MOSAIC CENTRE FOR CONSCIOUS COMMUNITY AND COMMERCE




ISSUED FOR CONSTRUCTION - VOL 1

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PROJECT NUMBER: 21-3180

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ARCHITECTURAL	STRUCTURAL	MECHANICAL	ELECTRICAL	LANDSCAPE	CIVIL
N/A	S100 GENERAL NOTES PT.1 S101 GENERAL NOTES PT.2 S200 FOUNDATION & MAIN FLOOR PLAN S400 TYPICAL DETAILS S500 SECTIONS & DETAILS S501 SECTIONS & DETAILS S502 SECTIONS & DETAILS	N/A	N/A	N/A	N/A

GENERAL

1. Structural drawings are to be read in conjunction with other related drawings including existing drawings, for dimensions, elevations, roof and floor slopes and presence of openings, inserts, and existing underground services and mechanical/electrical elements. Do not scale off of the drawings or electronic/computer files, written dimensions always take precedent. Hard copy drawings are the official documents for the project and always take precedent over electronic/ computer files.

2. Prior to commencement of work, the Contractor shall compare all related drawings; confirm all dimensions and field measure/confirm all existing conditions. Report any discrepancies to the Architect and Engineer of Record ("Engineer" henceforth).

3. If discrepancies relating to structural work are found in the various documents, the more stringent provisions shall apply, unless approved by the Engineer. Specifications shall control over these drawings and General Notes only where the specifications provide for more stringent requirements. Contractor, suppliers and subtrades are to ensure that they are working with the 'Issued for Construction' drawings.

4. Bracing of the structure and all components during construction, including any underpinning, shall remain the sole responsibility of the Contractor.

5. These drawings show requirements for completed structure only. The design and inspection of falsework, shoring and reshoring is the responsibility of the Contractor and shall conform to Work Safe Alberta standards.

6. All shop drawing reviews by the Engineer constitute review for general concepts only; the detailed design remains the responsibility of Contractor/Fabricator. All components shall be assembled and erected in accordance with final reviewed shop and erection drawings. No fabrication/erection shall proceed until review has been completed by the Engineer.

7. Design Loads:

a) Specified uniform loads (u.n.o. on plan)	Live Load	Superimposed Dead Loads
Roof Snow load based on: Importance = 1.0 Normal	Ss= 1.7 kPa Sr= 0.1 kPa	0.3 kPa
Main Floor (4.8 kPa includes partitions typ.)	4.8 kPa	1.0 kPa
2nd Floor (west, grid 1 to 5)	4.8 kPa	1.35 kPa
2nd Floor (east, grid 7 to 14)	2.4 kPa	2.35 kPa
3rd Floor	2.4 kPa	2.35 kPa
Atrium landings (grid 5 to 7)	4.8 kPa	2.35 kPa
Atrium stairs (grid 5 to 7)	4.8 kPa	1.35 kPa
Main Roof (at areas of PV panels)	use snow load	0.5 kPa Additional
Main Roof Terrace (grid 4 to 7)	4.8 kPa	0.3 kPa Additional
Penthouse Roof	use snow load	0.3 kPa
Stairs, Corridors and Storage	4.8 kPa	1.35 kPa

Superimposed dead loads are non-structural dead loads including architectural topping, partitions (for LL<4.8 kPa) roofing material, pavers, ceiling finishes and mechanical/electrical conduits/fixtures.

b) Seismic and Wind

Seismic load based on:

Seismic Data				
Sa (0.2)	Sa (0.5)	Sa (1.0)	Sa (2.0)	PGA
0.12	0.06	0.02	0.01	0.06

Importance = 1.0 Normal

Site Class = C
Fa = Fv = 1.0
Rd = 3.0 Ro = 1.7

Wind load based on: q 1/50 = 0.45 kPa
Terrain = open
Importance = 1.0 Normal

8. These drawings show structural work required to meet provisions of Part 4 of the ABC 2006
9. Design of Secondary component items including their attachment to the structure is the responsibility of others.
10. All codes and documents referred to in these General Notes are to be the current adopted edition.
11. Supply of Record Drawings is outside the scope of services.

FIELD REVIEW AND TESTING

1. The Contractor is solely responsible to give the Engineer reasonable advance notice of when structural work is ready for reviews by the Engineer (min. 24 hours prior to pour or concealment). Contractor is responsible for reviewing their own work and the work of their subtrades prior to review by the Engineer.

2. All structural work requires written review by the Engineer, including:
   a) Concrete Reinforcement
   b) Masonry Reinforcement (including non-load bearing partitions)
   c) Structural Steel (including decking)
   d) Wood framing (including sheathing)

3. Material testing shall be directed by the Engineer at the expense of the Owner.

4. Concrete testing shall be in accordance with CAN/CSA A23.2 and carried out by an independent testing agency approved by the Engineer. Unless permitted by the Engineer, a minimum of 3 test cylinders shall be cast for each 50 cu. meter/50 cu. yards or each day's pour, whichever is less. Test one at 7 days and two at 28 days (with two additional at 56 days when concrete mix exceeds 25% flyash replacement). Submit written reports for review by the Engineer. Test reports shall identify the locations where concrete is being tested with gridlines and elevations.

5. Submit concrete test results max. 24 hours after test.

6. The Owner shall appoint an independent CSA certified testing agency to carry out representative testing of bolt torque and welding on structural steel work, including decking. This testing shall take place prior to concealment of all structural steel.

7. All structural steel welds shall be tested by a qualified testing agency to the following criteria (u.n.o.):
   a) Ultra sonic test 100% of all shop and field complete penetration (CP) welds.
   b) Magnetic particle test 15% of all field fillet welds.
   c) Visual inspection of 100% of all shop and field welds.

8. Additional testing and field review resulting from rejection of more than 5% of work will be at the Contractor's expense.

FOUNDATIONS

1. Design of foundation is based on the soils report of September 2012 and addenda of June 2013, December 2013 & January 2014 by Shelby Engineering.

2. Follow all recommendations given in soils report for preloading, backfill, drainage, sub-base preparation and other requirements.

3. Contractor is solely responsible to ensure that Geotechnical Engineer reviews and confirms allowable bearing pressure and approves subgrade installation prior to pouring concrete for footings foundations.

4. The Owner shall retain an approved testing agency to carry out density testing of subgrade and base material. Testing of subgrade material is to be carried out immediately prior to installation of slab on grade components and during lifts as specified by the Geotechnical Engineer. Care must be taken not to disturb subgrade after approval and prior to pouring concrete.

5. Contractor shall be responsible for all temporary drainage during excavation.

6. All footings shall be centered on columns and walls unless noted otherwise.

7. Provide 50mm (2") thick concrete ground seal under footings/grade beam if required by site conditions. and/or by Geotechnical Engineer.

8. For all elevations and drainage slopes, see Architectural Drawings and requirements identified in the geotechnical report.

9. Where footing elevations vary, follow requirements of typical details shown on drawing. Contractor shall establish footing elevations based on all requirements including maximum slopes, and Electrical, Mechanical and Architectural information.

10. Footing elevations, if shown, are for bidding purposes only, are not final, and may vary according to site conditions. All footings must be taken to a bearing layer approved by the Geotechnical Engineer.

11. Bearing surfaces must be protected from freezing before and after footings are poured.

CAST-IN PLACE CONCRETE PILES - BELLED END

1. Design of the cast-in-place concrete belled end piles is based on the Geotechnical report by Shelby Engineering, dated September 2012 and addenda of June 2013, December 2013 & January 2014. Any interpretation of the soils report by the Contractor is solely the responsibility of that Contractor.

2. Belled piles to be designed by a specialty Engineer for the loads indicated on the drawings and the conditions noted in the above mentioned Geotechnical reports. Factored end bearing pressure is 600 kPa and down drag pressure is 45 kPa. Piles are also to be designed for factored end bearing as well as a combination of down drag + dead load as indicated in Shelby Engineering addendum 3 from January 2014. All piles to be reinforced over their full height as shown on the drawings. Factored pile capacity shall meet values shown in pile schedule.

3. See Concrete Notes for concrete specification for piles. Submit mix design for review by Engineer.

4. Provide all labour, material and equipment necessary to complete the piles for the foundation as indicated on the drawings. The work shall include the concrete, reinforcing steel, dowels and removal of excavation material from the site.

5. Pile installation shall be in accordance with the Geotechnical Report by Shelby Engineering, including base preparation, minimum bearing depths and other requirements. Drilling, shoring, minimum size of base, etc. are to be established with the Geotechnical engineer on site prior to placing concrete.

6. Tolerance for horizontal location of piles to be ±75mm from the intended line and position. Prior to proceeding with pile caps and grade beams, provide the Engineer with a survey of the existing pile positions, indicating any variations from intended position. Tolerance for plumb shall be 2% maximum slope of shaft, to be inspected by the Geotechnical Engineer on site prior to placing concrete. Tolerances for top elevation to be ±25mm.

7. The Geotechnical Engineer shall provide or arrange for continuous inspection of the pile installation under their letter of assurance for the project.

8. The 'Concrete Notes and Reinforcing Notes' sections of this specification shall apply to this work.

9. Shafts of diameter shown on the drawings shall be drilled with power driven augers to depths called for on the drawing from the pile cut-off elevation.

10. Reinforcing steel and concrete shall be placed as soon as possible after drilling. Steel sleeves shall be used where soil is insufficiently stable during drilling and placing of concrete. All holes, whether sleeved or not shall be dewatered before any concrete is placed.

11. Contractors shall provide dewatering as necessary to install piles, pile caps and grade beams without causing erosion or subsidence of surrounding ground.

12. Reinforcing steel shall be placed immediately prior to concrete placing. Install and secure cage in such a manner to prevent loose earth or debris from falling into the hole. Maintain minimum cover to all pile reinforcing, including ties, as indicated on the typical pile section.

13. The concrete in the top 3.0 meters of each pile shall be thoroughly vibrated using mechanical vibrators.

14. Maintain and submit accurate records of the pile installation. Provide to the Engineer written confirmation that the piles were installed in accordance with the requirements of the drawings, instructions of the Geotechnical Engineer and good work practice.

15. Testing of concrete for piles shall be in accordance with CSA requirements, as directed by the Geotechnical Engineer, and shall be coordinated with Engineer.

16. All pilling work shall be preformed by trained personnel with specific experience in the installation of belled end concrete piles.

17. If installation of pile is likely to affect nearby piles, defer until concrete in nearby piles has set up and developed sufficient strength.

CONCRETE NOTES

1. a) All concrete shall conform to the requirements of CAN/CSA. A23.1. Cement shall be Type GU Portland Cement **(type HS for concrete in contact with sulfate soils)** unless noted otherwise. Normal weight concrete for various purposes shall be as follows:

ELEMENTS	MIN. 28 DAY STRENGTH MPa (psi)	MAX. SLUMP mm, (inch)	MAX. SIZE AGGREGATE mm. (inch)	EXPOSURE CLASSIFICATION	Air Content %
Foundations and Footings	25 (3600)	75 (3")	20 (3/4")	-	-
Walls	30 (4350)	75 (3")	20 (3/4")	F2	4-7
Columns	30 (4350)	75 (3")	20 (3/4")	F2	4-7
Suspended slabs and beams	30 (4350)	75 (3")	20 (3/4")	-	4-7
Piles	30 (4350)	75 (3")	20 (3/4")	F2	4-7
Arch. concrete (see Arch.)					
Exterior	30 (4350)	75 (3")	20 (3/4")	F2	4-7
Interior	30 (4350)	75 (3")	20 (3/4")	-	-
Slabs on Grade					
Exterior	32 (4650)	75 (3")	20 (3/4")	C2	5-8
Interior	32 (4650)	75 (3")	20 (3/4")	-	-
Topping Concrete	32 (4650)	100 (4")	10 (3/8")	-	-

   b) Slumps listed are before the addition of super plasticizers. Tolerance in specified slump shall be ±20mm (3/4")
   c) No calcium chloride is permitted in any form in the concrete mixes.
   d) Submit mix designs to the Engineer and testing agency for review and approval prior to placement. Mix design submittals shall identify the elements for which they are intended.
   e) Fly ash replacement (where noted) is the mass of fly ash as a percentage of the total mass of cementing material.
   f) Provide 56 day mix for suspended slab with minimum 30% flyash replacement.

2. Perform all works in accordance with CAN/CSA A23.1, including the following:
   a) Construction Tolerances
   b) Fabrication and placement of reinforcing
   c) Placement of concrete, including proper vibration and curing.

3. Take all precautions to ensure exposed concrete achieves finish desired by the Architect, including proper forming, mix design, site care and adequate vibration. Protect against damage during stripping and entire construction period.

4. See Architectural drawings for slab elevations, drainage, slopes and locations of reglets, reveals and chamfers.
   Unless noted otherwise, exposed corners of slabs, beams, slab bands, columns and walls shall be beveled 20mm x 20mm (3/4"x3/4").

5. Blockouts, nailers, conduits, ducts, pipes, sleeves and other openings are subject to approval by the Engineer.
   a) Openings and conduits are not permitted in wall zones, within 990mm (39") of wall ends and intersections and columns.
   b) Where permitted, space openings 2 diameters, or minimum 150mm (6") apart.
   c) Single openings larger than 300mm (12") or a group of openings occupying together more than 300x300mm (1.0 sq. ft.) in any 1 sq. meter (10 sq. ft.) area shall not be permitted without the approval of the Engineer.

6. Expansion and/or construction sequence joints shall be installed in concrete structures greater than 45m (150 ft.) in length, details and locations shall be discussed with and approved by the Engineer in writing prior to construction.

7. Stripping of forms for structural elements is not allowed until concrete strength has reached 50% of the 28 day compressive strength for columns and walls, 70% of the 28 day compressive strength for slabs and beams and 75% of the compressive strength for slab and beams in parking structures (use % of 56 day compressive strength if fly ash content in concrete mix exceeds 25% replacement). Strength of concrete shall be determined from field-cured cylinders. See note 6 of 'Suspended Concrete Slabs/Slab Bands and Beams' for additional requirements.

8. All hot and cold weather concrete work shall be carried out in accordance with CAN/CSA A23.1.
   a) When temperature is expected to fall between 3°C and -10°C within 3 days of pouring concrete, the Contractor shall carry out one or more of the following procedures:
      i) Make provisions to heat mix water or aggregate to maintain a minimum concrete temperature of 10°C.
      ii) Make provisions to heat the form work or soil surface. Concrete shall not be poured against any surface with a temperature less than 3°C (Calcium chloride or other de-icing salts are not permitted).
      iii) Cover concrete with insulation blanket for the first 36 hours after pouring concrete. Do not pour when temperature is expected to fall below -10°C within 3 days after pouring.
      iv) Make provisions for a heated enclosure to maintain the temperature of all concrete surfaces above 10°C for a minimum of 3 days after the pour.
      v) Provide alternate mix designs for cold weather.
   b) When the temperature is expected to rise above 25°C the Contractor shall:
      i) Make provisions to cool concrete to maintain a max. temperature of 30°C.
      ii) Make provisions to prevent concrete from drying.

9. Take measures to minimize shrinkage cracking including covering and dampening concrete in the curing stage.

10. Unless otherwise noted, provide 3.2mm wide x T/4 deep(1/8" x T/4) deep control joints in two directions in grade slabs centered on column lines, and maximum at 4500mm (15 ft.) o.c. (T = slab thickness)

11. Unless otherwise noted, where expansion anchors are required, use Hilti KB 3 or approved equal. Where chemical anchors are required, use Hilti HIT HY150 MAX epoxy, or approved equal.

REINFORCING NOTES

1. Reinforcing shall be new billet steel conforming to the following standards:

a) 10M and larger	CSA G30.18 400 MPa
b) Weldable reinforcement	CSA G30.18 400W MPa (welding to CSA W186)
c) Welded wire mesh	CSA G30.5
d) Epoxy coated reinforcement	ASTM A775

   Note: 1) Weldable reinforcement (including deformed bar anchors) must be clearly identified on each piece.
   2) Reinforcement in concrete shear walls and frame members with force modification factors Rd greater than 2.0 shall be weldable grade in conformance with CSA Standard G30.18.

2. Reinforcement shall have concrete protection as follows, unless noted otherwise:

	Fire Resistance Rating 0-2 hrs.	3 hrs.
a) All surfaces placed in contact with ground	75mm (3")	75mm (3")
b) Formed surfaces exposed to ground or weather	50mm (2")	50mm (2")
c) Walls	32mm (1 1/4")	32mm (1 1/4")
d) Column ties - interior	40mm (1 1/2")	40mm (1 1/2")
e) Column ties - exterior	50mm (2")	50mm (2")
f) Slabs	25mm (1")	40mm (1 1/2")
g) Beams	40mm (1 1/2")	50mm (2")
h) Slab on grade (from top of slab)	40mm (1 1/2")	----
i) Other, unless otherwise noted	40mm (1 1/2")	40mm (1 1/2")

3. All reinforcing bars and stud rails shall be accurately placed, chaired and tied securely to prevent displacement and to maintain the specified cover. Install column reinforcement accurately with templates. Provide CSA standard hooked dowels from bottom of footing to match and lap with verticals. Install masonry dowels accurately to align with center of walls. Chairs shall be protected against rusting where required for appearance. Do not wet dowel reinforcement unless approved by the Engineer.

4. Site bending of bars is not permitted without prior approval of Engineer.

5. Chair bars with plastic chairs and tie with plastic coated wire.

6. Minimum reinforcement shall be as follows unless otherwise noted
   a) Wall reinforcement:
      150mm (6") wall - 10M @ 300 (12") VERT., 10M @ 300 (12") HOR., CENTERED
      200mm (8") wall - 15M @ 450 (18") VERT., 15M @ 450 (18") HOR., CENTERED
      250mm (10") wall - 10M @ 400 (16") VERT., EACH FACE STAGGERED
      10M @ 400 (16") HORIZ., EACH FACE STAGGERED
      300mm (12") wall - 10M @ 300 (12") VERT., EACH FACE STAGGERED
      10M @ 300 (12") HORIZ., EACH FACE STAGGERED
      2-15M verts full height at ends of all walls unless noted otherwise
   b) Slab reinforcing (or temperature reinforcing)

100mm (4")	10M @ 500 (20") o.c. EACH WAY
125mm (5")	10M @ 400 (16") o.c. EACH WAY
150mm (6") or less	10M @ 300 (12") o.c. EACH WAY
175mm (7")	15M @ 500 (20") o.c. EACH WAY
190mm to 215mm (7 1/2" to 8 1/2")	15M @ 450 (18") o.c. EACH WAY
225mm to 250mm (9" to 10")	15M @ 400 (16") o.c. EACH WAY
275mm to 300mm (11" to 12")	15M @ 350 (14") o.c. EACH WAY
Concrete topping (ie: over steel deck)	152x152 MW 9.1x MW 9.1 welded wire mesh

   c) Footing reinforcement:
      2-15M continuous plus hooked dowels of same size and spacing as wall vertical reinforcing.
   d) Other locations not identified above: 15M @ 400 (16")

7. All bars shall be continuous, properly lapped at splices. At corners and intersections; horizontal reinforcement shall be bent and lapped.

8. Unless noted otherwise, lap lengths, including dowels, for 400 MPa (58 ksi) reinforcement shall be as follows:

	Epoxy coated bars
10M - 400mm (16")	10M - 500mm (20")
15M - 600mm (24")	15M - 750mm (30")
20M - 750mm (30")	20M - 980mm (39")
25M - 1170mm (46")	25M - 1530mm (60")
30M - 1400mm (55")	30M - 1840mm (72")

   a) Lap splices not shown on drawings shall not be allowed unless approved in writing by the Engineer.

9. Unless noted otherwise, openings in walls and slabs shall have 2-15M extra each side extending 600mm (2'-0") past corners, plus 2-15M x 1200mm (4'-0") diagonal each corner.

10. Welding of reinforcing to embedded plates is permitted only with weldable deformed bar anchors with the following fillet weld sizes:
    10M (3/8")Ø - 6mm (1/4")
    15M (5/8")Ø - 10mm (3/8")
    20M (3/4")Ø - 12mm (1/2")

11. Provide contingency reinforcing additional to all other requirements, with "add" and "delete" unit prices included in bid. Include reinforcing required for non-structural concrete and masonry shown on the various drawings.

12. Reinforcing not indicated on the structural drawings needed for mechanical/electrical support (i.e. radiant piping, conduit, etc) is the responsibility of the contractor.

ABBREVIATIONS

A.BOLTS	- ANCHOR BOLTS	LLH	- LONG LEG HORIZONTAL
ADDL	- ADDITIONAL	LLV	- LONG LEG VERTICAL
ALT	- ALTERNATE	L.L.	- LIVE LOAD
B.L.L.	- BOTTOM LOWER LAYER	LONGIT.	- LONGITUDINAL
B.U.L.	- BOTTOM UPPER LAYER	LSL	- LAMINATED STRAND LUMBER
BCE	- BOTTOM CHORD EXTENSION	LVL	- LAMINATED VENEER LUMBER
BOT	- BOTTOM	L.V.	- LENGTH VARIES
B/U	- BUILT UP	Mf	- FACTORED MOMENT
Cf	- FACTORED COMPRESSION FORCE	N.STUDS	- NELSON STUDS
CANTLV	- CANTILEVERED	OPP	- OPPOSITE
CLR	- CLEAR	O.F.	- OUTSIDE FACE
CONC.	- CONCRETE	P.C.	- PRECAST CONCRETE
CONT	- CONTINUOUS	PSL	- PARALLEL STRAND LUMBER
C'SINK	- COUNTERSINK	P/T	- POST-TENSION
C.I.P.	- CAST IN PLACE	REINF.	- REINFORCEMENT
C/W	- COMPLETE WITH	RS	- ROUGH SAWN LUMBER
CJ	- CONTROL JOINT	R/W	- REINFORCED WITH
CLT	- CROSS LAMINATED TIMBER	S.D.L.	- SUPERIMPOSED DEAD LOAD
D.L.	- DEAD LOAD	S.O.G.	- SLAB ON GRADE
DIAG.	- DIAGONAL	S.S.	- STAINLESS STEEL
EL	- ELEVATION	STAG	- STAGGERED
E.F.	- EACH FACE	STD	- STANDARD
E.S.	- EACH SIDE	STIFF	- STIFFENER
E.W.	- EACH WAY	STIRR	- STIRRUP
EXIST.	- EXISTING	Tf	- FACTORED TENSILE FORCE
FDN	- FOUNDATION	TJI	- TRUSS JOIST
FTG	- FOOTING	T.L.L.	- TOP LOWER LAYER
GA	- GAUGE	TRANSV.	- TRANSVERSE
GALV	- GALVANIZED	T.U.L.	- TOP UPPER LAYER
GL	- GLULAM	T & B	- TOP AND BOTTOM
H1E	- HOOK ONE END	TYP	- TYPICAL
H2E	- HOOK TWO ENDS	U.D.L.	- UNIFORMLY DISTRIBUTED LOAD
HD	- HOLD DOWN	U.N.O.	- UNLESS NOTED OTHERWISE
H.D. GALV.	- HOT DIPPED GALVANIZED	U/S	- UNDERSIDE
HDR	- HEADER	Vf	- FACTORED SHEAR FORCE
HORIZ	- HORIZONTAL	VERT	- VERTICAL
I.F.	- INSIDE FACE		

SUSPENDED CONCRETE SLABS AND BEAMS

1. See also concrete and reinforcing notes.
2. Embedded conduits and pipes
   a) Embedded conduits (ducts and pipes) are subject to approval by the Engineer, submit layout to the Engineer for review.
   b) Do not place embedded conduits or pipes within 300mm (12") of columns or walls and do not place embedded ducts within 600mm (24") of columns and walls.
   c) Maximum conduit size in one layer shall be 1/4 slab thickness and maximum total size of conduits crossing shall be 1/3 slab thickness.
   d) Separate parallel conduits minimum 3 times the larger diameter, center to center, with a minimum clear distances of 50mm (2").
   e) Maximum in slab ducts shall be 50mm in a 175mm (2" in 7") slab, clear distance between ducts shall be minimum 600mm (24") and minimum distance to walls and columns shall be 900mm (36").
   f) Position conduit between top and bottom reinforcement with no more than two layers of conduits crossing. Add reinforcing, relocate conduits or thickening slab at points of congestion as directed by the Engineer at the Contractor's expense.
   g) In beams, maximum conduits size parallel to the span must not exceed 2% of the cross section area of the member.
   h) Do not tie conduits / pipes along length of parallel reinforcing. Space minimum 25mm (1") from bars
3. Sleeves and openings.
   a) Single openings/sleeves in slabs larger than 300mm (12") or a group of openings/sleeves total in area greater than 0.1 sq. meter in any 1 sq. meter (1 sq. ft. in 10 sq. ft.) is not permitted unless shown on structural drawings.
   b) Do not place openings/sleeves through slab within 600mm (24") of columns, ends and intersections of wall.
   c) Spacing between openings/sleeves through slab shall be not less than 2 times the larger opening size with minimum 100mm (4") clear distance.
   d) Openings/sleeves through beams in any directions are not permitted without the written approval of the Engineer.
4. Beams, slab bands and slabs shall be cambered 6.4mm (1/4") for each 3000mm (10'-0") of span (both top and bottom surface).
5. Submit locations of construction pour joints together with pour sequence to the Engineer for review prior to framing.
6. See concrete section of "Concrete Notes" for stripping of forms. Reshoring of suspended slabs must be approved by Shoring Engineer prior to stripping. Shores shall remain until specified strength has been reached and minimum 28 days after pour (minimum 56 days if fly ash content exceeds 25%).
7. Minimum reinforcing:
   a) See minimum reinforcing in Reinforcing Notes.
   b) 1-15M top and bottom continuous at edge of slab.
   c) 2-15M each side of openings (extending 600mm (2'-0") pass edge of opening). plus 1-15M 1200mm (4'-0") diagonal, top and bottom, at each corner.
   d) 2-15M 1200mm (4'-0") diagonal top at re-entrant corners.
8. Unless noted otherwise:
   a) Reinforcement shown on plan thus:
      Top Reinforcement ——————
      Bottom Reinforcement — — — —
   b) Reinforcement notation callup:
      12-20M4900 - means twelve 20M bars, 4900mm (16'-0") long.
      2-C15M1800 - means two 15M bars, 1800mm (6'-0") long with 90° CSA standard hook. (length includes standard hook)
      2-C15M @300 H2E - means two 15M bars spaced at 300mm (12") with 90° CSA standard hook at two ends.
      4-15M @300 H2E 450 - means four 15M bars spaced at 300mm (12") with 450mm (18") long 90° hook at two ends.
   c) Center slab and beam top reinforcement over supports. Hooks shown are CSA standard hooks.
9. See minimum reinforcing notes for slab temperature steel. Place temperature steel immediately above and transverse to slab bottom steel, u.n.o.

DRAWING LIST

DWG No.	TITLE
S100	GENERAL NOTES PT.1
S101	GENERAL NOTES PT.2
S200	FOUNDATION & MAIN FLOOR PLAN
S201	SECOND FLOOR FRAMING PLAN
S202	THIRD FLOOR FRAMING PLAN
S203	ROOF PLAN
S204	ROOF PLAN
S300	TRUSS ELEVATIONS
S301	ROOF BRACE FRAME ELEVATIONS
S302	FRAMING ELEVATIONS
S303	FRAMING ELEVATIONS
S400	TYPICAL DETAILS
S401	TYPICAL DETAILS
S402	TYPICAL DETAILS
S500	SECTIONS & DETAILS
S501	SECTIONS & DETAILS
S502	SECTIONS & DETAILS
S503	SECTIONS & DETAILS
S504	SECTIONS & DETAILS
S505	SECTIONS & DETAILS
S506	SECTIONS & DETAILS
S507	SECTIONS & DETAILS
S508	SECTIONS & DETAILS
S509	ELEVATOR SECTIONS & DETAILS
S510	PV SUPPORT SECTIONS & DETAILS

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PERMITS AND SEALS

NOTES
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REVISION

NO.	Y/M/D	DESCRIPTION
0	2014/03/14	ISSUED FOR CONSTRUCTION

PROJECT # **2057**
DRAWING SCALE
DRAWN BY **EG**
DESIGNED BY **SP**
CHECKED BY **SP/IB**

DRAWING TITLE
GENERAL NOTES PT.1

DRAWING NUMBER **S100**
REVISION **0**

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STRUCTURAL STEEL/METALS

1. All structural steel work shall conform to CAN/CSA S16.
2. All structural steel material shall conform to CSA G40.20/G40.21 with the following grades:

a)	Rolled and HSS shapes	350W (G40.21)
b)	Plates and bars	350W
c)	Bolts	ASTM A325
d)	Anchor bolts and miscellaneous hardware	ASTM A307
e)	Reinforcing bars welded to structural steel	400W (to CSA G30.18)
f)	A53 pipe	240W
g)	Stainless steel	304

3. All welding shall conform to CSA W59 and to be performed by welders under CSA W47.1, fabricators to CWB approval. Welds shall be E-70xx. Nelson stud welding shall meet specifications of the manufacturer and shall be tested by a qualified testing agency. Refer to "Field Review and Testing" for all weld testing requirements.
4. Control heat/pace of weld when welding steel adjacent to other materials (wood, concrete, etc.) to prevent cracking, spalling or burning of adjacent material.
5. Unless otherwise noted, apply one shop coat of primer to all steel work, to CISC/CPMA 1-73A Primer for exterior exposure shall be zinc-chromate Type 1, conforming to CGSB1-GP-40d.
6. All steel work exposed to weather shall be hot dipped galvanized unless noted otherwise on the Structural or Architectural drawings. Hot dip galvanize all steel connectors (including fasteners) of wood members where exposure to rain during or after construction may cause rusting/staining of wood exposed to view, unless noted otherwise.
7. Where required, all hot dip galvanizing shall conform to CAN/CSA G164.
8. Apply 2 coats of Galvcon paint protection to hot dipped galvanized surfaces damaged by transportation, erection or site welding.
9. Unless noted otherwise, design structural steel connections for minimum half the shear or compression capacity of the members connected (design by the Fabricator's Engineer). Bolted connections shall consist of a minimum 2-19mmØ (3/4"Ø) A325 bolts with 9mm (3/8") connector plate, unless noted otherwise.
10. Submit shop drawings for the above to the Engineer for review prior to fabrication. Shop drawings shall show all details, and indicate all applicable design loads and material specifications and shall include an erection layout for all members. When member design forces are shown on plan or details, shop drawings shall be submitted and sealed by a Professional Engineer registered in the province of Alberta. Do not proceed with fabrication until shop drawings have been approved by the Engineer. They shall be designed by Specialty Structural Engineers, registered in the province of Alberta and RETAINED BY THE CONTRACTOR, who will seal all related shop drawings, review the components and their attachments in the field and provide all required sealed letters (Schedule C-2) to the Engineer.
11. The Professional Engineer sealing the Fabricators shop drawing is also responsible for all field review of their work and shall provide a letter to the Engineer confirming that the work has been completed in accordance with the final reviewed steel shop drawings and all structural requirements.
12. All fabrication and welding exposed to view to be appearance quality to the Architect's satisfaction.
13. See Architectural drawings for miscellaneous steel components. Any steel components not shown on the Structural drawings are considered to be Secondary components (see notes on Secondary components and their attachments). Assume 6mm (1/4") thickness, u.n.o.
14. Provide cap plates at open ends of HSS tubes (seal weld all around). Provide drain hole at base of HSS tubes.
15. Unless noted otherwise, welds shall be 6mm fillet welds.
16. Welding of reinforcing to embedded plates is permitted only with weldable deformed bar anchors with the following fillet weld sizes:

    10M (3/8")Ø 6mm (1/4")
    15M (5/8")Ø 10mm (3/8")
    20M (3/4")Ø 12mm (1/2")

17. Grout fill all voids on underside of all base plates and bearing plates in contact with concrete or masonry with a plastic consistency non-shrink grout with a minimum 7 day strength of 45 MPa (6500 psi). Follow manufacturer's specifications and instructions for mixing and placement.
18. If the structural steel member size specified on the structural drawings is not available then the Contractor shall notify the Engineer immediately and allow for the next available size up.
19. All embed plates with headed stud anchors to be fillet welded, unless approved by the Engineer (ie: fusion machine welds not permitted). Fillet weld sizes to be similar to note 16 u.n.o.
20. Contractor is responsible for the cost of any member upsizing due to availability of sizes/grades specified.

GLUED-LAMINATED TIMBER (GLT) PANELS

1. All GLT panels shall meet the following specification. Any substitution must have the written approval of the Architect and the Engineer. Provide a 600x600 sample of each Appearance Grade with shop applied sealer for review by the Architect and Engineer.

    Species: SPF No. 1/2 or better
    Joist width in panels: 38mm
    Appearance Grade: Commercial where the member is concealed, Quality elsewhere
    Sealer: Polyurethane, one component

2. All panels shall conform to CSA 086 and glulam manufacturer must qualify under CSA standard 0177.
3. Submit shop drawings showing all applicable details and material specifications to the Engineer for review prior to fabrication. Shop drawings shall be accompanied by a certificate of conformance to manufacturing standard. Do not proceed with fabrication until shop drawings have been approved by the Engineer.
4. Affix authorized label to all members supplied and identify each member with a mark number. Ensure location of marks and labels are not exposed to view in the final condition where architecturally exposed panels are required.
5. Store panels off the ground with spacer blocks placed between the members. Keep wrapping on the members until permanent protection from the weather is in place but cut holes on the underside of the wrapping to prevent the accumulation of moisture. Follow additional manufacturers' recommendations for storage.
6. Follow all manufacturers' recommendations for panel lifting and placement.
7. At all times during transportation, storage, erection and construction, the panels are to be protected from rain and moisture to minimize moisture ingress and panel staining. Contractor and manufacturer to indicate intended method of protection to the Engineer and the Architect prior to construction.
8. Provide gradual heating of enclosed building to minimize panel cupping and checking.
9. Steel connection hardware to be ASTM 36 or better or galvanized Simpson SDS screws.
10. For all panels on the exterior of the building, provide a shop applied 13mm (1/2") thick end cap of matching wood material shop-glued to the end face. Shop apply 3 coats of sealant to all sides and end caps of panels when exposed to rain/moisture.
11. Shop apply minimum 2 coats of sealant to side grain surfaces and two coats of sealant to end grain cuts and surfaces.
12. Use 2 coats of Cloverdale Sunfast for wood coatings, u.n.o. Follow manufacturer's recommendations for application. Any proposed alternate is subject to the Engineer's and Architect's prior approval.
13. Any field drilled openings in panels are to be coordinated with the Engineer prior to drilling. Coat all field cut openings with minimum two coats of clear sealer.

STRUCTURAL COMPOSITE LUMBER - PSL, LVL, AND LSL

1. Where specified on drawing, the following structural composite lumber products are acceptable:

    PSL (Parallel Strand Lumber) i) 2.2E WS Parallam PSL by Weyerhaeuser
    LVL (Laminated Veneer Lumber) i) 2.0E LVL by Weyerhaeuser
    LSL (Laminated Strand Lumber) i) 1.50E LSL by Weyerhaeuser

2. All structural composite lumber shall conform to CSA 086.1.
3. Structural composite lumber shall be identified with name and plant number of the manufacturer, grade of lumber, NER of CCMC report number and name of quality control agency, unless noted otherwise.
4. Substitution of the above structural composite lumber is permitted only with the Engineer's written approval.
5. Manufacturer is responsible to supply all steel hangers and brackets required to support the member, unless noted otherwise. Steel hardware to be ASTM A36 or better and bolts shall be A307. Hot dip galvanize all steel connectors including fasteners, where exposure to rain during or after construction may cause rusting/staining of wood exposed to view.
6. Follow manufacturer's recommendations for handling , storage installation and detailing of structural composite lumber, including fastening of multiple laminations.
7. All exposed PSL shall be architectural quality finished unless otherwise noted.

WOOD FRAME

1. Wood framing and heavy timber construction shall conform to CAN/CSA 086.
2. Unless noted otherwise, joists, stud framing, built-up posts, built-up beams shall be K.D S.P.F #2. Top and bottom plates shall be D.F. #2 or better. Solid wood posts and beams to be Douglas Fir #1.
3. Unless noted otherwise, all framing, bridging, blocking, and nailing shall be in accordance with Part 9 of the Building Code (see section 'GENERAL' line 8, this drawing). Provide 38x38 (2"x2") bridging or solid blocking at 2100mm (7'-0") o.c. for all spans greater than 3000mm (10'-0"), with 13mm (1/2") gap between bridging.
4. Unless noted otherwise, built-up beams and posts shall consist of minimum 2 members. Minimum lintel shall be 1-89x241 (3 1/2"x9 1/2") LSL (Timberstrand) or 2-38x235 (2"x10").
5. Laminate studs solid beneath all beam ends and carry through to concrete foundation below. Unless noted, built-up studs shall match number of laminations in built-up member being supported. Fully block all joist spaces below point loads. Take care to ensure beams bear fully on supporting members.
6. Install double cripples under lintels unless otherwise noted.
7. Joists are minimum 38x235 @ 400mm (2"x10" @ 16") o.c. unless otherwise noted. Install double joists under parallel non-load bearing partitions above.
8. Interior bearing walls - unless otherwise noted:
    a) Minimum stud requirements are as follows:

        1st Floor 38x89 @ 300 (2"x4" @ 12") o.c.
        or 38x140 @ 400 (2"x6" @ 16") o.c.
        2nd Floor 38x89 @ 400 (2"x4" @ 16") o.c.
        or 38x140 @ 400 (2"x6" @ 16") o.c.

    b) Anchor stud walls to concrete with 16Ø x 250 long (5/8"Ø x10") anchor bolts with standard nut & washer at top & standard washer & double nuts at bottom @ 1200mm (4'-0") max. and at 200mm (8") from end and corner of walls and edge of window/door openings, 300mm (12") where hold down bolt is indicated on plans.
9. Shear walls and exterior bearing walls - unless noted otherwise on drawings:
    a) Walls shall be constructed with 13mm (1/2") plywood sheets (1 side) on wood studs. Refer to notes on wall sheathing below for nailing and blocking requirements of plywood.

        Fasten bottom wall plate to floor sheathing with 95mm (3 3/4") long spikes at 100mm (4") o.c. and to concrete with 20mmØ x250mm long (3/4"Ø x 10") anchor bolts complete with 65mmØ x6mm (2 1/2"Øx1/4") plate washers at top of bolts & standard washer & double nuts at bottom, space bolts @ 800mm (2'-6") o.c. maximum and at 200mm (8") from end and corner of walls and edge of window/door openings. Add hold down anchors by Simpson Strong-Tie where noted on plan.

    b) Ensure shear walls are connected to floor/roof plywood (truss blocks or joists where required) with minimum 75mm (3") long nails @ 100mm (4") o.c.
10. Provide sill gasket under all wood sill plates in contact with concrete. Provide peel and stick membrane to all other wood surfaces in contact with concrete, sill plates to pressure treated u.n.o.
11. Sheathing - unless noted otherwise:

    All sheathing shall be D.Fir plywood (DFP) exterior grade conforming to CSA 0121 and 0151. Place sheets with face grain running perpendicular to supporting members in a staggered joint pattern.

    Minimum sheathing requirements shall be as follows:

    a) Wall sheathing -13mm (1/2") plywood fastened with 75mm (3") long common nails @ 100mm (4") o.c. at sheet edges and @ 300mm (12") o.c. at intermediate studs. All unsupported edges shall be blocked with 50mm (2") nominal blocking and nailed as above. Drill adequate holes in exterior walls for ventilation.
    b) Floor sheathing -16mm (5/8") T & G plywood, glued and fasten with 75mm (3") long common nails at 150mm (6") o.c. at sheet edges, and @ 250mm (10") o.c. at intermediate supports.
    c) Roof sheathing -13mm(1/2") plywood fasten with 75mm (3") long common nails at 150 mm (6") o.c. at sheet edges and @ 250mm (10") o.c. at intermediate supports. Provide H clips between each joist.
12. Substitution of common nails with power driven nails (P-nails) of the same length and diameter is acceptable. Substitution of power driven nails of smaller diameter is permitted ONLY with the Engineer's approval.
13. Unless otherwise noted, use galvanized Simpson Strong-Tie connectors or approved equal where required. Use joist hangers (minimum 1000 lbs capacity) for all flush framing. Fully nailed pressure blocks may be used where permitted in writing by the Engineer. Steel hardware to be ASTM A36 or better and bolts shall be A307. Refer to Structural Steel Metals notes for galvanizing of steel connections. All fasteners in contact with pressure treated wood to be Zmax coated (or approved equivalent).
14. All lag screws to be machined threaded, not cast threaded.

GLUED LAMINATED TIMBER - GLULAM (GL)

1. All Glulam members shall meet the following specification. Any substitution must have the written approval of the architect and the engineer.

    Species: Douglas Fir.L
    Stress Grade: Beams 24f-E (24f-EX for cantilever or continuous beams)
    Columns 16c-E
    Service Grade: Exterior
    Appearance Grade: Commercial where the member is concealed, Quality elsewhere
    Sealer: Polyurethane, one component.

2. All glulam members shall conform to CSA 086 and glulam manufacturer must qualify under CSA standard 0177.
3. Camber simple span beams 6mm (1/4") per 3000mm (10'-0") of span.
4. Submit shop drawings showing all applicable details and material specifications to the Engineer for review prior to fabrication. Shop drawing shall be accompanied by a certificate of conformance to manufacturing standard. When member design forces are shown on plan or details, shop drawings shall be submitted and sealed by a Professional Engineer registered in the province of Alberta. Do not proceed with fabrication until shop drawings have been approved by the Engineer.
5. Affix authorized label to all members supplied. Also identify each member with mark number.
6. Store glulam off the ground with spacer blocks placed between members. Keep wrapping on the members until permanent protection from the weather is in place but cut holes on underside to prevent the accumulation of condensation.
7. Steel hardware to be ASTM A36 or better and bolts shall be A307. Refer to Structural Steel Metals notes for galvanizing of steel connections. Use galvanized Simpson Strong-Tie connectors or approved equal where required unless noted otherwise.
8. For all glulams on the exterior of the building, provide a 13mm (1/2") thick end cap of similar material glued to the end face. Apply 3 coats of sealant to all sides and end caps of glulams when exposed to rain/moisture.
9. Use 2 coats of Cloverdale Sunfast for wood coatings, u.n.o. Follow manufacturer's recommendations for application. Any proposed alternate is subject to Engineer's and Architect's prior approval.

SECONDARY COMPONENTS AND THEIR ATTACHMENTS

1. Secondary components include but are not limited to the following:
    (Refer to all contract documents for secondary components)

    a) Architectural components such as guard and hand rails, flag posts, canopies, ceilings, etc.
    b) Site work elements exterior to the base building such as landscaping components, lamp standards, pools, signs, and civil work.
    c) Cladding, window mullions, glazing and store fronts.
    d) Skylights and glass canopies.
    e) Attachments and bracing for electrical and mechanical components.
    f) Glass block including attachments.
    g) Elevators, hoist beams and rail support members.
    h) Architectural precast and precast cladding.
    j) Window washing equipment and attachments.
    k) Interior and exterior light gauge steel stud walls.
    l) Roofing material.
    m) Architectural brick veneer.
    n) Parking slab membrane.
    p) Fall restraint anchors (and any additional required framing not shown on plan).
    q) Snow guards / fence.
    r) Library stacks.

2. Design and detailing of the above items and their attachments are not the responsibility of the Engineer. They shall be designed by Specialty Structural Engineers, registered in the province of British Columbia and RETAINED BY THE CONTRACTOR, who will seal all related shop drawings, review the components and their attachments in the field and provide all required sealed letters (Schedule C-2) to the Engineer.
3. Secondary components and their attachments shall be designed in accordance with Part 4 of the Alberta Building Code as in GENERAL section.
4. Sealed shop drawings of the secondary or non-structural components which may affect the primary structural system shall be submitted to the Engineer only for the review of their effect on the primary structural system.
5. Sub-contractor of these components is responsible for protection of connections of dissimilar metals against galvanic corrosion.
6. In addition to construction tolerance, secondary components shall be detailed for the following building movement and deflection:

    a) Vertical deflections of beams, slabs and decking: L/180, (25mm min.)
    Differential deflections of edge beams and edges of slabs: L/240, (16mm min.)
    b) Horizontal drift during wind and earthquake between floors:
    Drift without damage to components: 0.003 x height
    Drift without collapse to components: 0.025 x height typical building
    c) Movement at expansion joints (u.n.o.):
    Perpendicular: ± 50mm (2") min.
    Parallel: ± 50mm (2") min.
    Vertical: ± 25mm (1") min.

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CLIENT
mosaic CENTRE

PROJECT NAME
MOSAIC CENTRE FOR CONCIOUS COMMUNITY AND COMMERCE

PERMITS AND SEALS

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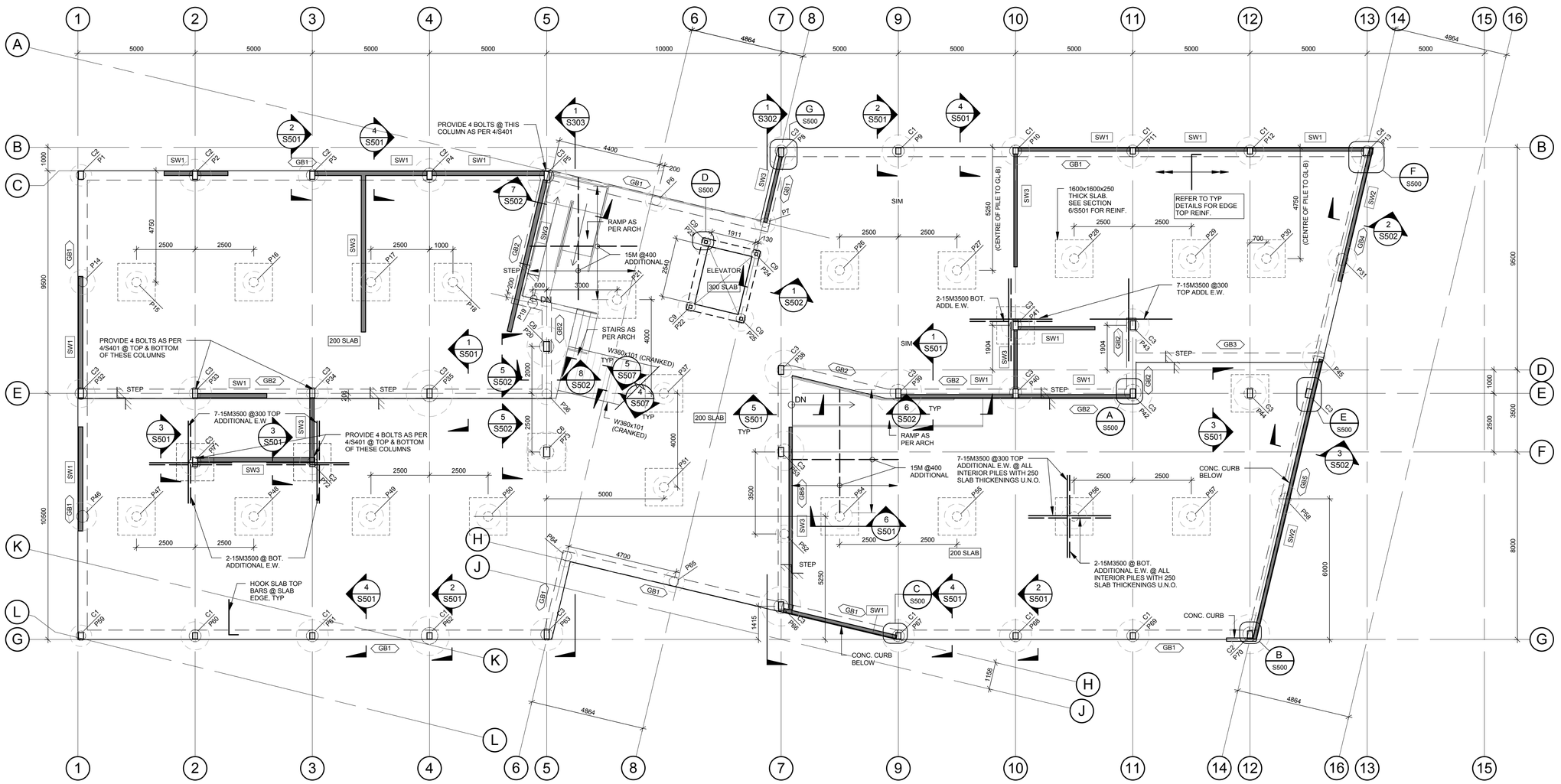
PROJECT # **2057**
DRAWING SCALE
DRAWN BY **EG**
DESIGNED BY **SP**
CHECKED BY **SP/IB**

DRAWING TITLE
GENERAL NOTES PT.2

DRAWING NUMBER **S101**
REVISION **0**



FOUNDATION & MAIN FLOOR PLAN

1 : 100

NOTES:

1. CONNECTION DESIGN OF GLULAM & STEEL STRUCTURE TO BE COORDINATED WITH SUPPLIER AS PART OF IPD PROCESS. SUPPLIER TO SUBMIT DETAILED CONNECTIONS FOR REVIEW (FOR FORCES WHERE SHOWN)
2. REFER TO S400 FOR PILE LOADS & DETAILS AND ENGINEERED PILING SHOP DRAWING S1 BY E2K ENGINEERING DATED MARCH 4, 2014.

LEGEND

- SW1 — WOOD SHEAR WALL
- WALL BELOW
- CONCRETE CURB/WALL
- INDICATES BEAM, HEADER OR HIP
- P1 — FLOOR/ROOF DECKING TYPE & SPAN DIRECTION
- GB1 — GRADE BEAM TYPE. SEE PLAN AND SCHEDULE
- BM1 — WOOD BEAM TYPE. SEE PLAN AND SCHEDULE
- C1 — COLUMN TYPE AS PER SCHEDULE
- P1 — PILE TYPE AS PER S400
- HD — HOLD DOWN TYPE AS PER SCHEDULE AND PLAN

SHEAR WALL SCHEDULE

TYPE MARK	PLYWOOD	NAILING	FRAMING
SW1	12.5mm DFIR-L ONE SIDE	2 1/2" NAILS @150 AT EDGES	38x140 @400 U.N.O. 44x184 LVL @400 FOR 6m HIGH STOREY SHEAR WALLS
SW2	12.5mm DFIR-L ONE SIDE	2 1/2" NAILS @100 AT EDGES	38x140 @400
SW3	12.5mm DFIR L TWO SIDES	2 1/2" NAILS @100 AT EDGES	2-38x140 @600 U.N.O. 2-44x184 LVL @600 FOR 6m HIGH STOREY SHEAR WALLS
SW4	12.5mm DFIR-L TWO SIDES	3" NAILS @75 AT EDGES	2-38x140 @600

SEE SHEAR WALL ELEVATIONS AND DETAILS PER HAND SKETCH PACKAGE FOR HOLD DOWN AND ADDITIONAL SCREW CONNECTION DETAILS

200 SLAB REINFORCEMENT

R/W 15M @400 EACH WAY TOP & BOT. PLUS ADDITIONAL REINFORCING AS SHOWN.

300 SLAB REINFORCEMENT

R/W 20M @300 EACH WAY TOP & BOT. HOOK ALL BARS AT SLAB EDGES.

BAR PLACING ORDER (U.N.O.)

- TOP UPPER LAYER (T.U.L.)
- TOP LOWER LAYER (T.L.L.)
- BOTTOM UPPER LAYER (B.U.L.)
- BOTTOM LOWER LAYER (B.L.L.)

NOTES FOR SLAB REINFORCING

1) SPLICE TOP BARS AT SLAB MIDSPAN
2) SPLICE BOTTOM BARS AT PILE AND GRADE BEAM LOCATIONS

GRADE BEAM SCHEDULE

Mark	SIZE	REINFORCEMENT
GB1	400x500 DP. CONC.	4-25M TOP & BOT. 10M TIES @250
GB2	400x600 DP. CONC.	4-25M TOP & BOT. 10M TIES @250
GB3	400x600 DP. CONC.	5-25M TOP & BOT. 10M TIES @300
GB4	400x600 DP. CONC.	5-25M TOP & BOT. 10M TIES @250
GB5	400x600 DP. CONC.	5-30M TOP & BOT. 10M TIES @200
GB6	600x600 DP. CONC.	5-25M TOP & BOT. 10M TIES @300

COLUMN SCHEDULE

MARK	DESCRIPTION
C1	GL 215x266 16c-E
C2	GL 215x342 16c-E
C3	GL 215x380 16c-E
C4	GL 265x342 16c-E
C5	GL 175x228 16c-E
C6	GL 265x418 16c-E
C7	GL 265x266 16c-E
C8	HSS 102x102x6.4
C9	HSS 127x127x9.5

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CLIENT
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PROJECT NAME

MOSAIC CENTRE FOR CONCIOUS COMMUNITY AND COMMERCE

PERMITS AND SEALS

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DRAWN BY	EG
DESIGNED BY	SP
CHECKED BY	SP/IB

DRAWING TITLE

FOUNDATION & MAIN FLOOR PLAN

DRAWING NUMBER	REVISION
S200	0

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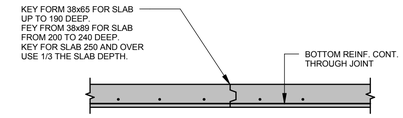
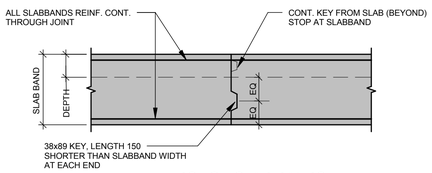
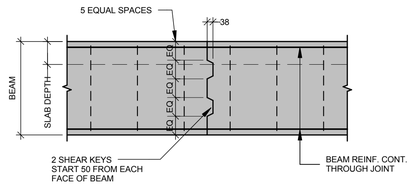


THROUGH SLABS

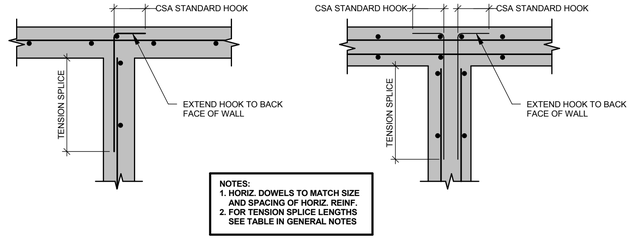


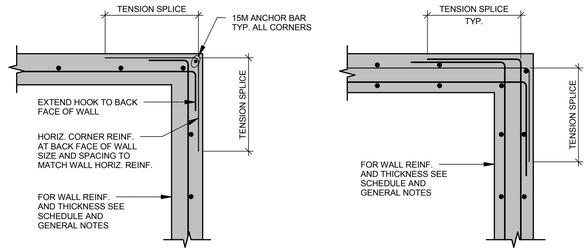
THROUGH SLAB BANDS



THROUGH BEAMS

NOTE:
JOINT LOCATIONS TO BE SUBJECT TO ENGINEER'S APPROVAL



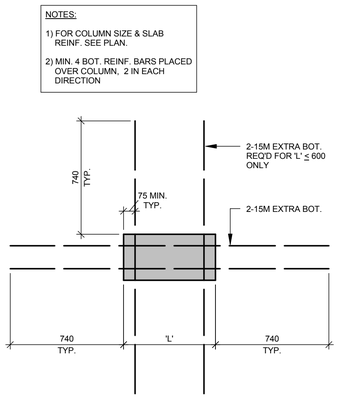


SINGLE CURTAIN **DOUBLE CURTAIN**

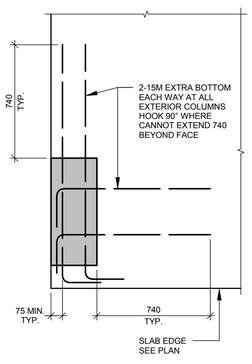
1 - TYP. CONSTRUCTION JOINT
1:20

2 - TYP. HORIZONTAL REINFORCEMENT AT WALL CORNERS U.N.O.
1:20

NOTES:
1) FOR COLUMN SIZE & SLAB REINF. SEE PLAN.
2) MIN. 4 BOT. REINF. BARS PLACED OVER COLUMN, 2 IN EACH DIRECTION

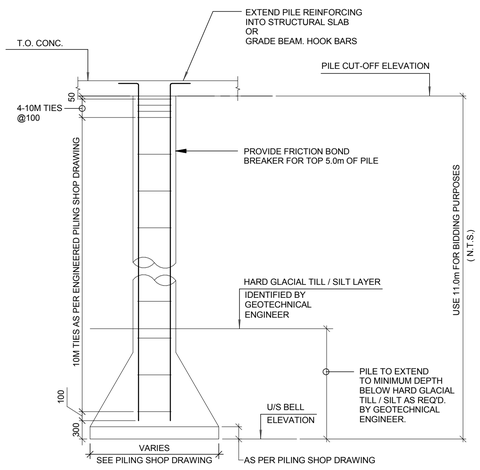


EXTRA BOTTOM REINF.
AT INTERIOR COLUMNS



EXTRA BOTTOM REINF.
AT EXTERIOR COLUMNS

3 - TYP. COLUMN INTEGRITY REINFORCING
1:20



5 - TYP. PILE TO MAIN FLOOR DETAIL
1:50

NOTES:
1. PILING CONTRACTOR TO PROVIDE PILING DESIGN SEALED BY PROFESSIONAL ENGINEER FOR LOADS AS NOTED.
   a) DESIGN PILES FOR FACTORED END BEARING PRESSURE OF 600 kPa.
   b) DESIGN PILES FOR FACTORED TENSION AS NOTED IN TABLE.
2. SEE SHELBY ENGINEERING GEOTECHNICAL REPORT DATED JUNE 2013, AND GEOTECHNICAL ADDENDUM #3 DATED JANUARY 2014.
3. GEOTECHNICAL ENGINEER TO REVIEW INSTALL AND CONFIRM PILE BEARING AND UPLIFT CAPACITIES.
4. PROVIDE CASING FOR PILE SHAFT AS REQUIRED IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
5. PILES ASSUMED TO BE BELLED AT A MINIMUM OF 11m BELOW GRADE (FOR BIDDING PURPOSE ONLY). GEOTECHNICAL ENGINEER TO REVIEW AND PROVIDE EXACT ELEVATIONS FOR EACH PILE.
6. PROVIDE FRICTION BOND BREAKER PER GEOTECHNICAL ADDENDUM #3.
7. REFER TO ENGINEERED PILING SHOP DRAWING S1 BY E2K ENGINEERING DATED MARCH 4, 2014 FOR PILE SIZES AND REINFORCING.

LOADS TO TOP OF PILES			
PILE NUMBER	DEAD LOAD (kN)	FACTORED COMPRESSION (kN)	FACTORED TENSION (kN)
P1	150	375	0
P2	275	750	0
P3	250	650	0
P4	300	925	0
P5	450	1275	0
P6	150	375	0
P7	125	325	60
P8	225	550	0
P9	400	825	0
P10	275	600	0
P11	350	725	0
P12	325	675	0
P13	425	800	0
P14	225	525	0
P15	125	275	0
P16	150	375	0
P17	150	375	0
P18	150	375	0
P19	150	375	50
P20	425	1250	0
P21	175	325	0
P22	125	450	0
P23	125	450	0
P24	125	450	0
P25	125	450	0
P26	175	400	0
P27	175	400	0
P28	175	400	0
P29	175	400	0
P30	175	400	0
P31	300	625	0
P32	250	600	0
P33	350	900	0
P34	325	775	0
P35	500	1550	0
P36	150	325	0
P37	150	375	0
P38	425	1050	0
P39	750	1450	0
P40	450	925	0
P41	300	675	50
P42	575	1150	0
P43	425	900	0
P44	450	925	0
P45	350	725	0
P46	250	550	0
P47	125	300	0
P48	175	400	0
P49	175	400	0
P50	175	400	0
P51	150	375	0
P52	125	250	0
P53	425	1050	0
P54	175	400	0
P55	175	400	0
P56	175	400	0
P57	175	400	0
P58	325	675	0
P59	150	325	0
P60	275	675	0
P61	225	725	0
P62	325	1000	0
P63	275	800	0
P64	125	325	0
P65	125	325	0
P66	450	1150	0
P67	400	825	0
P68	400	850	0
P69	400	850	0
P70	550	1000	0
P71	225	625	25
P72	200	500	25
P73	475	1400	0

4 - PILE LOADS SCHEDULE
N.T.S.

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CLIENT
mosaic CENTRE

PROJECT NAME
MOSAIC CENTRE FOR CONCIOUS COMMUNITY AND COMMERCE

PERMITS AND SEALS

NOTES
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REVISION

NO.	Y/M/D	DESCRIPTION
0	2014/03/14	ISSUED FOR CONSTRUCTION

PROJECT # **2057**
DRAWING SCALE
DRAWN BY **EG**
DESIGNED BY **SP**
CHECKED BY **SP/IB**

DRAWING TITLE
TYPICAL DETAILS

DRAWING NUMBER **S400**
REVISION **0**

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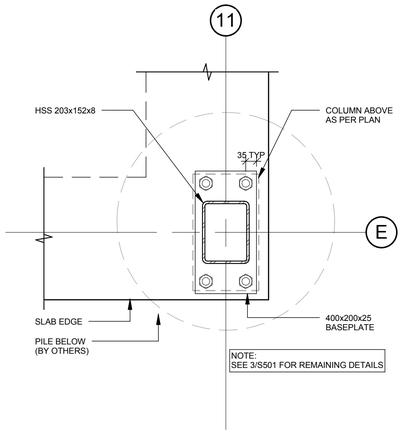

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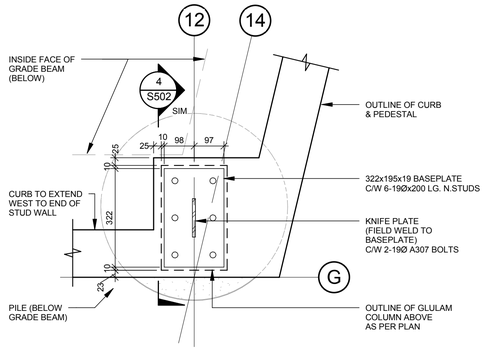

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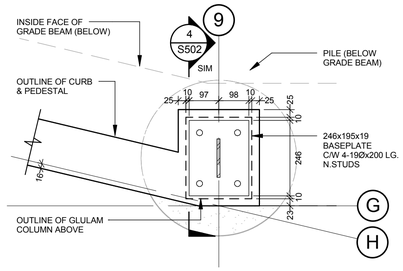

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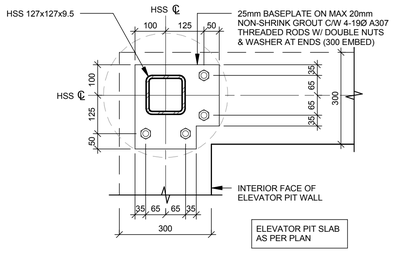

D S200 DETAIL
1 : 10

E S200 DETAIL
1 : 10

F S200 DETAIL
1 : 10

G S200 DETAIL
1 : 10

NOTES:
1. CONNECTION DESIGN OF GLULAM & STEEL STRUCTURE TO BE COORDINATED WITH SUPPLIER AS PART OF IPD PROCESS. SUPPLIER TO SUBMIT DETAILED CONNECTIONS FOR REVIEW (FOR FORCES WHERE SHOWN)

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PROJECT #	**2057**
DRAWING SCALE	
DRAWN BY	**EG**
DESIGNED BY	**SP**
CHECKED BY	**SP/IB**

DRAWING TITLE
SECTIONS & DETAILS

DRAWING NUMBER	REVISION
S500	**0**

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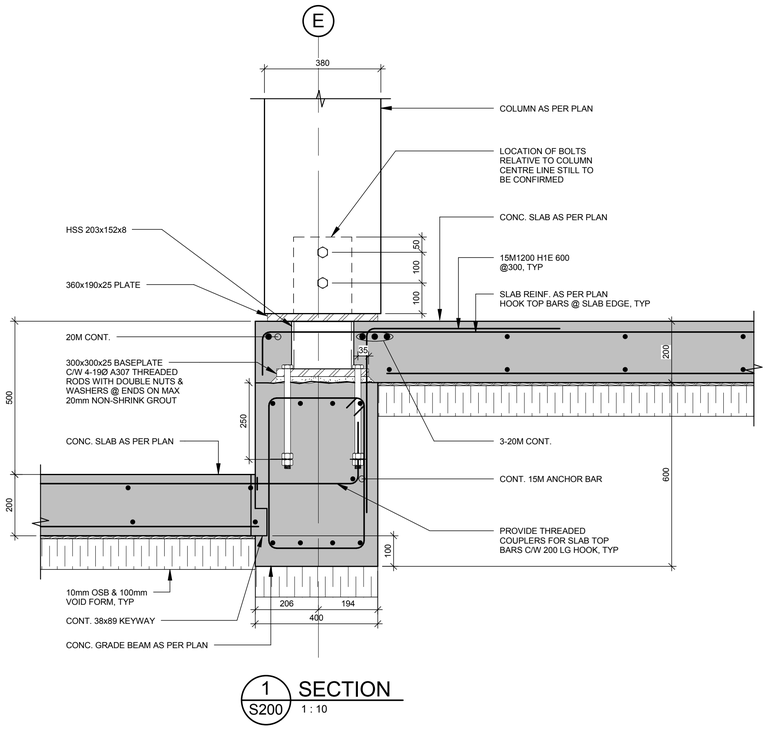

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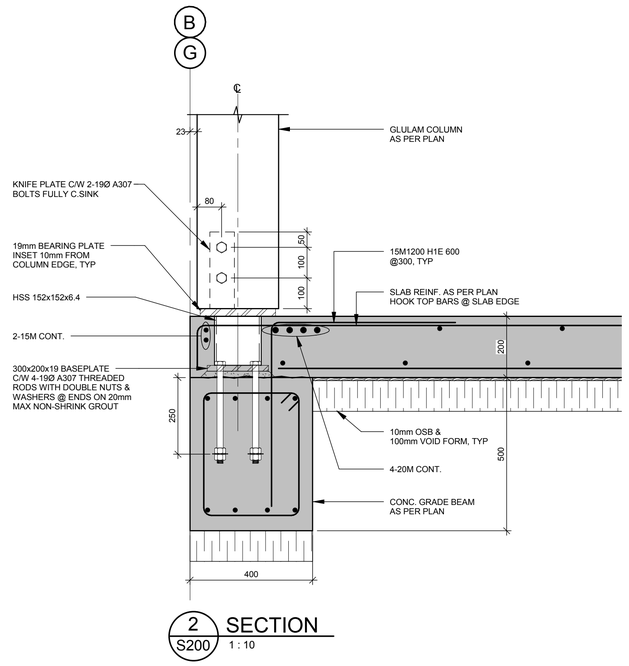

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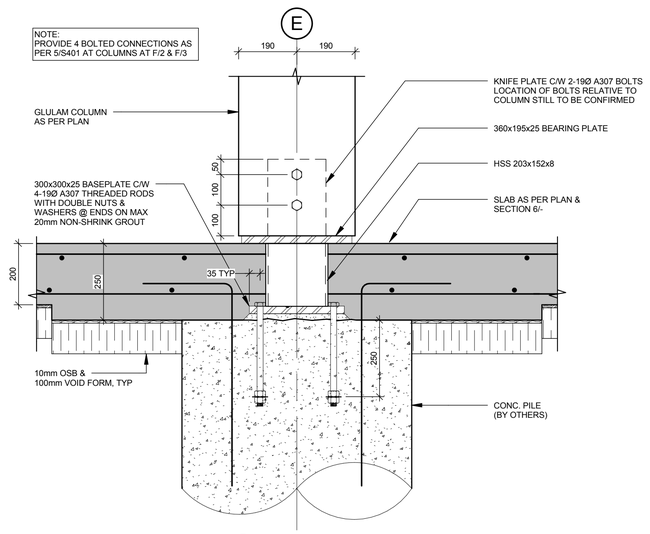

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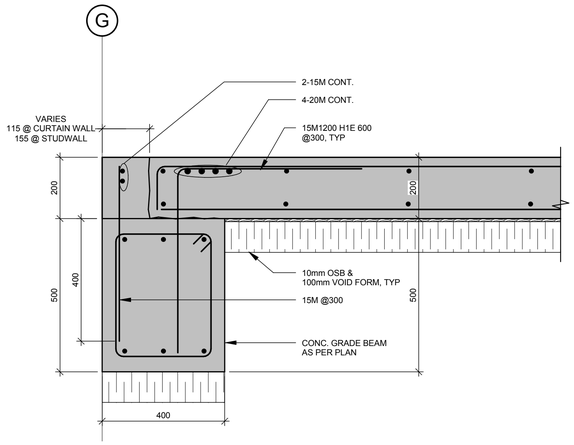

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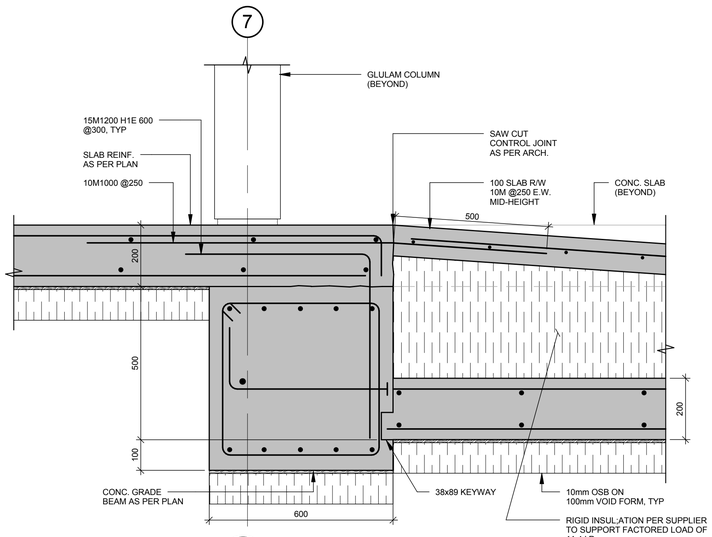

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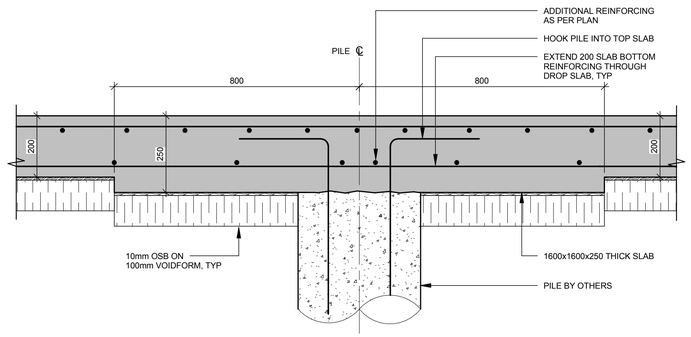

6 S200 SECTION
1 : 10

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PROJECT #	**2057**
DRAWING SCALE	
DRAWN BY	**EG**
DESIGNED BY	**SP**
CHECKED BY	**SP/IB**

DRAWING TITLE
SECTIONS & DETAILS

DRAWING NUMBER	REVISION
S501	**0**

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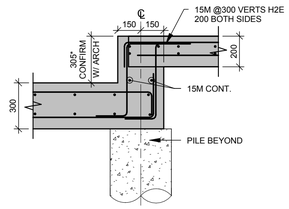

1 S200 SECTION
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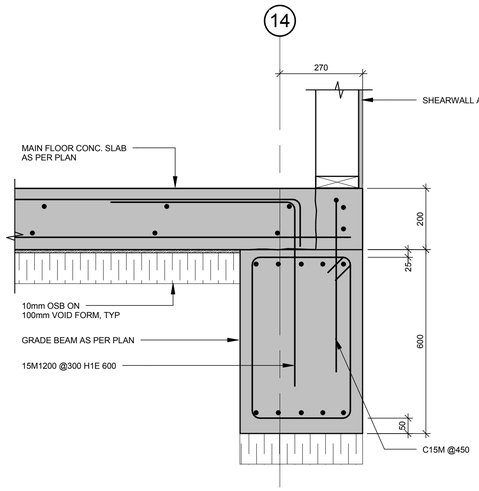

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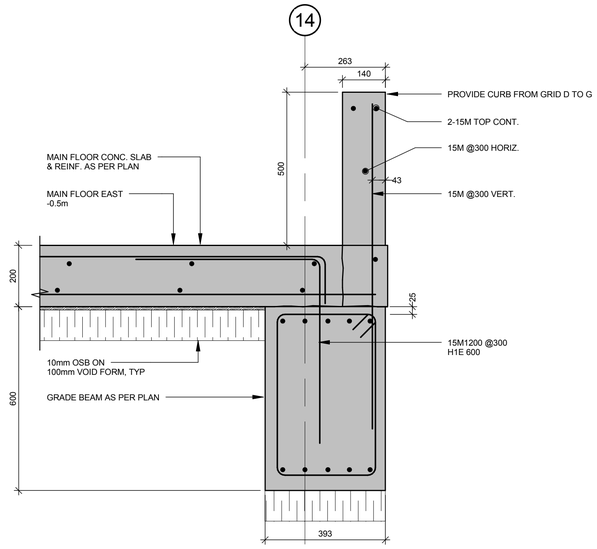

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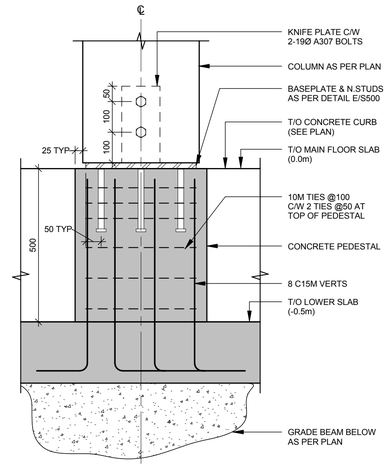

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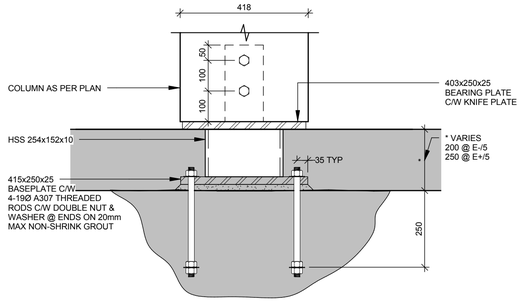

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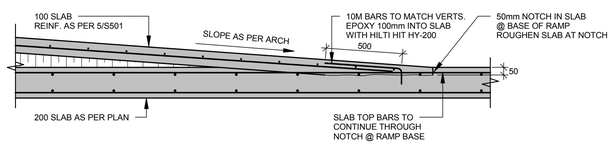

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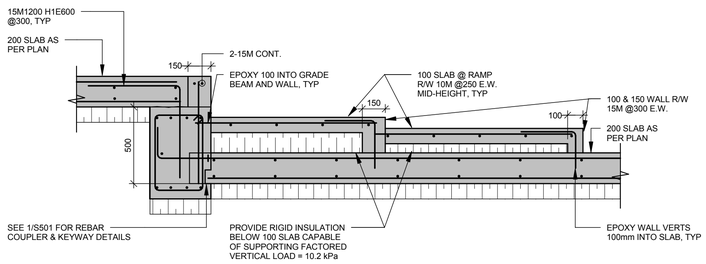

7 S200 SECTION
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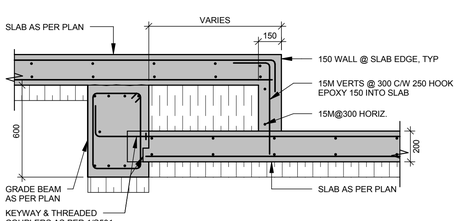

8 S200 SECTION
1 : 20

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PROJECT # **2057**

DRAWING SCALE

DRAWN BY **EG**

DESIGNED BY **SP**

CHECKED BY **SP/IB**

DRAWING TITLE
SECTIONS & DETAILS

DRAWING NUMBER **S502**

REVISION **0**

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