

GENERAL:

1. DO NOT SCALE THE DRAWINGS.
2. THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS. ALL RELATED ARCHITECTURAL, MECHANICAL, ELECTRICAL, PROCESS & CIVIL DRAWINGS, AND OTHER RELEVANT CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL PROVIDE COMPLETE SET OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL & PROCESS DRAWINGS & APPLICABLE SPECIFICATION SECTIONS TO THE STRUCTURAL STEEL, JOIST & METAL FABRICATIONS CONTRACTORS PRIOR TO SUBMISSION OF ANY RELATED SHOP DRAWINGS.
4. THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT IS TO CONFORM TO THE 2012 EDITION OF THE ONTARIO BUILDING CODE (REGULATION 332/12).
5. THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE SITE AND REPORT TO THE ENGINEER ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION, COST, SCHEDULE OR QUALITY OF WORK. COMMENCEMENT OF WORK BY THE CONTRACTOR IMPLIES ACCEPTANCE OF THE EXISTING CONDITIONS.
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UNDERGROUND UTILITIES AND OTHER EXISTING SERVICES DURING CONSTRUCTION, AND MAKE GOOD ANY DAMAGE RESULTING FROM THE WORK ON THIS PROJECT TO THE SATISFACTION OF THE OWNER AND ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE, MAINTAIN AND TAKE RESPONSIBILITY FOR ALL TEMPORARY BRACING AND SHORING.
8. TYPICAL DETAILS SHOWN ON DRAWINGS SHALL GOVERN THE WORK. IF DETAILS DIFFER ON OTHER DRAWINGS, THE MOST STRINGENT SHALL GOVERN.
9. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
10. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, THE CORING OR CUTTING OF OPENINGS AND HOLES SHOWN ON THE STRUCTURAL DRAWINGS THROUGH THE EXISTING STRUCTURE SHALL NOT CUT ANY REINFORCING BARS. THE CONTRACTOR SHALL LOCATE THE LOCATION, SIZE, LENGTH, ORIENTATION AND POSITION OF EXISTING REINFORCING AND PROVIDE IBI WITH HARD COPIES OF SUCH FOR OUR REVIEW IN THE VICINITY OF THE HOLES AND SLEEVES TO BE CUT OR CORED, AND THE HOLES AND SLEEVES SHALL BE LOCATED TO AVOID CUTTING OF REINFORCING BARS.
11. NEW OPENINGS OR CORING TO BE CUT THROUGH EXISTING FLOOR SLAB OR WALLS SHALL BE CLEARLY MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY IBI ONCE THE MARKING OUT HAS BEEN COMPLETED SO THAT IBI CAN REVIEW THE PROPOSED LOCATIONS OF ALL NEW OPENINGS. DO NOT PROCEED WITH CUTTING OF NEW OPENINGS WITHOUT THE APPROVAL OF IBI.
12. UNLESS NOTED OTHERWISE ON THE DRAWINGS NEW STRAIGHT SIDED OPENINGS THROUGH EXISTING SLABS AND WALLS SHALL BE SAWCUT WITH NO OVERCUTS. USE CORED HOLES AT THE CORNERS. JACKHAMMERING SHALL NOT BE PERMITTED REFER TO THE DETAILS AND PROCEDURES INDICATED ON THE STRUCTURAL DRAWINGS FOR THE NEW OPENINGS. ALTERNATES TO THE ABOVE PROCEDURE MUST BE REVIEWED BY IBI PRIOR TO THE START OF DEMOLITION OR CONSTRUCTION.

DESIGN CRITERIA:

1. STRUCTURE HAS BEEN DESIGNED TO RESIST WIND AND SEISMIC LOADS WHICH ARE IN ACCORDANCE WITH THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES (PART 4 OF DIVISION B). FOR THE IMPORTANCE CATEGORY STATED IN NOTE #6. THE WIND AND SEISMIC PARAMETERS FOUND IN NOTE #7, AND ASSUMED SITE CLASS. $F_s = 1.24$, $F_e = 1.55$, $(I/F_s)(0.2) = 0.24$, $R_e =$ (CONVENTIONAL CONSTRUCTION OF MOMENT-RESISTING FRAMES AND BRACED FRAMES), AND NO IRREGULARITIES, USING STATIC ANALYSIS IN BOTH DIRECTIONS.
2. ALL LOADS SHOWN ON DRAWINGS ARE SPECIFIED (NO LOAD FACTOR APPLIED) LOADS UNLESS NOTED OTHERWISE. HOWEVER, (ULS) IMPORTANCE FACTORS ARE APPLIED, UNLESS NOTED OTHERWISE.
3. DESIGN SPECIFIED (UNFACTORED) DEAD AND LIVE LOADS ARE SHOWN IN THE SPECIFIED DESIGN LOADS TABLE.
4. STRUCTURES ARE NOT STABLE UNTIL ALL COMPONENTS (INCLUDING BUT NOT LIMITED TO MOMENT CONNECTIONS, BRACING, FLOOR & ROOF DECK AND SHEATHING) ARE CONSTRUCTED.
5. MATERIALS:

STRUCTURAL STEEL:

CAN/CSA-G40.20/G40.21. GRADE 350W FOR W-SECTIONS. GRADE 300W FOR OTHERS. YIELD STRENGTH = 350 MPa MIN.

HOLLOW STRUCTURAL SECTIONS (HSS):

CONFORM TO CAN/CSA G40.20/G40.21-M GRADE 350W, CLASS C.

WELDING:

E49XX ELECTRODES.

BOLTS, NUTS AND WASHERS:

CONFORM TO ASTM A325.

ANCHOR BOLTS:

CONFORM TO ASTM F1554 GRADE 36, UNLESS NOTED OTHERWISE.

PRIMER:

SEE SPECIFICATION.

REINFORCING STEEL:

DEFORMED CONCRETE REINFORCING BARS CONFORMING TO CAN/CSA-G30.18, GRADE 400R OR 400W, UNLESS NOTED OTHERWISE. WHERE WELDABLE REINFORCING STEEL IS SPECIFIED, IT SHALL BE GRADE 400W, UNLESS NOTED OTHERWISE.

WOOD:

LUMBER:

GRADED TO NLGA RULES NO.1/NO.2 S-DRY, UNLESS NOTED OTHERWISE. MSR GRADE FOR TRUSSES AS REQUIRED.

GLULAM:

CSA 0122 SP GRADE 20FE BENDING STRESS, UNLESS NOTED OTHERWISE. 12CE COMPRESSION STRESS, UNLESS NOTED OTHERWISE.

PLYWOOD:

CSA 0151 SOFTWOOD EXTERIOR GRADE.
6. STRUCTURE HAS BEEN ASSIGNED THE NORMAL IMPORTANCE CATEGORY, AS DEFINED IN THE APPLICABLE EDITION OF THE ONTARIO BUILDING CODE.
7. STRUCTURES HAVE BEEN DESIGNED CONSIDERING THE FOLLOWING CLIMATIC AND SEISMIC DATA:

WIND	SEISMIC	SNOW	RAIN
q 1/50 = 0.44	Sa(0.2) = 0.195 Sa(0.5) = 0.107 Sa(1.0) = 0.056 Sa(2.0) = 0.028 Sa(5.0) = 0.0067 Sa(10) = 0.0027 PGA = 0.125 PGV = 0.083	Ss = 1.2 Sr = 0.4	ONE DAY = 108

8. NO STRUCTURES HAVE BEEN DESIGNED FOR FUTURE EXPANSION.

CONCRETE:

1. THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT SHALL CONFORM TO THE APPLICABLE EDITION OF THE FOLLOWING CSA STANDARDS.
CSA-A23.1 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION";
CSA-A23.2 "TEST METHODS AND STANDARD PRACTICES FOR CONCRETE";
CSA-A23.3 "DESIGN OF CONCRETE STRUCTURES";
CAN/CSA-G30.18 "BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT".
2. UNLESS NOTED OTHERWISE, MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE AS FOLLOWS:

- LEAN CONCRETE FILL

15 MPa

- MUD SLAB

15 MPa (EXPOSURE CLASS F-1)

- FOOTINGS

30 MPa (EXPOSURE CLASS C-1)

- PIERS, WALLS & CURBS

30 MPa (EXPOSURE CLASS C-1)

- SLABS ON GRADE (INTERIOR)

32 MPa (EXPOSURE CLASS N-CF)

- SLABS ON GRADE (EXTERIOR)

25 MPa (EXPOSURE CLASS C-1)

- EXTERIOR APRONS

35 MPa (EXPOSURE CLASS C-1)
3. MINIMUM CONCRETE COVER TO REINFORCING BARS:

CONCRETE CLEAR COVER (CSA A23.1)			
EXPOSURE CONDITION	EXPOSURE CLASS		
	N	F-1	C-1
CAST AGAISNT AND PERMANENTLY EXPOSED TO EARTH, INCLUDING FOOTINGS AND PILES	75 mm	75 mm	75 mm
BEAMS, GIRDERS, COLUMNS AND PILES	30 mm (#1)	40 mm	60 mm
SLABS, WALLS, JOISTS, SHELLS AND FOLDED PLATES	20 mm (#1)	40 mm	60 mm
RATIO OF COVER TO NOMIMAL BAR DIAMETER (#2)	1.0 (#1)	1.5	2.0
RATIO OF COVER TO NOMIMAL MAXIMUM AGGREGATE SIZE	1.0 (#1 & #3)	1.5	2.0

NOTES:

1. THIS REFERS ONLY TO CONCRETE THAT WILL BE CONTINUALLY DRY WITHIN THE CONDITIONED SPACE (i.e., MEMBERS ENTIRELY WITHIN THE VAPOUR BARRIER OF THE BUILDING ENVELOPE).

2. THE COVER FOR A BUNDLE OF BARS SHALL BE THE SAME AS THAT FOR A SINGLE BAR WITH AN EQUIVALENT AREA.

3. THE SPECIFIED COVER FROM SCREEDED SURFACES SHALL BE AT LEAST 1.5 TIMES THE NOMINAL MAXIMUM AGGREGATE SIZE TO REDUCE INTERFERENCE BETWEEN AGGREGATE AND REINFORCEMENT WHERE VARIATIONS IN BAR PLACEMENT RESULT IN A COVER SMALLER THAN SPECIFIED.

4. DETAIL, BEND, PLACE AND SUPPORT REINFORCING STEEL IN CONFORMANCE WITH THE LATEST RSIC MANUAL OF STANDARD PRACTICE, UNLESS NOTED OTHERWISE.

5. ALTERNATE 90° HOOKS OF CROSSTIES END FOR END OVER HEIGHT OF ALL MEMBERS IN WHICH CROSSTIES ARE SPECIFIED.

6. ALL LAP SPLICES SHALL BE CLASS B TENSION SPLICES. FOR HORIZONTAL REINFORCEMENT THAT WILL BE PLACED IN SUCH A WAY THAT MORE THAN 300 mm OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE, BAR LOCATION FACTOR (k/1) EQUAL TO 1.3 SHALL BE APPLIED IN DETERMINING CLASS B TENSION SPLICE LENGTH, IN ACCORDANCE WITH APPLICABLE EDITION OF CSA-A23.3.

7. PLAIN (UNREINFORCED) CONCRETE EXPOSED TO DEICING CHEMICALS SHALL MEET EXPOSURE CLASS C-2 IN ACCORDANCE WITH APPLICABLE EDITION OF CSA-A23.1.

8. REINFORCED CONCRETE EXPOSED TO CHLORIDES SHALL MEET EXPOSURE CLASSIFICATION C-1 IN ACCORDANCE WITH APPLICABLE EDITION OF CSA-A23.1.

9. PROVIDE CORROSION INHIBITOR IN ALL CONCRETE OF EXPOSURE CLASS C-1. REFER TO SPECIFICATIONS FOR CORROSION INHIBITOR DOSAGE RATE.

10. USE TYPE GU PORTLAND CEMENT FOR ALL CONCRETE, UNLESS NOTED OTHERWISE.

11. ALL HORIZONTAL WALL AND GRADE BEAM REINFORCING SHALL BE CONTINUOUS THROUGH PIERS, UNLESS NOTED OTHERWISE, SPLICE TOP BARS AT MID-SPAN AND BOTTOM BARS AT SUPPORTS FOR ALL GRADE BEAMS.

12. WHEREVER OPENINGS OCCUR, INTERRUPTING ONE OR MORE REINFORCING BARS, IN SLABS OR WALLS, PROVIDE ADDITIONAL REINFORCING STEEL EQUAL TO THE REINFORCING STEEL DISPLACED BY THE OPENING UNLESS OTHERWISE SHOWN. DISTRIBUTE REINFORCEMENT EQUALLY ON EACH SIDE OF THE OPENING AND EXTENDING THE FULL SPAN LENGTH.

13. NO SLEEVES, PIPES, HOLES OR NOTCHES SHALL BE PLACED IN OR THROUGH WALLS, COLUMNS, PIERS, BEAMS, GRADE BEAMS, SLABS, FOOTINGS, OR ANY OTHER CONCRETE MEMBER, EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.

14. DO NOT PLACE CONCRETE FOOTINGS OR ANY OTHER CONCRETE MEMBER UNTIL ALL DESIGNATED REINFORCING STEEL HAS BEEN PLACED AND INSPECTED AND ANY CONDUITS, PIPING OR OTHER EMBEDDED ITEMS ARE INSTALLED AND VERIFIED.

15. MAXIMUM WATER-TO-CEMENTING MATERIALS RATIO (w/cm) SHALL BE 0.55, AND MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 25 MPa FOR ALL CONCRETE FLOOR SLABS (BOTH SLABS ON GRADE AND SLABS ON DECK).

FOUNDATION:

1. ALL INT. FOOTINGS SHALL BEAR ON NATIVE MATERIAL OR ENGINEERED FILL WITH MINIMUM SLS BEARING RESISTANCE OF 150 kPa AND MINIMUM ULS BEARING RESISTANCE OF 250 kPa, NOTED OTHERWISE.
2. ALL EXT. FOOTINGS SHALL BEAR ON SUITABLE FOUNDING MATERIAL WITH MINIMUM SLS BEARING RESISTANCE OF 150 kPa, MINIMUM ULS BEARING RESISTANCE OF 250 kPa, FRICTION ANGLE OF AT LEAST 35° AND MINIMUM FACTORED SLIDING RESISTANCE OF 150. MAX. ALLOWABLE TOTAL SETTLEMENT TO BE 25 mm. MAX. ALLOWABLE DIFFERENTIAL SETTLEMENT TO BE 25 mm.
3. ALL BEARING VALUES AND GEOTECHNICAL INFORMATION ARE BASED ON GEOTECHNICAL REPORT SEE PER BUILDING NOTES IF APPLICABLE.
4. THE CONTRACTOR SHALL PROTECT SOIL FROM WATER AND FREEZING ADJACENT TO AND BELOW ALL FOOTINGS, GRADE BEAMS AND OTHER CONCRETE POURS WITH MINIMUM 1200 mm SOIL COVER OR EQUIVALENT.
5. ALL EXCAVATIONS AND FOUNDING MATERIAL SHALL BE INSPECTED AND APPROVED BY A QUALIFIED SOILS ENGINEER PRIOR TO CONCRETE PLACEMENT.
6. THE CONTRACTOR SHALL PROVIDE ALL SHORING WHERE REQUIRED DURING EXCAVATION TO PREVENT CAVE-IN.
7. EXCAVATION SHALL NOT EXTEND BELOW A LINE EXTENDING DOWN AND AWAY FROM ANY FOOTING EDGE OR CORNER AT A RATIO OF 7 VERTICAL TO 10 HORIZONTAL.
8. ANY OVER EXCAVATION NECESSITATED BY LOCAL SOFT AREAS OR OTHER DELETERIOUS CONDITIONS SHALL BE MADE GOOD WITH 15 MPa LEAN CONCRETE FILL.
9. FOUNDATION WALL BACKFILL SHALL BE OPSS TYPE 1 GRANULAR 'B' OR APPROVED FREE-DRAINING, IN-SITU MATERIAL COMPACTED, IN LAYERS NOT TO EXCEED 200 mm, TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
10. BACKFILL TO PROCEED SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS UNLESS TEMPORARY SUPPORT IS PROVIDED. DO NOT BACKFILL UNTIL CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
11. CONSTRUCTION JOINTS AND CONTROL JOINTS IN REINFORCED FOUNDATION WALLS SHALL BE LOCATED AT THE EDGE OF PIERS (WHERE PIERS ARE PRESENT), MAXIMUM SPACING OF CONSTRUCTION JOINTS SHALL BE AS REQUIRED, BUT NOT GREATER THAN 20 m. UNLESS NOTED OTHERWISE, MAXIMUM SPACING OF CONTROL JOINTS SHALL BE 6 m, AND 3 m FROM CORNERS.
12. FOUNDATIONS SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL INCLUDE IN THEIR WORK ALL PROVISIONS, INCLUDING BUT NOT LIMITED TO EXCAVATION AND FORMING, AS REQUIRED TO CONSTRUCT FOUNDATIONS THUS.

SLAB ON GRADE & PAD:

1. SEE PLAN FOR SLAB ON GRADE & PAD THICKNESS.
2. PLACE SLAB ON GRADE ON MIN. 200 mm OPSS GRANULAR 'A' COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. PRIOR TO PLACING GRANULAR FILL MATERIALS, PROOF-ROLL EXISTING SUB-GRADE TO IDENTIFY INCONSISTENCIES OR SOFT AREAS. PROCEED WITH GRANULAR PLACEMENT ONLY AFTER THESE AREAS HAVE BEEN REWORKED AND COMPACTED TO THE SATISFACTION OF THE SOILS ENGINEER.
4. DO NOT PLACE CONCRETE UNTIL ALL ELECTRICAL, MECHANICAL AND PROCESS CONDUITS, PIPING OR OTHER EMBEDDED SERVICES ARE INSTALLED AND VERIFIED.
5. AGREE ON LOCATION OF CONSTRUCTION JOINTS WITH ENGINEER PRIOR TO CONSTRUCTION.
6. PROVIDE SAWCUT CONTROL JOINTS AS SHOWN ON PLANS.
7. PROVIDE EXTERIOR COLUMN ISOLATION JOINTS AND SAWCUTTING AS PER DETAILS SHOWN.
8. PERFORM SAWCUTTING FOR CONTROL JOINTS USING DRY METHOD (SOFF-CUT SAW) AS SOON AS POSSIBLE AFTER CONCRETE PLACEMENT WITHOUT LEAVING TREAD MARKS, DISLODGING AGGREGATE AND BEFORE UNCONTROLLED SHRINKAGE OCCURS. FILL CONTROL JOINTS, AS SPECIFIED, NO SOONER THAN 120 DAYS AFTER CONCRETE PLACEMENT.
9. FLOOR FINISH: SEE SPECIFICATIONS.

MASONRY:

1. THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT IS TO CONFORM TO APPLICABLE EDITION OF CSA STANDARDS CSA-S304.1, CSA-A370, CSA-A371, CSA-A179 AND CAN/CSA-G30.18. PROVIDE TYPE S MORTAR IN ACCORDANCE WITH APPLICABLE EDITION OF CSA STANDARD CSA-A179.
2. PROVIDE STANDARD, HOLLOW 15 MPa CONCRETE BLOCK UNITS UNLESS NOTED OTHERWISE. AT LOCATIONS WHERE VERTICALLY-REINFORCED MASONRY IS SPECIFIED, PROVIDE ONE ADDITIONAL VERTICAL BAR OF SIZE EQUAL TO DISTRIBUTED VERTICAL REINFORCING, FULL HEIGHT AT EACH SIDE OF CONTROL JOINTS, AND AT CORNERS, INTERSECTIONS, ENDS OF WALLS AND TO EACH SIDE OF ALL OPENINGS, UNLESS NOTED OTHERWISE. PROVIDE 2 ADDITIONAL BARS WHERE OPENING WIDTH IS GREATER THAN 1200 mm. PROVIDE MATCHING DOWELS TO FOOTING, SLAB THICKENING, SLAB ON DECK OR OTHER SUPPORTING STRUCTURE, FOR ALL VERTICAL WALL REINF. (TYP. U/N).
3. FOR HIGH-LIFT GROUTING, PROVIDE CLEAN-OUT HOLES IN BOTTOM COURSE AND MINIMUM SLUMP OF 200 mm.
4. MASONRY GROUT SHALL BE FINE GROUT, AND SHALL BE PROPORTIONED ACCORDING TO, AND MEET ALL REQUIREMENTS OF APPLICABLE EDITION OF CSA-A179.

-MINIMUM 28 DAYS COMPRESIVE STRENGTH = 12.5 MPa

-SLUMP: 200 mm MINIMUM TO 250 mm MAXIMUM.

-GROUT SHALL BE FINE WHERE MAXIMUM GROUTH SPACE IS LESS THAN 50 mm.

-TESTING SHALL BE IN ACCORDANCE WITH CN/CSA-A179 AND ITS APPENDIX.
5. PROVIDE CONTINUOUS, HORIZONTAL, STANDARD LADDER-TYPE HORIZONTAL JOINT REINFORCEMENT @ 400 mm C/C, IN BOTTOM TWO BED JOINTS, TOP TWO BED JOINTS AND FIRST BED JOINT ABOVE AND BELOW ALL WALL OPENINGS. ALL SUCH REINF. SHALL BE SPLICED USING CLASS B TENSION LAP SPLICES (AS DEFINED IN APPLICABLE EDITION OF CSA-S304.1). PREFABRICATED CORNER AND INTERSECTION JOINT REINFORCING PIECES SHALL BE USED. MINIMUM WIRE DIAMETER TO BE 3.65 mm.
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ALL MASONRY WALLS.
7. PROVIDE VERTICAL REINFORCING IN ALL MASONRY WALLS AS PER TABLE ON SPECIFIC BLD. DRAWING ALL REINFORCED CORES SHALL BE GROUTED SOLID FOR FULL HEIGHT OF WALLS. VERTICALLY-CANTILEVERED WALLS SHALL BE CONSTRUCTED OF SOLID-GROUTED MASONRY.
8. PROVIDE VERTICAL REINFORCING AT EACH LATERAL SUPPORT LOCATION (SEE BLD. SPECIFIC DRW.)
9. LAP ALL 15M BARS 675 mm MINIMUM. LAP ALL 20M BARS 850 mm MINIMUM.
10. UNLESS NOTED OTHERWISE, MINIMUM CLEARANCE OF 25mm SHALL BE PROVIDED BETWEEN MASONRY WALLS AND STEEL COLUMNS, BEAMS, GIRDERS, JOIST AND GIRTS. THIS REQUIREMENT DOES NOT APPLY WHERE MASONRY IS INTENDED (BY DESIGN) TO BEAR ON STEEL MEMBER.
11. WHERE POST-INSTALLED ANCHORS ARE INSTALLED IN MASONRY ELEMENTS/MEMBERS, EXISTING REINFORCING STEEL (INCLUDING HORIZONTAL BED JOINT REINFORCING), CAST-INS AND EMBEDDED ITEMS SHALL BE ACCURATELY LOCATED, AND EDGE OF ANCHOR HOLES SHALL BE LOCATED A DISTANCE AWAY FROM EXISTING REINFORCING STEEL (INCLUDING HORIZONTAL BED JOINT REINFORCING), CAST-INS END EMBEDDED ITEM SUCH THAT AT LEAST MINIMUM CONCRETE COVER REQUIREMENTS (SEE MASONRY NOTE #1) ARE MET. EXISTING REINFORCING STEEL (INCLUDING HORIZONTAL BED JOINT REINFORCING), CAST-INS AND EMBEDDED ITEMS SHALL NOT BE DAMAGED ANCHORING ACTIVITIES, INCLUDING DRILLING.

12. MORTAR SHALL BE TYPE :S: PREPARED BY PROPORTION SPECIFICATION IN ACCORDANCE WITH CAN/CSA-A179.
13. HOLLOW CONCRETE BLOCK MASONRY WITH MORTAR TYPE "S" SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 12.5 MPa - f'm.
14. ALL INTERSECTING MASONRY WALLS TO HAVE MASONRY BOND OR HEAVY DUTY (BLOCK-LOCK) OR EQUIVALENT AT 200mm VERTICALLY MAXIMUM.
15. A MINIMUM 50 mm WIDE ISOLATION JOINT SHAL BE PROVIDED AT ALL LOCATIONS WHERE MASONRY WALLS INTERSECT VERTICAL FACES OF CONCRETE STRUCTURE. NO POSITIVE CONNECTION BETWEEN MASONRY MASONRY WALLS AND VERTICAL FACES OF CONCRETE STRUCTURE SHALL BE MADE.
16. CONCRETE AND STEEL BEAMS BEARING ON MASONRY WALLS SHALL HAVE A MINIMUM BEARING OF 200 mm UNLESS OTHERWISE NOTED ON PLAN.
17. PROVIDE 15M DOWELS WITH 150 mm MIN. EMBEDMENT TO THE EXISTING SLAB TO MATCH ALL VERTICAL REINFORCING, UNLESS NOTED OTHERWISE. SCAN EXISTING SLAB PRIOR TO DOWEL INSTALATION.
18. PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES FOR MECHANICAL AND ELECTRICAL TRADES AS SPECIFIED ON PLANS. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS AND RECESSES.
19. PROVIDE VERTICAL REINFORCEMENT IN ALL NON-LOAD BEARING CMU WALLS AS FOLLOWS IN ADDITION TO THAT NOTED IN (2) :

WALL THK.	MAX HEIGHT.	REINFORCEMENT.
140 mm	4200 mm	15M@600
190 mm	5500 mm	15M@600
240 mm	6000 mm	15M@600

STRUCTURAL STEEL:

1. THE DESIGN AND CONSTRUCTION OF ALL WORK IN THIS PROJECT SHALL CONFORM TO THE APPLICABLE EDITION OF CAN/CSA-S16.
2. ALL SHOP CONNECTIONS SHALL BE WELDED. ALL FIELD CONNECTIONS SHALL BE WELDED OR BOLTED USING HIGH TENSILE-STRENGTH BOLTS, BEARING TYPE. WHERE APPLICABLE, AND UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE CISC DOUBLE ANGLE BEAM CONNECTIONS FOR A325 BOLTS AND E49XX FILLET WELDS, MINIMUM SIZE OF BOLTS - M20 DIAMETER.
3. ALL WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH APPLICABLE EDITION OF FOLLOWING CSA STANDARDS:


- W47.1 FOR QUALIFICATIONS OF WELDERS

- W48.1 TO W48.7 FOR ELECTRODES

- W59 FOR DESIGN AND WORKMANSHIP
4. THE CONTRACTOR SHALL SUPPLY, INSTALL, MAINTAIN AND REMOVE ANY TEMPORARY BRACING REQUIRED DURING CONSTRUCTION.
5. ALL EXTERIOR STEEL, AND STEEL THAT IS NOT IN A TEMPERATURE AND HUMIDITY CONTROLLED ENVIRONMENT, SHALL BE HOT-DIPPED GALVANIZED (BOTH STRUCTURAL STEEL AND MISCELLANEOUS STEEL). THIS SHALL INCLUDE NUTS, BOLTS, WASHERS, BASE PLATES, LEVELING PLATES, ANCHOR BOLTS AND ANCHORS.
6. FOR LOCATIONS OF DOOR FRAMES, WALL OPENINGS, ROOF AND FLOOR OPENINGS, ETC., AND RELATED DETAILS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PROCESS & CIVIL DRAWINGS.

CLIENT

CITY OF TORONTO



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ISSUES

No.	DESCRIPTION	DATE
A	50% SUBMISSION	2021-01-21
B	ISSUED FOR PERMIT	2021-04-12
C	90% SUBMISSION	2021-04-12
D	ISSUED FOR TENDER	2021-05-25

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SEAL

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PROJECT TITLE

CITY OF TORONTO
ACCESSIBILITY UPGRADES

PROJECT ADDRESS

PROJECT NO:
9119- 19- 0162 / IBI 122260

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SHEET TITLE

STRUCTURAL - GENERAL
NOTES

SHEET NUMBER

G2000

ISSUE


D

ABBREVIATIONS:

2L	two angles	HP	high point
AB	anchor bolt	HS	high strength
ADD	addendum	ID	inside diameter
ADJ	adjacent	IE	invert elevation
AFF	above finished floor	IF	inside face
AHU	air handling unit	IN	inches
ALT	alternate	INCL	include
ANC	anchor	INFO	information
APPROX	approximate	JT	joint
ARCH	architectural	KN	kilnewton
ASTM	American Society for Testing and Materials	KNm	kilonewton meter
B/B	back to back	kPa	kilopascal
BC	bottom chord	L	length
BET	between	LB	pound
BLDG	building	LG	long
BLK	block	LL	live load
BM	beam	LLBB	long legs back-to-back
BOF	bottom of footing	LLH	long leg horizontal
BOS	bottom of steel	LLV	long leg vertical
BOT	bottom	LO	louver opening
BRCG	bracing	LP	low point
BRG	bearing	LS	louver sill
BRKT	bracket	m	metre
BSMT	basement	MACH	machine
CA	column above	MAX	maximum
CB	column below	MECH	mechanical
C/C	center to center	MEZZ	mezzanine
CERT	certified	MFR	manufacturer
CHKD PL	checkered plate	MIN	minimum
CIP	cast in place	MISC	miscellaneous
CJ	construction joint	mm	millimetre
CL	centerline	MT	metric ton
CLJ	control joint	NIC	not in contract
CLR	clear	NO	number
COL	column	NTS	not to scale
CONC	concrete	O/O	out to out
CONN	connection	OPNG	opening
CONSTR	construction	OPP	opposite
CONT	continuation (continuous)	PC	piece
CONTR	contractor	PEN	penetration
CSA	Canadian Standards Association	PL	plate
CT	cooling tower	PROJ	projection
CTR	center	PSF	pounds per square foot
CW	complete with	PSI	pounds per square inch
DET	detail	R	radius
DIA	diameter	RCB	reinforced concrete beam
DIAG	diagonal	REF	reference
DIM	dimension	REINF	reinforcement
DL	dead load	REMOV	removable
DO	door opening	REQD	required
DWG	drawing	RR	railroad
DWL	dowel	R/W	reinforced with
EA	each	SCH	schedule
EF	each face	SECT	section
EL	elevation	SIM	similar
ELEC	electrical	SOG	slab on grade
EMB	embedment	SP	space
EQ	equal	SPEC	specifications
EQPT	equipment	SQ	square
EW	each way	SSC	structural steel contract
EXP	expansion	STAGG	staggered
EX	existing	STD	standard
EXT	exterior	STIFF	stiffener
FDN	foundation	STL	steel
FDNC	foundation contract	STRU	structural
FIN	finish	SYM	symmetrical
FL	floor	t	thickness
FLG	flange	T	tread
FT	feet	T&B	top and bottom
FTG	footing	TC	top chord
FUT	future	TEMP	temperature
GA	gauge	THK	thick
GC	general contract	TL	total load
GALV	galvanized	TOF	top of footing
GENL	general	TOS	top of steel
GOL	gauge outstanding leg	TYP	typical
GR	grade	UON	unless otherwise noted
GRT	grating	VERT	vertical
H	high	VIF	vertical inside face
HEF	horizontal each face	VOF	vertical outside face
HGR	hanger	W	width (wide)
HGT	height	W	with
HH	hooked-hooked	W/O	without
HIF	horizontal inside face	WP	working point
HOF	horizontal outside face	WPL	wall plate
HORIZ	horizontal	WS	water stop
		WT	weight
		WWF	welded wire fabric

CLIENT

CITY OF TORONTO



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No.	DESCRIPTION	DATE
A	50% SUBMISSION	2021-01-21
B	ISSUED FOR PERMIT	2021-04-12
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PROJECT TITLE

CITY OF TORONTO
ACCESSIBILITY UPGRADES

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