

SPECIFICATION-OF-INTENT

ISSUED FOR
DEVELOPMENT APPROVAL
COMPRISING OF
PROVISIONAL DEVELOPMENT PLAN CONSENT
PROVISIONAL BUILDING RULES CONSENT

***MISCION PTY LTD**
STRUCTURAL DESIGN

Maitland, South Australia

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*also T/A Roy Harrison & Associates

DRAWING INDEX & DOCUMENT STATUS		
DRAWING NUMBER	TITLE	REV
2347/G01	GENERAL NOTES	A
2347/G02	CONCRETE NOTES	A
2347/G03	STEEL NOTES	A
2347/S01	FRAMING LAYOUT	A
2347/S02	DETAILS	A

Example No - 2347

December 2010

for
Proposed Canopy
PARALOWIE

EXAMPLE

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 Wed 15 Dec 2010 15:41

GENERAL

1. All materials and workmanship shall be in accordance with the latest editions of the relevant Australian codes unless noted otherwise (uno).
2. The structural drawings shall be read in conjunction with these Construction Notes and associated drawings, and with such other written instructions as may be issued by the Engineer, during the course of construction.
3. The structure has been designed to meet the requirements of the Code or Standard relevant to the facility in its in-service condition. During construction and prior to hand-over the Contractor shall, at all time, ensure that the structure is protected from over-stressing and instability due to any causes whatsoever.
4. The Contractor shall verify setting out dimensions shown on the drawings by measurement on site.

BASIS OF DESIGN

1. Structure Importance Level : 2 (Normal)
2. Design wind loading
 Region = A1
 Terrain category = TC2.2/TC3
 Annual probability of Design Wind Event being Exceeded : 1/500
 Mean Return Period R = 500 years
 Regional Wind Speed V[R,u] = 45 m/s
3. Design live loading
 Roof = 0.25 kPa
4. A maximum allowable bearing pressure of 100kPa has been assumed. Confirm the foundation material with the Engineer prior to placing concrete. Refer any discrepancy to the Engineer for a decision before proceeding.
5. Footings shall be placed centrally under walls and columns uno.

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GROUND WORKS

1. Fill material to be inorganic, nonperishable material with a sulphur content NOT exceeding 0.5% within 500 mm of concrete structures or masonry unless such elements are protected by impermeable membranes or equivalent means, to be obtained from suitable sources.
2. General fill shall be well graded with a,
 - particle size 75 mm max.
 - plasticity index 55% max.
3. Select fill shall have a:
 - particle size 75 mm max.
 - 75 micron sieve: 15% max. (proportion passing)
 - plasticity index 6% max.
 - liquid limit 25% max.
4. The ground surface shall be prepared before placing fill, ground slabs or load bearing elements. All loose material, debris and organic matter shall be removed. The ground shall be compacted to achieve the required density.
5. The moisture content shall be adjusted to achieve the required density or moisture content of the fill before compaction.
6. Surfaces shall be finished to required level, grade and shape within the following tolerances:
 - below slabs and loadbearing elements: +0, -25 mm.
 - other ground surfaces: ±50 mm, (the area shall remain free draining and match abutting construction).
7. The finish shall be as smooth as normally achieved by a scraper blade.
8. Fill shall be placed in layers and compacted to the dimensions, levels, grades, and cross sections so that the surface is always self draining.
9. Fill shall be placed in layers of maximum layer thickness not exceeding 200mm (loose).
10. All external areas shall be graded to fall away from buildings with a minimum 1:100 fall.

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GENERAL NOTES (1)

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CONCRETE

1. All workmanship and materials shall be in accordance with relevant codes.
2. Reinforcement grade symbols designation and yield stress:
 - (a) R/SL – Ductility Class L reinforcing mesh yield strength = 500 MPa
 - (b) N – Ductility Class N deformed bars to yield strength = 500 MPa
 - (c) L – Ductility Class L deformed bars yield strength = 500 MPa
 - (d) R – plain round bars to min yield stress = 230 MPa
 The number immediately following the bar symbols L, N, and R represents the nominal bar diameter in mm. The number following the RL or SL symbol is the fabric size coding.
3. Fabric splices shall be staggered to ensure no more than three fabric thicknesses occur at any one point. Concrete cover shall be maintained where fabric splices occur.
4. Splices in reinforcement made in positions other than shown shall be approved. Where the lap length is not shown it shall be sufficient to develop the full strength of the reinforcement and shall be 40 bar diameters un.
5. Slab reinforcement shall be firmly supported on plastic or concrete (of same grade as matrix) chairs. SL72 mesh may require additional support bars. Each beam ligature shall be secured to a bar in each corner of the ligature.
6. Sizes of concrete elements do not include thickness of applied finishes.
7. Construction joints where not shown shall be to the approval of the Engineer. All construction joints shall be scabbled and thoroughly cleaned of loose material before placing fresh concrete.
8. Where joints are to be saw cut, cutting shall take place within 24 hours of concrete placement.
9. Refer to service drawings, hydraulic, electrical and mechanical for cable and pipe penetrations. No holes or chases other than those shown on the structural drawings shall be made in concrete elements without the prior approval of the Engineer.
10. Curing shall commence as soon as the exposed surface of the concrete has hardened, to prevent damage, but in no case later than two hours after the finishing operation has been completed. The curing method shall be in accordance with relevant standards as approved. Curing compounds shall not be used without prior approval.
11. Bondek shall be installed in accordance with the manufacturer's instructions. Sheets to have 50mm minimum bearing onto end supports and 100mm onto internal supports.
12. Bondek shall be propped at the frequency indicated on the drawings or in accordance with the manufacturer's instructions so as to minimise permanent deflections developing during construction
13. Concrete quality shall be as tabulated and shall be verified by tests

Concrete Element	Exposure Class'n	Class/Grade	Slump mm	Aggregate Size mm	Cement Type
Footing Piers & Pads	A2	N20	80	20	GP
Footing Beams	by others	--	--	--	--
Floor Slabs	by others	--	--	--	--

14. Clear concrete cover:

Element	Cover (mm)
Floor Slabs	20mm Top, 30mm Bottom
Footing Beams	45mm Top 40mm Sides & Bottom (without Damp Proof Membrane) 30mm Sides & Bottom (with Damp Proof Membrane)

15. External concrete to sites within 1km of the sea shall be N40 grade concrete, or within 50kms N32 concrete, where the surfaces are exposed (eg verandahs, balconies, carports etc) or shall be protected with a suitable topping, sealer, tiles etc.

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GENERAL NOTES (2)

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STRUCTURAL STEELWORK

1. All workmanship and materials shall be in accordance with relevant codes.
2. Details of component parts of each structure are typical only. Where items are not detailed the contractor or fabricator shall use similar methods to those shown on the drawings.
3. Steel beams shall be fabricated with natural camber up.
4. All shop and field welds shall be continuous fillet uno. The size shall be the lesser of: – 3mm or the thickness of the thinner element joined.
5. Fillet welds shall be of General–Purpose (GP) classification uno, 25% shall be visually examined as nominated, in accordance with relevant codes.
6. Butt welds shall be complete penetration type and shall be Special Purpose (SP) classification. Testing of butt welds shall be carried out by an approved method in accordance with relevant codes.
7. Bolt designation:
 - (a) 4.6/S refer to commercial bolts grade 4.6, tightened using a standard wrench to a snug–tight condition.
 - (b) 8.8/S refer to high strength structural bolts of grade 8.8 tightened using a standard wrench to a snug–tight condition.
 - (c) 8.8/TB refer to HSSB or 8.8 fully tensioned as specified
8. All bolts shall be 8.8/S uno.
9. A minimum of 2–M12 8.8/S bolts and an 8mm thick cleat shall be used at each connection uno.
10. Bolts to purlins and girts shall be 2–M12 8.8/S uno.
11. Bolts in slotted holes shall be "finger tight" and supplied with lock nuts.
12. The contractor shall provide all cleats and holes for fixing to steel, timber and other components as required by the engineering and architectural drawings whether or not shown.
13. Seal weld a 3mm plate to the ends of all hollow sections uno.
14. All damage to protective coatings as a result of transport, welding or other building operations shall be repaired in accordance with relevant codes as approved.
15. Grout under base plates, and fill to pockets shall be approved prior to placing and shall be to the thickness shown on the drawings.
16. Cold–formed steel purlins shall have a minimum coating mass of 350 gm/sq.mtr (Z350).
17. Purlins, girts, studwork, etc shall be manufactured from continuously galvanised steel strip, and shall be supplied complete with all fittings. They shall be erected in accordance with the manufacturer's printed instructions and as indicated on the drawings.
18. Welds to cold–formed sections shall be continuous fillet M.I.G. welds of a size equal to the thinnest section of the material joined, wire brushed and coated with zinc silicate paint.

19. Surface treatment and coating:

Element	Surface Treatment	Treatment or Coating
All steel fitments including Hold Down Bolts, Nuts & Washers, Cast–in steel items, external steelwork walkways & Hand–railing	. . Chemical Treatment .	. . Hot Dip Galvanising .
All other steelwork . .	Grit blast to near white metal finish . .	Inorganic Zinc Silicate with average thickness 85 microns .

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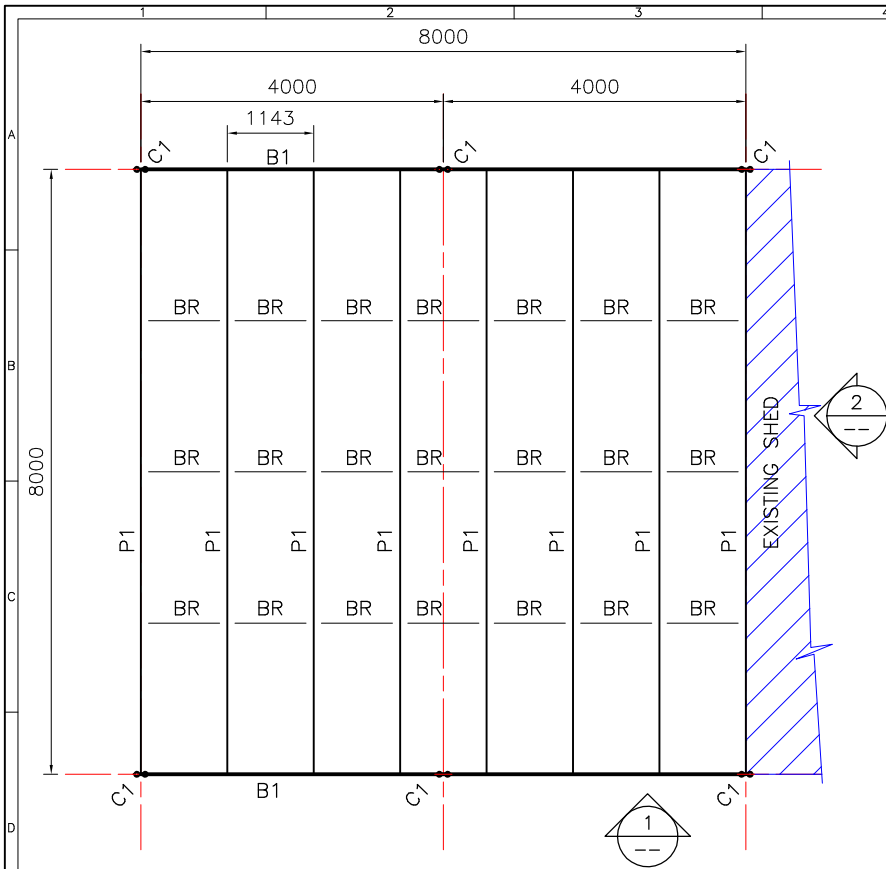
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SCHEDULE OF STEELWORK		
MEMBER	MARK	SIZE
COLUMNS	C1	Built-Up - refer Details
BEAMS	B1	Built-Up - refer Details
PURLINS	P1	Built-Up - refer Details
BRIDGING	BR	Built-Up - refer Details

Profiled Steel Sheet Roof Cladding to be selected to suit 2° roof pitch, and maximum end span 1143mm.

Provide 3mm Cap Plates to all tubes.

Concrete Piers to each column:
450 SQ x 900 Deep

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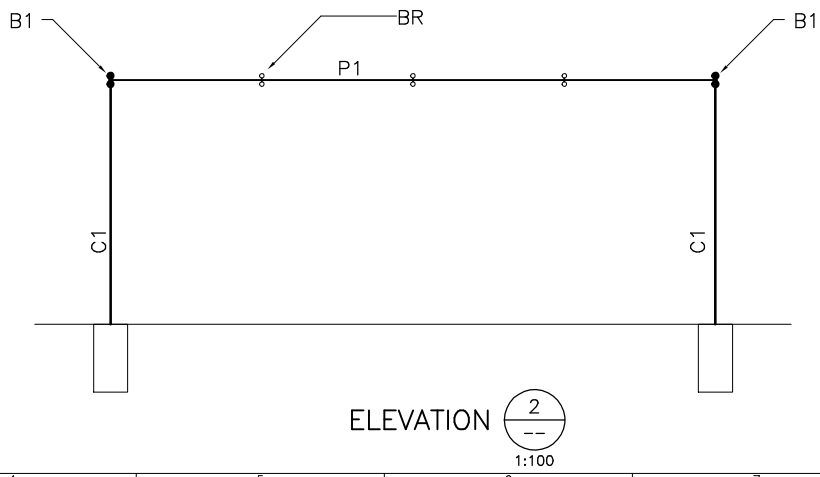
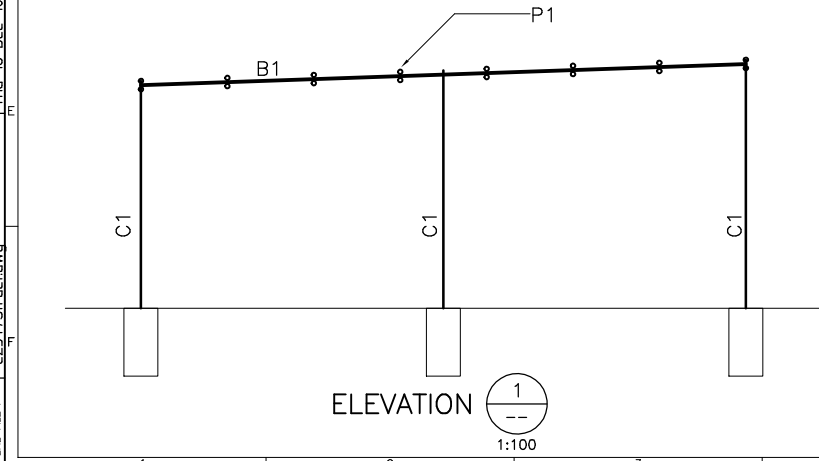
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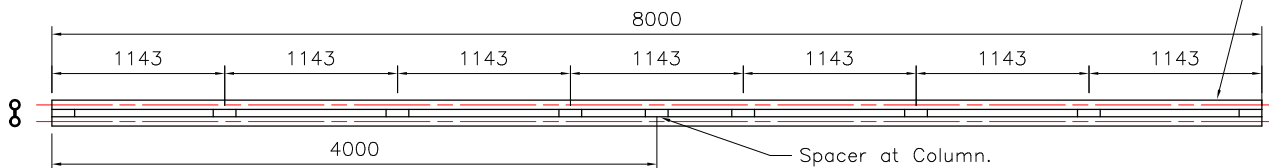
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FRAMING LAYOUT (1)

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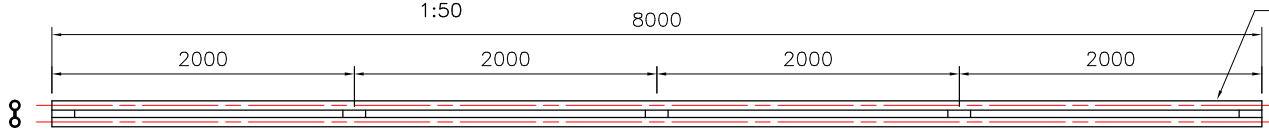


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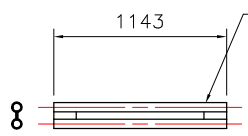
BUILT-UP FASCIA BEAM
1:50

Top & Bottom Chords:
60.3 x 6.3 CHS GRADE C250
Spacers: 50 x 6 FL x 150 LONG.



BUILT-UP PURLIN
1:50

Top & Bottom Chords:
60.3 x 6.3 CHS GRADE C250
Spacers: 50 x 6 FL x 150 LONG.



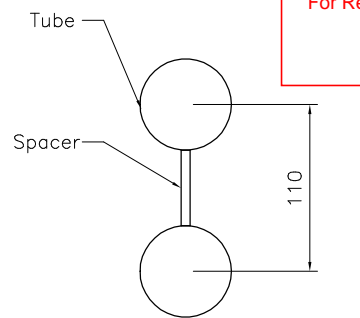
BUILT-UP BRIDGING RESTRAINT
1:50

Top & Bottom Chords:
60.3 x 6.3 CHS GRADE C250
Spacers: 50 x 6 FL x 150 LONG.

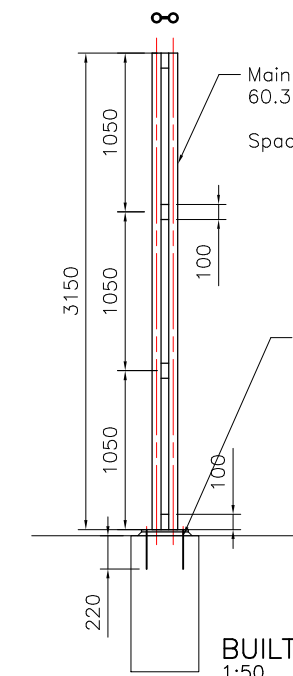
NB: DIMENSIONS ARE NOMINAL ONLY.
AND NEED ADJUSTING TO MATCH
ASSEMBLY DETAILS.

NOTES:
Structure welded together 3mm
continuous fillet weld (cfw).
Weld both sides of flat plates and along
all adjoining edges.
Weld all around tubes.

Tubes profiled and welded together at
joints between built-up members.
Alternatively weld 75x8mm thick end
plates to ends of tubes, then
continuously weld plates along length of
tubes adjoining too: both sides of tubes.



TYPICAL SECTION
ALL BUILT-UP MEMBERS.

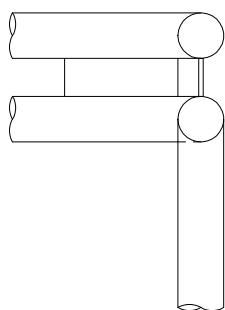


BUILT-UP COLUMN
1:50

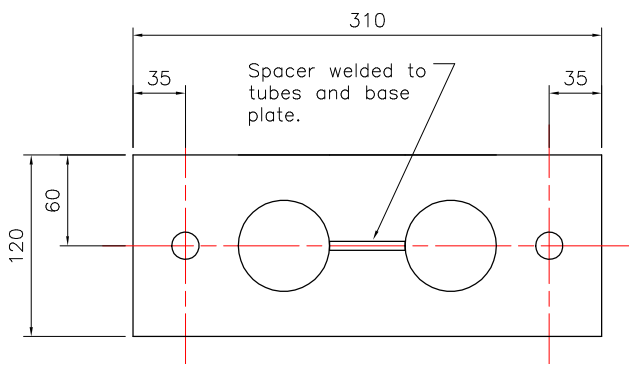
Main Verticals:
60.3 x 6.3 CHS GRADE C250
Spacers: 50 x 6 FL x 100 LONG.

BASE CONNECTION:
2/M16-4.6 ANCHOR BOLTS
220mm embedment into concrete
16 THICK BASE PLATE

ALTERNATIVELY:
Cast-in to concrete, full depth of
pier less 100mm.



Typical connection. Note Column
tubes are typically to either side, of
purlin tubes.



BASE PLATE

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