GENERAL NOTES

- 1. CONFORM TO THE REQUIREMENTS OF THE LATEST ONTARIO BUILDING CODE (OBC) INCLUDING ALL THE LATEST STANDARDS REFERENCED THEREIN, AND ANY APPLICABLE ACTS OF AUTHORITY HAVING JURISDICTION. THE LATEST VERSION OF ALL STANDARDS AND CODES LISTED BELOW SHALL BE USED.
- 2. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND CONTRACT DOCUMENTS.
- 3. WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND APPLICABLE CODES AND ACTS, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL CHECK ALL DIMENSIONS ON WORKING DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 4. THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT AND THERE ARE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO A CONTRACT.
- 5. THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISION COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION" BY BFP ENGINEERING SOLUTIONS.
- 6. UNDER NO CIRCUMSTANCES ARE THESE DRAWINGS TO BE SCALED, INCLUDING FOR PREPARATION OF SHOP DRAWINGS, CONSTRUCTION LAYOUT, OR BIDDING PURPOSES. ERRORS MADE BY PERSONS SCALING THESE DRAWINGS SHALL NOT BE THE RESPONSIBILITY OF BFP ENGINEERING SOLUTIONS.
- 7. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF PITS. BASES. HOUSE KEEPING PADS. SUMPS TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS AND SLOPES NOT SHOWN ON STRUCTURAL DRAWINGS.
- 8. BEFORE PROCEEDING WITH WORK, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH ALL CHARACTERISTICS AFFECTING NEW AND EXISTING CONSTRUCTION. ANY CHANGES, ALTERATIONS OR REVISIONS MUST BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE
- 9. SUBSTITUTIONS FROM SPECIFIED PRODUCTS AND MATERIALS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO ORDERING OF MATERIALS. THE CONTRACTOR SHALL REIMBURSE ALL CONSULTANTS FOR ADDITIONAL COSTS INCURRED AS A RESULT OF REVIEWING ANY CHANGES MADE TO THE CONTRACT DOCUMENTS.
- 10. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS -0.REG. 213/91.
- 11. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER O.REG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQUIRED.
- 12. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT INSPECTION AND TESTING COMPANY TO ENSURE THAT ALL WORK IS DONE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. REQUIRED TESTING SHALL BE AS PER THE TESTING AND INSPECTION TABLE BELOW.
- 13. BFP ENGINEERING SOLUTIONS WILL PROVIDE GENERAL REVIEW OF CONSTRUCTION IN ACCORDANCE WITH THE PERFORMANCE STANDARDS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ONTARIO BY MEANS OF A RATIONAL SAMPLING PROCEDURE TO DETERMINE WHETHER THE CONSTRUCTION OF THAT WORK SHOWN ON THE BFP ENGINEERING SOLUTIONS DRAWINGS IS IN GENERAL CONFORMITY WITH THE PLANS SKETCHES, DRAWINGS, AND SPECIFICATIONS FORMING PART OF THE CONTRACT DOCUMENTS PREPARED BY "BFP". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL AND THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT, "BFP" SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 14. IT IS THE RESPONSIBILITY OF BOTH THE OWNER AND THE CONTRACTOR TO NOTIFY THE ENGINEER OF CONSTRUCTION PROGRESS SO THE ENGINEER CAN COMPLETE GENERAL REVIEWS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE PRIOR TO STARTING THE WORK. GENERALLY, REVIEWS BY THE ENGINEER WILL BE REQUIRED FOR REBAR PRIOR TO CONCRETE PLACEMENT, FOOTING AND FOUNDATIONS PRIOR TO BACKFILLING, AND ABOVE GRADE FRAMING PRIOR TO INSTALLATION OF INTERIOR FINISHES.

PROJECT DESIGN DATA TABLE

BUILDING IMPORTANCE CATEGORY	NOR	MAL	
FLOOR AND ROOF DESIGN LOADS AS NOTE	ON FRAMI	NG PLANS	
SPECIFIED WIND LOADS			
HOURLY WIND PRESSURE (1/50) DESIGN DATA	0.48	3 kPa	
WIND DESIGN CATEGORY	CATEG	ORY 2	
TERRAIN	RO	ROUGH	
SPECIFIED SNOW LOADS			
BASIC ROOF SNOW LOAD	S	1.20 kPa	
	Ss	1.36 kPa	
SNOW AND RAIN LOADING (1/50) DESIGN DATA	Sr	0.40 kPc	
(., co, 220.01. 25.11.)	24Hr RAIN	94 mm	
	Cb	0.8	
FACTORS USED FOR BASIC ROOF SNOW LOAD	Cw	1.0	
FACTORS USED FOR BASIC ROOF SNOW LOAD	Cs	1.0	
	Ca	1.0	
ADDITIONAL SNOW ACCUMULATION AROUND OBSTR TO HIGHER ROOF LEVELS OR WALLS IS INDICATED			
SPECIFIED EARTHQUAKE LO	ADS		
	Sa (0.2)	0.21	
	Sa (0.5)	0.13	
SEISMIC LOADING DESIGN DATA	Sa (1.0)	0.077	
	Sa (2.0)	0.024	
SITE CLASS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER	SITE CLASS	'D'	
SEISMIC FORCE MODIFICATION FACTORS	Rd	2.0	

ALL LOADS AND ANALYSIS CONFORM TO THE 2012 OBC DIV B PART 4 AND THE USER'S GUIDE - NBC 2010 STRUCTURAL COMMENTARIES

FOR SEISMIC FORCE RESISTING SYSTEM

DRAINAGE OF GROUNDWATER.

SEISMIC HAZARD INDEX

ALL DESIGN DATA ABOVE IS FROM THE 2012 OBC SUPPLEMENTAR STANDARD SB-1 TABLE 1.2.

1.7

Ro

leFaSa(0.2) 0.28

- WIND LOADING IS BASED ON THE STATIC PROCEDURE.
- SEISMIC LOADING IS BASED ON THE EQUIVALENT STATIC FORCE PROCEDURE.
- THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE EXTENSION UNLESS NOTED.
- THE NEW FOUNDATION WALLS HAVE BEEN DESIGNED ASSUMING THAT THEY ARE NOT SUBJECT TO HYDROSTATIC PRESSURE. ENSURE PROVISIONS HAVE BEEN MADE FOR APPROPRIATE

FOUNDATIONS

- 1. NO SOIL STUDY WAS PERFORMED AS THE EXISTING FOUNDATION WILL REMAIN AND IT IS ASSUMED TO BE IN GOOD CONDITION.
- ALL NEW FOOTINGS SHALL BEAR DIRECTLY ON NATURALLY CONSOLIDATED, UNDISTURBED SOIL OR COMPACTED FILL WITH A MINIMUM SOIL BEARING CAPACITY OF 150 kPa (SLS) AND 225 kPa (ULS).
- 3. REMOVE ALL TOPSOIL, ORGANIC LOOSE FILL AND OTHER DELETERIOUS
- SHALL BE COMPACTED IN 150 mm (6") LAYERS TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- 5. FOUND NEW FOOTINGS WHICH ARE LOCATED ADJACENT TO EXISTING FOOTINGS, AT THE SAME ELEVATION AS THE EXISTING FOOTINGS, UNLESS NOTED OTHERWISE, ANY NECESSARY PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT EXISTING FOOTINGS ARE NOT DISTURBED OR UNDERMINED
- 6. FOUND ALL FOOTINGS BELOW THE LEVEL AT WHICH POTENTIAL DAMAGE RESULTING FROM FROST ACTION CAN OCCUR FOR THE FINISHED STRUCTURE. BUT A MINIMUM 1200 mm (4 FT.) BELOW FINISHED
- 7. PROTECT ALL SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOUNDATIONS DURING CONSTRUCTION.
- FOUNDATIONS FROM DAMAGE DUE TO FROST ACTION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR FOUNDATION INSULATION NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- 9. SLABS ON GRADE
- A. PLACE SLABS ON GRADE ON MATERIAL CAPABLE OF SAFELY SUPPORTING 25 kPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING
- B. PROOF-ROLL EXISTING FILL MATERIAL. REMOVE ANY LOOSE OR SOFTENED AREAS BENEATH SLAB-ON-GRADE BEFORE PLACING
- C. APPROVED GRANULAR FILL UNDER ALL FLOOR SLABS ON GRADE SHALL BE COMPACTED IN 150mm (6") LAYERS TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- D. BEFORE CASTING THE SLAB PLACE 200mm (8 ") OF COMPACTED GRANULAR A OVER THE SUB-BASE AND THOROUGHLY ROLL AND CONSOLIDATE TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY
- E. WHERE THE SLAB-ON-GRADE IS USED TO LATERALLY RESTRAIN THE TOP OF AN EARTH-RETAINING WALL, ADEQUATELY SHORE THE WALL UNTIL THE SLAB HAS BEEN CAST AND ATTAINED 70% OF ITS SPECIFIED STRENGTH.
- 11. CARRY OUT BACKFILLING AGAINST FOUNDATION WALLS WHERE THERE IS GRADE ON BOTH SIDES IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500 mm (20 ") DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL, EXCEPT WHERE TEMPORARY SHORING FOR THE WALL IS PROVIDED.
- 12. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVERED RETAINING WALLS) UNTIL THE WALLS AND THE FLOOR CONSTRUCTIONS AT THE TOP AND BOTTOM OF THE WALLS HAVE BEEN CAST AND HAVE ATTAINED 100% OF THEIR DESIGN STRENGTH.
- 13. IN NO CASE SHALL HORIZONTAL CONTROL JOINTS BE ALLOWED IN ANY VERTICALLY SPANNING CONCRETE WALLS WITHOUT THE CONSENT OF THE

CONCRETE AND REINFORCING

- 1. ALL CONCRETE WORK TO CONFORM TO THE LATEST REQUIREMENTS OF CSA
- 2. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.18 GRADE 400W FOR REINFORCING STEEL AND BE DEFORMED HI-BOND HARD GRADE WITH MINIMUM YIELD STRENGTH OF FY = 400 MPa.
- 3. WELDED WIRE MESH AND WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.5 WITH A MINIMUM YIELD STRENGTH OF FY 450 MPa. ALL WELDED WIRE PRODUCTS ARE TO BE SUPPLIED AS FLAT = SHEETS AND SHALL BE LAPPED A MINIMUM OF 150mm (6 ") AT JOINTS (U.N.O.).
- 4. DETAILING AND PLACING OF ALL REINFORCING STEEL SHALL BE IN
- 5. ALL REINFORCING STEEL SHALL BE SHOP FABRICATED TO INCLUDE HOOKS
- 6. ALL REINFORCING LAP SPLICES SHALL CONFORM TO THE LATEST CSA
- a. NO BAR SPLICES SHALL BE LESS THAN IN THE TABLE BELOW. b. INCREASE HORIZONTAL SPLICE LENGTHS IN THE TABLE BY 1.3 WHERE

TENS	ION SPLICE		
25 MPa	30 MPa	35 MPa	
400 (16")	400 (16")	400 (16")	
600 (24")	600 (24")	600 (24")	
800 (32")	800 (32")	800 (32")	
1200 (48"	1100 (44")	1000 (40")	
1400 (56"	1300 (52")	1200 (48")	
1650 (66"	1500 (60")	1400 (56")	

- LENGTH, UNLESS NOTED OTHERWISE.
- SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.
- 9. PLACE REINFORCING BARS SYMMETRICALLY OVER SUPPORTS AND SYMMETRICALLY IN SPANS, UNLESS NOTED OTHERWISE.
- 10. REINFORCING BARS, DOWELS AND ANCHOR BOLTS SHALL BE SECURELY IN PLACE SO AS TO MAINTAIN THEIR EXACT POSITION BEFORE AND DURING TIED PLACEMENT OF CONCRETE. BAR SUPPORTS SHALL ONLY BE MADE OF PRECAST CONCRETE BLOCKS, PLASTIC OR WIRE.
- 11. ALL OIL, GREASE, MUD AND DEBRIS SHALL BE ENTIRELY REMOVED FROM REINFORCING STEEL AND ANCHOR BOLTS PRIOR TO THE PLACEMENT OF THE CONCRETE. REBAR SHALL BE STORED ON SITE IN A MANNER TO BE KEPT AND FREE FROM DELETERIOUS MATERIALS. CLEAN
- 12. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.
- 13. CONFORM TO THE CONCRETE COVER REQUIREMENTS OF CSA A23.1 AND THE FOLLOWING, UNLESS NOTED OTHERWISE:
- a. CONCRETE CAST AGAINST EARTH: 75 mm (3 "
- d. INTERIOR BEAMS: 30mm

- MATERIAL FROM BUILDING AREA BEFORE STARTING CONSTRUCTION.
- 4. WHERE APPROVED, GRANULAR FILL UNDER ALL FOOTINGS ON GRADE
- IN ANY WAY DURING EXCAVATION.
- EXTERIOR GRADE, UNLESS NOTED OTHERWISE. UNDER NO CIRCUMSTANCES SHOULD DEPTH BE LESS THAN LOCAL FROST PENETRATION REQUIREMENTS.
- 8. INSULATION IS SHOWN WHERE REQUIRED FOR PROTECTION OF THE

- STANDARDS A23.1, A23.2 & A23.3.

- ACCORDANCE WITH THE REINFORCING STEEL INSTITUTE OF CANADA "MANUAL OF STANDARD PRACTICE".
- AND BENDS AS REQUIRED.
- STANDARD A23.3 AND ALL BAR SPLICES SHALL BE CLASS 'B' TENSION
- MORE THAN 300MM (12") OF FRESH CONCRETE IS CAST BELOW THE

TENSION SPLICE				
25 MPa	30 MPa	35 MPa		
400 (16")	400 (16")	400 (16")		
600 (24")	600 (24")	600 (24")		
800 (32")	800 (32")	800 (32")		
1200 (48")	1100 (44")	1000 (40")		
1400 (56")	1300 (52")	1200 (48")		
1650 (66")	1500 (60")	1400 (56")		

- 7. ALL DOWEL EMBEDMENT SHALL MATCH THE ABOVE TENSION SPLICE
- 8. ALL REINFORCING STEEL FABRICATION AND PLACEMENT DRAWINGS SHALL BE

- b. PIERS AND WALL: 40 mm (1.5 "
- c. EXPOSED TO DE-ICING CHEMICALS: 60 mm (2.5 ")
- e. INTERIOR SLABS: 25mm

- 14. CONCRETE PROPERTIES: a. ALL CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH
- OF 20 MPa UNLESS OTHERWISE SPECIFIED. b. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE AT JOB SITE.

CONCRETE MIX PROPERTIES TABLE					
CONCRETE	MIN.28 DAYS STRENGTH (MPa)	SLUMP mm(in)	AIR CONTENT (%)	MAX. AGGREGATE SIZE (in)	EXPOSURE CLASS
FOUNDATION WALLS, RETAINING WALLS	25	80 (±30)	4-7	3/4"	F-2
INTERIOR PIERS/ WALLS	25	80 (±30)	0	3/4"	N
INT. S.O.G.	25	80 (±30)	0	3/4"	N
FREEZE THAW EXPOSURE	25	80 (±30)	4-7	3/4"	F-2
EXTERIOR SLAB (UNREINFORCED)	32	80 (±30)	5 – 8	3/4"	C-2
EXTERIOR SLAB (REINFORCED)	35	80 (±30)	5-8	3/4"	C-1
NON-SHRINKABLE GROUT	30	AS PER MANUF. RECOM EN.	0	_	N
LEAN MIX CONCRETE	8	80 (±30)	0	_	N
FOOTINGS	25	80 (±30)	4-7	3/4"	F-2

- 15. WHEN SUPER-PLASTICIZERS ARE USED, THE SLUMP MAY BE INCREASED BEYOND THE VALUES GIVEN, BUT SHALL BE BELOW THE POINT WHERE SEGREGATION WILL OCCUR. THE COST OF SUPER-PLASTICIZERS SHALL BE INCLUDED IN THE COST OF CONCRETE.
- 16. DO NOT ADD WATER TO CONCRETE UNLESS WRITTEN APPROVAL GIVEN BY THE ENGINEER. IF HIGHER SLUMP CONCRETE IS DESIRED, CONCRETE SHALL DESIGN AND SUPPLY ACCORDINGLY. SUPPLIER
- 17. HOT AND COLD WEATHER CONCRETING SHALL COMPLY WITH ALL REQUIREMENTS OF CSA STANDARD A23.1. CALCIUM CHLORIDE ADDITIVES WILL NOT BE PERMITTED.
- 18. ALL CONCRETE FORMWORK TOLERANCES AND SURFACE FINISHES SHALL COMPLY WITH CSA STANDARD A23.1 UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS.
- 19. ALL CONCRETE FORMS TO BE WET THOROUGHLY BEFORE POURING CONCRETE.
- 20. WATER CURING OF CONCRETE IS RECOMMENDED. CURE AND PROTECT ALL CONCRETE IN ACCORDANCE WITH CSA A23.1 SECTION 7.4.
- 21. ALL CONCRETE EXCEPT SLABS ON GRADE 150mm (6") THICK OR LESS BE MECHANICALLY VIBRATED SO AS TO COMPLETELY FILL THE FORM WITHOUT SHALL CAUSING UNDUE SEGREGATION. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE SATISFACTORILY REPAIRED OR SHALL BE REPLACED.
- 22. CONTROL JOINTS IN SLABS ON GRADE SHALL BE 1/4 THE THICKNESS OF SLAB. SPACING OF CONTROL JOINTS IN CONCRETE SLABS-ON-GRADE SHALL THE EXCEED THE GREATER OF 25 TIMES THE THICKNESS OF THE SLAB OR 3000 NOT MM (10'-0") UNLESS NOTED ON THE DRAWINGS.
- 23. WHERE STEEL BEARING PLATES ARE SHOWN ON THE DRAWINGS, THEY SHALL BE ANCHORED WITH A MINIMUM OF TWO 12MM DIA X 450MM LONG + 50MM (1/2 " Ø x 18 " LONG + 2 ") HOOKED ANCHOR RODS WELDED TO THE PLATES EMBEDDED INTO THE CONCRETE.
- 24. CHECK ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, LANDSCAPE AND ALL OTHER RELEVANT DRAWINGS FOR LOCATIONS AND SIZES OF BOLTS, SLEEVES AND OPENINGS.
- 25. SUPPLY AND SET ANCHOR BOLTS, SLEEVES, PIPE HANGERS, JOISTS AND OTHER INSERTS AND OPENINGS AS INDICATED OR SPECIFIED ELSEWHERE. OPENINGS SHALL PASS VERTICALLY OR HORIZONTALLY EXCEPT WHERE EXPRESSLY DETAILED ON STRUCTURAL DRAWINGS OR WHERE APPROVED IN ADVANCE BY ENGINEER. FOR SLABS AND WALLS: ALL SLEEVES AND OPENINGS GREATER THAN 100 IN ANY DIMENSION OR REQUIRING THE CUTTING OF ANY REINFORCEMENT, AND MM (4") NOT INDICATED ON STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE ENGINEER.
- 26. CAST IN ANCHOR BOLTS SHALL CONFORM TO THE LATEST CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPA AND SHALL BE SET TRUE AS TO LOCATION, ELEVATION AND PROJECTION TO THE TOLERANCES: FOLLOWING ANCHOR BOLT LOCATION = \pm 3MM (1/8"). ANCHOR BOLT PROJECTION = \pm 6MM (1/4").

IF WITHIN 600MM (24") OF EACH OTHER CONSULT ENGINEER FOR

- 27. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 10000MM (30'-0"). UNLESS CONTROL JOINTS ARE AS PER TYPICAL DETAIL. TOTAL LENGTH OF POUR TO BE DISCUSSED WITH PROVIDED ENGINEER PRIOR TO PROCEEDING.
- 28. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE THE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID SPAN IF POSSIBLE AND BE CLEAR OF SUPPORTS AND POINT LOADS.
- 29. INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT THEY SHALL NO REQUIRE THE CUTTING. BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.
- 30. ELECTRICAL CONDUITS SHALL NOT PASS THROUGH A COLUMN, SHALL NOT LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM BE WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS CENTER UNLESS APPROVED AND HAVE A MINIMUM CONCRETE COVER OF ON 25MM (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL
- SHOP DRAWING REVIEW

FOR MULTIPLE OPENINGS OR SLEEVES: 0

- 1. ERECTION AND FABRICATION SHOP DRAWINGS FOR ALL BUILDING COMPONENTS AS LISTED IN THE REQUIRED SUBMITTALS TABLE AND ANY RELATED WORKS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE COMMENCING WITH FABRICATION.
- 2. AS PART OF THEIR FIELD SERVICES, MTE CONSULTANTS ("MTE ") WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON MTE CONSULTANT 'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS.
- 3. REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS. RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.

- 4. THE APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF THE FITTING OF BUILDING COMPONENTS. ANY DISCREPANCIES IN THE SHOP DRAWINGS ARE THE RESPONSIBILITY OF
- 5. ALL SHOP DRAWINGS MUST BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN ONTARIO UNLESS NOTED OTHERWISE IN THE SUBMITTALS TABLE BELOW. UNSEALED SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS ALTERNATIVE ARRANGEMENTS HAVE BEEN AGREED UPON.

REQUIRED SUBMITTALS

PRIOR TO FABRICATION.

THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW

ITEM	REQ'D SUBMITTAL?	ENGINEER'S STAMP REQ'D?	NOTES
REBAR SHOP DRAWINGS	YES	NO	
CONCRETE MIX DESIGNS	YES	NO	
MASONRY GROUT MIX DESIGN	N/A	N/A	
STRUCTURAL STEEL SHOP DRAWINGS	YES	YES	FOR CONNECTIONS ONLY
MISCELLANEOUS STEEL SHOP DRAWINGS	YES	YES	STAMP FOR STAIRS, LADDERS AND GUARDS
COLD FORMED STEEL FRAMING SHOP DWGS.	N/A	N/A	
WOOD ROOF TRUSSES DRAWINGS	YES	YES	
ENGINEERED LUMBER	YES	YES	
FALL ARREST ANCHORS	YES	YES	
SEISMIC RESTRAINT OF NON-STRUCTURAL ITEMS	YES	YES	

SAWN LUMBER PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD 0141. ALL SAWN LUMBER IS TO BE SPF GRADE NO. 2 OR BETTER, UNLESS NOTED OTHERWISE.

- 2. PREFABRICATED WOOD I-JOISTS SHALL BE TRUS JOIST AS MANUFACTURED BY WEYERHAEUSER, OR APPROVED EQUIVALENT. ALL CUTTING OF FLANGES OR HOLES IN WEBS ARE TO BE IN ACCORDANCE WITH THE MANUFACTURE 'S RECOMMENDATIONS UNLESS NOTED OTHERWISE.
- 3. STRUCTURAL COMPOSITE LUMBER SHALL BE THE FOLLOWING (OR APPROVED EQUIVALENT) UNLESS NOTED OTHERWISE ON THE DRAWINGS: LAMINATED STRAND LUMBER (LSL): TIMBERSTRAND GRADE 1.55E AS MANUFACTURED BY WEYERHAEUSER. <u>LAMINATED VENEER LUMBER (LVL):</u> MICROLLAM GRADE 1.9E AS MANUFACTURED BY WEYERHAEUSER. PARALLEL STRAND LUMBER (PSL): PARALLAM GRADE 2.0E AS MANUFACTURED BY WEYERHAEUSER. REPLACEMENT WITH A HIGHER GRADE IS NOT ALWAYS A SUITABLE EQUIVALENT. CONTACT ENGINEER FOR ADEQUATE SUBSTITUTIONS.
- 4. GLUE-LAMINATED MEMBERS: A. CONFORM TO CAN/CSA-0122
- MANUFACTURER IS TO BE QUALIFIED UNDER CSA STANDARD 0177 C. ALL CONNECTIONS AND END BEARING ASSEMBLIES ARE TO CONFORM TO CSA
- STANDARD S16. SPECIES AND GRADE SHALL BE AS NOTED ON THE DRAWINGS.
- GLUE-LAMINATED MEMBERS ARE NOT TO BE CUT OR FIELD MODIFIED IN ANY
- F. COAT END GRAIN OF ALL GLUE-LAMINATED MEMBERS WITH ONE COAT OF APPROVED END SEALER. G. STRUCTURAL COMPOSITE
- 5. NAILS AND SPIKES SHALL CONFORM TO THE CSA STANDARD B111 "WIRE NAILS. SPIKES AND STAPLES".
- 6. ALL STEEL BEARING, SIDE PLATES, CONNECTOR PLATES, AND GLULAM RIVETS SHALL CONFORM TO THE CSA STANDARD G40.21.
- 7. ALL BOLTS AND THREADED ROD CONNECTING WOOD MEMBERS SHALL CONFORM TO ASTM A307.
- 9. PRESERVATIVE-TREATED LUMBER OF 38 mm (1.5 ") SMALLER DIMENSION

8. JOISTS HANGERS SHALL BE MINIMUM 0.879 mm (0.0346") GALVANIZED

STEEL AND SHALL CONFORM TO THE INTERNATIONAL CONFERENCE OF

BUILDING OFFICIALS "ACCEPTANCE CRITERIA FOR JOIST HANGERS AND SIMILAR

SHALL NOT BE INCISED.

INTERMEDIATE SUPPORTS

MAXIMUM.

CHANGE IS EVIDENT.

. NAILING REQUIREMENTS:				
CONSTRUCTION DETAIL	MIN. LENGTH OF NAILS mm (")	MIN. NUMBER OR SPACING OF NAILS		
FLOOR / CEILING JOIST TO PLATE	82 (3 1/4)	2		
BUILT-UP HEADERS / LINTELS - ALONG LENGTH - SPACING OF ROWS	76 (3)	300mm (12") 0.C. 64mm (2 1/2") 0.C.		
STUD TO WALL PLATE - END NAIL - TOE NAIL	82 (3 1/4") 64 (2 1/2")	2 4		
DOUBLE STUDS AT OPENINGS, OR STUD WALLS	76 (3)	750mm (30" O.C.)		
BOTTOM WALL PLATE TO JOISTS OR BLOCKING	82 (3 1/4)	400mm (16") O.C.		
LINTELS TO STUDS — EA. END	82 (3 1/4)	50mm (2") O.C. VERT. EACH PLY		
ROOF RAFTER / TRUSS TO PLATE	82 (3 1/4)	3		
ROOF RAFTER TO RIDGE BOARD — TOE OR END NAIL	82 (3 1/4)	3		
COLLAR TIE TO RAFTER (U.N.O.)	76 (3)	3		
WALL SHEATHING TO STUDS — ALONG EDGES	F1 (0)	150mm (6") 0.C.		

- 11. ALL STUD WALLS SHALL BE ANCHORED TO THE FOUNDATION OR FLOOR SLAB WITH 16 mm (5/8") DIAMETER ANCHOR BOLTS AT 1200 mm O.C. (4 FT.)
- 12. RETIGHTEN ALL BOLTED CONNECTIONS SIX MONTHS AFTER FIRST NSTALLATION, AND EVERY SIX MONTHS THEREAFTER UNTIL NO APPRECIABLE

	DRAWING TABLE	
PROJEC	GENERAL NOTES	S-1
	FOUNDATION PLAN	S-2
2709	SHEARWALL LAYOUT-BASEMENT	S-3
	SHEARWALL LAYOUT-FIRST FLOOR	S-4
DATE	SHEARWALL LAYOUT-SECOND FLOOR	S-5
NOVE	BASEMENT FRAMING PLAN	S-6
	FIRST FLOOR FRAMING PLAN	S-7
DWG. N	ROOF FRAMING AND DETALS	S-8
S-1	SECTION AND DETAILS	S-9
	CONNECTION DETAILS	S-10

300mm (12") 0.C.

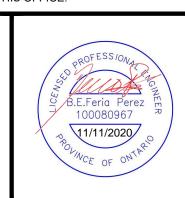
Date Initial ISSUED FOR TENDER BF NOV. 10. 2020

FLOOR DESIGN LOADS

=0.57 kPa (ALL FLOORS) DEAD LOAD DEAD LOAD (MECHANICAL) =1.0 kPa (ALL FLOORS) =1.9 kPa (ALL FLOORS EXCEPT CORRIDORS)

LIVE LOAD LIVE LOAD =4.8 kPa (CORRIDORS ONLY)

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DRAWING

CLIENT

GENERAL NOTE

PROJECT No	DRAWN BY
2709-20	DK
DATE	SCALE
NOVEMBER 2020	AS NOTED
DWG. No	

