

GENERIC FLAT ROOF
VERANDAHS

STRUCTURAL DWG INDEX

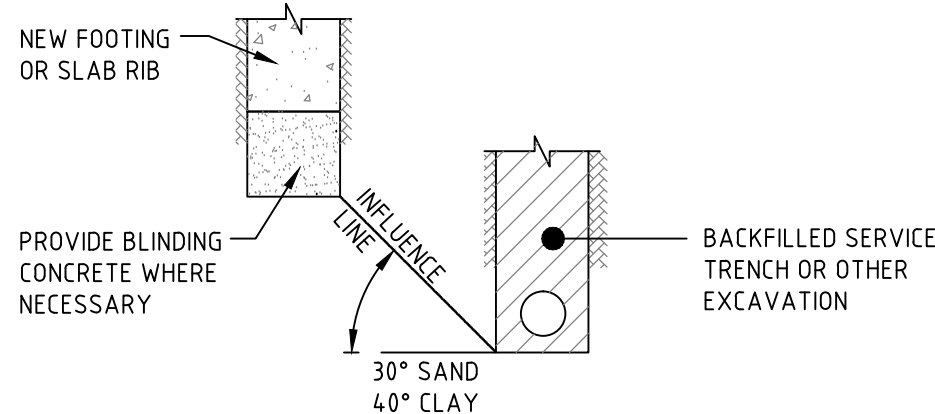
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S02 - FOOTING & ROOF PLAN AND SECTION - FREE STANDING VERANDAH
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GENERAL NOTES

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ENGINEER'S SOIL REPORT, ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- G2 THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNTIL ISSUED AS "FOR CONSTRUCTION" BY THIS OFFICE.
- G3 THE CONTRACTOR SHALL GIVE AT LEAST 1 WORKING DAY NOTICE FOR ALL ENGINEERING INSPECTIONS.
- G4 ALL DIMENSIONS, LEVELS ETC. SHALL BE CONFIRMED FROM THE ARCHITECT'S DRAWINGS AND / OR CHECKED FROM THE JOB.
- G5 IF ANY DISCREPANCY OCCURS ON THE ENGINEER'S DRAWINGS OR BETWEEN DRAWINGS AND THE SPECIFICATION, THE DISCREPANCY MUST BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G6 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT AUSTRALIAN STANDARDS CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- G7 ALL DIMENSIONS SHOWN SHALL BE VERIFIED ON SITE. ENGINEER'S DRAWINGS MUST NOT BE SCALED.
- G8 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- G9 THE NEW STRUCTURAL WORK SHOWN IN THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS:
ROOF LIVE LOAD (kPa) = 0.25 OR 18/A + 0.12
- G10 THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING WIND CONDITIONS:
REGION = A1
TERRAIN CATEGORY = 2.5
DESIGN GUST WIND SPEED = 39m/s (ULT.)
BASIC DYNAMIC WIND PRESSURE = 0.92kPa (ULT.)
EQUIVALENT WIND CLASSIFICATION (AS4055) = N2.
- G11 THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING EARTHQUAKE PARAMETERS:
IMPORTANCE LEVEL = 2
PROBABILITY FACTOR (Kp) = 1
HAZARD FACTOR (Z) = 0.1

FOOTING NOTES

- F1 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL / BUILDING DESIGNERS DRAWINGS.
- F2 REFER TO BUILDING DESIGNERS / ARCHITECTS DRAWINGS FOR ALL SETTING OUT DIMENSIONS. ANY DISCREPANCIES BETWEEN THE ENGINEERING AND BUILDING DESIGNERS / ARCHITECTS DRAWINGS TO BE RESOLVED PRIOR TO CONSTRUCTION.
- F3 STRUCTURAL DRAWINGS MUST NOT BE SCALED.
- F4 ALL FOOTINGS CONTINUALLY TRENCHED MINIMUM 200mm INTO FIRM NATURAL GROUND.
- F5 FOOTING AT BOUNDARY MUST BE FOUNDED MINIMUM 600mm BELOW ADJACENT EXISTING GROUND LEVEL.
- F6 FOUNDATIONS ADJACENT TO SERVICES, EXCAVATIONS OR BATTER, ETC. SHALL BE EXTENDED DOWN SUCH THAT THE INFLUENCE LINE OF THE FOUNDATION IS BELOW THE ADJACENT SERVICE AS SHOWN BELOW.



CONCRETE NOTES

- C1 ALL CONCRETE WORK TO BE IN ACCORDANCE WITH AS 3600.
- C2 CEMENT USED IN ALL CONCRETE SHALL BE NORMAL PORTLAND CEMENT. (TYPE A).
- C3 CONCRETE GRADES:
LOCATION GRADE MAX AGG. MAX SLUMP
(MPa) (mm) (mm)
BORED PIERS 25 20 80
- C4 ALL CONCRETE TO BE PLACED USING A MECHANICAL VIBRATOR.
- C5 ALL CONDUITS TO BE PLACED ABOVE BOTTOM STEEL AND BELOW TOP STEEL MINIMUM OF 25mm BETWEEN CONDUITS. MAXIMUM OF 25mm CONDUITS HORIZONTALLY IN SUSPENDED SLAB.
- C6 ALL CONCRETE SHALL BE PROPERLY CURED BY KEEPING ALL EXPOSED SURFACES IN A MOIST OR DAMP CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT.
- C7 PROVIDE 0.2MM POLYTHENE OR EQUIVALENT VAPOUR BARRIER THROUGHOUT UNDER GROUND FLOOR SLABS. ALL LAPS TO BE 150mm MINIMUM AND TAPED.
- C8 STRIPPING OF FORMS. STRIPPING OF FORMS SHALL BE IN ACCORDANCE WITH AS 3600 CL. 19.6.2.

STEELWORK NOTES

- S1 ALL STEELWORK SHALL BE IN ACCORDANCE WITH AS 4100 AND ASSOCIATED CURRENT CODES OF PRACTICE.
- S2 ALL MATERIALS SHALL BE NEW AND IN ACCORDANCE WITH AS 1204.
- S3 HOT ROLLED STEEL SECTIONS TO BE GRADE 300 IN ACCORDANCE WITH AS 1131 UNLESS NOTED OTHERWISE.
- S4 ALL STRUCTURAL STEEL HOLLOW SECTIONS TO AS 1163.
- S5 THE ENDS OF ALL TUBULAR MEMBERS SHALL BE SEALED WITH 3mm PLATES WITH CONTINUOUS FILLET WELDS U.N.O.
- S6 STEEL SHALL BE GRADE 350 FOR ALL RHS, SHS, AND CHS SECTIONS U.N.O.
- S7 PURLIN SECTIONS SHALL BE ROLL FORMED FROM ZINC COATED HIGH STRENGTH ZINC HI-TEN STEEL STRIP CONFORMING TO AS 1397 GRADE G450 OR G500 AS APPLICABLE WITH A MINIMUM COATING AS SPECIFIED BY THE MANUFACTURER TO SUIT THE EXPECTED ENVIRONMENTS. THE MANUFACTURER'S RECOMMENDATIONS ARE TO TAKE PRECEDENCE.
- S8 ALL WELDING SHALL BE IN ACCORDANCE WITH AS 1554 & CURRENT CODES OF PRACTICE. UNLESS NOTED OTHERWISE, ALL WELDING TO BE 6mm CONTINUOUS FILLET (CFW) LAYED DOWN WITH APPROVED COVERED ELECTRODE.
- S9 BOLTING SHALL BE IN ACCORDANCE WITH-
A. COMMERCIAL GRADE BOLTS AS 1111.
B. HIGH STRENGTH STRUCTURAL BOLTS AS 1252 AND TENSIONED TO AS 1511.
- S10 CONNECTIONS NOT SHOWN SHALL BE DETAILED IN ACCORDANCE WITH AISC BOLTING PROCEDURE STANDARDISED STRUCTURAL CONNECTIONS. CONTACT THE ENGINEER FOR FURTHER DETAILS IF REQUIRED. U.N.O., CONNECTIONS SHALL COMPRISE 10 PLATE CLEAT WITH 2 M20 8.8/S BOLTS. U.N.O.
- S11 FACING SURFACES OF TF CONNECTIONS SHALL BE LEFT UNPAINTED AND FREE FROM SCALE AND RUST.
- S12 ALL STEELWORK SHALL HAVE CORROSION PROTECTION APPLIED AS FOLLOWS AFTER FABRICATION, GENERALLY IN ACCORDANCE WITH AS 2312:
12.1 HAND OR POWER TOOL CLEAN TO A CLASS 1 SURFACE AS 1627.
12.2 SHOP PRIME WITH 35um ZINC PHOSPHATE PRIMER.
12.3 COAT WITH COMPATIBLE UNDERCOATS AND TOPCOATS AS ARCHITECT SPECIFIES.
12.4 DAMAGE TO THE PRIMER FROM WHAT EVER CAUSE SHALL BE REPAIRED TO THE SAME STANDARD USED FOR THE ORIGINAL COATING SURFACES TO BE REPAIRED SHALL BE FREE OF DIRT, GREASE, VISIBLE OXIDATION AND OTHER CONTAMINANTS BEFORE APPLYING THE PRIMER.
12.5 LINTELS TO BE HOT-DIPPED GALVANISED TO AS 4680-1999.
- S13 13.1 ALL EXTERNAL/EXPOSED STEELWORK FURTHER THAN 1km FROM THE COAST TO BE HOT DIPPED GALVANISED TO AS4680-1999 - 300g/m2 OR ALTERNATIVE APPROVED.
13.2 ALL EXTERNAL/EXPOSED STEELWORK CLOSER THAN 1km FROM THE COAST TO BE HOT DIPPED GALVANISED TO AS 4680-1999 - HDG 300g/m2 (MIN) PLUS 75 TO 100um OF FINISHING COATS TO MANUFACTURER'S INSTRUCTIONS OR HDG 100g/m2 (MIN) PLUS 125 TO 200um OF FINISHING COATS TO MANUFACTURER'S INSTRUCTIONS, OR ALTERNATIVE APPROVED.
- S14 ENSURE THAT DURING CONSTRUCTION, THE STRUCTURE IS MAINTAINED IN A STABLE CONDITION AND NO PART OF THE STRUCTURE SHALL BE OVER-STRESSED STEELWORK SHALL BE SUITABLY BRACED DURING CONSTRUCTION AS REQUIRED BY THE PROVISION OF TEMPORARY BRACING AS DESIGNED, DETAILED AND AS REQUIRED BY THE PROVISION OF TEMPORARY BRACING AS DESIGNED, DETAILED AND SUPPLIED BY THE FABRICATOR/ERECTOR.
- S15 STEELWORK SHOP DRAWINGS SHALL BE OBTAINED PRIOR TO THE COMMENCEMENT OF FABRICATION AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPRAISAL. APPROVAL WILL NOT COVER LAYOUT DIMENSIONS.
- S16 ANY DISCREPANCIES BETWEEN THIS PLAN, OTHER RELATED PLANS OR SPECIFICATIONS AND ACTUAL CONDITIONS ON SITE TO BE REPORTED TO THIS OFFICE.
- S17 NO PENETRATIONS ARE ALLOWED THROUGH THE STEEL MEMBERS WITHOUT ENGINEER'S APPROVAL.
- S18 UNLESS NOTED OTHERWISE CAMBER SHALL BE PROVIDED TO ALL BEAMS, TRUSSES, PORTALS, ETC AT 5mm PER 2000mm OF SPAN. NO MEMBER SHALL BE ERCTED WITH NEGATIVE CAMBER.

BORED PIER NOTES

- BP1 BORED PIERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS 2159.
- BP2 ALL CONCRETE SHALL HAVE A 28 DAY CHARACTERISTIC STRENGTH (f'c) OF 32 MPa WITH A SLUMP OF 60mm.
- BP3 ALL CONCRETE WORK SHALL COMPLY WITH AS 3600. CONCRETE TESTING SHALL BE PROJECT CONTROL TESTING IN ACCORDANCE WITH AS 3600.
- BP4 THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SETTING OUT THE PIER LOCATIONS.
- BP5 THE PIERS SHALL NOT DEVIATE FROM THE VERTICAL BY MORE THAN 1 IN 25.
- BP6 WHERE PIERS HAVE BEEN SET OUT OR CONSTRUCTED INCORRECTLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AT HIS OWN COST, THE DESIGN AND CONSTRUCTION OF RECTIFICATION WORKS TO MAINTAIN THE DESIGN INTENT AND INTEGRITY OF THE FOUNDATION SYSTEM. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO DESIGN CHECKS BY ENGINEER
- REVIEW OF RECTIFICATION PROPOSALS BY ENGINEER
- DESIGN AND CONSTRUCTION OF ADDITIONAL BORED PIERS AND PILE CAP IF NECESSARY
- INSPECTION AND CERTIFICATION OF RECTIFICATION WORKS
THE ENGINEER'S SERVICES FOR THESE WORKS SHALL BE PROVIDED TO THE CONTRACTOR ON A TIME AND EXPENSE BASIS.
- BP7 CONCRETE SHALL BE PLACED AS SOON AS POSSIBLE AFTER DRILLING AND AFTER APPROVAL HAS BEEN GIVEN BY THE ARCHITECT OR HIS REPRESENTATIVE. IF NECESSARY, TEMPORARY LINING SHALL BE USED TO MAINTAIN THE SIDES OF THE PIER UNTIL CONCRETING.
- BP8 THE BASE OF THE PIER SHALL BE FOUNDED IN ORIGINAL UNDISTURBED MATERIAL WITH A MINIMUM SAFE ALLOWABLE BEARING CAPACITY OF 100kPa. THE BASE SHALL BE CLEANED OUT OF ALL LOOSE AND DISTURBED MATERIAL PRIOR TO PLACING CONCRETE. CARE SHALL BE TAKEN TO PREVENT LOOSE SURFACE MATERIAL FALLING INTO THE HOLE.
- BP9 THE PIER HOLES SHALL BE KEPT FREE OF WATER AT ALL TIMES, BY BAILING OR PUMPING WHERE NECESSARY. PARTICULARLY PRIOR TO CONCRETING. CONCRETE SHALL NOT BE PLACED IN WATER. THE TOP OF THE HOLE SHALL BE PROPERLY COVERED TO PREVENT SURFACE WATER OR RAINFALL FROM ENTERING THE HOLE.
- BP10 PROPER SAFETY PRECAUTIONS SHALL BE TAKEN TO AVOID INJURY TO PEOPLE. THE UNATTENDED HOLE SHALL BE COVERED OR FENCED OFF AT ALL TIMES.
- BP11 WHERE THE FINAL CUT-OFF LEVEL IS ABOVE NATURAL GROUND LEVEL, THE PIERS MUST BE FORMED TO THE CORRECT LEVEL BY USING TEMPORARY LINERS.
- BP12 CONCRETE IN THE BASES AND SHAFTS SHALL BE PLACED CONTINUOUSLY UP TO THE UNDERSIDE OF PILE CAPS. CONCRETE SHALL NOT BE DROPPED BUT SHALL BE PLACED USING A CONCRETE PUMP OR A PROPERLY CONSTRUCTED CHUTE. CONCRETING SHALL BE TEMPORARILY STOPPED WHEN THE CONCRETE IS WITHIN ONE METRE BELOW THE TOP OF EACH LENGTH OF LINER IF PROVIDED AND THAT LENGTH OF LINER SHALL BE WITHDRAWN AND THE CONCRETE VIBRATED WITH IMMERSION TYPE VIBRATORS.

SAFETY IN DESIGN NOTES

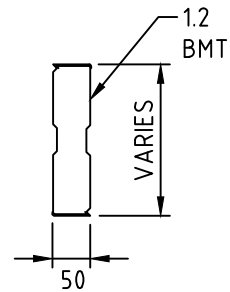
- SID1 MLEI CONSULTING ENGINEERS HAVE CONDUCTED A PRELIMINARY SAFETY IN DESIGN REVIEW OF THE DESIGN ON THESE DRAWINGS. IT IS SUMMARIZED IN THE NOTES BELOW. THE REVIEW IS BASED GENERALLY ON THE PROCEDURE OUTLINED IN THE SAFE WORK AUSTRALIA PUBLICATION "SAFE DESIGN OF STRUCTURE CODE OF PRACTICE".
- SID2 THE DESIGN HAS NOT BEEN REVIEWED WITH CONTRACTOR/BUILDER AT THE TIME OF ISSUE FOR TENDER OR CONSTRUCTION. CONSTRUCTION METHODS VARY BETWEEN CONTRACTORS, SO IT IS NOT POSSIBLE FOR MLEI CONSULTING ENGINEERS TO PERFORM AN EXHAUSTIVE SAFETY IN DESIGN OR SAFETY IN CONSTRUCTION REVIEW. ONCE APPOINTED, THE CONTRACTOR IS REQUIRED TO UNDERTAKE A THOROUGH REVIEW OF THE DESIGN WITH THEIR SUBCONTRACTORS TO IDENTIFY SAFETY RISKS DURING CONSTRUCTION AND DURING THE LIFE OF THE BUILDING.
- SID3 THE SAFETY RISK MITIGATION ITEMS BELOW ARE BASED ON MLEI'S DESIGN OFFICE EXPERIENCE AND DO NOT NECESSARILY ACCOUNT FOR ALL CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION SAFETY RISKS BASED ON INFORMATION WHEN THIS DRAWING WAS MADE IN ITS CAPACITY AS DESIGNER ONLY. MLEI HAS TRIED TO IDENTIFY SAFETY RISKS PERTAINING TO CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION PHASES OF THE ASSET. INCLUSION (OR NOT) OF ANY ITEM DOES NOT REDUCE OR LIMIT OBLIGATIONS OF CONSTRUCTOR, USER, MAINTAINER AND DEMOLISHER TO UNDERTAKE APPROPRIATE RISK MANAGEMENT ACTIVITIES TO REDUCE RISK AND IS NOT AN ADMISSION BY MLEI THAT INCLUSION OF ANY ITEM IS THE DESIGNER'S RESPONSIBILITY.
- SID4 CONSTRUCT BUILDING ELEMENTS THAT CONTRIBUTE TO SAFETY SUCH AS HAND RAILS AND TOE BOARDS, FALL ARREST SYSTEMS, etc. AS EARLY AS POSSIBLE.
- SID5 PROVIDE SAFETY BARRIERS AT EDGES OF OPENINGS AND ELEVATED AREAS.
- SID6 REVIEW ADEQUACY OF WORKING SPACE AVAILABLE FOR CONSTRUCTION ACTIVITIES. ENSURE SEPERATION OF PLANT AND PERSONNEL ON SITE, INCLUDING MOVEMENTS OF BOTH.
- SID7 LOCATE LIFTING SLEW AND LAY DOWN AREAS AWAY FROM REGULAR CONSTRUCTION TRAFFIC.
- SID8 PROVIDE PROTECTION OF PERSONNEL FROM PLANT AND EQUIPMENT, INCLUDING POST-TENSIONED GROUND ANCHOR INSTALLATION WORKS.
- SID9 ENSURE ISOLATION SAFE SYSTEMS OF WORK OR PROTECTIVE MEASURES ARE INSTALLED BEFORE WORKING NEAR LIVE ELECTRICAL INFRASTRUCTURE. PROVIDE PROTECTION OF ELECTRICAL OVERHEAD WIRING SYSTEMS DURING CONSTRUCTION.
- SID10 WRITTEN RISK ASSESSMENTS ARE ADVISED FOR ACCESS TO OPEN EXCAVATIONS.
- SID11 PROVIDE ACCESS AND EGRESS TO EXCAVATIONS APPROPRIATE IN CASE OF INUNDATION, COLLAPSE AND ENGULFMENT.
- SID12 LOCATE STOCKPILES AND HEAVY EQUIPMENT INCLUDING CRANES AWAY FROM BURIED SERVICES AND BUILDING BOUNDARIES WHERE ADJACENT BASEMENTS ARE PRESENT.
- SID13 SEEK ADVICE FROM SUITABLY QUALIFIED GEOTECHNICAL OR STRUCTURAL ENGINEER PRIOR TO OPERATION OF HEAVY SURFACE PLANT AND EQUIPMENT OR STOCKPILING MATERIAL NEAR OPEN EXCAVATIONS OR EXISTING RETAINING STRUCTURES.
- SID14 DO NOT STOCKPILE MATERIALS BEHIND OR EXCAVATE IN FRONT OF EXISTING RETAINING WALLS UNTIL WALL STABILITY HAS BEEN REVIEWED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- SID15 SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE LAYING SERVICES BELOW EXISTING FOOTING LEVELS.
- SID16 HAVE LOAD CAPACITY OF STRUCTURES VERIFIED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE LOADING OF STRONG MATERIALS ON EXISTING OR PARTIALLY COMPLETED STRUCTURAL ELEMENTS.
- SID17 SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER IF PLANNING CRANE LIFTS OR HOIST INSTALLATION OF PARTIALLY ERRECTED OR SUSPENDED STRUCTURES.
- SID18 SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE CORING, CHASING, CUTTING OR REMOVAL OF EXISTING CONCRETE AND REINFORCEMENT.
- SID19 HAVE SUITABLY QUALIFIED STRUCTURAL ENGINEER UNDERTAKE STRUCTURAL CHECK OF EXISTING CONCRETE, MASONRY AND STUD WALLS WHERE FIXINGS OR EQUIPMENT IS TO BE ATTACHED.
- SID20 INSTRUCT SERVICES CONTRACTORS UNDER NO CIRCUMSTANCES CAN STRUCTURAL MEMBERS BE CUT, NOTCHED OR DRILLED TO ACCOMMODATE NEW SERVICES.
- SID21 ESTABLISH LOCATIONS OF LIVE EMBEDDED SERVICES BEFORE CUTTING THROUGH SLABS, etc.
- SID22 DEVELOP STEELWORK/PRECAST/TILT UP INSTALLATION SAFE WORK METHOD STATEMENT TO ELIMINATE AND MINIMIZE INSTALLATION RISKS, AND HAVE REVIEWED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- SID23 DO NOT CUT OR UNBOLT ANY STRUCTURAL MEMBERS WITHOUT SEEKING REVIEW BY SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- SID24 PROVIDE BUCKLING STABILITY TO LONG SPAN BEAMS, TRUSSES etc DURING ERECTION. IF UNSURE CHECK WITH SUITABLY QUALIFIED STRUCTURAL ENGINEER PRIOR TO LIFTING AND INSTALLATION.
- SID25 MINIMIZE SITE BASED TREATMENTS (eg WELDING, CUTTING, SPRAY PAINTING, GRIT BLASTING, etc.). PROVIDE ADEQUATE PROTECTION, SCREENING AND VENTILATION TO MINIMIZE HAZARDS TO PERSONNEL IF SITE BASED TREATMENT IS UNAVOIDABLE.
- SID26 TRY TO AVOID WORKING IN CONFINED SPACES. IF CONFINED SPACES WORK CAN'T BE AVOIDED, PROVIDE A SAFE WORK METHOD STATEMENT ADDRESSING MITIGATION OF RISKS. PROVIDE ADEQUATE SIGNAGE TO TEMPORARY AND PERMANENT CONFINED SPACES TO AS2865.
- SID27 AVOID HOT WORKS ON SITE, PARTICULARLY IN TIMBER FRAMED STRUCTURES. HOT WORKS TO COMPLY WITH CLIENT PROCEDURES FOR APPLICATION "HOT WORKS PERMITS".
- SID28 SOME SITES IN AUSTRALIA AND EXTENSIVE REGIONS OF SE ASIA CONTAIN UNEXPOSED ORDNANCE (UXO) IN THE GROUND. UNDERTAKE DESKTOP REVIEWS FOR THE LIKELHOOD OF UXO'S BEFORE COMMENCING ANY GROUND INVESTIGATION OR EXCAVATION IN THESE AREA'S. SHOULD EVIDENCE INDICATE POTENTIAL UXO PRESENCE, DO NOT COMMENCE GROUND WORKS UNTIL ENGAGING A SPECIALIST CONSULTANT WHO CAN HELP DEFINE ANY FUTURE CLEARANCE TASKS.
- SID29 DETERMINE APPROPRIATE METHOD OF PAINT REMOVAL AND DISPOSAL BEFORE STRIPPING PAINT, PARTICULARLY ON HISTORIC STRUCTURES. COATINGS CONTAINING COAL TAR EPOXIES, BITUMENS AND ASPHALTS, ZINC CHROMATE AND LEAD PRESENT A HEALTH RISK. PROVIDE SCREENING TO PUBLIC AND ENVIRONMENT FOR PAINT REMOVAL AND CLEANING OPERATIONS. USE ENVIRONMENTALLY APPROPRIATE RESTORATION METHODS DURING MAINTENANCE AND REPAIR WORK.
- SID30 MAKE WORK AREAS SAFE WHERE STRUCTURAL ELEMENTS ARE DAMAGED, CRACKED OR HAVE SUFFERED SIGNIFICANT SECTION LOSS BEFORE ALLOWING GENERAL CONSTRUCTION OR REPAIR ACCESS.

- SID31 REPORT SIGNIFICANT SECTION LOSS OR CORROSION FLAKING BEFORE STARTING PAINTING OR REPAIRS. CONSULT SUITABLY QUALIFIED STRUCTURAL ENGINEER IF SECTION LOSS OR EXTENSIVE CORROSION FLAKING PRESENT BEFORE PROCEEDING WITH WORK.
- SID32 DEVELOP AND IMPLEMENT RISK MITIGATION STRATEGIES BEFORE ALLOWING ACCESS OVER SUSPENDED CLADDING FINISHES THAT MAY BECOME BRITTLE OVER TIME.
- SID33 REPORT LOOSE OR MISSING BOLTS etc. IN CONNECTIONS ENCOUNTERED DURING DAY TO DAY OPERATIONS.
- SID34 REMOVE MATERIAL FROM STORAGE STRUCTURES BEFORE UNDERTAKING MAINTENANCE WORKS.

- SID35 BEWARE OF UNDERGROUND SERVICES. THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE. ONLY AND THEIR LOCATION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.



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TYPICAL BSC BOX DETAIL

SCALE: 1:10

AMENDMENTS			
ISSUE	INITIAL	DESCRIPTION	DATE
P1	JSC	ISSUED FOR CLIENT VIEW	28.07.16
C1	JSC	ISSUED FOR CERTIFICATION	05.08.16
C2	JSC	ISSUED FOR CERTIFICATION	18.10.16
C3	JSC	ISSUED FOR CERTIFICATION	08.11.16
C4	TN	ISSUED FOR CERTIFICATION	29.11.16
C5	TN	ISSUED FOR CERTIFICATION	27.04.17
C6	HN	ISSUED FOR CERTIFICATION	24.05.18
C7	HN	ISSUED FOR CERTIFICATION	04.06.18
C8	HN	ISSUED FOR CERTIFICATION	30.7.18
C9	HN	ISSUED FOR CERTIFICATION	11.10.18
C10	HN	ISSUED FOR CERTIFICATION	07.08.19

ISSUED FOR CERTIFICATION
NOT FOR CONSTRUCTION

Consulting Engineers
TALENTED | APPROACHABLE | RESPONSIVE | PIONEERING

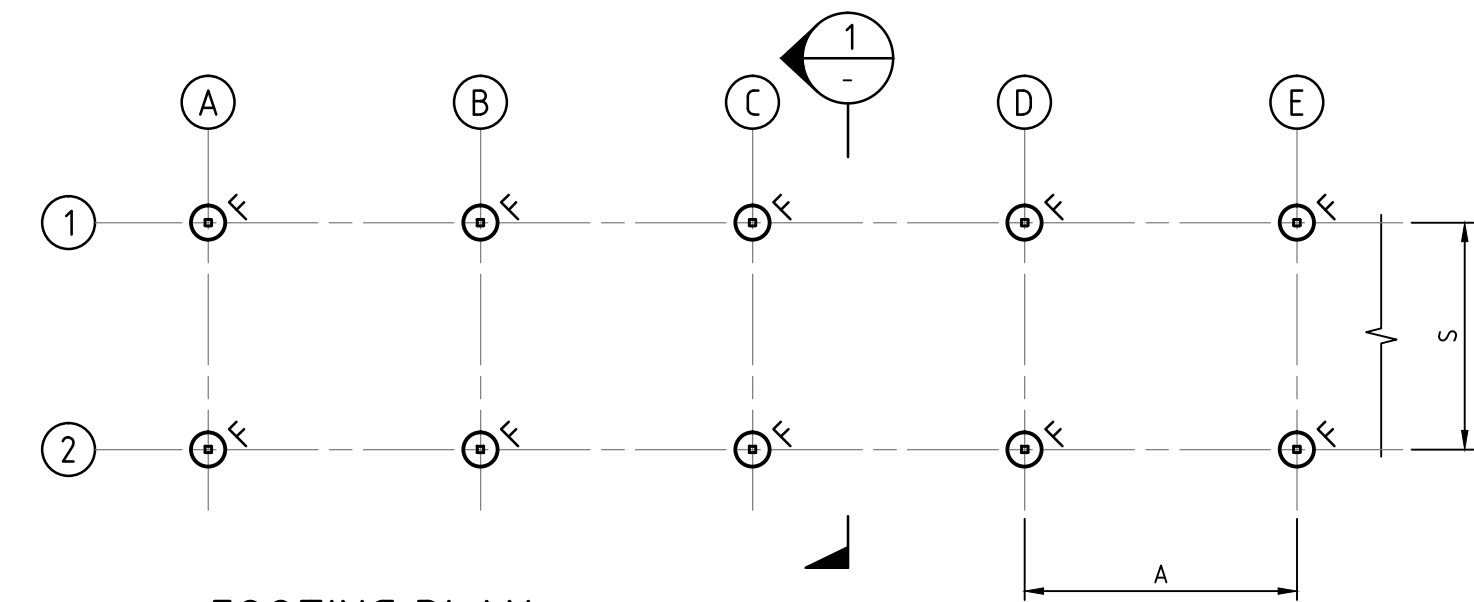
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PROJECT
GENERIC FLAT ROOF
VERANDAHS

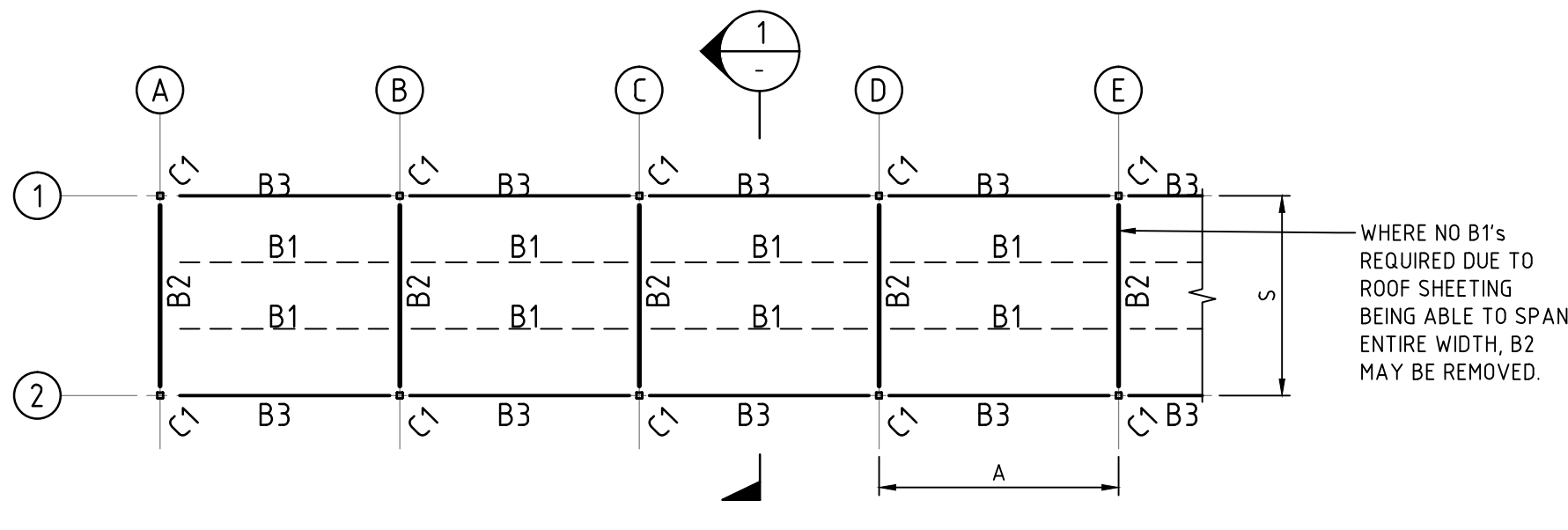
CLIENT
BARGAIN STEEL CENTRE

DRAWING TITLE
GENERAL NOTES

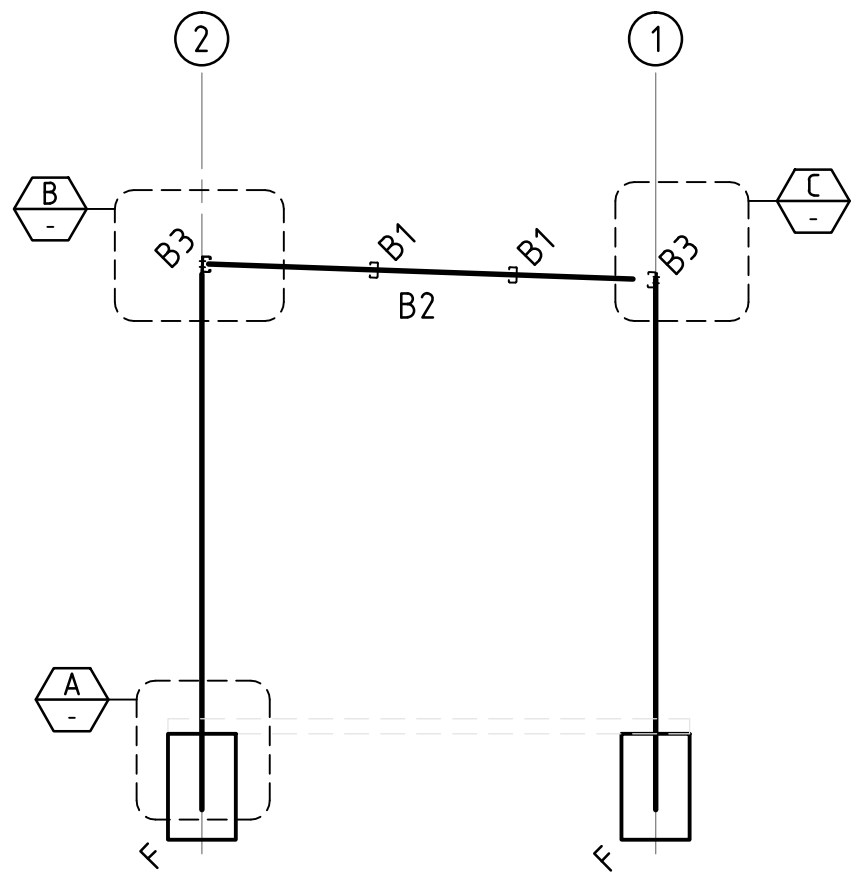
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DATE JULY 2016	PROJECT NUMBER 2016-5045BS	DRAWING SCALE AS SHOWN	
DRAWING NUMBER S01	SIZE A1	REV C10	
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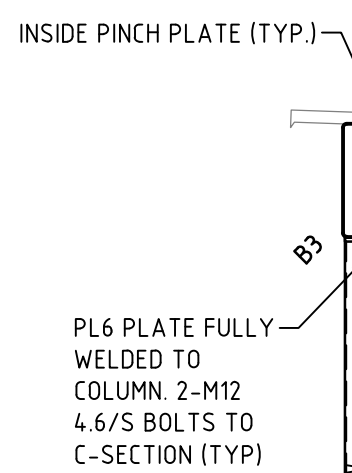
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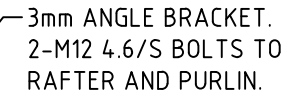
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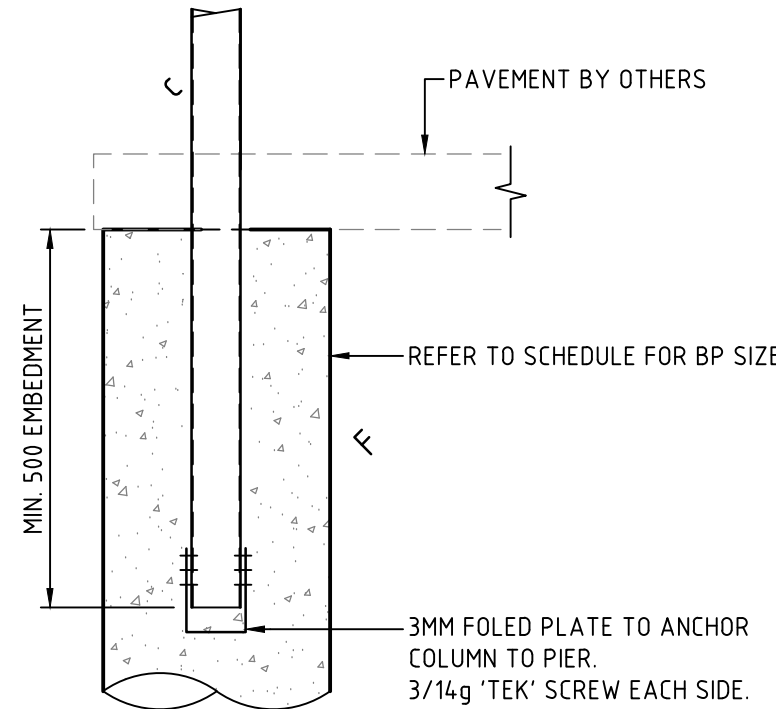
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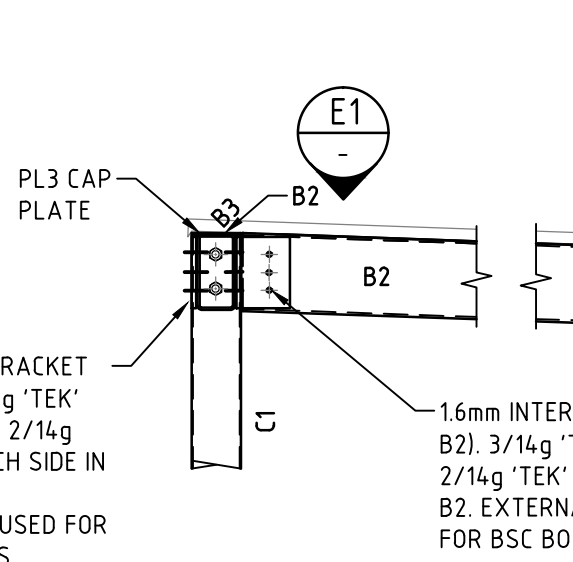
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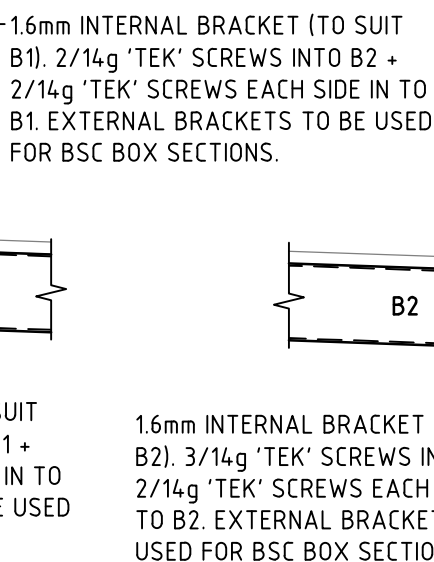
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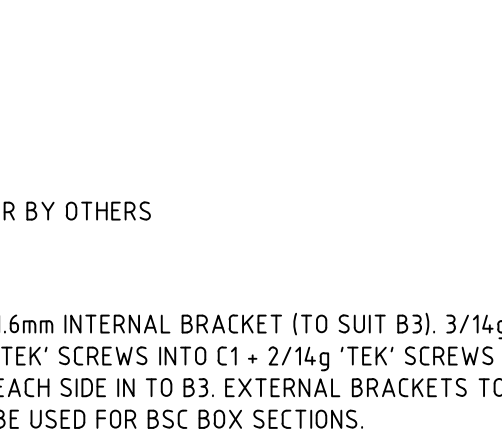
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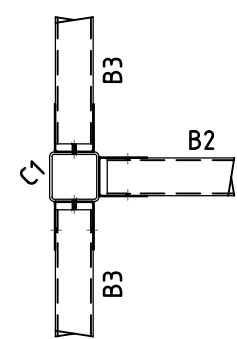
DETAIL
SCALE 1:10



DETAIL
SCALE 1:10



DETAIL
SCALE 1:10



ELEVATION
SCALE 1:10

CASE B: RHS/ BSC BOX

MAXIMUM ALLOWABLE SPAN C- SECTION						
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACIN G (A)
C	C	C	SHS	BORED PIER		
C15015	C15015	C15015	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	4800 4500 4200	3600 4500 5100
C15019	C15019	C15019	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	5400 5100 4800 4500	3000 3600 4500 5400
C20019	C20019	C20019	75 x 75 x 2.5 75 x 75 x 5.0	ø250 x 600D	6600 6300 6000 5700 5400	3000 3600 4500 5400 6300
C20024	C20024	C20024	75 x 75 x 2.5 75 x 75 x 5.0	ø250 x 600D	8100 7800 6600 6300 6000 5700	3000 3300 3900 4800 5700 6600
C25024	C25024	C25024	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	9000 8700 8400 8100 7800 6300 6000	3000 3600 4200 4800 5400 6000 7200
C30024	C30024	C30024	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	11100 10800 10500 10200 9900 9600 9300 9000 8700 8400 8100 7800	3000 3300 3600 4200 4500 4800 5400 5700 6300 6900 7500 8400

MAXIMUM ALLOWABLE SPAN - RHS						
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACING (A)
RHS	RHS	RHS	SHS	BORED PIER		
150x50x2.0	150x50x2.0	150x50x2.0	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	5700 5400 5100 4800 4500	3300 3900 4500 5400 6300
150x50x2.5	150x50x2.5	150x50x2.5	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø250 x 600D	6000 5700 5400 5100 4800	3300 3900 4500 5400 6600
150x50x3.0	150x50x3.0	150x50x3.0	75 x 75 x 2.5 90 x 90 x 2.0 100 x 100 x 3.0	ø450 x 800D	6300 6000 5700 5400 5100 4800	3300 3900 4500 5400 6300 7200
150x50x4.0	150x50x4.0	150x50x4.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	6900 6600 6300 6000 5700 5400 5100	3000 3600 3900 4800 5400 6600 7500
150x50x5.0	150x50x5.0	150x50x5.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	7200 6900 6600 6300 6000 5700 5400	3000 3600 3900 4800 5400 6300 7500

MAXIMUM ALLOWABLE SPAN - BOX BEAM						
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACING (A)
BOX	BOX	BOX	SHS	BORED PIER		
100x50x12	100x50x12	100x50x12	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	4200 3900 3600	3300 3900 5100
150x50x12	150x50x12	150x50x12	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	5700 5400 5100 4800 4500	3300 3900 4500 5400 6300
200x50x12	200x50x12	200x50x12	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø450 x 800D	7200 6900 6600 6300 6000 5700 5400	3000 3600 4200 4800 5700 6600 7500
250x50x12	250x50x12	250x50x12	75 x 75 x 5.0 90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	8700 8400 8100 7800 7500 7200 6900 6600 6300 6000	3000 3300 3600 4200 4800 5700 6300 7200 8400 8700

- NOTES:**
- ALL HOT ROLLED STEEL TO BE MINIMUM G350
 - ALL DIMENSIONS IN mm
 - ALL MEMBERS ARE DESIGNED TO BE STRUCTURALLY ADEQUATE WITH AN ALLOWABLE DEFLECTION OF 1/150.
 - ROOF PITCH = 1° - 5° MAX
 - ALL ROOF SHEETING INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS
 - CRAWL BOARDS OR PLANKING SHOULD BE USED DURING INSTALLATION OR MAINTENANCE OF ROOF SHEETING, OTHERWISE DAMAGE TO DECKING MAY OCCUR.

- ROOF SHEETING:**
- HI RIB 680 - 0.42 BMT MAX CONT. SPAN = 3900mm
 - STRAMIT - SUNSET PATIO SHEETING MAX CONT. SPAN = 2900mm
 - KLIPEK 500-0.48 BMT MAX CONT. SPAN = 3000mm

- FOOTING NOTES:**
- THIS SITE HAS NOT BEEN CLASSIFIED DUE TO GENERIC DESIGN.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING S01 NOTES
 - ALL FOOTINGS TO BE F'C=25MPA MASS CONCRETE.
 - TOP OF FOOTING TO BE 100 BELOW FFL
 - FOOTINGS TO BE FOUNDED 200 MIN. INTO NATURAL GROUND OF SBC 150KPA TYPICAL U.N.O.

AMENDMENTS			
ISSUE	INITIAL	DESCRIPTION	DATE
P1	JSC	ISSUED FOR CLIENT VIEW	28.07.16
C1	JSC	ISSUED FOR CERTIFICATION	05.08.16
C2	JSC	ISSUED FOR CERTIFICATION	18.10.16
C3	JSC	ISSUED FOR CERTIFICATION	08.11.16
C4	TN	ISSUED FOR CERTIFICATION	29.11.16
C5	TN	ISSUED FOR CERTIFICATION	27.04.17
C6	HN	ISSUED FOR CERTIFICATION	24.05.18
C7	HN	ISSUED FOR CERTIFICATION	04.06.18
C8	HN	ISSUED FOR CERTIFICATION	30.07.18
C9	HN	ISSUED FOR CERTIFICATION	21.08.18
C10	HN	ISSUED FOR CERTIFICATION	11.10.18
C11	HN	ISSUED FOR CERTIFICATION	07.08.19

ISSUED FOR CERTIFICATION
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mlei Consulting Engineers
TALENTED | APPROACHABLE | RESPONSIVE | PIONEERING
Level 5, 19 Gilles Street
Adelaide SA 5000
Telephone (08) 8231 2832
Facsimile (08) 8311 1742
www.mlei.com.au

PROJECT
**GENERIC FLAT ROOF FREE
STANDING VERANDAHS**

CLIENT
BARGAIN STEEL CENTRE

DRAWING TITLE
**FOOTING & ROOF PLAN AND
SECTION**

DRAFTER
JSC

ENGINEER
JT

PROJECT
MANAGER
M

MANAGER
BR

DATE
JULY 2016

PROJECT NUMBER
2016-5045BS

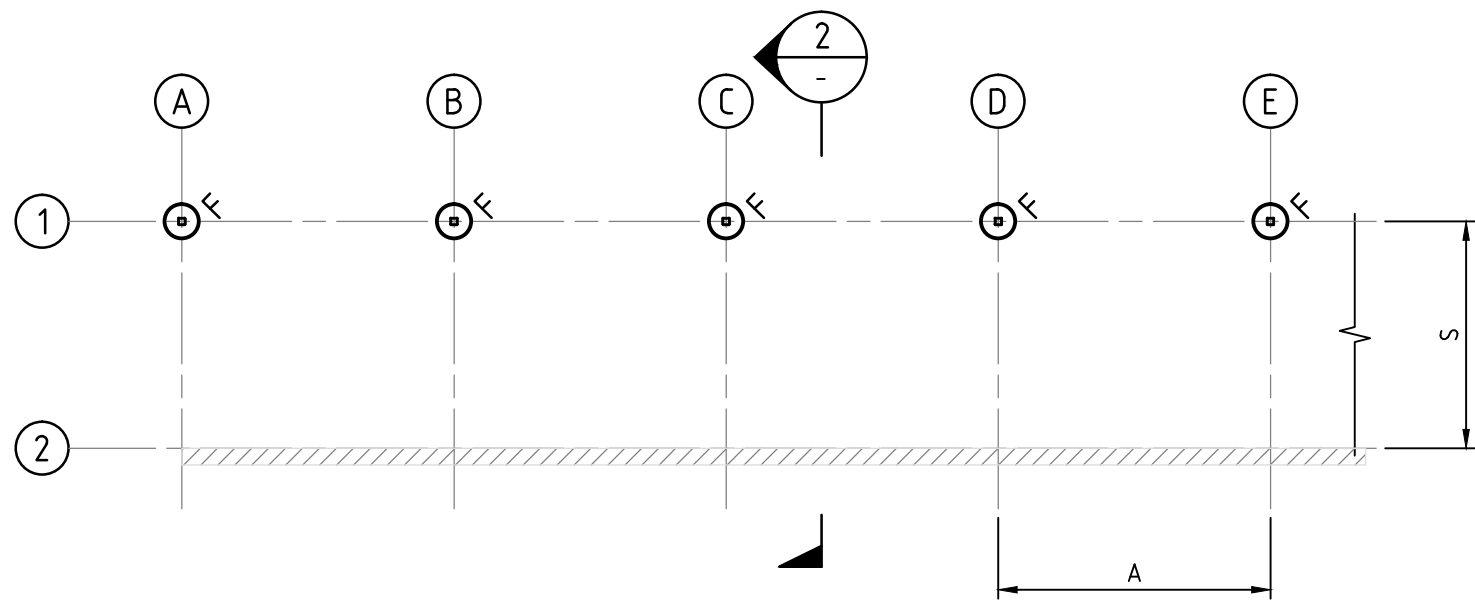
DRAWING SCALE
AS SHOWN

DRAWING NUMBER
S02

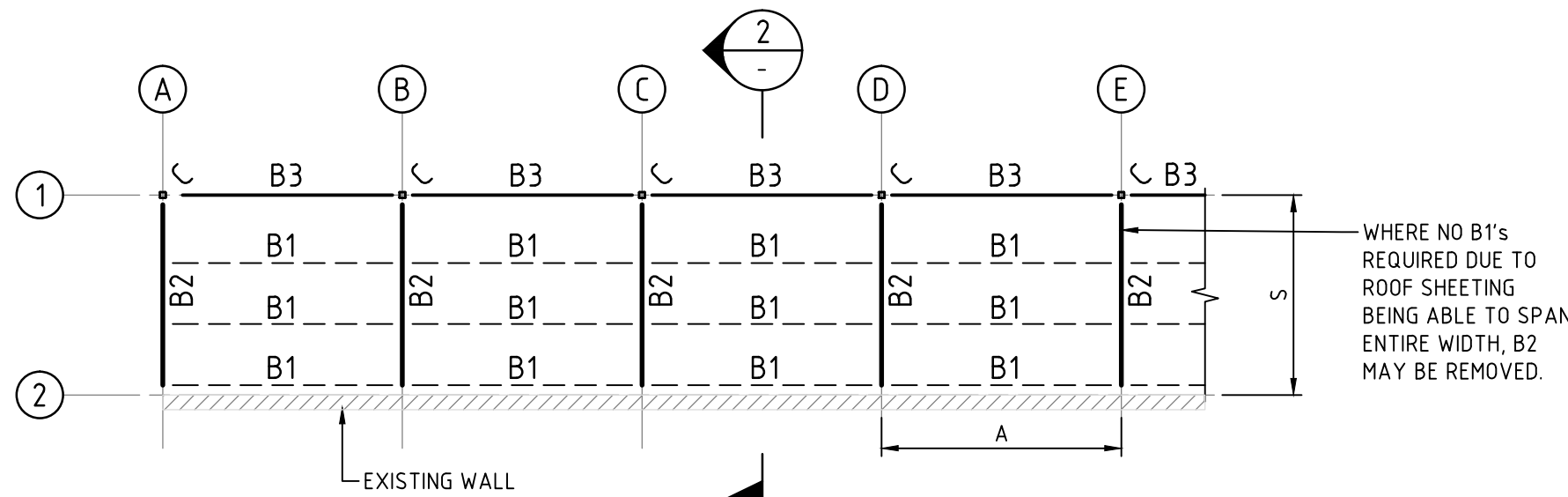
SIZE
A1

REV
C11

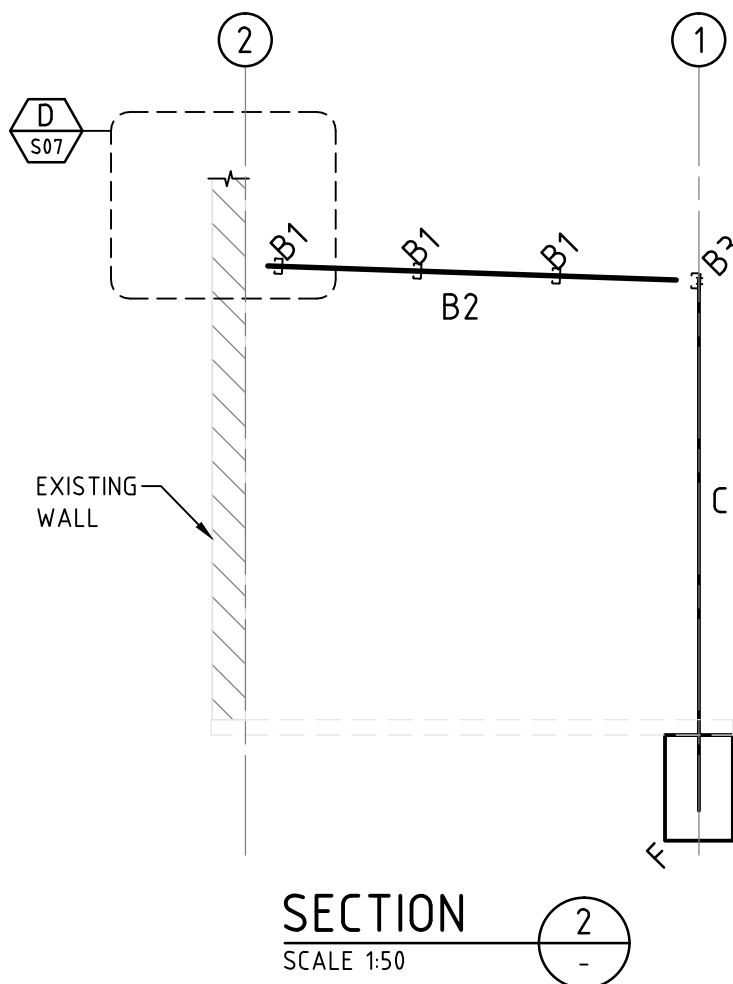
DO NOT SCALE FROM THIS DRAWING



FOOTING PLAN
SCALE 1:100



ROOF PLAN
SCALE 1:100



SECTION
SCALE 1:50

NOTES:
ADEQUACY OF EXISTING WALL TO TAKE ADDITIONAL LOADS
NEEDS TO BE ASSESSED BY A QUALIFIED THIRD PARTY PRIOR TO
COMMENCING WORKS.

MAXIMUM ALLOWABLE SPAN C- SECTION						
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACING (A)
C	C	C	SHS	BORED PIER		
C15015	C15015	C15015	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	4800 4500 4200	3000 3600 4200
C15019	C15019	C15019	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	5100 4800 4500	3300 3900 4500
C20019	C20019	C20019	75 x 75 x 2.5 75 x 75 x 5.0	ø300 x 600D	6600 6300 6000 5700 5400	3000 3600 4500 5100 5400
C20024	C20024	C20024	75 x 75 x 2.5 100 x 100 x 3.0 100 x 100 x 5.0	ø450 x 600D OR ø300 x 800	6900 6600 6300 6000	3300 3900 4200 4800 5700
C25024	C25024	C25024	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	9000 8700 8400 8100 7800 7500 7200 6900 6600	3000 3600 4200 4800 5400 6000 6300
C30024	C30024	C30024	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	11100 10800 10500 10200 9900 9600 9300 9000 8700 8400 8100 7800	3000 3300 3600 4200 4500 4800 5400 5700 6300 6900 7500 8400

MAXIMUM ALLOWABLE SPAN - RHS							
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACING (A)	
RHS	RHS	RHS	SHS	BORED PIER			
150x50x2.0	150x50x2.0	150x50x2.0	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø300 x 800D	6300 6000 5700 5400 5100 4800 4500	3000 3300 3900 4200 4800 5700 6300	
150x50x2.5	150x50x2.5	150x50x2.5	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø300 x 800D	6600 6300 6000 5700 5400 5100 4800	3000 3600 4200 4800 5400 6000 6600	
150x50x3.0	150x50x3.0	150x50x3.0	75 x 75 x 2.5 90 x 90 x 2.0 100 x 100 x 3.0	ø300 x 800D	6900 6600 6300 6000 5700 5400 5100	3300 3600 4200 5100 5700 6600 7200	
150x50x4.0	150x50x4.0	150x50x4.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	7500 7200 6900 6600 6300 6000 5700 5400	3000 3300 3900 4500 5100 6000 7200 7800	
150x50x5.0	150x50x5.0	150x50x5.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	7500 7200 6900 6600 6300 6000 5700	3300 3900 4500 5100 6000 6900 8100	

MAXIMUM ALLOWABLE SPAN - BOX BEAM							
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	DECKING SPAN (S)	COLUMN SPACING (A)	
BOX	BOX	BOX	SHS	BORED PIER			
100x50x1.2	100x50x1.2	100x50x1.2	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø250 x 600D	3900 3600 3300	3300 4200 4500	
150x50x1.2	150x50x1.2	150x50x1.2	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø450 X 600D OR ø300 x 800D	6000 5700 5400 5100 4800 4500	3300 3600 4200 4800 5400 6300	
200x50x1.2	200x50x1.2	200x50x1.2	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø450 x 800D	7800 7500 7200 6900 6600 6300 6000 5700 5400	3000 3600 4200 4500 5100 5700 6300 7200 7800	
250x50x1.2	250x50x1.2	250x50x1.2	75 x 75 x 5.0 90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	9300 9000 8700 8400 8100 7800 7500 7200 6900 6600	3000 3600 3900 4200 4800 5400 6300 7200 7800 9000	

NOTES:
1- ALL HOT ROLLED STEEL TO BE MINIMUM G350
2- ALL DIMENSIONS IN mm
3- ALL MEMBERS ARE DESIGNED TO BE STRUCTURALLY ADEQUATE WITH AN ALLOWABLE DEFLECTION OF 1/150.
4- ROOF PITCH = 1° - 5° MAX
5- ALL ROOF SHEETING INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
6- CRAWL BOARDS OR PLANKING SHOULD BE USED DURING INSTALLATION OR MAINTENANCE OF ROOF SHEETING, OTHERWISE DAMAGE TO DECKING MAY OCCUR.

ROOF SHEETING:
• HI RIB 680 - 0.42 BMT MAX CONT. SPAN = 3900mm
• STRAMIT - SUNSET PATIO SHEETING MAX CONT. SPAN = 2900mm
• KLIPDEK 500-0.48 BMT MAX CONT. SPAN - 3000mm

FOOTING NOTES:
• THIS SITE HAS NOT BEEN CLASSIFIED DUE TO GENERIC DESIGN.
• THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING S01 NOTES.
• ALL FOOTINGS TO BE F'C=25MPA MASS CONCRETE.
• TOP OF FOOTING TO BE 100 BELOW FFL
• FOOTINGS TO BE FOUNDED 200 MIN. INTO NATURAL GROUND OF SBC 150KPA TYPICAL U.N.O.

AMENDMENTS			
ISSUE	INITIAL	DESCRIPTION	DATE
P1	JSC	ISSUED FOR CLIENT VIEW	28.07.16
C1	JSC	ISSUED FOR CERTIFICATION	05.08.16
C2	JSC	ISSUED FOR CERTIFICATION	18.10.16
C3	JSC	ISSUED FOR CERTIFICATION	08.11.16
C4	TN	ISSUED FOR CERTIFICATION	29.11.16
C5	TN	ISSUED FOR CERTIFICATION	27.04.17
C6	HN	ISSUED FOR CERTIFICATION	24.05.18
C7	HN	ISSUED FOR CERTIFICATION	04.06.18
C8	HN	ISSUED FOR CERTIFICATION	30.07.18
C9	HN	ISSUED FOR CERTIFICATION	21.08.18
C10	HN	ISSUED FOR CERTIFICATION	11.10.18
C11	HN	ISSUED FOR CERTIFICATION	07.08.19

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www.mlei.com.au

PROJECT
GENERIC FLAT ROOF
ATTACHED VERANDAHS

CLIENT
BARGAIN STEEL CENTRE

DRAWING TITLE
FOOTING & ROOF PLAN
AND SECTION

DRAFTER	ENGINEER	PROJECT MANAGER	MANAGER
JSC	JT	-	BR

DATE	PROJECT NUMBER	DRAWING SCALE
JULY 2016	2016-5045BS	AS SHOWN
DRAWING NUMBER	SIZE	REV
S03	A1	C11

DO NOT SCALE FROM THIS DRAWING



- ROOF SHEETING:**
- HI RIB 680 - 0.42 BMT MAX CONT. SPAN = 3900mm
 - STRAMIT - SUNSET PATIO SHEETING MAX CONT. SPAN = 2900mm
 - KLIPDEK 500-0.48 BMT MAX CONT. SPAN = 3000mm

- FOOTING NOTES:**
- THIS SITE HAS NOT BEEN CLASSIFIED DUE TO GENERIC DESIGN.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING S01 NOTES.
 - ALL FOOTINGS TO BE F'C=25MPa MASS CONCRETE.
 - TOP OF FOOTING TO BE 100 BELOW FFL
 - FOOTINGS TO BE FOUNDED 200 MIN. INTO NATURAL GROUND OF SBC 150kPa TYPICAL U.N.O.

MAXIMUM ALLOWABLE SPAN – RHS							
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	BEAM TWO SPAN (S)	COLUMN SPACING (A)	B2 OVERHANG (O)
RHS	RHS	RHS	SHS	BORED PIER			
150x50x2.0	150x50x2.0	150x50x2.0	65 x 65 x 16 65 x 65 x 2.0 75 x 75 x 2.5	ø450 x 600D	5700	3300	2700
					5400	3900	2400
					5100	4500	2400
					4800	5400	2100
					4500	6300	2100
150x50x2.5	150x50x2.5	150x50x2.5	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø450 x 800D	6000	3300	2700
					5700	3900	2700
					5400	4500	2400
					5100	5400	2400
					4800	6600	2100
150x50x3.0	150x50x3.0	150x50x3.0	75 x 75 x 2.5 90 x 90 x 2.0 100 x 100 x 3.0	ø450 x 800D	6300	3300	3000
					6000	3900	2700
					5700	4500	2700
					5400	5400	2400
					5100	6300	2400
4800	7200	2100					
150x50x4.0	150x50x4.0	150x50x4.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	6900	3000	3300
					6600	3600	3000
					6300	3900	3000
					6000	4800	2700
					5700	5400	2700
					5400	6600	2400
					5100	7500	2400
150x50x5.0	150x50x5.0	150x50x5.0	90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	7200	3000	3300
					6900	3600	3300
					6600	3900	3000
					6300	4800	3000
					6000	5400	2700
					5700	6300	2700
					5400	7500	2400

MAXIMUM ALLOWABLE SPAN - BOX BEAM							
BEAM ONE (B1)	BEAM TWO (B2)	BEAM THREE (B3)	COLUMN (C)	FOOTING (F)	BEAM TWO SPAN (S)	COLUMN SPACING (A)	B2 OVERHANG (O)
BOX	BOX	BOX	SHS	BORED PIER			
100x50x1.2	100x50x1.2	100x50x1.2	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø450 x 600D	4200 3900 3600 3600	3300 3900 4200 5100	1800 1800 1800 1500
150x50x1.2	150x50x1.2	150x50x1.2	65 x 65 x 1.6 65 x 65 x 2.0 75 x 75 x 2.5	ø450 x 600D	5700 5400 5100 4800 4500	3300 3900 4500 5400 6300	2700 2400 2400 2100 2100
200x50x1.2	200x50x1.2	200x50x1.2	65 x 65 x 2.0 75 x 75 x 2.5 90 x 90 x 2.0	ø600 x 800D	7200 6900 6600 6300 6000 5700 5400	3000 3600 4200 4800 5700 6600 7500	3300 3300 3000 3000 2700 2700 2400
250x50x1.2	250x50x1.2	250x50x1.2	75 x 75 x 5.0 90 x 90 x 2.0 100 x 100 x 3.0 100 x 100 x 5.0	ø600 x 800D	8700 8400 8100 7800 7500 7200 6900 6600 6300 6000	3000 3300 3600 4200 4800 5700 6300 7200 8400 8700	4200 3900 3900 3600 3600 3300 3300 3000 3000 2700

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Level 5, 19 Gilles Street
Adelaide SA 5000
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www.mlei.com.au

PROJECT

GENERIC FLAT ROOF FREE STANDING VERANDAHS WITH OVERHANG

CLIENT

BARGAIN STEEL CENTRE

DRAWING TITLE

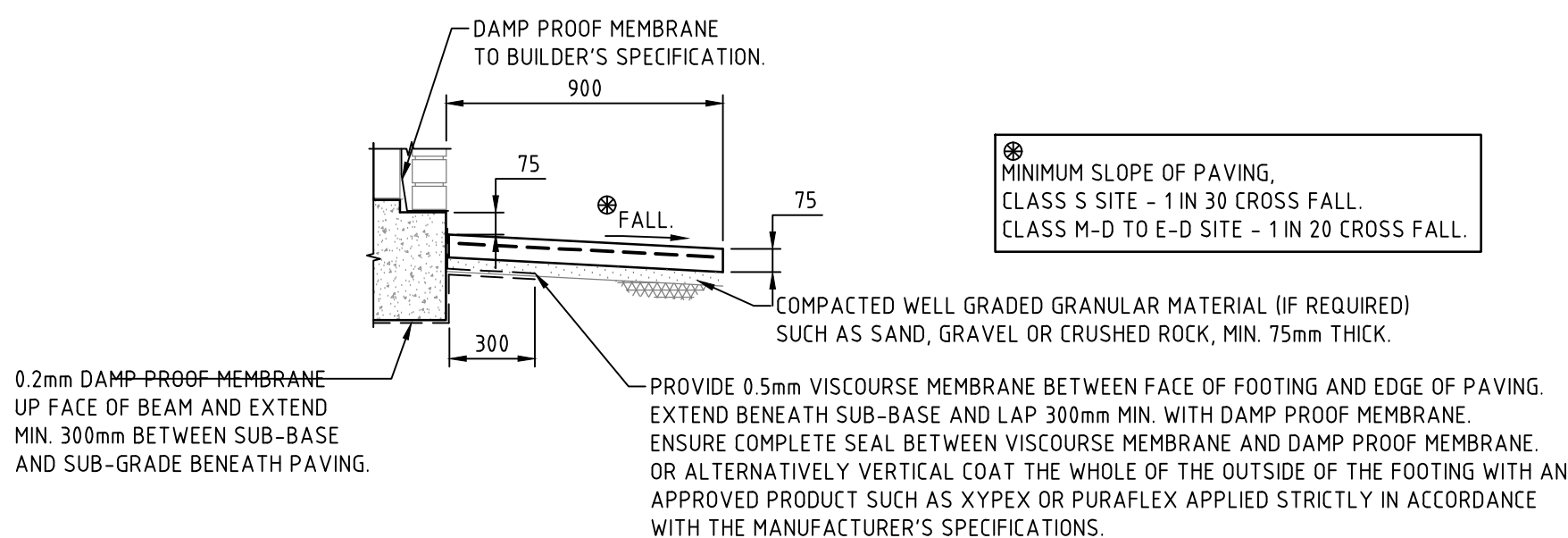
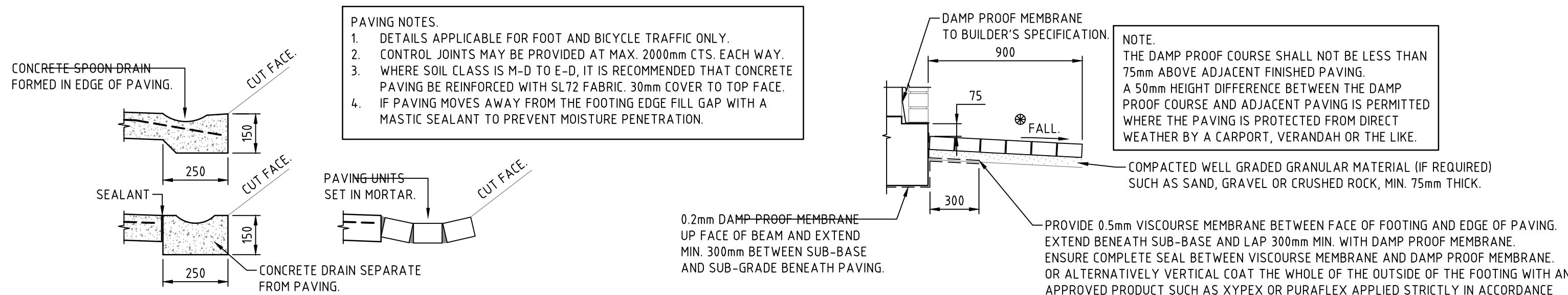
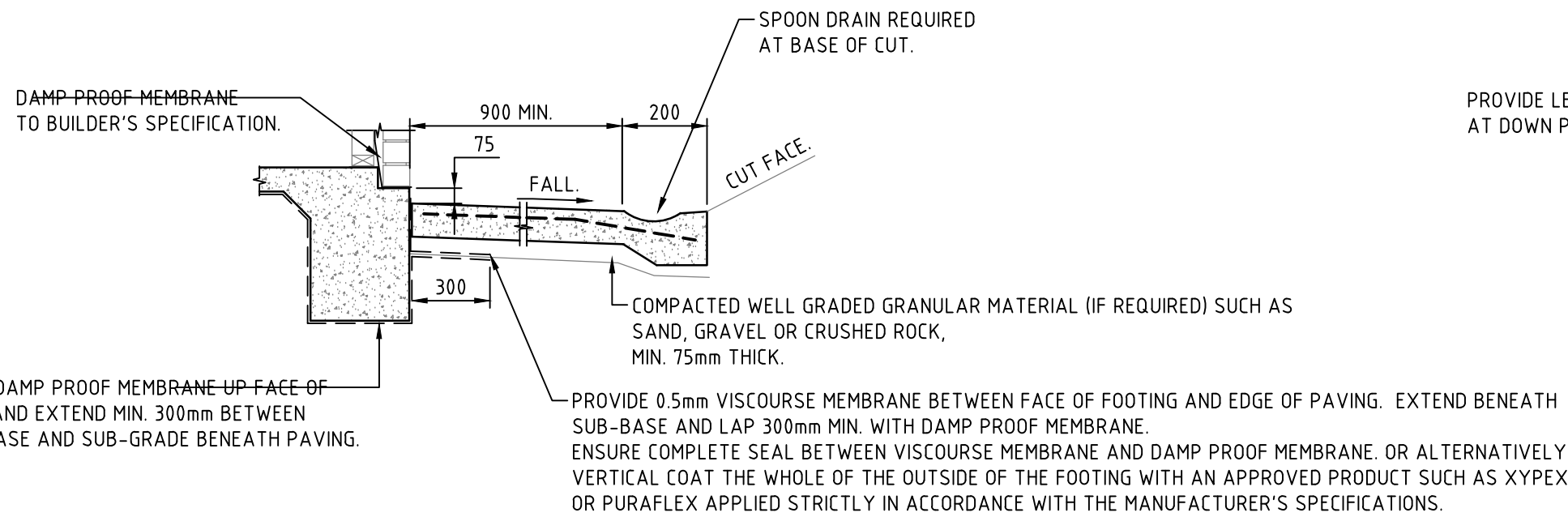
FOOTING & ROOF PLAN AND SECTION

DRAFTER	ENGINEER	PROJECT MANAGER	MANAGER
JSC	JT	-	BR

DATE	PROJECT NUMBER	DRAWING SCALE
JULY 2016	2016-5045BS	AS SHOWN

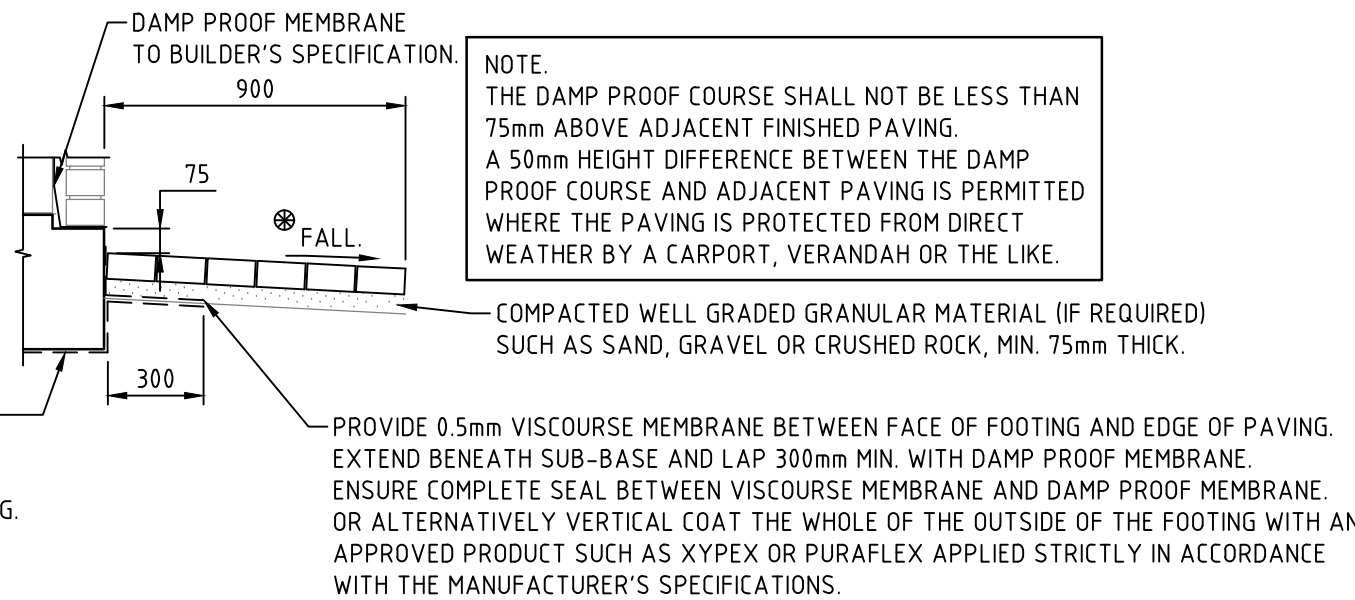
S04 A1 C5

DO NOT SCALE FROM THIS DRAWING

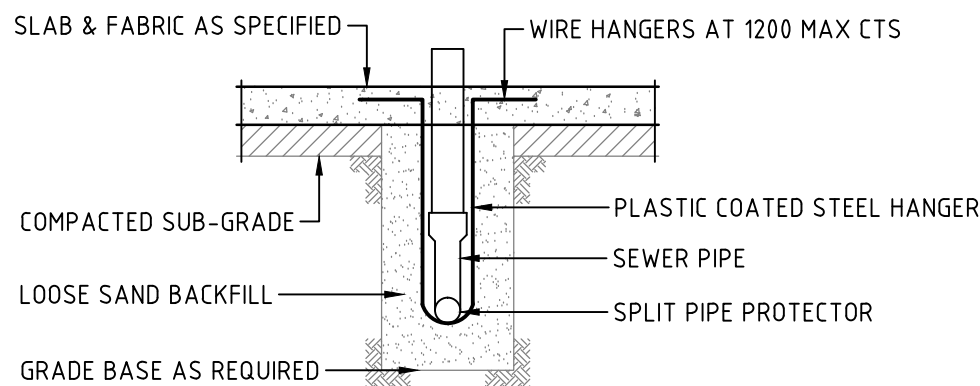


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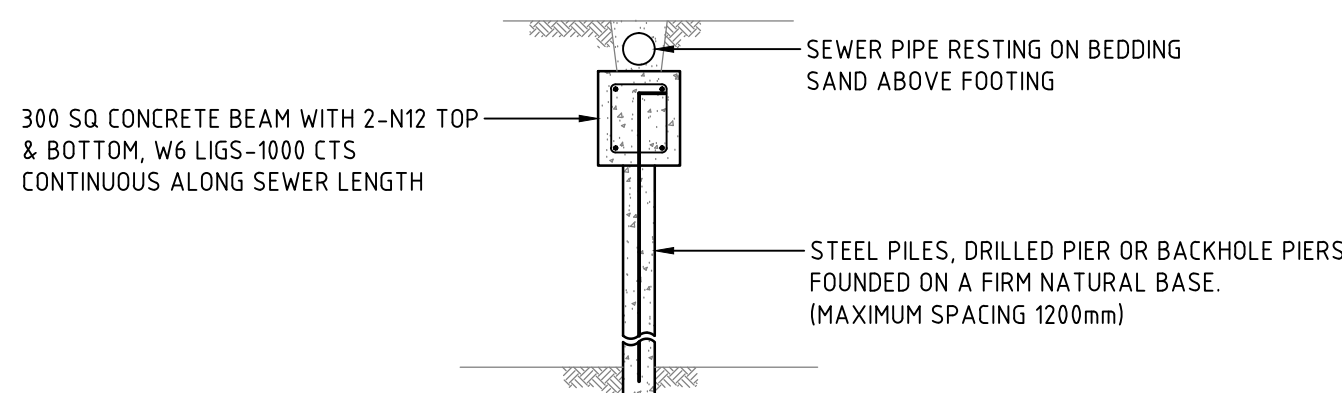
NOT TO SCALE
SPOON DRAIN REQUIRED ONLY IF SPECIFIED ON SITEWORKS AND DRAINAGE PLAN.
NOTES:
1. EDGE DRAIN TO BE PROVIDED TO DIVERT RUN OFF WATER AWAY FROM BUILDING.
2. MINIMUM SLOPE OF PAVING,
CLASS S SITE - 1 IN 30 CROSS FALL.
CLASS M-D TO E-D SITE - 1 IN 20 CROSS FALL.



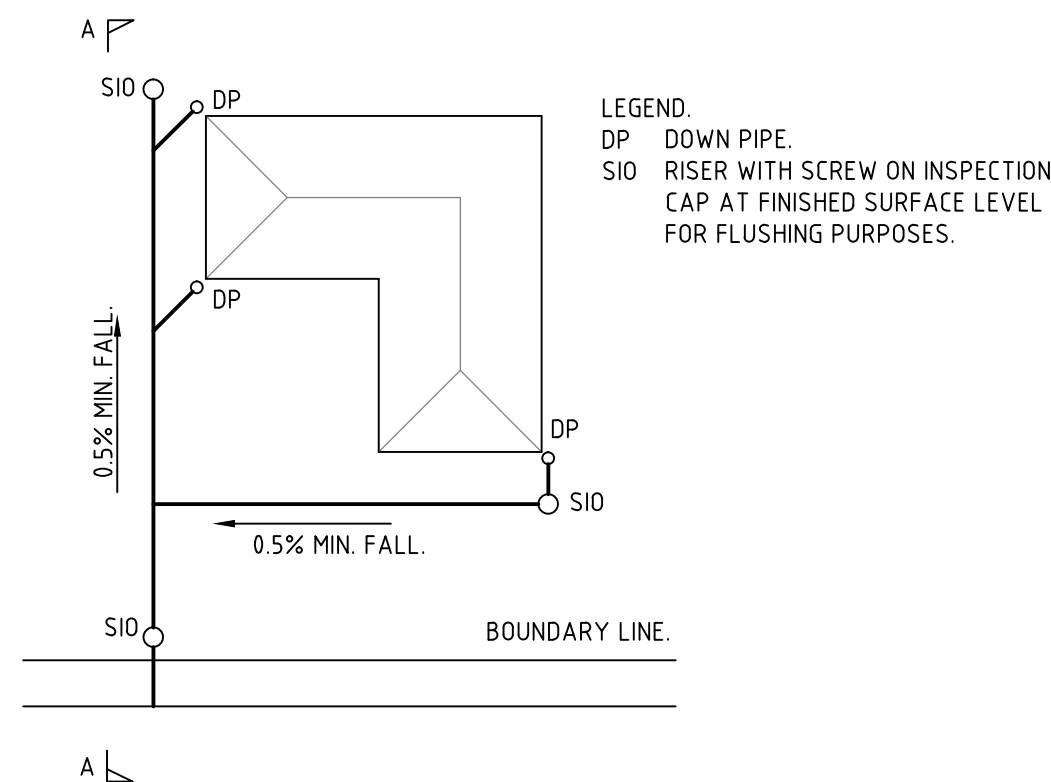
NOT TO SCALE



N.T.S



N.T.S



NOT TO SCALE

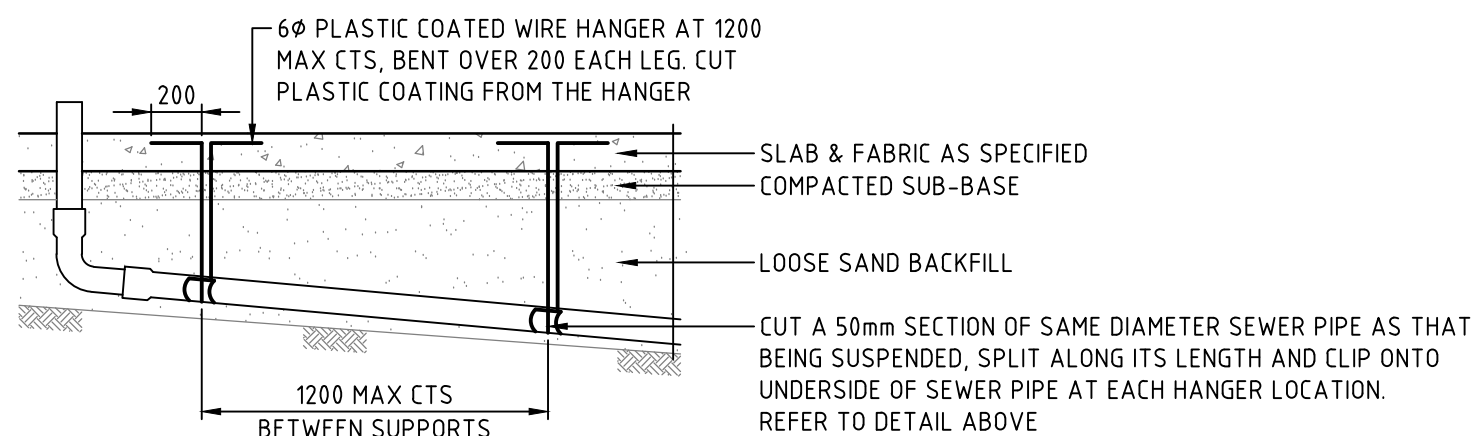
NOTES:

1. DO NOT USE SEAMED SHEET METAL DOWN PIPES OR FITTINGS WITH A SEALED SYSTEM.

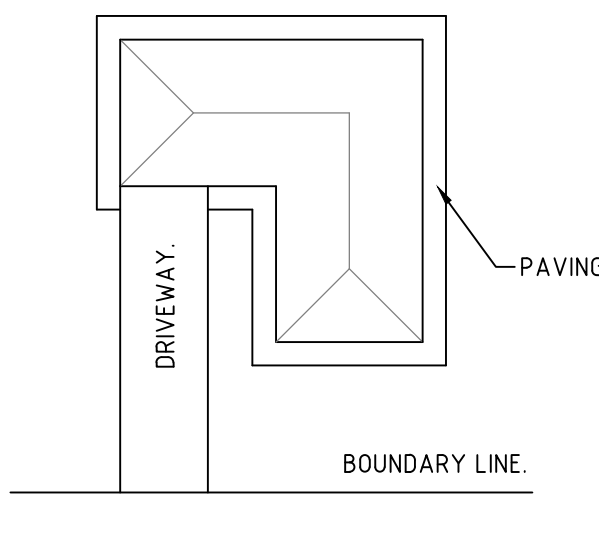
2. SEALED SYSTEM TO BE CONSTRUCTED WITH SOLVENT WELDED JOINTS FOR UPVC PIPES AND STATIC TESTED BEFORE BACKFILLING TRENCHES.

3. IT IS THE RESPONSIBILITY OF THE OWNER TO MAINTAIN THE SYSTEM BY REGULAR FLUSHING

4. 510 ARE REQUIRED AT - FRONT BOUNDARY, LOWEST POINT AND DEAD END BRANCHES.



N.T.S.



NOT TO SCALE
PAVING REQUIREMENTS - 900mm MIN. WIDTH
AROUND HOUSE.

PROJECT GENERIC FLAT ROOF VERANDAHs			
CLIENT BARGAIN STEEL CENTRE			
DRAWING TITLE GENERIC CIVIL DETAILS			
DRAFTER JSC	ENGINEER JT	PROJECT MANAGER -	MANAGER BR
DATE JULY 2016	PROJECT NUMBER 2016-5045BS	DRAWING SCALE AS SHOWN	
DRAWING NUMBER S06	SIZE A1	REV C7	
DO NOT SCALE FROM THIS DRAWING			



OPTION 3




OPTION 3



OPTION 3



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<div><div></div><div><div>Consulting Engineers</div><div>TALENTED APPROACHABLE RESPONSIVE PIONEERING</div></div></div> <div>Level 5, 19 Gilles Street Adelaide SA 5000 Telephone (08) 8231 2832 Facsimile (08) 8311 1742 www.mlei.com.au</div>			
PROJECT GENERIC FLAT ROOF ATTACHED VERANDAHS			
CLIENT BARGAIN STEEL CENTRE			
DRAWING TITLE SECTIONS & DETAILS			
DRAFTER	ENGINEER	PROJECT MANAGER	MANAGER
JSC	JT	-	BR
DATE JULY 2016	PROJECT NUMBER 2016-5045BS		DRAWING SCALE AS SHOWN
DRAWING NUMBER	SIZE	REV	
S07	A1	C2	
DO NOT SCALE FROM THIS DRAWING			