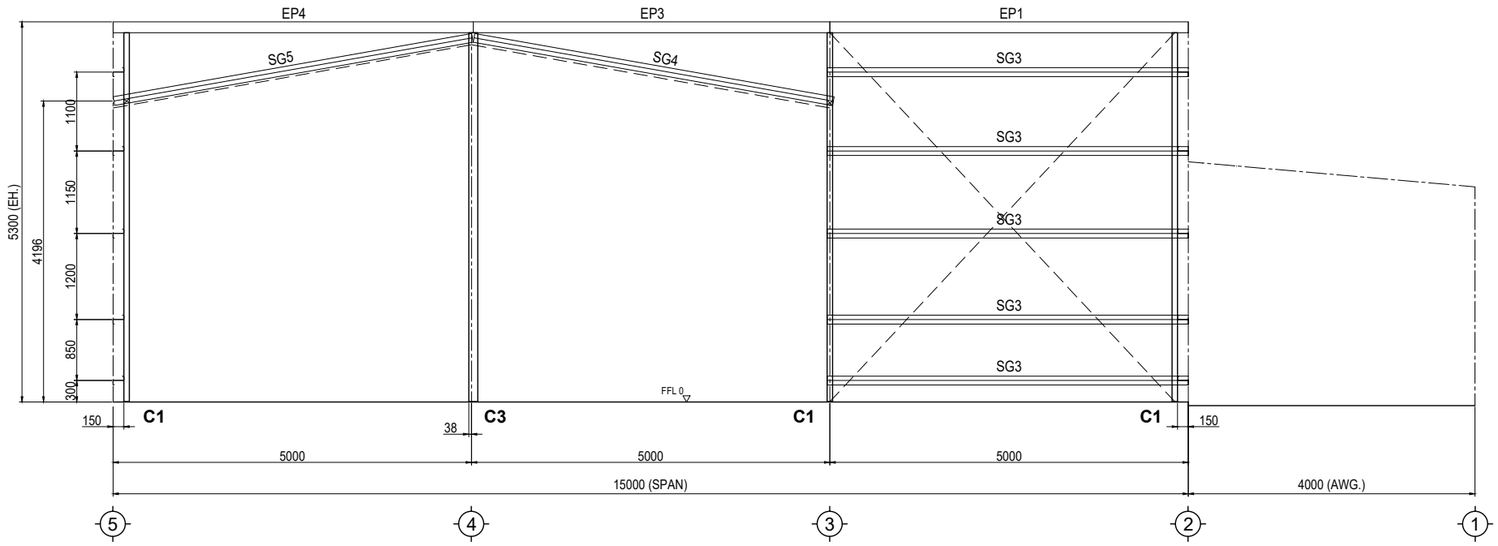


ELEVATION FRAMING GL. 5

SCALE = 1/90

ELEVATION FRAMING GL. 5

SCALE = 1/90



ELEVATION FRAMING GL. C

SCALE = 1/90

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

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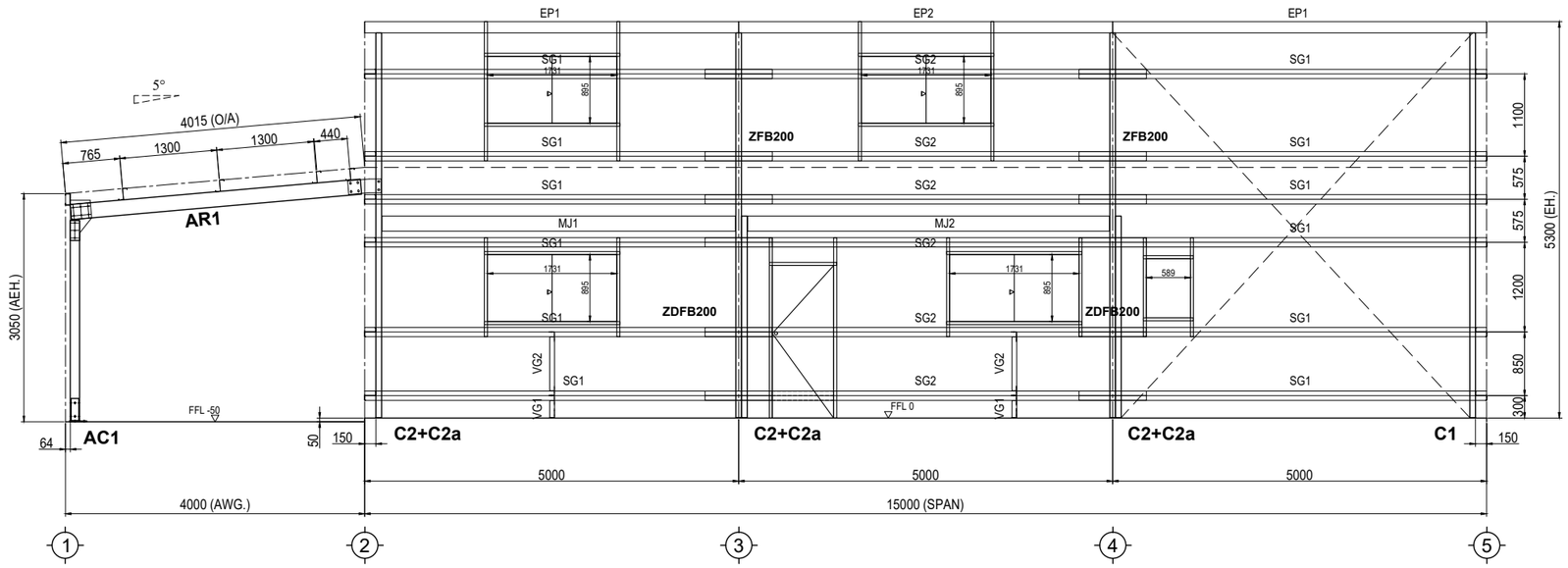
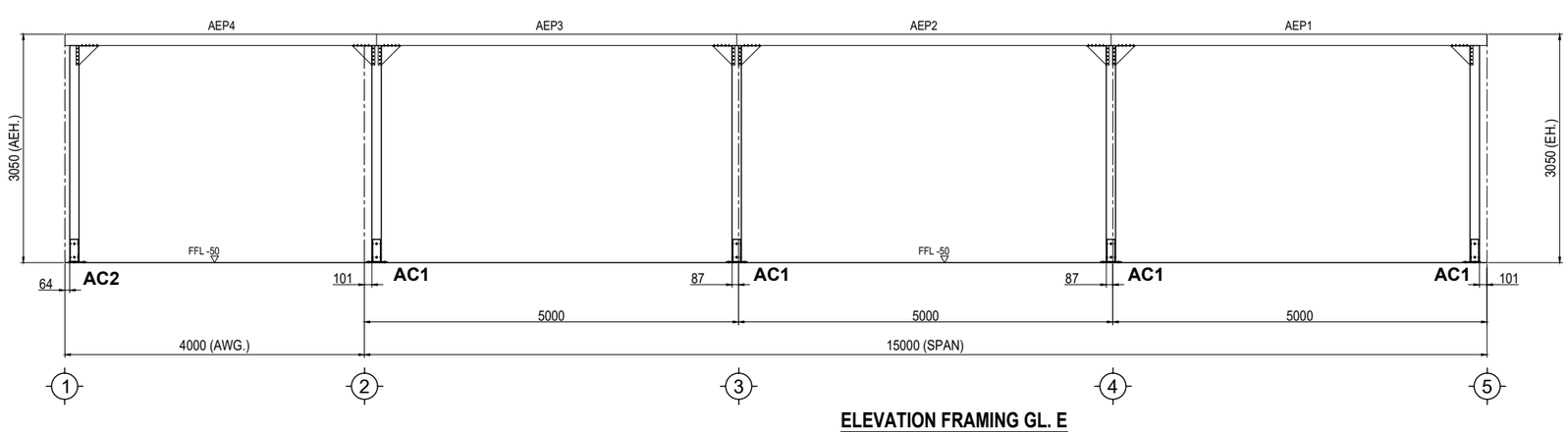
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S07
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



ELEVATION FRAMING GL. D

SCALE = 1/90



ELEVATION FRAMING GL. E

SCALE = 1/90

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

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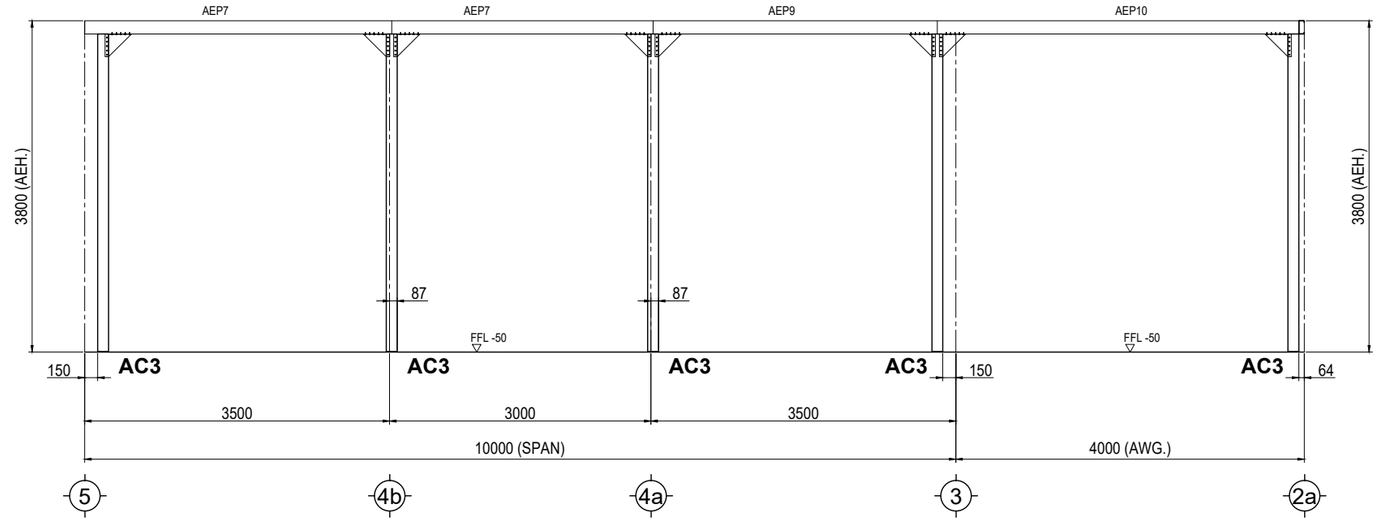
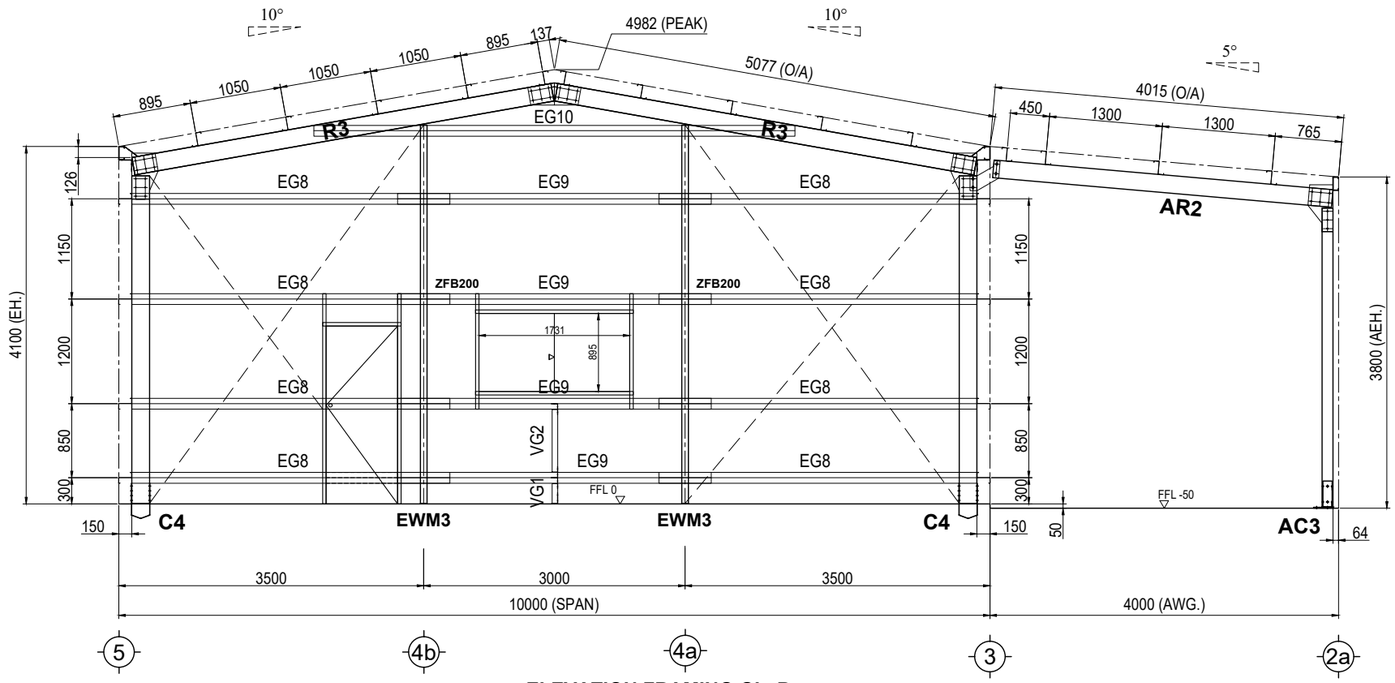
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S08
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



ELEVATION FRAMING GL. A

SCALE = 1/70



ELEVATION FRAMING GL. B

SCALE = 1/70

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

Rev.	Date	Description

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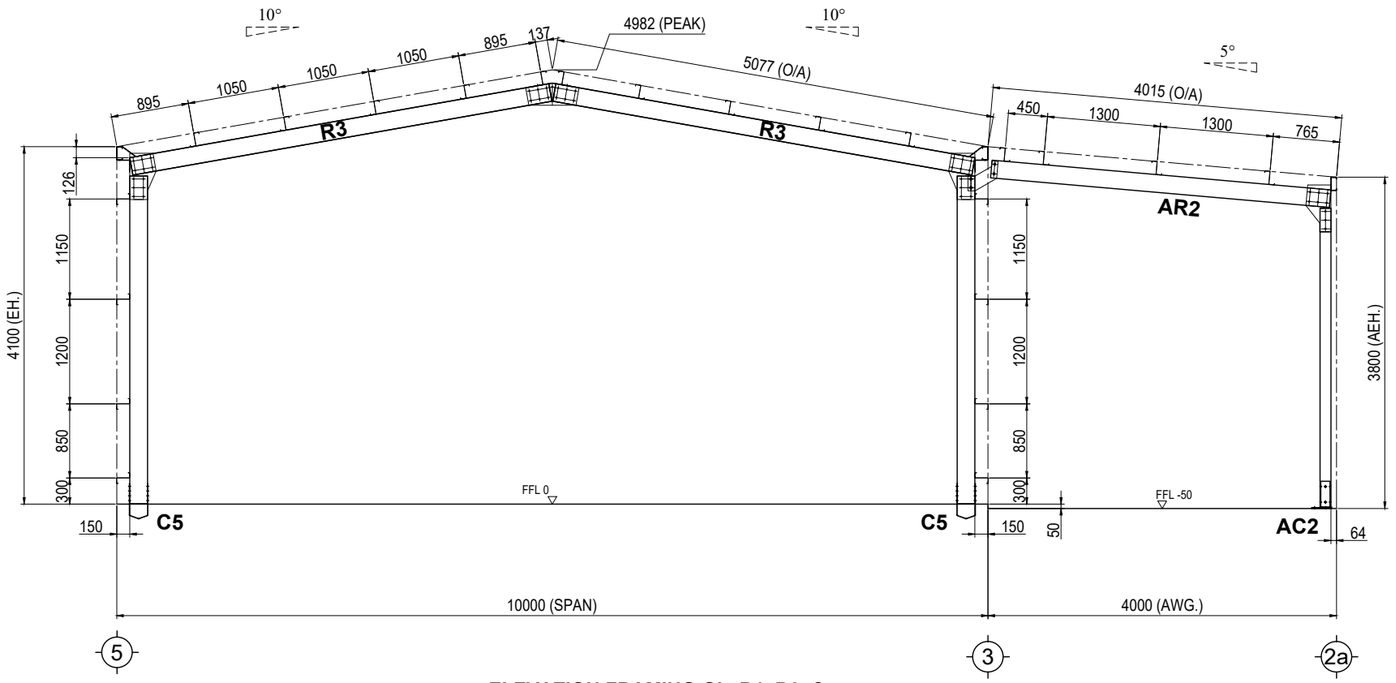
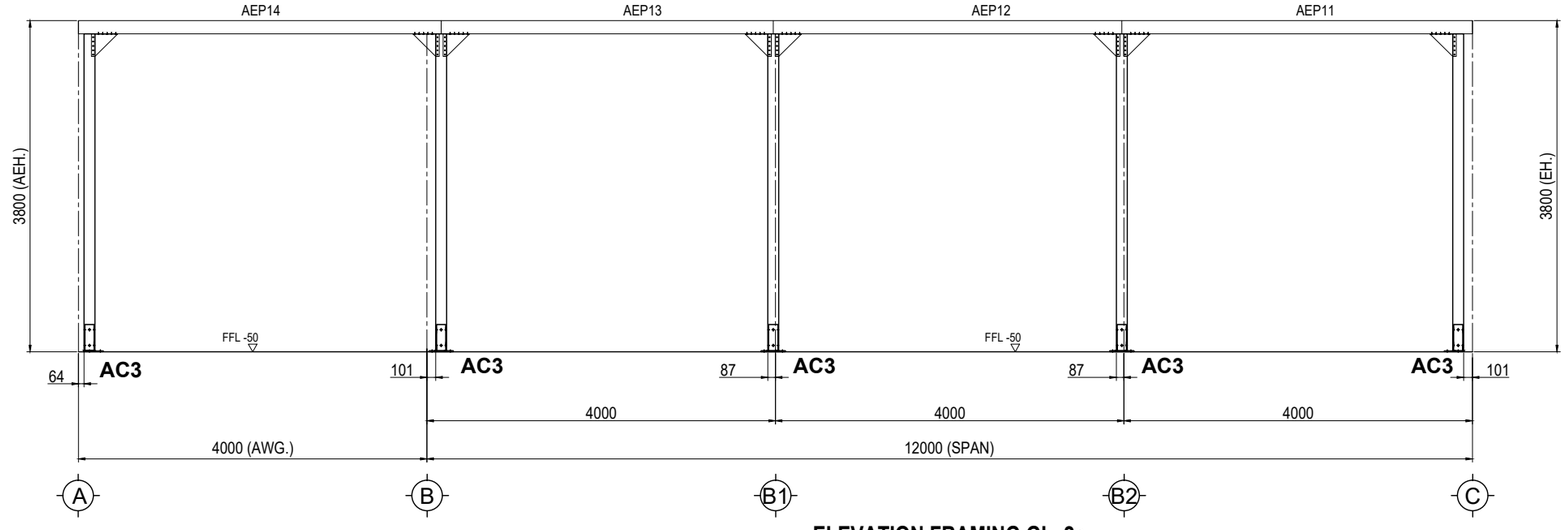
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122	
		Dwg No.	S09	
Client :	Darryl Walford	Date	13-MAR-2025	
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A	A3



ELEVATION FRAMING GL. B1, B2, C

SCALE = 1/70



ELEVATION FRAMING GL. 2a

SCALE = 1/70

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

Rev.	Date	Description

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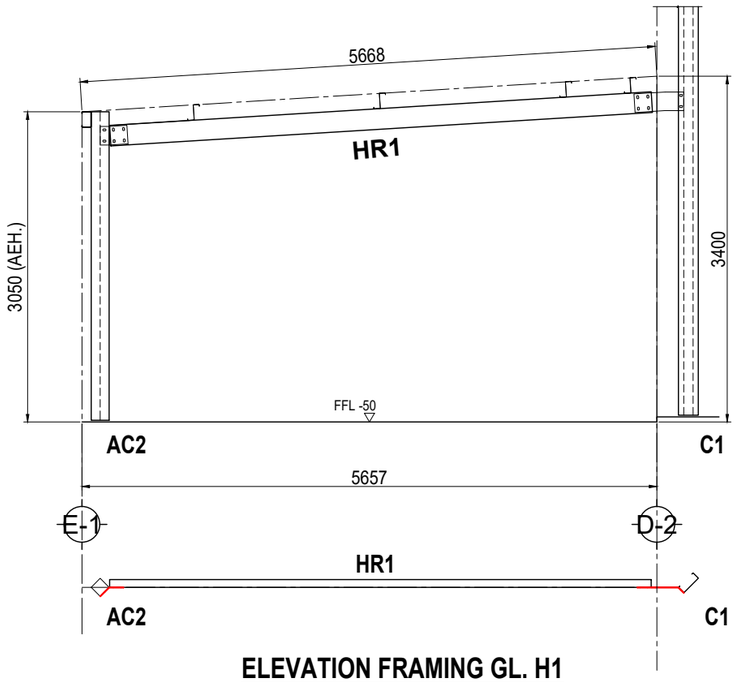
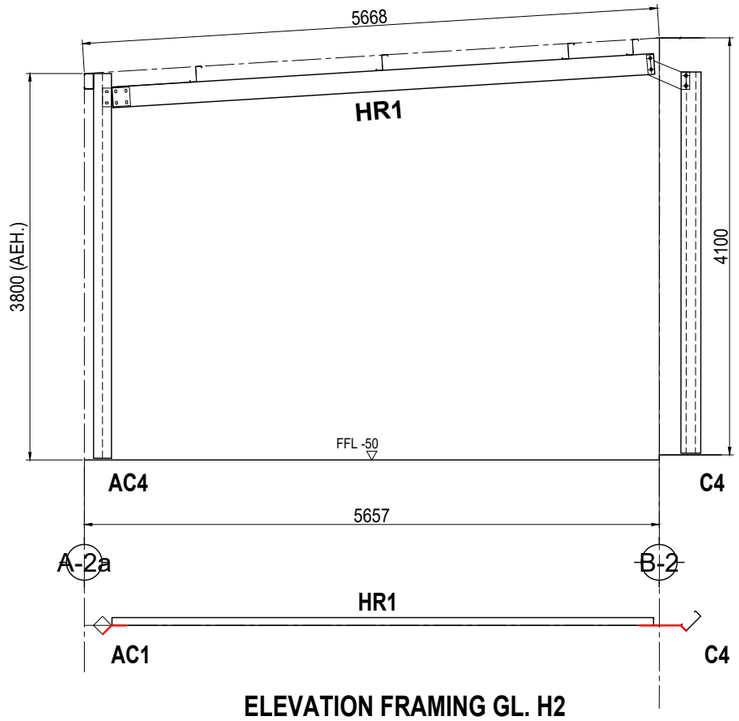
TOTAL SHED SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S10
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



ELEVATION FRAMING GL. H1

SCALE = 1/60



ELEVATION FRAMING GL. H2

SCALE = 1/60

NOTE
- WALL SHEETING USING 0.42 BMT CORRUGATED
- GIRTS SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

Rev.	Date	Description

GRAEME MOULSTON & ASSOCIATES ENGINEERING PTY LTD
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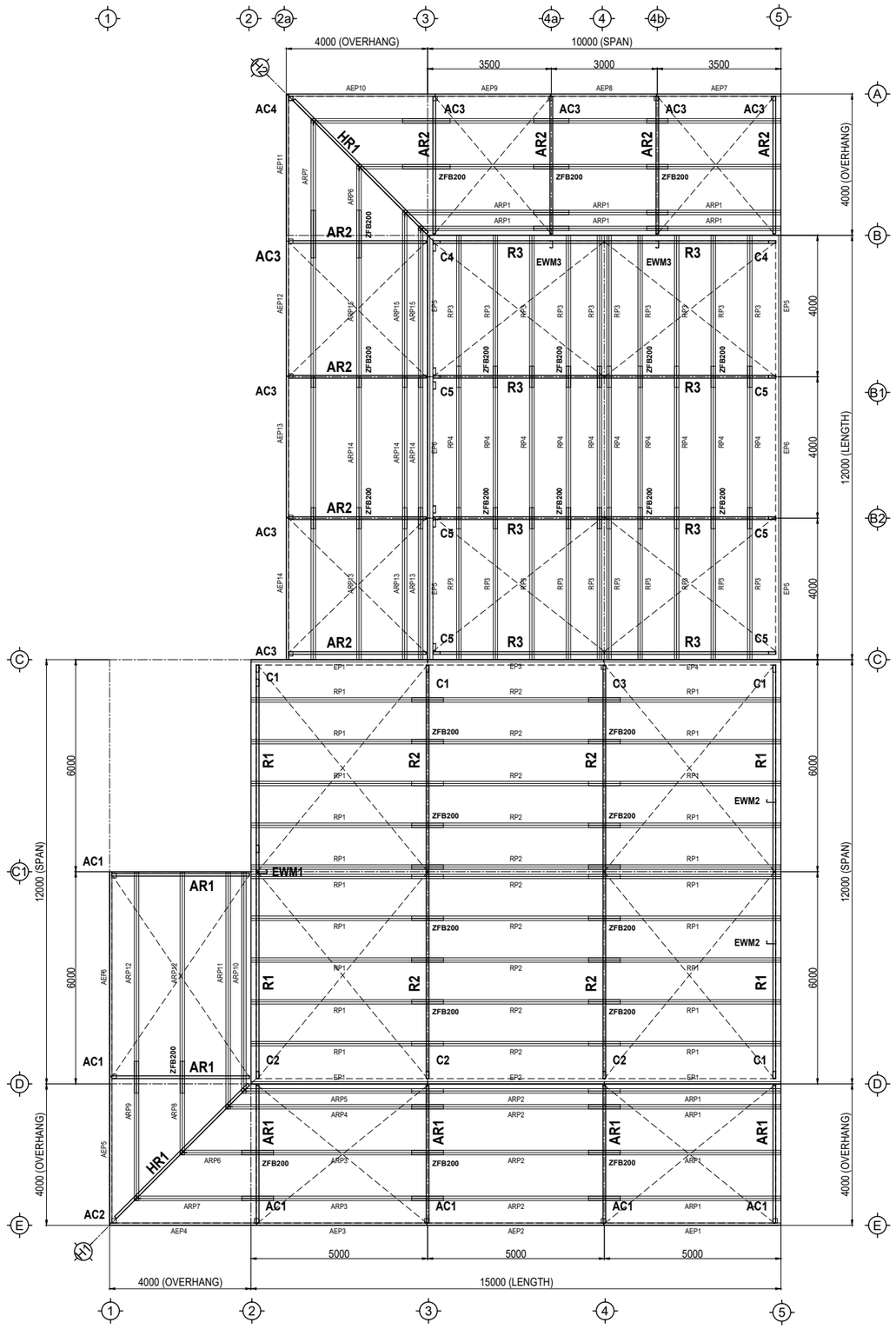
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION FRAMING FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S11
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Date	13-MAR-2025
		Rev	A A3



MEMBER SIZE SCHEDULE

DESCRIPTION	MARK	SECTION
ROOF PURLIN	RP, AR	Z150-12
SIDE WALL GIRTS	SG	Z150-12
END WALL GIRTS	EG	Z150-12
VIERTICAL GIRTS	VG	C150-12
EAVE PURLIN	EP, AEP	C150-12
COLUMNS	C1, C2	C200-24
COLUMNS	C3	125 x 125 x 4 SHS
COLUMNS	C4, C5	C200-19
RAFTER	R1, R2	C200-24
RAFTER	R3, R4	C200-19
AWNING RAFTER	AR	C200-15
HIP ROOF RAFTER	HR	C200-15
COLLAR TIE	CT	C200-24
MULLION COLUMN	EWM1	C300-24
MULLION COLUMN	EWM2	C250-19
MULLION COLUMN	EWM3	C200-24
RD MULLION	RDM	C200-24
R/D HEADER	RDH	C200-15
R/D HEADER DROPPER	RDD	C200-15
R/D HEADER DROPPER	RDD	TH22
WIND BRACING	WB	51 x 1.6 - STRAP

NOTE
- ROOF SHEETING USING 0.42 BMT CORRUGATED
- PURLIN SPACING 1300 CTS MAX 15% LAPPED AS SUPORRT

ROOF FRAMING PLAN

SCALE = 1/150

Rev.	Date	Description

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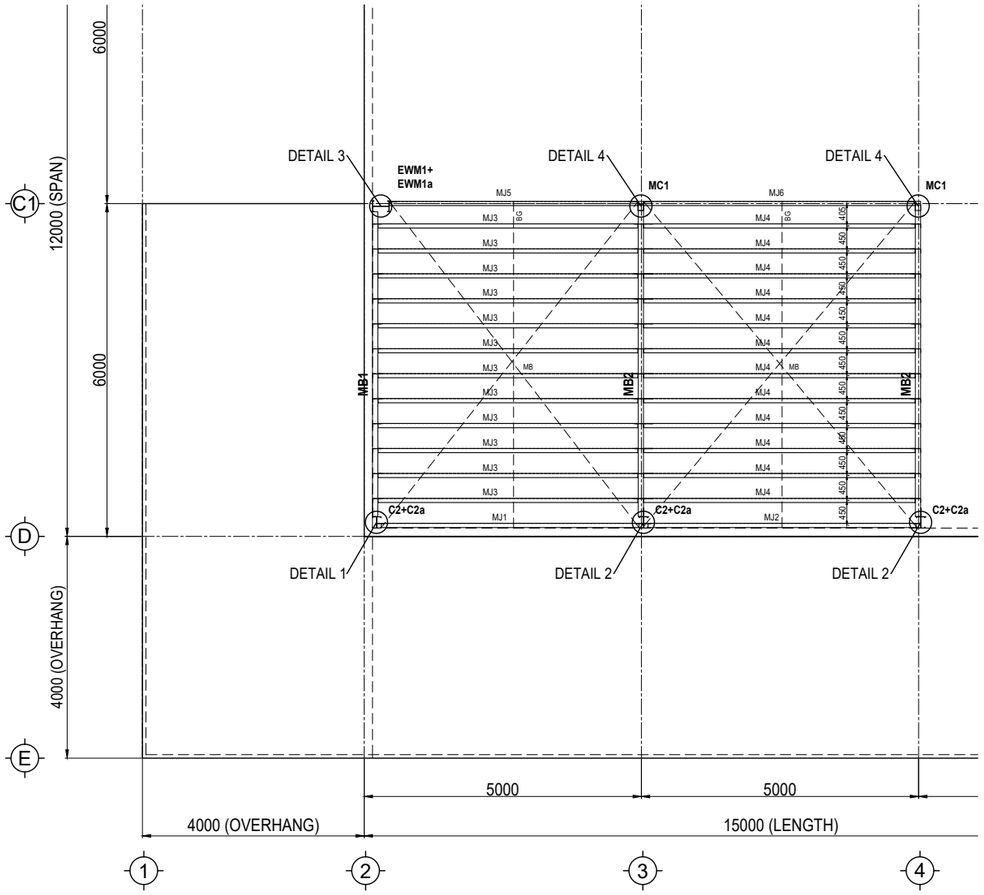
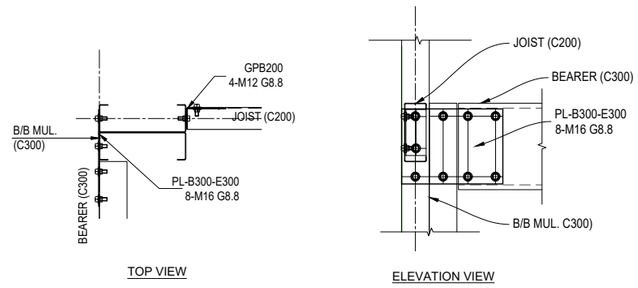
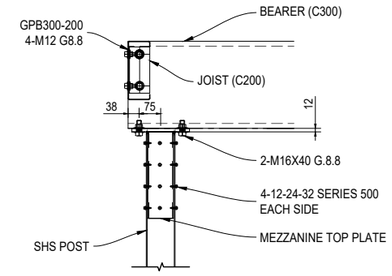
Title Name :	ROOF FRAMING PLAN FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S12	
Date	13-MAR-2025	
Rev	A	A3

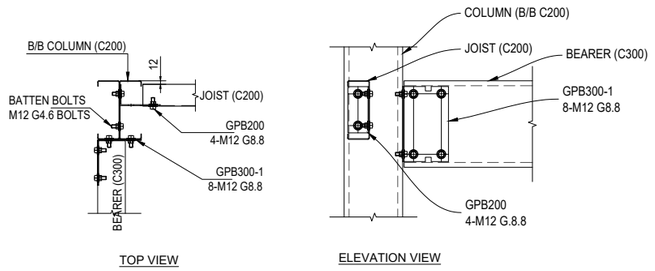




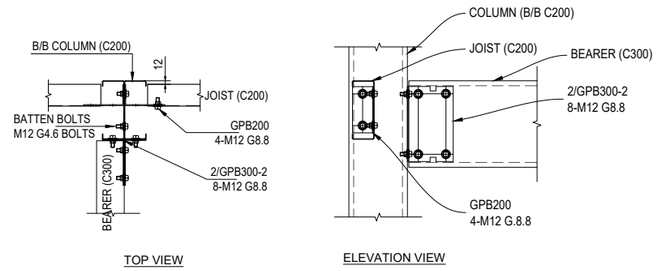
DETAIL 3



DETAIL 4



DETAIL 1



DETAIL 2

MEMBER SIZE SCHEDULE		
DESCRIPTION	MARK	SECTION
MEZZANINE COLUMN	C2+C2a	2/C200-24
MEZZANINE POST	MC	100x100x3 SHS
MEZZANINE BEARER	MB	C300-30
MEZZANINE JOISTS	MJ	C200-24 @450
BRIDGING	BG	TH22
MEZZANINE BRACING	MZB	56 x 1.6 - STRAP

NOTE

- DESIGN LOADS : LIVE LOAD = 1.5 Kpa
- STRAP BRACING SCREWED UNDERNEATH ALL JOISTS
- JOISTS SPACING IS 450 CTS MAX.

Rev.	Date	Description

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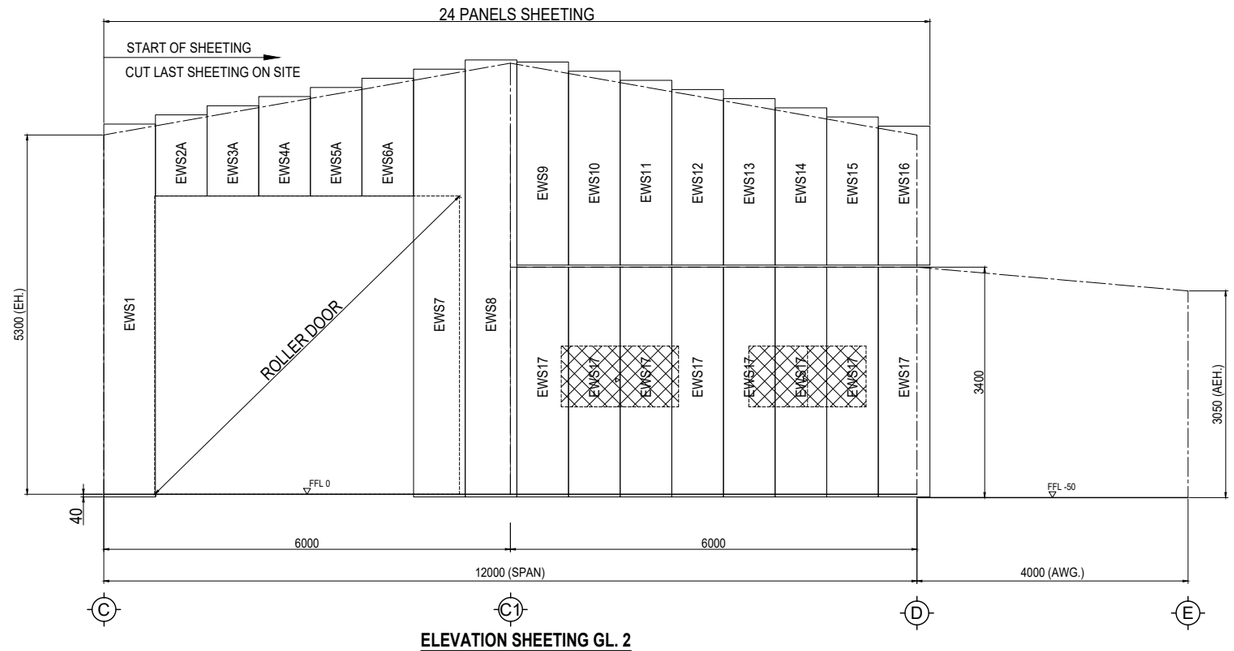
PO. BOX 213 MUDGEERABA QLD 4213
Ph: (07) 55 306 214 Email: info@gcma.com.au

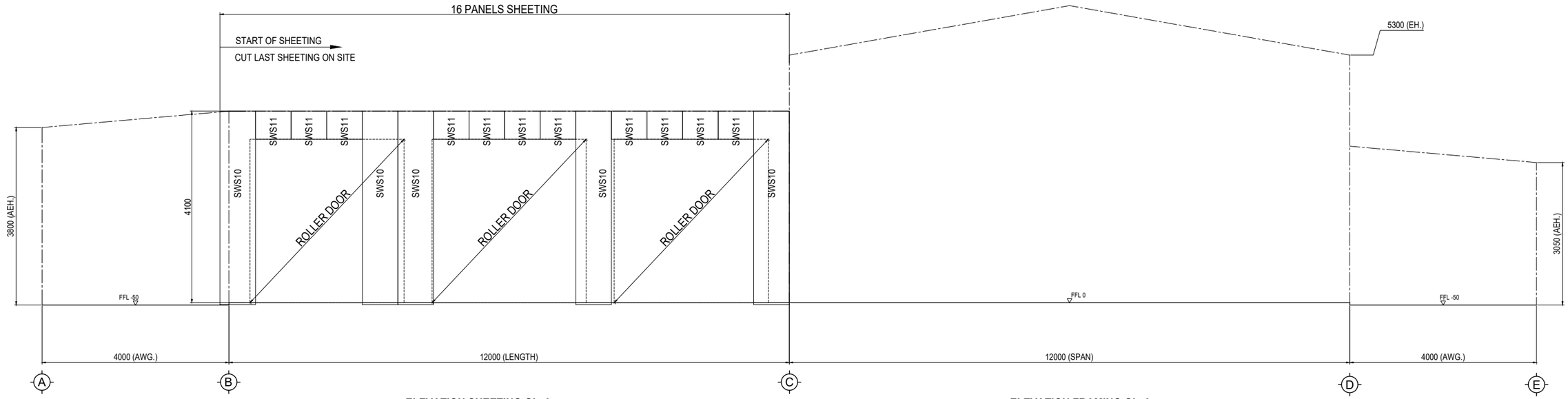
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	MEZZANINE FRAMING PLAN FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S13
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



ELEVATION SHEETING GL. 2

SCALE = 1/90



ELEVATION SHEETING GL. 3

SCALE = 1/90

ELEVATION FRAMING GL. 3

SCALE = 1/90

Rev.	Date	Description

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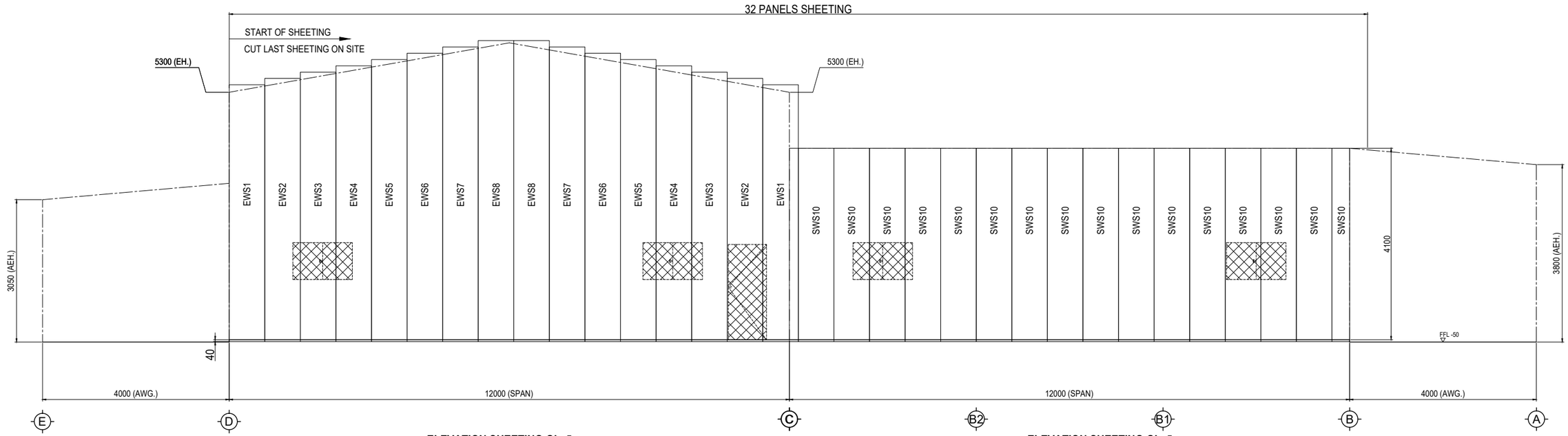
PO. BOX 213 MUDGEERABA QLD 4213
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION SHEETING LAYOUT FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S14	
Date	13-MAR-2025	
Rev	A	A3

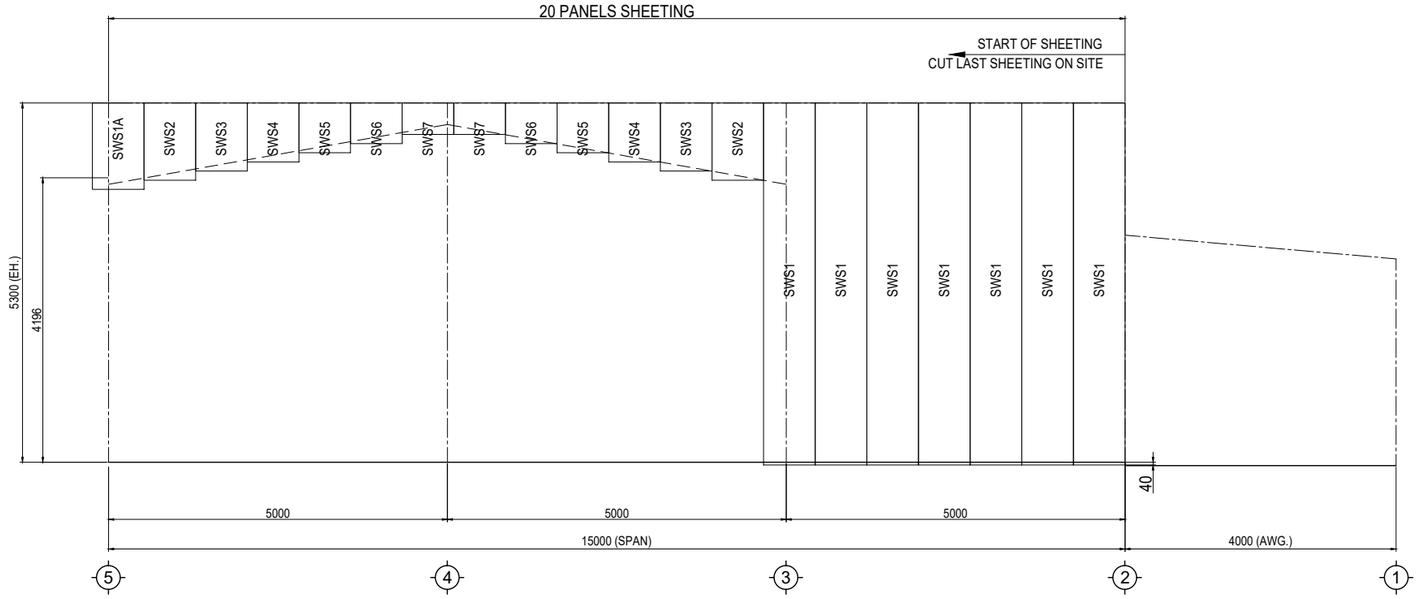


ELEVATION SHEETING GL. 5

SCALE = 1/90

ELEVATION SHEETING GL. 5

SCALE = 1/90



ELEVATION SHEETING GL. C

SCALE = 1/90

Rev.	Date	Description

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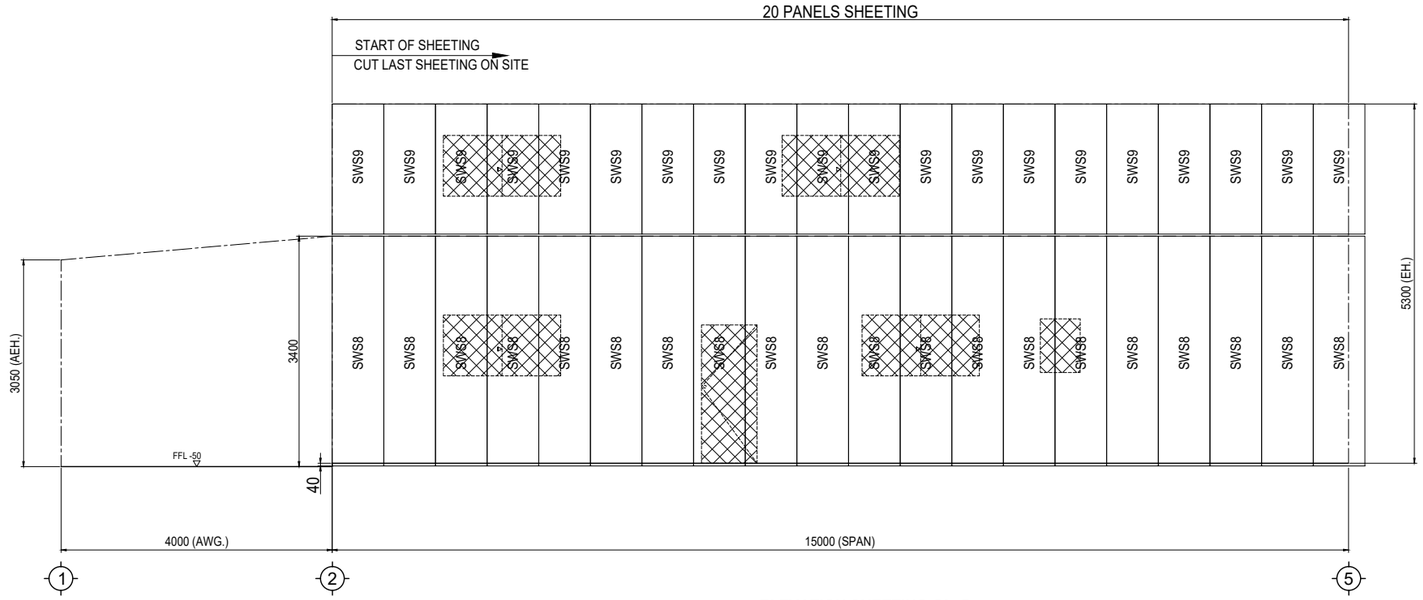
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

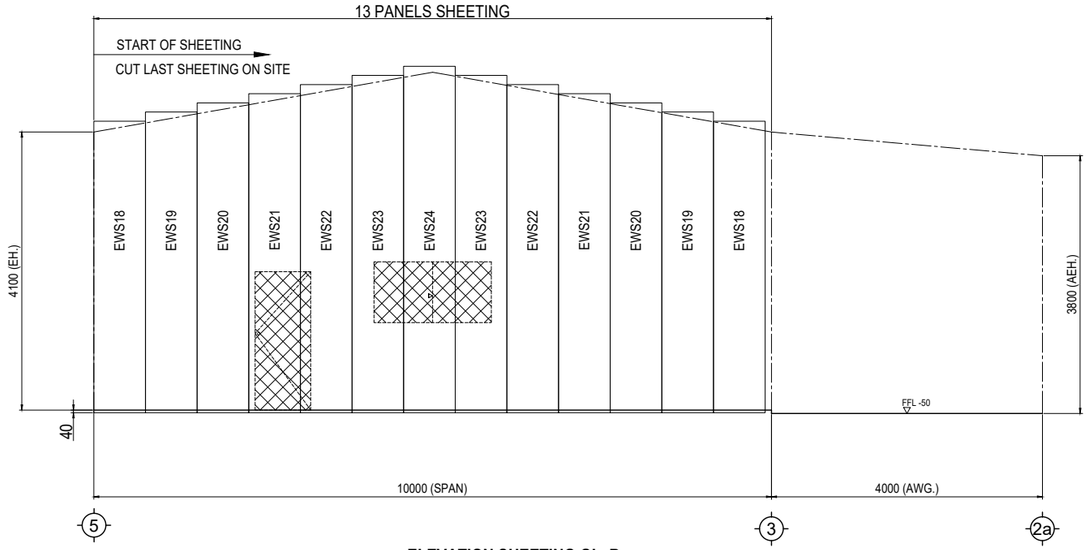
Title Name :	ELEVATION SHEETING LAYOUT FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S15	
Date	13-MAR-2025	
Rev	A	A3



ELEVATION SHEETING GL. D

SCALE = 1/90



ELEVATION SHEETING GL. B

SCALE = 1/90

Rev.	Date	Description

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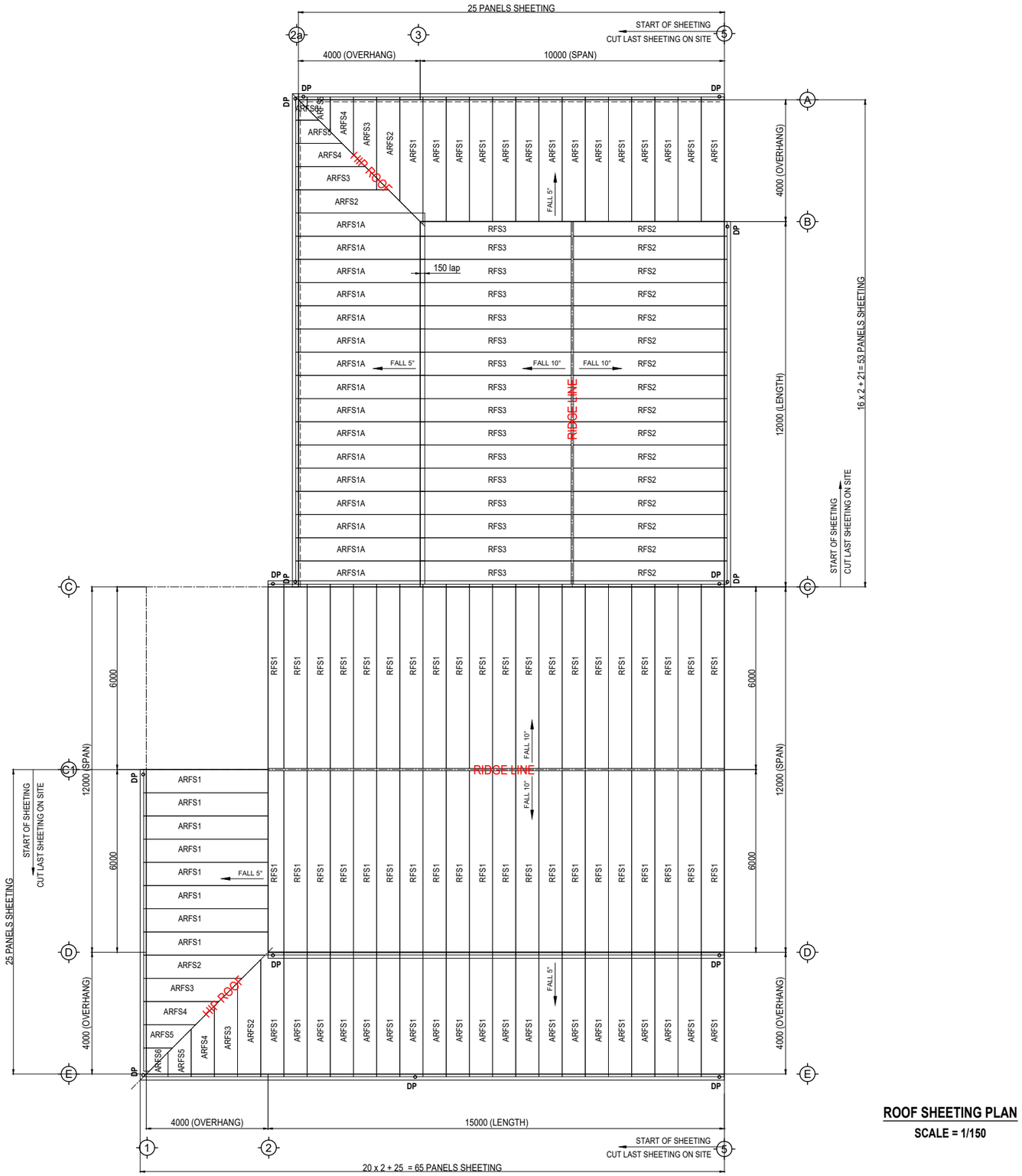
PO. BOX 213 MUDGEERABA QLD 4213
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ELEVATION SHEETING LAYOUT FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S16	
Date	13-MAR-2025	
Rev	A	A3



ROOF SHEETING PLAN

SCALE = 1/150

Rev.	Date	Description

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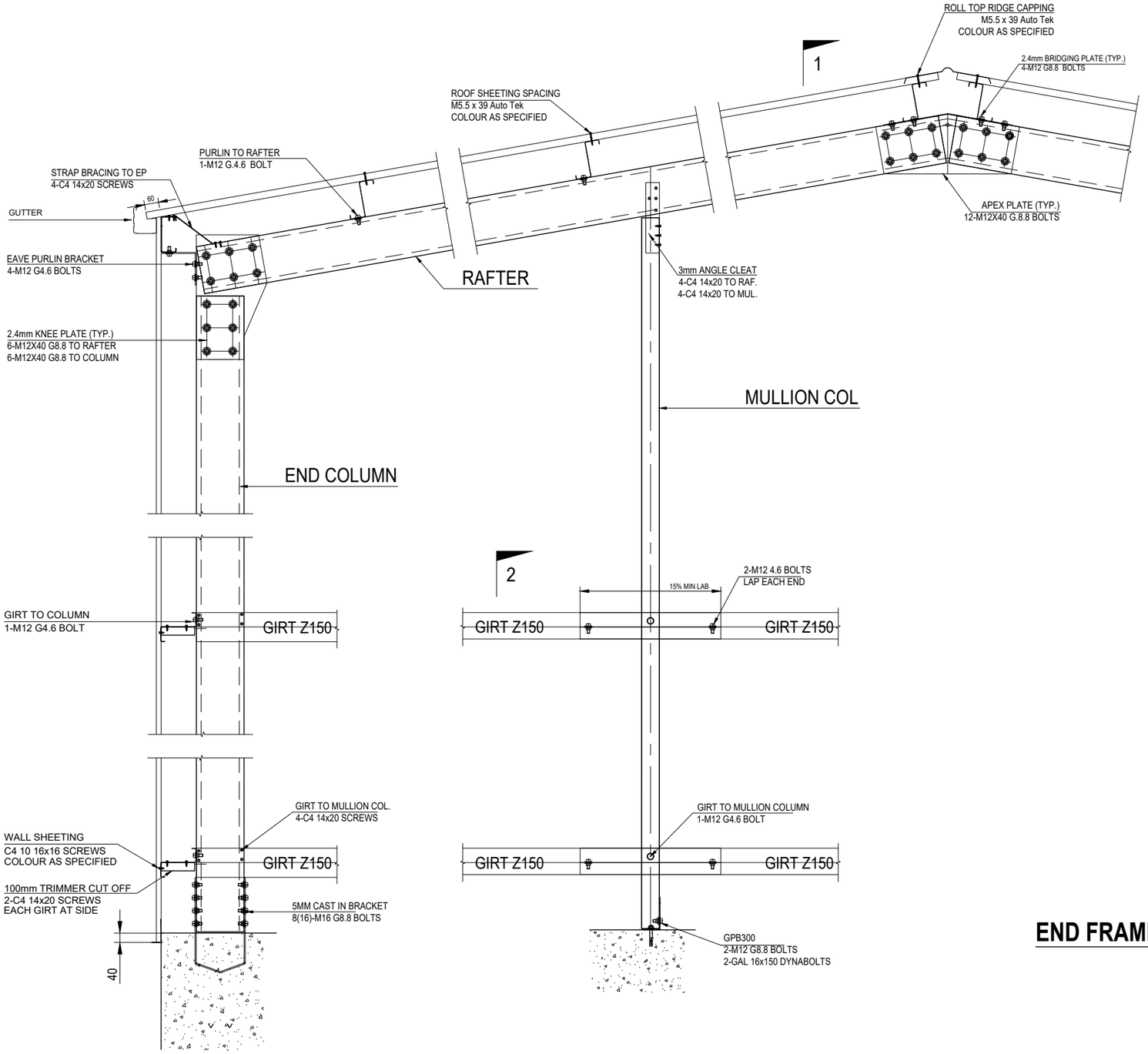
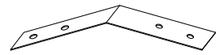
PO. BOX 213 MUDGEERABA QLD 4213
Ph: (07) 55 306 214 Email: info@gcma.com.au

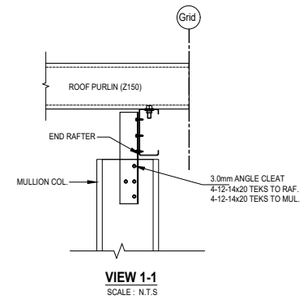
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ROOF SHEETING LAYOUT FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S17
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3

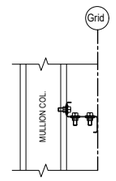




BRIDGING PLATE (3DVIEW)



VIEW 1-1
SCALE : N.T.S



VIEW 2-2
SCALE : N.T.S

END FRAME DETAIL

Rev.	Date	Description

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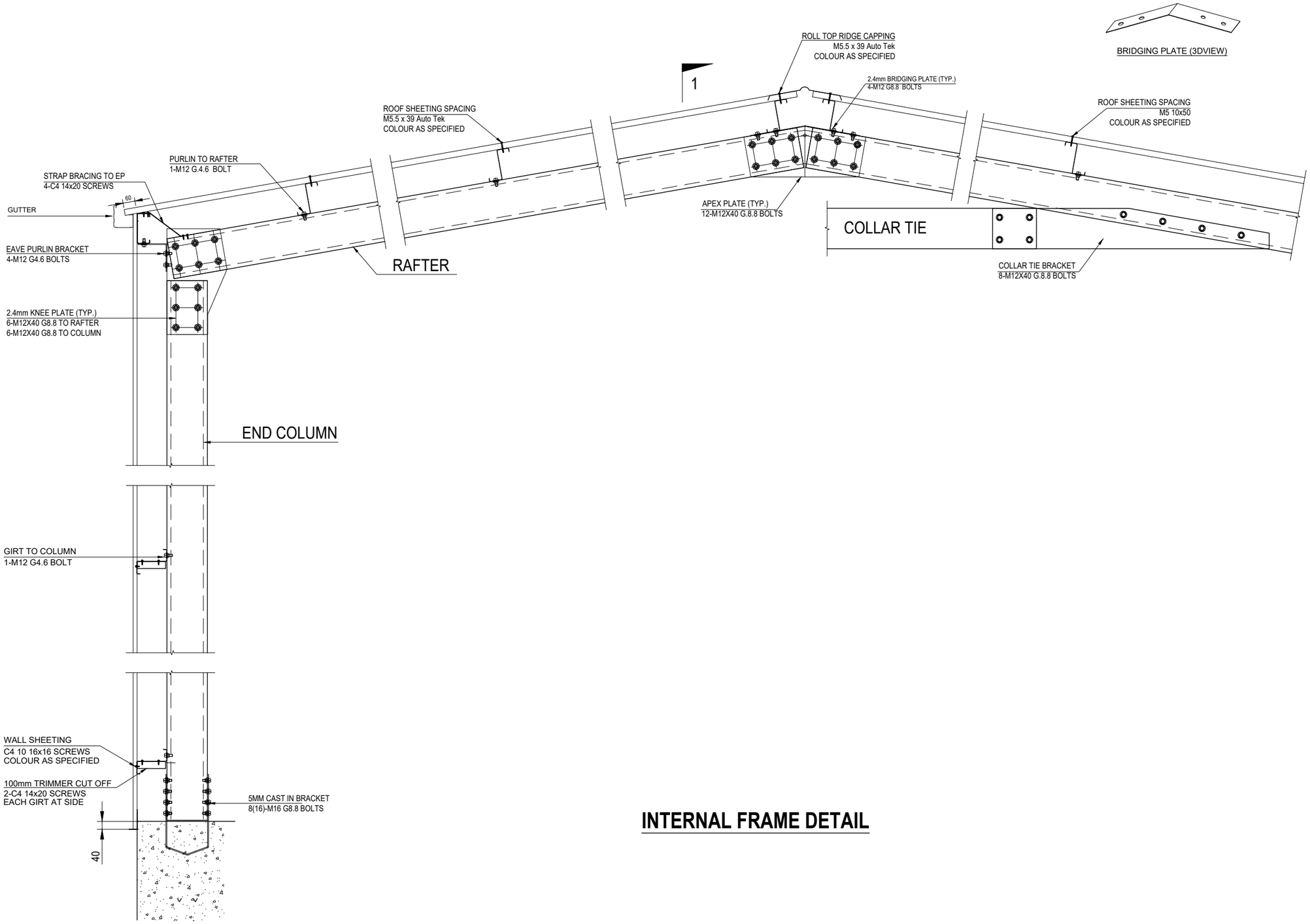
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S18
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Date	13-MAR-2025
		Rev	A A3



INTERNAL FRAME DETAIL

Rev.	Date	Description

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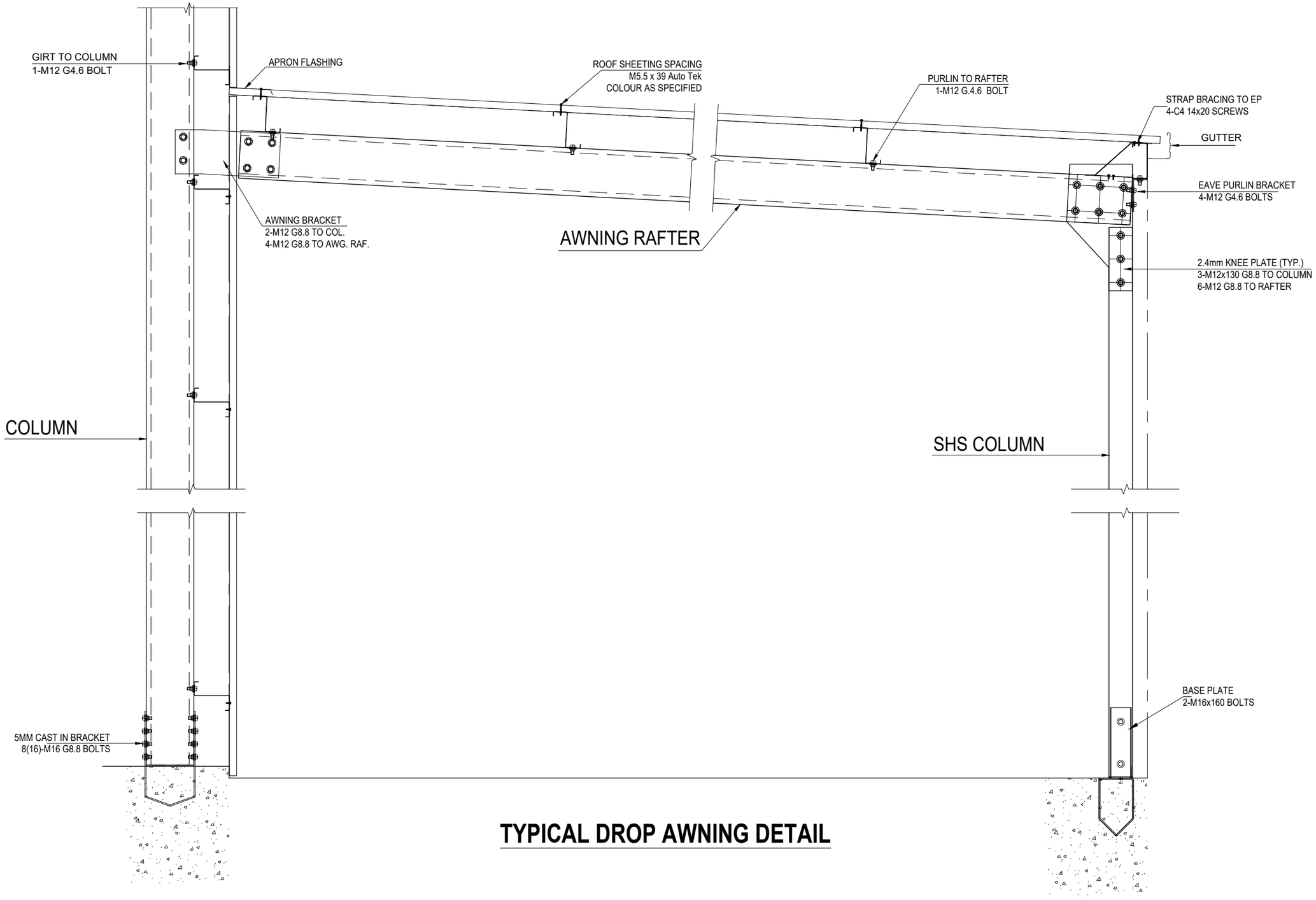
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S19	
Date	13-MAR-2025	
Rev	A	A3



TYPICAL DROP AWNING DETAIL

Rev.	Date	Description

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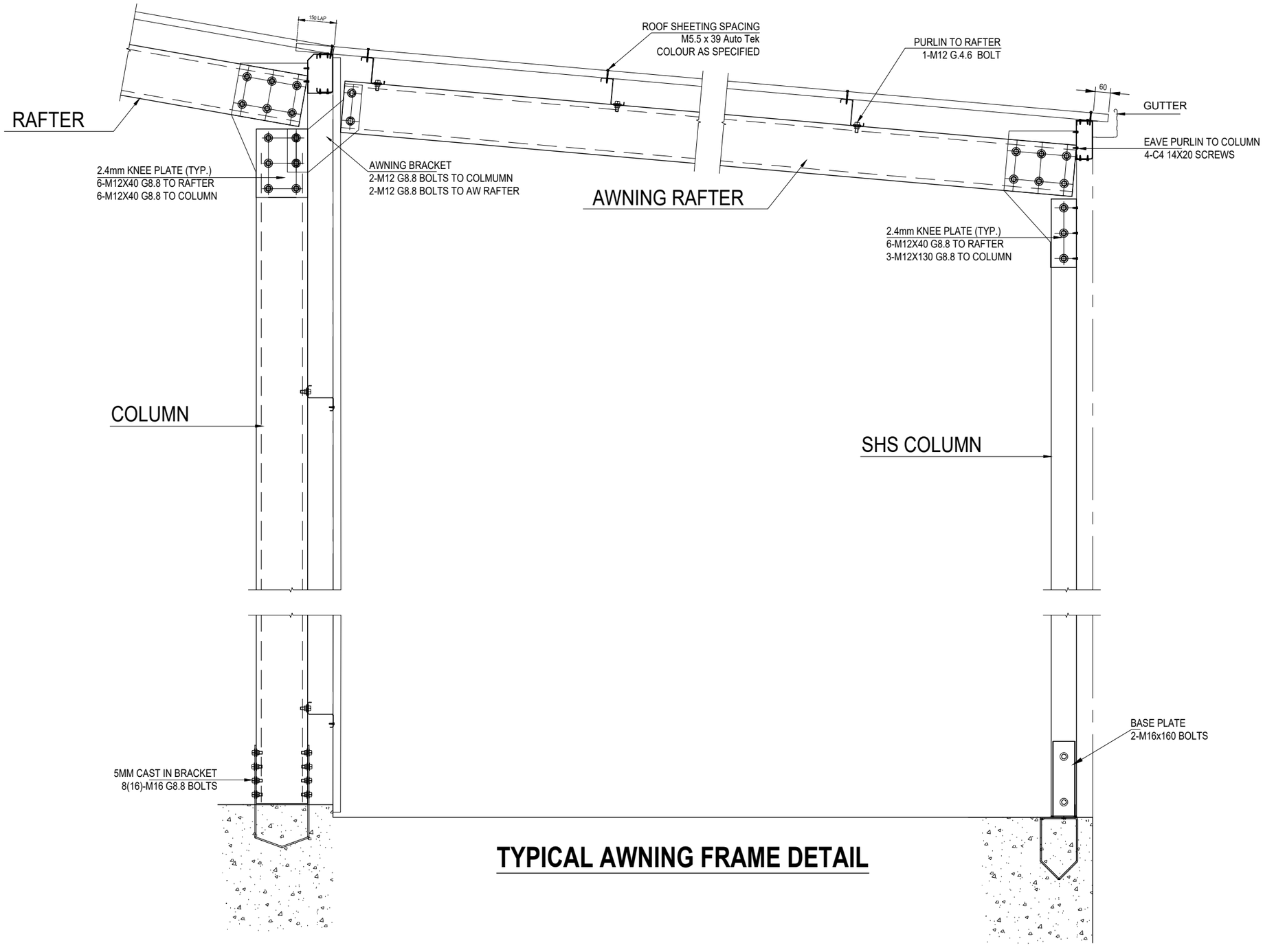
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S20
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



TYPICAL AWNING FRAME DETAIL

Rev.	Date	Description

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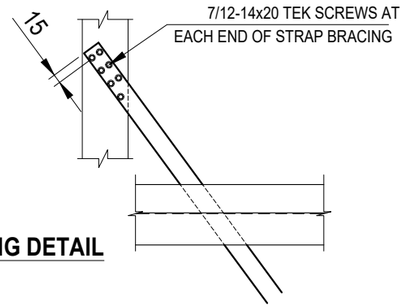
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S21
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



TYPICAL BRACING DETAIL

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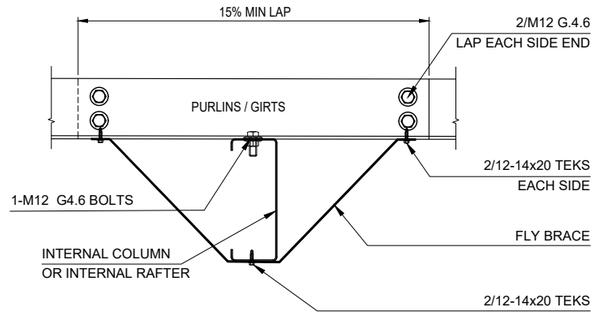

FLY BRACE DETAIL

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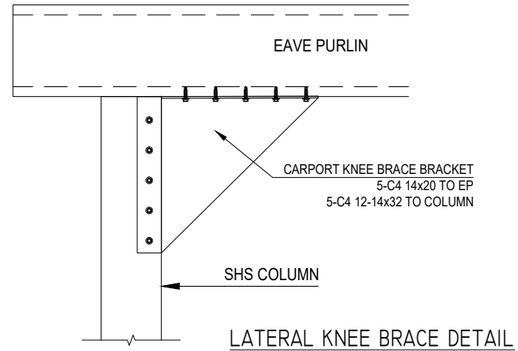

LATERAL KNEE BRACE DETAIL

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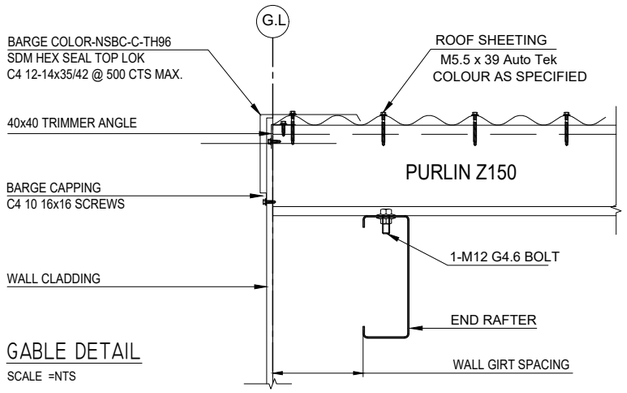

GABLE DETAIL

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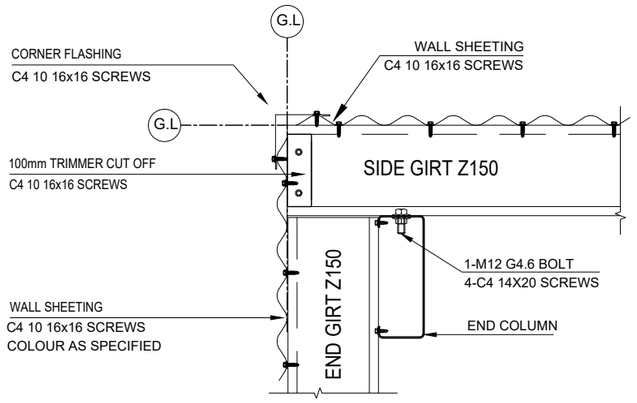

CORNER DETAIL

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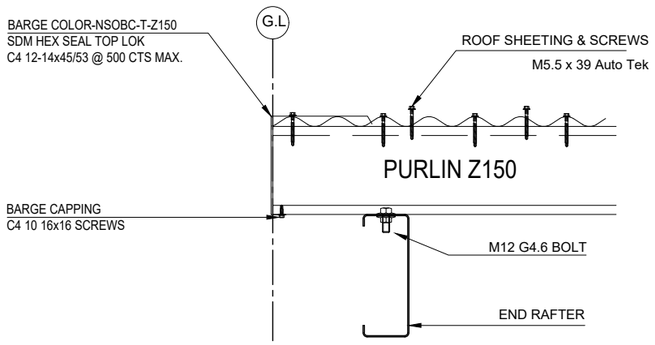

OPEN GABLE DETAIL

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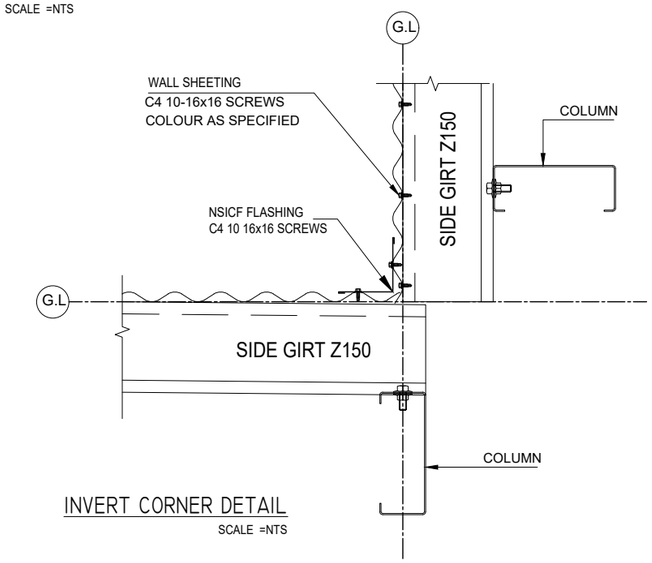

INVERT CORNER DETAIL

SCALE =NTS

Rev.	Date	Description

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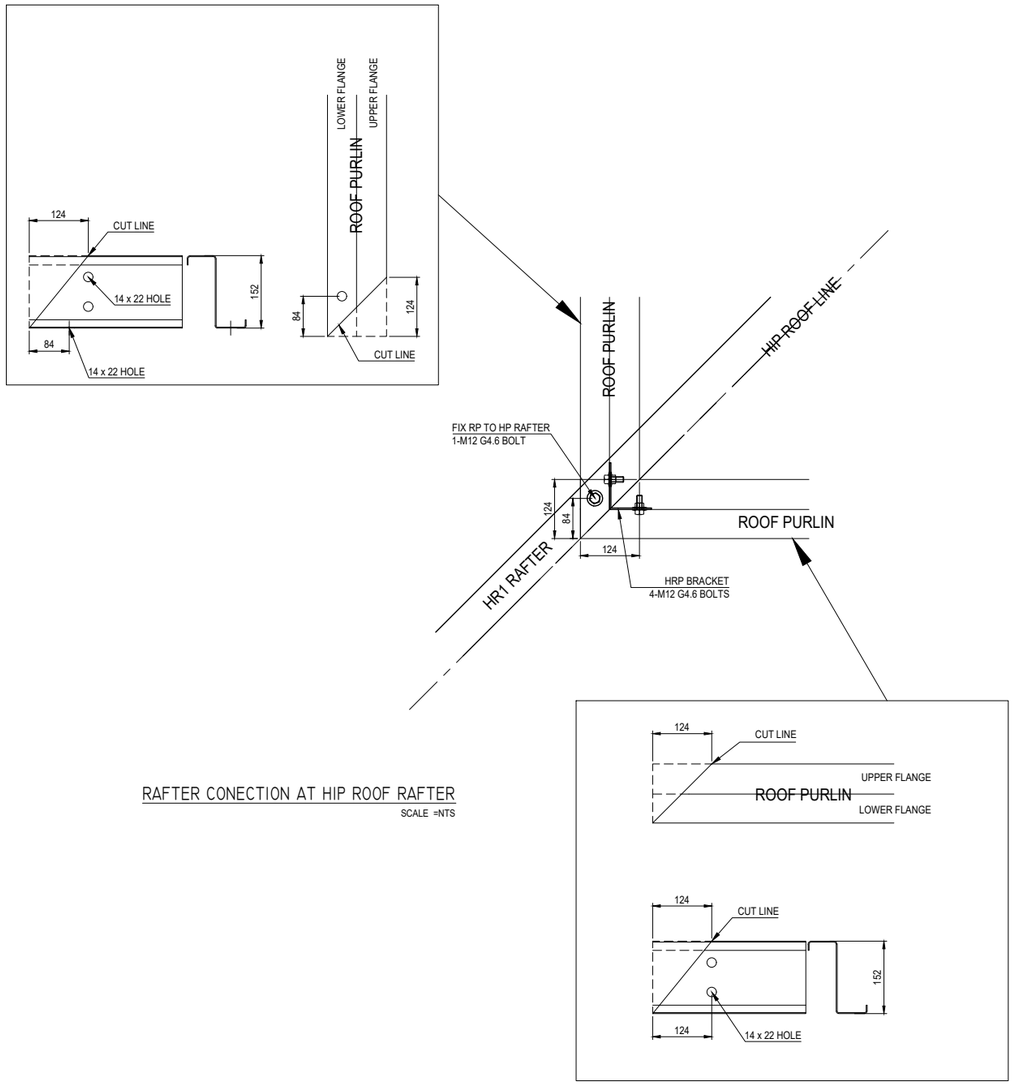
Ph: (07) 55 306 214 Email: info@gcma.com.au

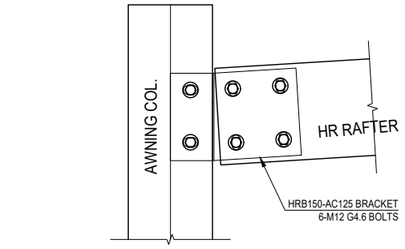
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S22
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Date	13-MAR-2025
		Rev	A A3



RAFTER CONECTION AT HIP ROOF RAFTER

SCALE =NTS



HIP ROOF RAFTER TO AWNING COL. DETAIL

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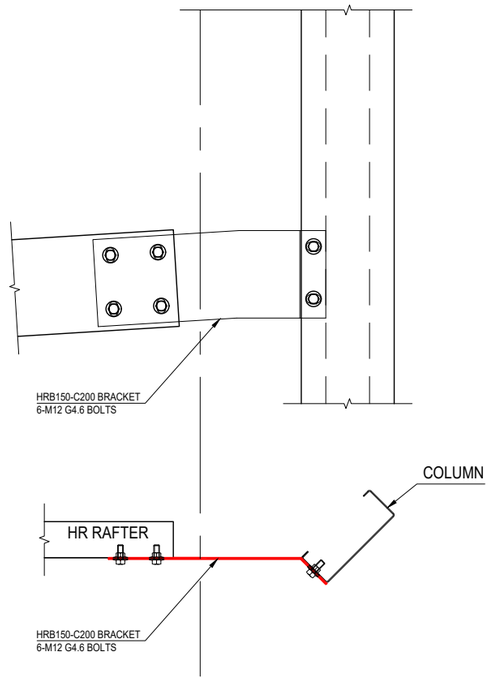

HIP ROOF RAFTER TO COLUMN DETAIL

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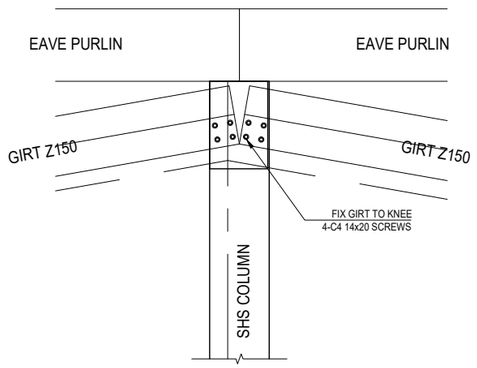

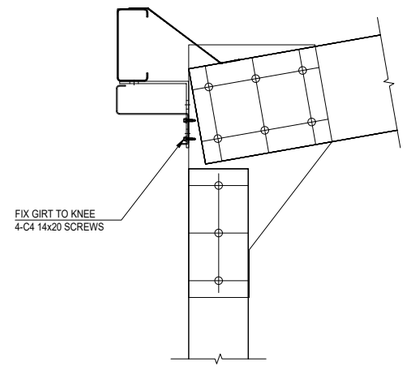

GIRT CONECTION DETAIL @GL. C-4

SCALE =NTS

Rev.	Date	Description

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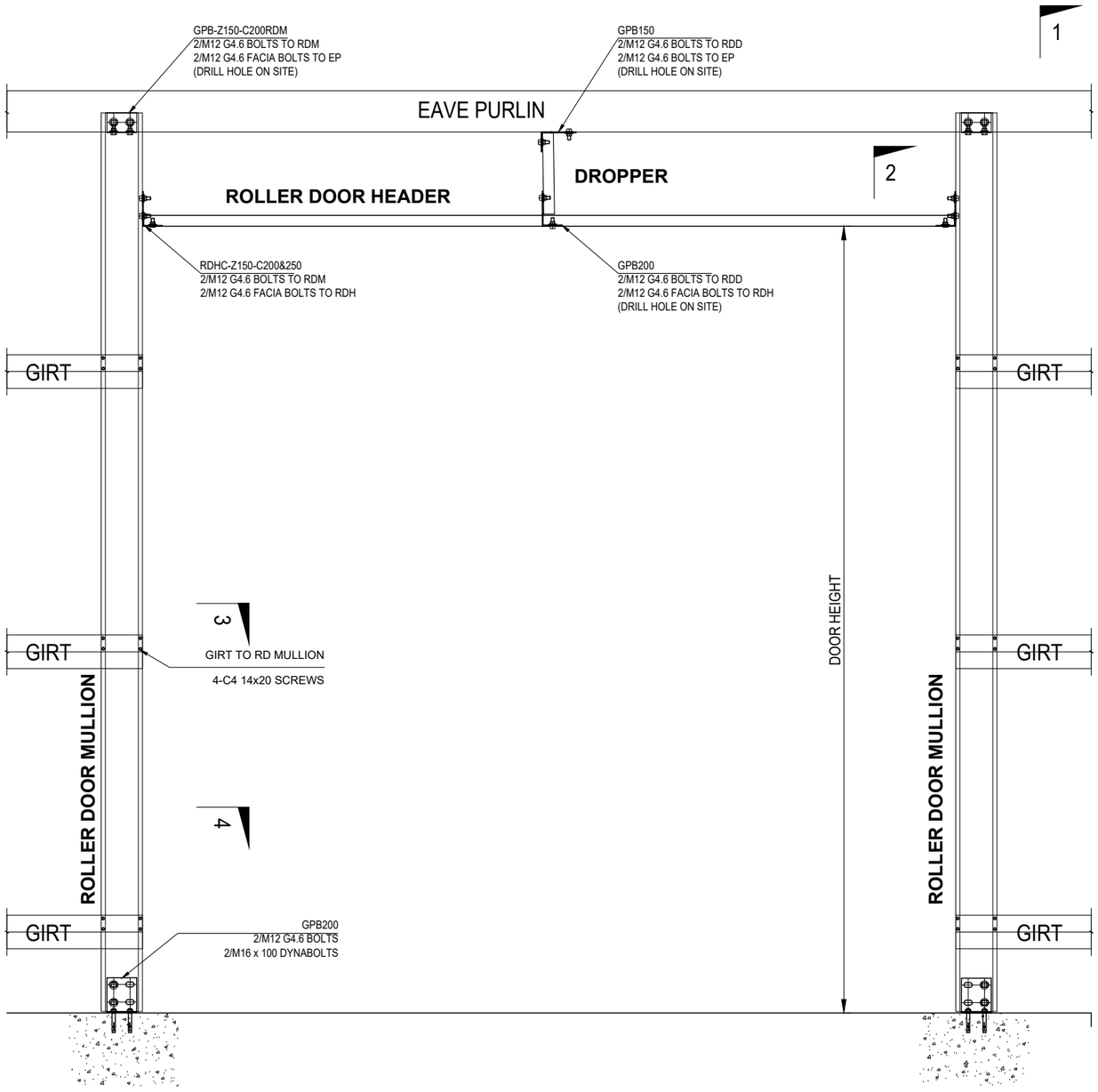
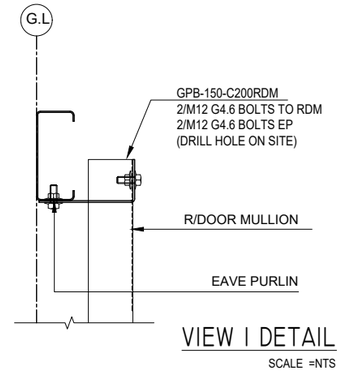
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	FRAME DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S23
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Date	13-MAR-2025
		Rev	A A3

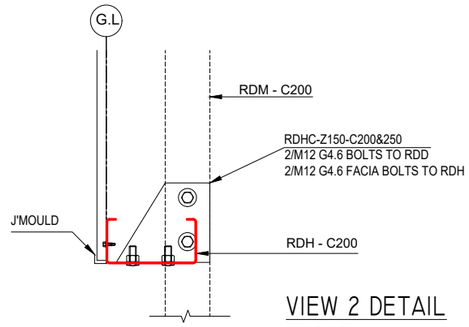


TYPICAL ROLLER DOOR DETAIL



VIEW 1 DETAIL

SCALE =NTS



VIEW 2 DETAIL

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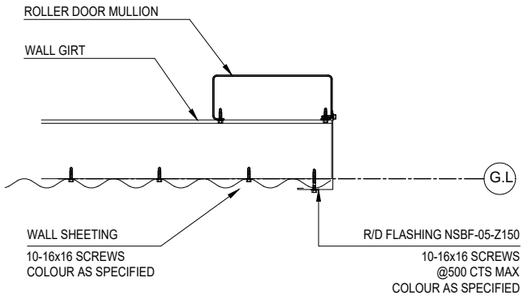
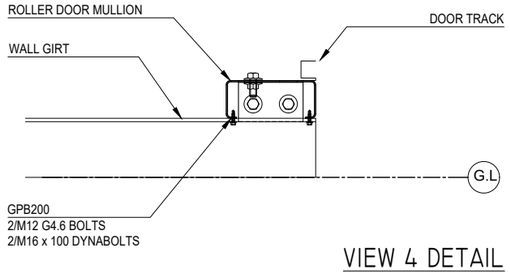


VIEW 3 DETAIL

SCALE =NTS



VIEW 4 DETAIL

SCALE =NTS

Rev.	Date	Description

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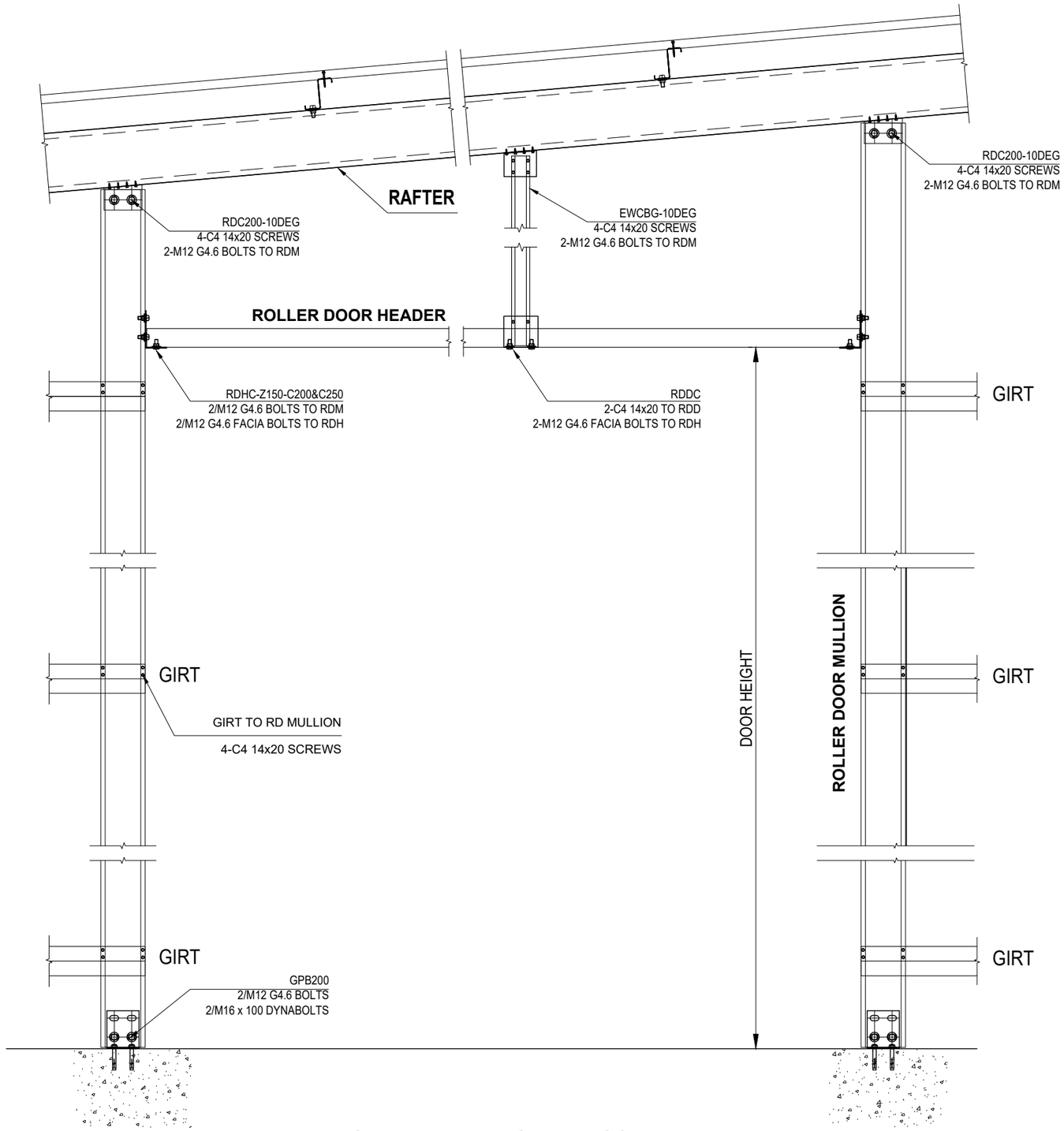
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	ROLLER DOOR DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S24
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3



TYPICAL ENDWALL ROLLER DOOR DETAIL

Rev.	Date	Description

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Vic EC30894,
NT 24748ES, TAS CC814L
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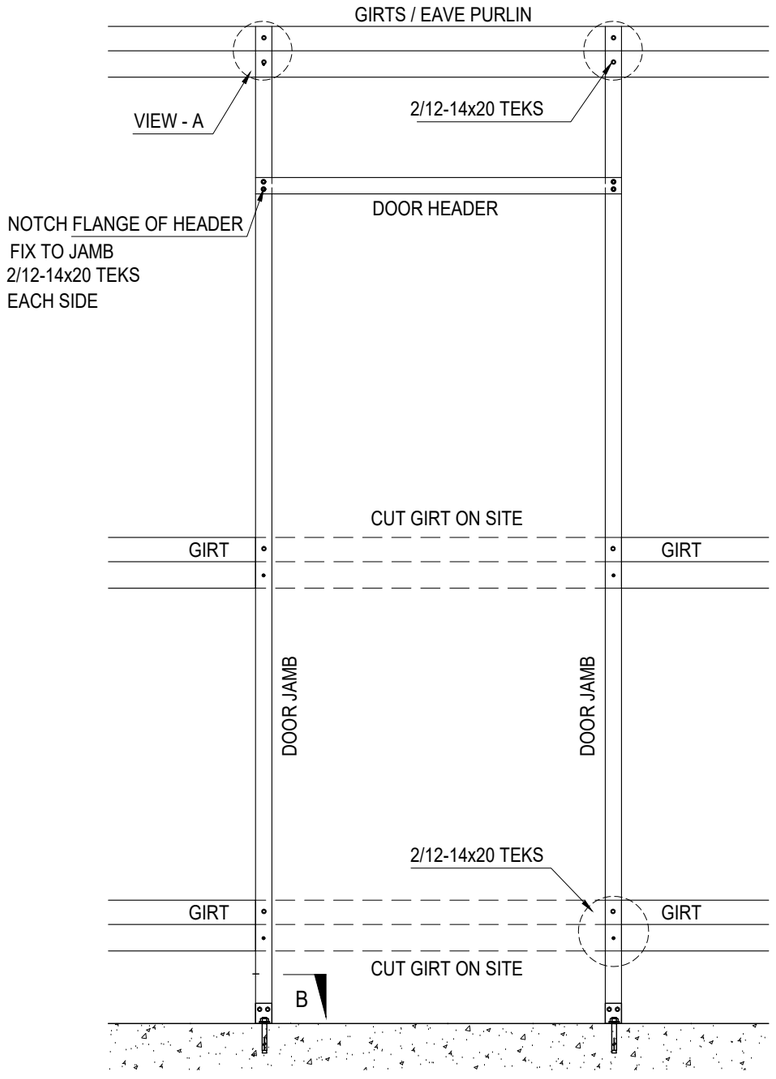
Ph: (07) 55 306 214 Email: info@gcma.com.au

TOTAL SHED
SOLUTIONS AUSTRALIA

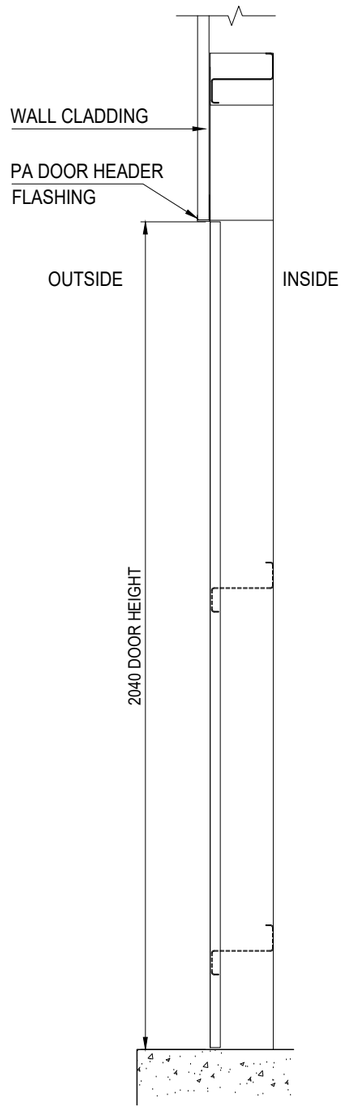
Title Name :	ROLLER DOOR DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M
Client :	Darryl Walford
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620

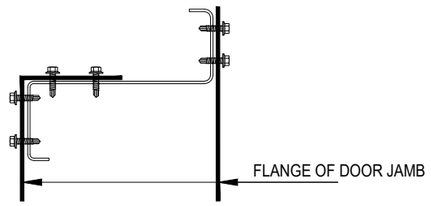
Job No.	TSSAL-735741 & TSSAL-840122	
Dwg No.	S25	
Date	13-MAR-2025	
Rev	A	A3

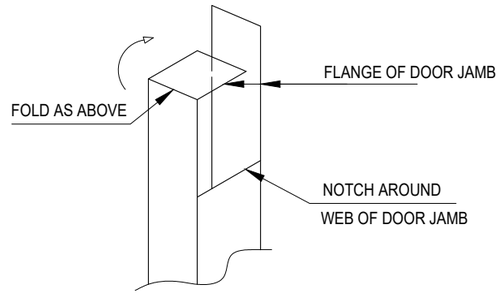


TYPICAL PA DOOR DETAIL

SCALE : N.T.S

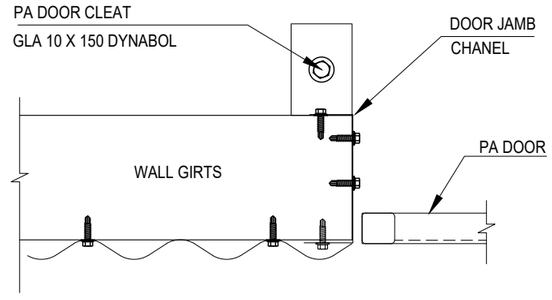






VIEW - A

SCALE : NTS



VIEW-B

SCALE :N.T.S

Rev.	Date	Description

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FIE AUST CPEng 5590 + RPEQ 4431
Vic EC30894,
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PO. BOX 213 MUDGEERABA QLD 4213
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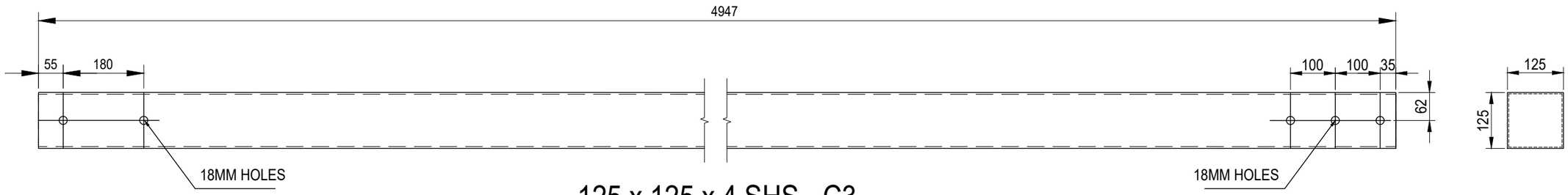
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	PA DOOR DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
		Dwg No.	S26
Client :	Darryl Walford	Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3

SHS COLUMN DETAILS



125 x 125 x 4 SHS - C3

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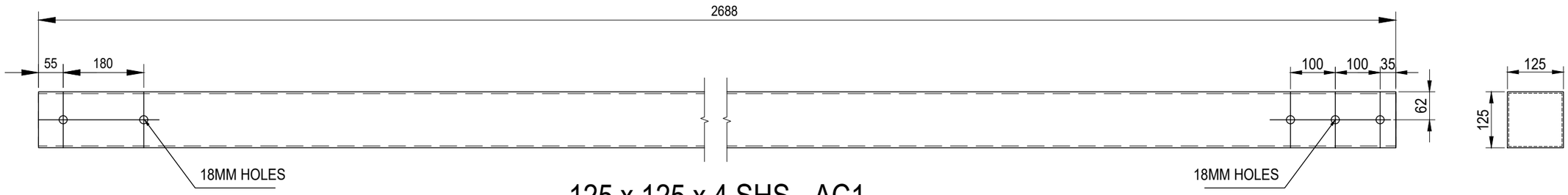

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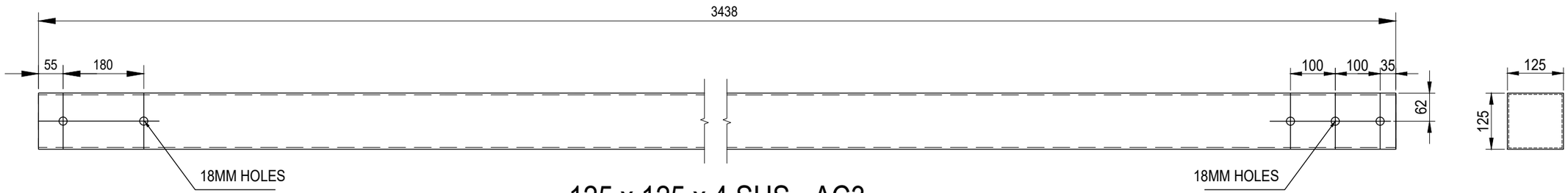

125 x 125 x 4 SHS - AC3

QTY: 8

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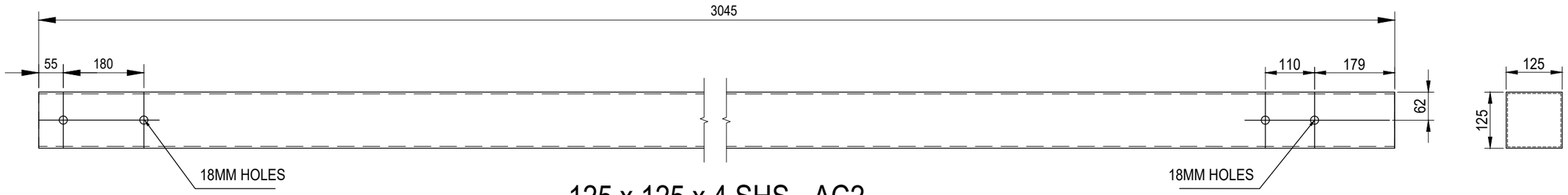
TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	SHS DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S27
		Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3

SHS COLUMN DETAILS



125 x 125 x 4 SHS - AC2

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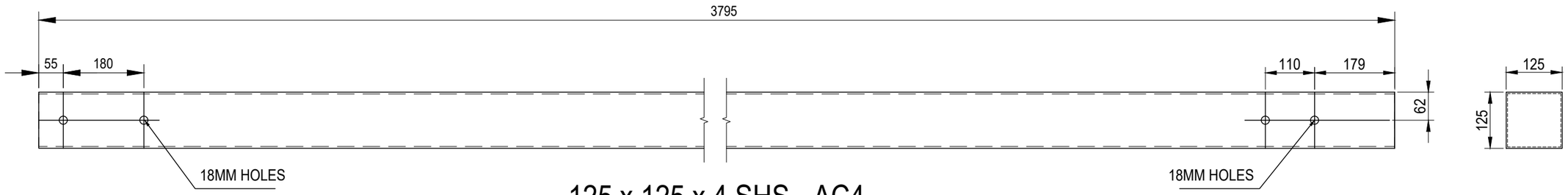

125 x 125 x 4 SHS - AC4

QTY: 1

Rev.	Date	Description

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TOTAL SHED
SOLUTIONS AUSTRALIA

Title Name :	SHS DETAIL FOR A SHED 12M x 15M x 5.3M & FOR A SHED 10M x 12M x 4.1M	Job No.	TSSAL-735741 & TSSAL-840122
Client :	Darryl Walford	Dwg No.	S28
		Date	13-MAR-2025
Site address :	93 Harcourt Close Woodbury Ridge, New South Wales, 2620	Rev	A A3