

GENERAL NOTES

GENERAL

- WHERE CODES AND STANDARDS ARE REFERENCED IN THE GENERAL NOTES, THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED OR SHOWN.
- READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH SEPARATELY BOUND SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS. WHERE DISCREPANCY IS FOUND BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.
- BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND EXISTING SITE CONDITIONS. REPORT INCONSISTENCIES TO CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- CHECK AND VERIFY IN THE FIELD ALL SIZES AND DIMENSIONS INVOLVING THE EXISTING OR CONSTRUCTED STRUCTURE AND COORDINATE WITH NEW CONSTRUCTION.
- VERIFY AND OBTAIN PRIOR APPROVAL OF DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVES, SLOTS, TRENCHES AND ELECTRICAL FLOOR DUCTS AS REQUIRED BY OTHER TRADES.
- NO OPENINGS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE THROUGH SLABS, BEAMS OR BEARING WALLS, UNLESS PRIOR APPROVAL IS OBTAINED FROM THE CONSULTANT.
- DO NOT EXCEED DURING CONSTRUCTION, GRAVITY LOADS SHOWN ON PLANS, REDUCED AS NECESSARY UNTIL MATERIALS REACH DESIGN STRENGTH.
- DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- DO NOT USE THESE DRAWINGS FOR CONSTRUCTION UNLESS AN "ISSUED FOR CONSTRUCTION" REVISION IS INDICATED.
- SCALES NOTED ON DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DO NOT SCALE DRAWINGS.
- TYPICAL STRUCTURAL DETAILS SHOWN IN DRAWING SERIES S10-01 SHALL GOVERN THE WORK. IF DETAILS DIFFER ON OTHER DRAWINGS, THE MOST STRINGENT GOVERNS. TYPICAL DETAILS SHOW STRUCTURAL INTENT AND MAY NOT MATCH PROJECT SPECIFICS.
- ALL MECHANICAL SYSTEMS SUSPENDED LOADS EXCEEDING 50 kg SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION UNLESS SPECIFICALLY DETAILED OR NOTED ON THE STRUCTURAL DRAWINGS.
- UNIT FLOOR AND ROOF LOADINGS GIVEN ON DRAWINGS ARE UNFACTORED. MEMBER FORCES GIVEN ON DRAWINGS ARE FACTORED.
- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATINGS AND REQUIREMENTS.
- NO LOAD RESTRICTIONS WERE ASSUMED IN THE DESIGN FOR THE PURPOSES OF MEETING SPECIFIC ULC ASSEMBLIES. CONTRACTOR SHALL VERIFY COMPLIANCE OF SELECTED ASSEMBLIES AND APPLY NECESSARY FIRE PROOFING MATERIAL TO MEET THE SPECIFIED FIRE RATING.
- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ALL WATER PROOFING AND THERMAL INSULATION REQUIREMENTS. WHERE INFORMATION IS GIVEN BOTH IN STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR THE SAME LOCATION, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- DO NOT DISTURB EXISTING OR CONSTRUCTED FOUNDATIONS ADJACENT TO THE PROPOSED CONSTRUCTION. REVIEW DAMAGE WITH STRUCTURAL ENGINEER AND MAKE GOOD ACCORDINGLY.

CONSTRUCTION

- THE CONTRACTOR SHALL PROPOSE A FULL METHODOLOGY FOR EXECUTING THE WORK.
- THE CONTRACTOR SHALL DEMONSTRATE THE STABILITY AND SAFETY OF ALL ELEMENTS OF THE BUILDING DURING EVERY STAGE OF CONSTRUCTION.

MATERIALS

- CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
 - HOUSEKEEPING PAD 35 MPa (N)
- STRUCTURAL STEEL:
 - STRUCTURAL WIDE FLANGE AND WELDED WIDE FLANGE SHAPES (W, WWF) TO CONFORM TO CSA/CAN-G40.20/G40.21 GRADE 350W.
 - CHANNELS AND ANGLES (C,L) CSA/CAN-G40.20/G40.21 GRADE 300W.
 - ALL PLATE AND PLATE FABRICATED MEMBERS TO CONFORM TO CSA/CAN-G40.20/G40.21 GRADE 300W.
 - HOLLOW STRUCTURAL SECTIONS (HSS) TO CONFORM TO CSA/CAN-G40.20/G40.21 CLASS C OR H GRADE 350W UNLESS NOTED OTHERWISE.
- REINFORCEMENT:

CONFORM TO CSA G30 SERIES, $f_y = 400$ MPa FOR ALL CONCRETE REINFORCEMENT EXCEPT $f_y = 440$ MPa FOR WELDED WIRE FABRIC. PROVIDE WELDED WIRE FABRIC IN FLAT SHEETS ONLY. ALL REINFORCEMENT IS TO BE "BLACK" EXCEPT WHERE THE SUFFIX 'C' IS USED TO DESIGNATE EPOXY COATED REINFORCEMENT.
- ANCHOR RODS:

CONFORM TO ASTM A36 / ASTM F1554 GRADE 36, WELDABLE UNLESS OTHERWISE NOTED OR SHOWN.
- STRUCTURAL BOLTS, NUTS AND WASHERS:

CONFORM TO ASTM F3125 GRADE A325M.
- NON-SHRINK GROUT:

COMPRESSIVE STRENGTH MISCELLANEOUS USE 35 MPa (@ 28 DAYS)

STRUCTURAL STEEL

- PROVIDE MINIMUM BEARING OF 200mm FOR ALL STEEL BEAMS BEARING ON CONCRETE AND A MINIMUM OF 100mm ON STRUCTURAL STEEL, UNLESS NOTED ON PLAN.
- CENTER BEARING PLATES UNDER BEAMS UNLESS OTHERWISE NOTED OR SHOWN.
- BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.
- NO STRUCTURAL STEEL SHALL BE CUT IN THE FIELD UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
- ALL WELDS EXPOSED TO VIEW SHALL BE GROUND SMOOTH EXCEPT AS NOTED IN THE SPECIFICATIONS.
- REFER TO TYPICAL DETAIL TD-1 FOR ABBREVIATIONS USED FOR THE CONNECTION FORCES GIVEN ON THE DRAWINGS. FORCES INDICATED ARE FACTORED LOADS UNLESS OTHERWISE NOTED OR SHOWN. SUBSCRIPTS D, L, W AND Q REFER TO UNFACTORED DEAD, LIVE, WIND AND EARTHQUAKE LOADS, RESPECTIVELY.
- SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE. MEMBERS SHALL NOT BE SPLICED AT POINTS OF MAXIMUM STRESS. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE CONSULTANT.
- SHAPE AND SIZE OF GUSSET PLATES TO CLEAR ARCHITECTURAL FINISHES AND MECHANICAL DUCTS AND PIPES AND ELEVATOR SHAFTS.
- PROVIDE ALL ANCHOR BOLTS, CAST-IN PLATES WITH STUDS AND DRILLED ANCHORS REQUIRED TO CONNECT STRUCTURAL STEEL TO CAST-IN-PLACE CONCRETE.
- MAINTAIN TEMPORARY BRACING AND SHORING UNTIL COMPLETION OF ENTIRE STRUCTURE INCLUDING ROOF DECKS AND OTHER ELEMENTS WHICH ARE PART OF THE LATERAL LOAD RESISTING SYSTEM.
- BOLT HOLES IN STEEL SHALL BE 3 mm (1/8") LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, EXCEPT AS NOTED. PROVIDE NOT LESS THAN 2-M20 A325 BOLTS IN ANY BOLTED CONNECTION.
- ALL WELDS SHALL CONFORM TO CSA W59-13 AND ALL WELDERS SHALL BE CERTIFIED IN CONFORMANCE WITH CSA W47.1-09.
- WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE LENGTH OF WELD IS NOT SHOWN IT SHALL BE FULL LENGTH OF JOINT. ALL BUTT WELDS SHALL BE FULL PENETRATION UNLESS NOTED OTHERWISE.
- ALL STEEL EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE HOT-DIP GALVANIZED UNLESS OTHERWISE NOTED. FIRE RATED STRUCTURAL STEEL MEMBERS SHALL BE FIREPROOFED IN ACCORDANCE WITH REQUIREMENTS SHOWN ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
- FIRE RATED STRUCTURAL STEEL MEMBERS SHALL BE FIREPROOFED IN ACCORDANCE WITH THE REQUIREMENTS SHOWN ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

DOWELS INSTALLATION IN EXISTING CONCRETE

- COMPLY WITH MANUFACTURER'S GUIDELINES FOR DOWEL INSTALLATION.
- INSTALLER SHALL BE TRAINED BY DOWEL MANUFACTURER.
- CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR ALL ADHESIVE DOWELS AND EXPANSION ANCHORS. INSPECT AND PULL TEST EXPANSION ANCHORS AND ADHESIVE (EPOXY) DOWEL ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.

CONCRETE REINFORCEMENT

- UNLESS OTHERWISE NOTED, ALL DOWELS SHALL HAVE A MINIMUM EMBEDMENT EQUIVALENT TO THE STRAIGHT TENSION EMBEDMENT LENGTH CORRESPONDING TO THE SIZE OF BAR. DOWELS FROM WALLS TO SLABS SHALL HAVE A MINIMUM EMBEDMENT OF 600mm INTO WALLS AND SLABS UNLESS OTHERWISE NOTED OR SHOWN.
- PROVIDE DOWELS SIMILAR IN NUMBER, SIZE AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN ABOVE UNLESS OTHERWISE NOTED OR SHOWN.
- TACK WELDING OF REINFORCEMENT IS NOT PERMITTED. WELDED SPLICES IN REINFORCING BARS WILL ONLY BE PERMITTED EXPLICITLY SHOWN ON THE STRUCTURAL DRAWINGS OR IF WRITTEN APPROVAL IS GIVEN BY THE CONSULTANT.
- ALL REINFORCEMENT SHALL BE SECURELY HELD IN PROPER POSITION WHILE POURING CONCRETE. CHAIRS, TIES, SPACERS, ADDITIONAL BARS AND STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL REINFORCEMENT.
- MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 150mm (6") OR ONE FULL MESH, WHICHEVER IS GREATER.
- COORDINATE AND INSTALL ALL REQUIRED EMBEDDED ITEMS, INSERTS, SLEEVES, POCKETS, ETC. AS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.
- ALL CONCRETE SURFACES INDICATED AS 'AEC' ON STRUCTURAL OR ARCHITECTURAL DRAWINGS SHALL COMPLY WITH REQUIREMENTS FOR ARCHITECTURALL EXPOSED CONCRETE. SEE SPECIFICATIONS.

TESTING AND INSPECTION

- THE CONTRACTOR SHALL ARRANGE FOR THE FOLLOWING ITEMS TO BE INSPECTED AND/OR TESTED BY AN INDEPENDENT THIRD-PARTY INSPECTION/TESTING AGENCY ACCEPTABLE TO THE OWNER AND THE CONSULTANT. COPIES OF ALL TEST REPORTS SHALL BE FORWARDED TO THE OWNER AND CONSULTANT ON THE SAME DAYS TESTS ARE MADE. THE ITEMS TO BE TESTED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING.

CONCRETE:
CONCRETE TO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1 AND 23.2, INCLUDING THE REQUIREMENTS FOR AIR, SLUMP AND AGE PRIOR TO BEING USED. CONTRACTOR TO MAINTAIN RECORDS OF POUR DATES, TESTING PERFORMED, CLASS OF CONCRETE USED AND TEST RESULTS FOR ALL ITEMS POURED. RESULTS OF CYLINDER STRENGTH TESTING TO BE SENT TO OWNER AND CONSULTANT. ALL MIX DESIGNS TO BE REVIEWED AND APPROVED BY TESTING AGENCY.

STRUCTURAL STEEL:
PERFORM VISUAL INSPECTION OF ALL WELDS, TORQUE TESTING OF BOLTED CONNECTIONS AND CHECK ON BEARING, PLUMBNESS, ALIGNMENT AND PAINTING. BASIS OF INSPECTION SHALL BE FINAL REVIEWED SHOP DRAWINGS. PERFORM NON-DESTRUCTIVE TESTING OF WELDS WHERE RESULTS OF VISUAL INSPECTION ARE NOT ACCEPTABLE OR INCONCLUSIVE.

ALTERATION AND CONNECTIONS TO EXISTING STRUCTURE

- INFORMATION SHOWN ON THIS DRAWING HAS BEEN TAKEN FROM DRAWING PREPARED BY GOVAN KAMINKER LANGLEYSIDE MELICK DEVONSHIRE WILSON ARCHITECTS DATED JUNE 1968.
- CHECK ALL DRAWINGS AGAINST ACTUAL CONDITIONS ON SITE PRIOR TO FABRICATING ANY STRUCTURAL STEEL. REPORT DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- CONTRACTOR'S SCHEDULE OF WORK SHALL BE COORDINATED WITH ALL SUBTRADE, THE CONSULTANT AND OWNER.
- PROPOSED SEQUENCE OF WORK TO BE SUBMITTED TO THE CONSULTANT FOR PREVIEW PRIOR TO START OF WORK.
- PRIOR TO FABRICATION OF STRUCTURAL STEEL, OPEN UP ALL AREAS TO ALLOW THE INSTALLATION OF THE NEW STRUCTURAL WORK, AS WELL AS THE CONNECTION OF NEW WORK TO THE EXISTING WORK. TAKE ANY AND ALL NECESSARY FIELD MEASUREMENTS. MODIFY INSTALLATION METHODS AND METHODS OF CONNECTING TO SUIT SITE CONDITIONS FOUND AND TO THE APPROVAL OF THE CONSULTANT. CARRY OUT LOCAL REPAIRS TO THE EXISTING WORK AS NECESSARY AND AS DIRECTED BY THE CONSULTANT.
- SHORE EXISTING WORK AS REQUIRED UNTIL ALL NEW WORK HAS BEEN COMPLETED AND REVIEWED BY THE CONSULTANT.
- CUTTING OPENINGS AND HOLES IN EXISTING STRUCTURES:

PRIOR TO CUTTING AND CORING ANY OPENINGS IN THE EXISTING BUILDING PROVIDE THE CONSULTANT WITH A SLEEVING DRAWING INDICATING THE SIZE AND LOCATION OF PROPOSED OPENINGS RELATIVE TO A BUILDING GRID LINES. EXISTING OPENINGS IN THE VICINITY OF THE NEW OPENING MUST ALL BE SHOWN. CONTRACTOR TO FOLLOW AND SATISFY ALL REQUIREMENTS OF GTAA SURFACE PENETRATION GUIDELINES.

UNLESS SPECIFICALLY NOTED OTHERWISE, LOCATE EXISTING REINFORCEMENT AND ANY EMBEDDED SERVICES BY A POSITIVE MEANS (I.E. X-RAYING, LOCAL CHIPPING OF SLAB - WHERE APPROVED BY THE CONSULTANT, COVER METER AND THE LIKE).

AFTER ALL REINFORCEMENT AND SERVICES HAVE BEEN LOCATED, NOTIFY CONSULTANT WHO WILL REVIEW AND APPROVE OF THE PROPOSED OPENING HOLE LOCATION PRIOR TO CUTTING/DRILLING. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATION AS DIRECTED BY THE CONSULTANT.

CORE DRILL NEW HOLES FOR PIPES TO A DIAMETER NOT LARGER THAN THE OUTSIDE PIPE DIAMETER PLUS 25 mm (1"). DO NOT CUT EXISTING REINFORCEMENT OF SERVICES WITHOUT PRIOR APPROVAL OF THE CONSULTANT.

WHERE OPENINGS ARE TO BE CUT, PRE-DRILL THE CORNERS USING A 100 mm (4") DIAMETER CORE DRILL OR DRILL A SERIES OF HOLES TO PREVENT OVERCUTTING AT THE CORNERS.

IN ANY AREAS WHERE THE CONSULTANT PERMITS THE CUTTING OF EXISTING REINFORCEMENT, THE CONTRACTOR IS TO EXAMINE THE CORE/OPENING AFTER DRILLING/CUTTING TO DETERMINE THE SIZE, COVER AND ORIENTATION OF ANY REINFORCEMENT THAT WAS CUT. THE CONTRACTOR IS TO MARK THIS INFORMATION ON THE SLEEVING DRAWING AND FORWARD A COPY OF IT TO THE CONSULTANT FOR HIS RECORDS.

SHORE FLOORS AS REQUIRED TO SUPPORT CRANES, HOISTS AND OTHER CONSTRUCTION EQUIPMENT.

CONFORM TO ALL APPLICABLE CODES AND BY LAWS CONCERNING SAFETY, NOISE AND VIBRATIONS.

- DO NOT CUT CONCRETE REINFORCEMENT UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
- MODIFY THE LAYOUT OF NEW THROUGH BOLTS, EXPANSION ANCHORS AND OTHER ANCHORING DEVICES REQUIRED TO AVOID EXISTING CONCRETE REINFORCEMENT.
- UNLESS NOTED OTHERWISE, ALL DOWELS ARE TO BE EPOXIED INTO THE EXISTING CONCRETE STRUCTURE USING HILTI HY INJECTION ADHESIVE SYSTEM OR APPROVED EQUIVALENT.

EXISTING CONSTRUCTION

- CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS.
- NOTED DIMENSIONS AND CONDITIONS OF EXISTING BUILDINGS AND OTHER STRUCTURES ARE SHOWN BASED ON THE ORIGINAL DRAWINGS FIELD MEASURE AND VERIFY EXISTING DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES TO ARCHITECT/ENGINEER IN WRITING.
- VERIFY CONDITIONS COVERING OF AFFECTING THE WORK. OBTAIN AND VERIFY ALL DIMENSIONS AND ELEVATIONS TO ENSURE THE PROPER STRENGTH, FIT AND LOCATION OF THE WORK. REPORT TO THE ARCHITECT/ENGINEER ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE NEW WORK. FULL RESOLVE ALL DISCREPANCIES PRIOR TO COMMENCING WORK.
- EXISTING CONSTRUCTION NOT UNDERGOING ALTERATION IS TO REMAIN UNDISTURBED. WHERE SUCH CONSTRUCTION IS DISTURBED AS A RESULT OF THE OPERATIONS OF THIS CONTRACT, REPAIR OR REPLACE AS REQUIRED AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- VERIFY EXISTENCE, LOCATION AND ELEVATION OF EXISTING UTILITIES, SEWERS, DRAINS, ETC. IN DEMOLITION AREAS BEFORE PROCEEDING WITH THE WORK. ALL DISCREPANCIES SHALL BE DOCUMENTED AND REPORTED TO THE ARCHITECT/ENGINEER.
- SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT THE OWNER'S REPRESENTATIVE FOR DIRECTION.
- PROVIDE FIRE WATCH DURING THE FIELD CUTTING AND WELDING OPERATIONS, MEETING THE OWNER'S REQUIREMENTS.
- PROVIDE TEMPORARY PROTECTION OF EXISTING EQUIPMENT DURING EXECUTION OF THE WORK SATISFYING THE OWNER'S REQUIREMENTS.
- COORDINATE WORK WITH THE OWNER'S PERSONNEL TO AVOID ANY INTERFERENCE IN THEIR OPERATIONS.

DESIGN NOTES

GENERAL

- THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE OF CANADA, 2020 EDITION AND THE USER'S GUIDE - ONTARIO BUILDING CODE 2024".
 - LOCATION FOR CLIMATIC AND SEISMIC DATA: TORONTO, ON
 - IMPORTANCE CATEGORY: NORMAL
- ALL STRUCTURAL CONCRETE ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA A23.3-24, "DESIGN OF CONCRETE STRUCTURES".
- ALL STRUCTURAL STEEL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA S16-24, "DESIGN OF STEEL STRUCTURES".
- DEAD AND LIVE LOADS:

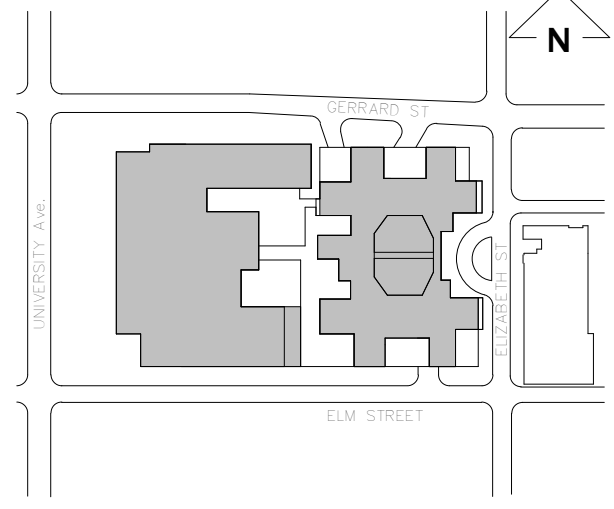
THE LOADS FOR THE PROPOSED EQUIPMENT ARE SHOWN ON THE LEVEL 2 FRAMING PLAN.
- SEISMIC LOADS ON NON-STRUCTURAL COMPONENT AND EQUIPMENT:

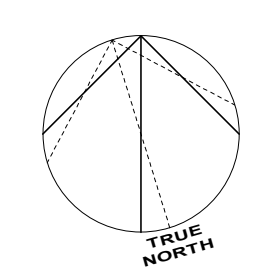
ALL STRUCTURAL COMPONENTS ARE DESIGN BASED ON CLAUSE 4.1.8.18 "PARTS AND PORTIONS" ACCORDING TO NBC2020. PROPOSED WORKS DO NOT IMPACT THE BASE BUILDING STRUCTURE IN ANY SIGNIFICANT WAY AND AS SUCH, SEISMIC ANALYSIS FOR THE BASE BUILDING STRUCTURE HAS NOT BEEN COMPLETED AS PART OF THIS PROJECT SCOPE.

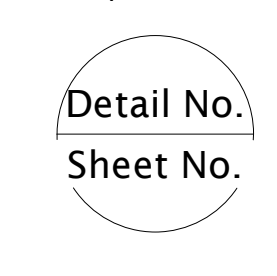
DATE	ISSUED FOR	REV
2024-05-29	50% CD	A
2025-08-28	95% CD	B
2025-10-01	TENDER - PERMIT	0


This drawing has been prepared solely for the use of SickKids and there are no representations of any kind made by NORR limited architects and engineers to any party with whom NORR limited architects and engineers has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Keyplan

North Arrow

Detail Symbol




NORR
NORR Architects & Engineers Limited

175 Bloor Street East
North Tower, 15th Floor
Toronto, ON, Canada M4W 3R8
norr.com

Project Manager J. Dignazio	Drawn R. ENDAYA
Project Leader S.PATEL	Checked S.PATEL

Client



555 University Ave., Toronto, ON M5G 1X8

Project

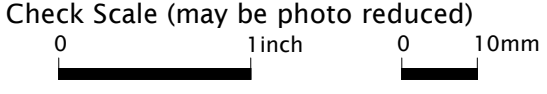
THE HOSPITAL FOR SICK CHILDREN

Toronto, ON, Canada

Drawing Title

GENERAL NOTES

Check Scale (may be photo reduced)



Project No.

ONBL21-0252

Drawing No.

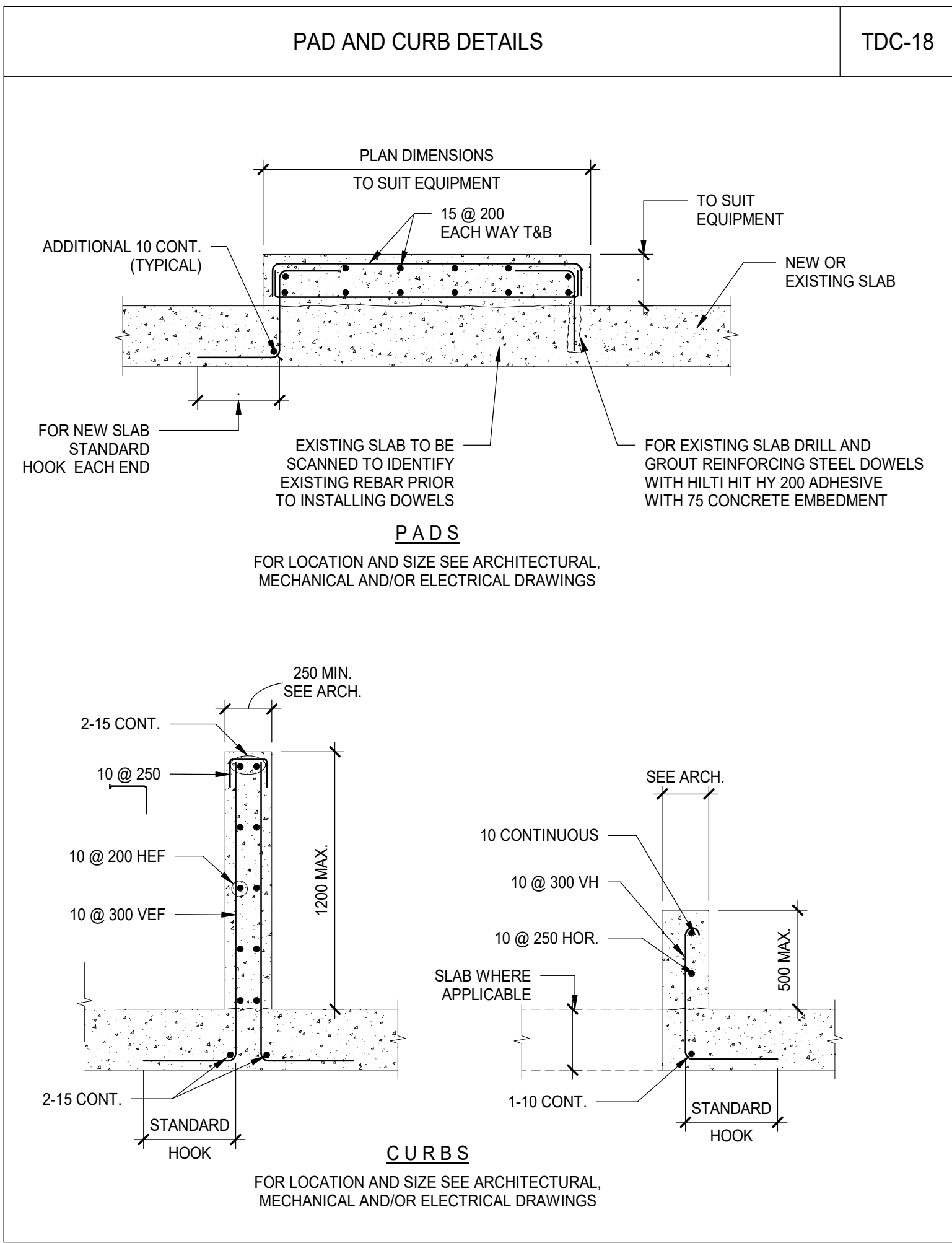
S01-01

A:\student Docs\Sick Kids - Spect CT Room\NORR_ONBL21-0252_STRC_SickKids_Spect-CT Room_R01.rvt

SK Atbium TB - 864 x 1232

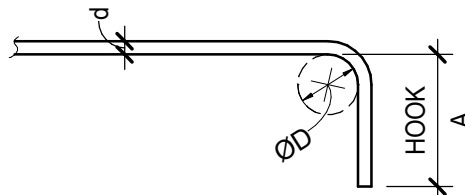
2025-08-30 2:43:55 PM

STRUCTURAL ABBREVIATIONS					TD-1
A	UNFACTORED AXIAL LOAD	(H), HI	HIGH	S	STANDARD SECTION
ADJ	ADJUSTABLE	HDG	HOT DIP GALVANIZED	SAFRM	SPRAY-APPLIED FIRE RESISTIVE MATERIAL
ADD'L	ADDITIONAL	HEE	HOOK EACH END	SDF	STEP DOWN FOOTING
AEC	ARCHITECTURALLY EXPOSED	HEF	HORIZONTAL EACH FACE	SECT	SECTION
AESS	CONCRETE	HH	HOOK-HOOK (HOOK EACH END)	SER	STRUCTURAL ENGINEER OF RECORD
	ARCHITECTURALLY EXPOSED	HIC	HORIZONTAL IN CENTER	SIM	SIMILAR
AF	STRUCTURAL STEEL	HIF	HORIZONTAL INSIDE FACE	SL	SLAB
AFB	FACTORED AXIAL LOAD	HK	HOOK	SLS	SERVICEABILITY LIMIT STATE
ALT	ASPHALT IMPREGNATED FIBREBOARD	HOE	HORIZONTAL OUTSIDE FACE	SOG	SLAB ON GRADE
APPROX	ALTERNATE	H, HORIZ	HORIZONTAL	SP	SPANDREL, SPRUCE, SETTING OUT POINT
AR	APPROXIMATELY	HP	H PILE	SPEC	SPECIFICATION
ARCH	ANCHOR ROD	HPT	HIGH POINT	S-P-F	SPRUCE PINE FIR
	ARCHITECTURAL OR ARCHITECT	HSC	HORIZONTAL SLOTTED CONNECTION	STD	STANDARD
		HSS	HOLLOW STRUCTURAL SECTION	STRUCT	STRUCTURAL
		HT	HEIGHT	STL	STEEL
B, BOT	BOTTOM			STIFF	STIFFENER
B/	BOTTOM OF	ID	INSIDE DIAMETER	SO	SQUARE
BAL	BALANCE	IF	INSIDE FACE	SS	STAINLESS STEEL
BB	BACK TO BACK	INT	INTERIOR	ST, STR	STRAIGHT
BC	BOT OF CAISSON ELEV			STRUP	STRUT
BCH	BOTTOM CHORD	JST(S)	JOISTS	SWT	SELF WEIGHT
BET, BW	BETWEEN	JT	JOINT	SYM	SYMMETRICAL
BEW	BOTTOM EACH WAY				
BLDG	BUILDING	k	KILO	t	THICKNESS
BLK	BLOCK	kN	KILONEWTON	T	UNFACTORED TENSION
BLKG	BLOCKING	kPa	KILOPASCAL	TOP	TOP
BLM	BOTTOM LOWER LAYER			T&B	TOP AND BOTTOM
BM	BEAM	(L), LO	LOW	TC	TOP OF CAISSON ELEVATION
BMB	BENDING MOMENT BAR			TD	TENSION DEVELOPMENT LENGTH
BOF	BOTTOM OF FOOTING ELEVATION	L, 2L	SINGLE ANGLE	TEMP	TEMPORARY, TEMPERATURE
BPL	BEARING/BASE PLATE	Ld	DOUBLE ANGLES	TEW	TOP EACH WAY
BRDG	BRIDGING	LE	TENSION DEVELOPMENT LENGTH	TI	FACTORED TENSION
BRG	BEARING	LG	LONG LENGTH	T&G	TONGUE AND GROOVE
BSMT	BASEMENT	LL	LIVE LOAD	THK	THICK
BUL	BOTTOM UPPER LAYER	LLV	LONG LEG VERTICAL	TJ	TIE JOIST
		LLH	LONG LEG HORIZONTAL	TLE	TOP LEFT END
C	CHANNEL	LSH	LONG SIDE HORIZONTAL	TLL	TOP LOWER LAYER
C	UNFACTORED COMPRESSION	LSV	LONG SIDE VERTICAL	T/O	TOP OF
C/C	CENTRE TO CENTRE	LW	LONG WEIGHT	TOS	TOP OF SLAB
C/W	COMPLETE WITH	LWC	LIGHT WEIGHT CONCRETE	TRE	TOP RIGHT END
CA	COLUMN ABOVE			T/STL	TOP OF STEEL
CAM	CAMBER			TSA	TENSION SPLICE CLASS A
CANT	CANTILEVER			TSB	TENSION SPLICE CLASS B
CB	COLUMN BELOW			TUL	TOP UPPER LAYER
CDL	COMPRESSION DEVELOPMENT LENGTH			TYP	TYPICAL
CF	CONCRETE FIREPROOFED				
CIP	CAST-IN-PLACE	m	METRE	USF	UNDERSIDE OF FOOTING
CI	FACTORED COMPRESSION	m ² , sq. m	SQUARE METRE	U/S	UNDERSIDE
CJ	CONSTRUCTION JOINT			UN	UNLESS NOTED
CLR	CLEAR	MATL	MATERIAL	UON	UNLESS OTHERWISE NOTED
C, CL	CENTRE LINE	MAX	MAXIMUM	UL	UPPER LAYER
CLJ	CONTROL JOINT	MC	MOMENT CONNECTION	ULS	ULTIMATE LIMIT STATE
CMU	CONCRETE MASONRY UNIT	MCS	MECHANICAL COMPRESSION SPLICE	UPT	UPTURNED
COMP	COMPOSITE	MECH	MECHANICAL	ULC	UNDERWRITERS LABORATORIES OF CANADA
COL	COLUMN	MEZZ	MEZZANINE		
CONC	CONCRETE	MF	FACTORED MOMENT		
CONN	CONNECTION	MF	FACTORED MOMENT		
CONST	CONSTRUCTION	MFR	MANUFACTURER		
CONT	CONTINUOUS	MID	MIDDLE	V	UNFACTORED SHEAR
		MISC	MISCELLANEOUS	VERT	VERTICAL
DCA	DRILLED CONCRETE ANCHOR	MIN	MINIMUM	VBV	VERTICAL BRACED FRAME
DEMO	DEMOLITION	ML	MIDDLE LAYER	VEF	VERTICAL EACH FACE
DEG	DEGREE	mm	MILLIMETRE	VI	VERTICAL INSIDE FACE
DET, DTL	DETAIL	mm ² , sq. mm	SQUARE MILLIMETRE	VOF	VERTICAL OUTSIDE FACE
D FIR	DIGITAL FIRE	MPa	MEGAPASCAL	VIC	VERTICAL IN CENTRE
DIA	DIAMETER	MBS	MECHANICAL TENSION SPLICE	VIF	VERTICAL INSIDE FACE, VERIFY IN FIELD
DIM	DIMENSION			VSC	VERTICALLY SLOTTED CONNECTION
DIAG	DIAGONAL	NBC, NBCC	NATIONAL BUILDING CODE OF CANADA		
DL	DEAD LOAD	NCB	NO COLUMN BELOW	W	WIDE FLANGE SECTION
DO, *	DITTO	NF	NEAR FACE	WC	WIND COLUMN
DP	DEEP	NIC	NOT IN CONTRACT	WD	WOOD
DWG	DRAWING	NO	NUMBER	W/O	WITHOUT
DWL	DOWEL	NOM	NOMINAL	WP	WALL PLATE OR WORKING POINT
DN	DOWN	NS	NON-SHRINK	WPFG	WATERPROOFING
		NTS	NOT TO SCALE	WS	WATERSTOP
EA	EACH	NW	NORMAL WEIGHT	WT	STRUCTURAL TEE
EC	EPOXY COATED	NWC	NORMAL WEIGHT CONCRETE	WWF	WELDED WIRE FABRIC
ECC	ECCENTRICITY			WWF	WELDED WIDE FLANGE
EE	EACH END	O/C	ON CENTRE	WWR	WELDED WIDE REINFORCEMENT
EF	EACH FACE	O/O	OUT TO OUT		
EJ, EXP JT	EXPANSION JOINT	OBC	ONTARIO BUILDING CODE	ZRP	ZINC RICH PAINT
EL, ELEV	ELEVATION	OD	OUTSIDE DIAMETER		
ELEC	ELECTRICAL	OF	OUTSIDE FACE	Ø	DIAMETER
EMBED	EMBEDMENT	OPNG	OPENING		
ENG	ENGINEER	OPP	OPPOSITE		
EOA	EDGE OF ANGLE	OWSJ	OPEN WEB STEEL JOIST		
EOD	EDGE OF DECK				
EOS	EDGE OF SLAB	P	UNFACTORED POINT LOAD		
ES	EACH SIDE	P, PC, PC, PRCS	PRECAST		
EQ	EQUAL	PERP	PERPENDICULAR		
EW	EACH WAY	PF	FACTORED POINT LOAD		
EX, EXIST	EXISTING	PG	PLATE GIRDER		
EXT	EXTERIOR	PL	PLATE		
		PRLL	PARALLEL		
f _c	COMPRESSIVE STRENGTH OF CONC	PROJ	PROJECTION		
FD	FLOOR DRAIN	P/T	POST TENSIONED		
FF	FAR FACE	PT	POINT		
F/F	FACE TO FACE	PVC	POLYVINYL CHLORIDE		
FP	FIREPROOF(ING)				
FS	FAR SIDE	R, RAD	RADIUS		
		RA	ROOF ANCHOR		
FFE	FINISHED FLOOR ELEVATION	C	REINFORCED CONCRETE		
FFL	FINISHED FLOOR LEVEL				
FIN	FINISHED				
FLR	FLOOR	RE	RIGHT END		
FTG	FOOTING	REF	REFERENCE		
FMC	FULL MOMENT CONNECTION	REINF	REINFORCEMENT, REINFORCE		
FND	FOUNDATION	REINR	REINFORCER		
fy	YIELD STRENGTH	REQ'D	REQUIRED		
		REV	REVISION		
GALV	GALVANIZED				
GA	GAUGE				
GB	GRADE BEAM				
GL	GRIDLINE				
GEN	GENERAL				
GRD, GR	GROUND, GRADE				

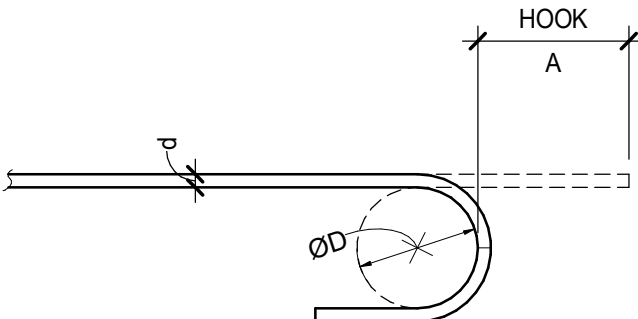


TDC-18

REINFORCING STEEL BAR AND STANDARD HOOK DIMENSIONS FOR DEFORMED BARS WITH Fy = 400 MPa							TDC-39	
BAR SIZE	MASS kg/m	DIA. d	AREA mm2	STANDARD HOOK			STIRRUP AND TIE HOOKS (90°)	
				BEND D	A		D	A
					90°	180°		
10M	0.785	11.3	100	70	180	150	40	100
15M	1.57	16.0	200	100	260	180	60	140
20M	2.355	19.5	300	120	340	220	-	-
25M	3.925	25.2	500	150	420	280	-	-
30M	5.495	29.9	700	250	560	400	-	-
35M	7.85	35.7	1000	300	660	480	-	-
45M	11.775	43.7	1500	450	900	-	-	-
55M	19.625	56.4	2500	600	1140	-	-	-



STANDARD 90° HOOK



STANDARD 180° HOOK

TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICES (Fy = 400 MPa)

TDC-36

CONCRETE	25 MPa		30 MPa		35 MPa		40 MPa		45 MPa		50 MPa		CONCRETE
SPLICE	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	SPLICE
BAR	TABLE 1: UNCOATED, OTHER THAN TOP BARS												BAR
10	300	380	300	350	300	320	300	300	300	280	300	300	10
15	440	570	400	520	370	480	350	450	330	420	310	400	15
20	580	750	530	690	490	640	460	600	430	560	410	530	20
25	900	1170	830	1070	760	990	720	930	670	880	640	830	25
30	1080	1410	990	1290	920	1190	860	1110	810	1050	770	1000	30
35	1260	1640		1500	1070	1390	1000	1300	940	1220	890		35
TABLE 2: UNCOATED, TOP BARS													
10	380	490	350	450	320	420	300	390	280	370	300	350	10
15	570	730	520	670	480	620	450	580	420	550	400	520	15
20	750	980	690	890	640	830	600	770	560	730	530	690	20
25	1170	1530	1070	1390	990	1290	930	1210	890	1140	830	1080	25
30	1410	1830	1290	1670	1190	1550	1110	1450	1050	1360	1000	1290	30
35	1640	2130	1500	1950	1390	1800	1300	1690	1220	1590	1160	1510	35
TABLE 3: EPOXY-COATED BARS, OTHER THAN TOP BARS													
10	440	570	400	520	370	480	350	450	330	420	310	400	10
15	650	850	600	770	550	720	520	670	490	630	460	600	15
20	870	1130	790	1030	730	950	690	890	650	840	610	800	20
25	1350	1760	1240	1610	1140	1490	1070	1390	1010	1310	960	1240	25
30	1620	2110	1480	1930	1370	1780	1280	1670	1210	1570	1150	1490	30
35	1890	2460	1730	2250	1600	2080	1500	1950	1410	1840	1340	1740	35
TABLE 4: EPOXY-COATED TOP BARS													
10	490	640	450	590	420	540	390	510	370	480	350	450	10
15	740	960	670	880	620	810	580	760	550	720	520	680	15
20	980	1280	900	1170	830	1080	780	1010	730	950	700	900	20
25	1530	1990	1400	1820	1300	1690	1210	1380	1040	1490	1090	1410	25
30	1840	2390	1680	2180	1560	2020	1460	1890	1370	1780	1300	1690	30
35	2150	2790	1960	2550	1810	2360	1700	2210	1600	2080	1520	1970	35

NOTES:

- USE FOLLOWING TENSION LAP SPLICE LENGTHS UNLESS NOTED OTHERWISE ON DRAWINGS.
- TENSION DEVELOPMENT LENGTHS, L_d, DENOTED AS TENSION LAP SPLICE CLASS A.
- FOR COLUMNS, USE COLUMN TENSION SPLICE TYPICAL DETAIL.
- TOP BARS ARE BARS WITH M_cRE THAN 300 OF CONCRETE CAST BELOW SPLICE.
- CLEAR COVER NOT LESS THAN d , CLEAR SPACING NOT LESS THAN 2d .
- FOR STRUCTURAL LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 30%.
- FOR STRUCTURAL SEMI-LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 20%.

DATE	ISSUED FOR	REV
2025-08-28	95% CD	A
2025-10-01	TENDER - PERMIT	0

This drawing has been prepared solely for the use of SickKids and there are no representations of any kind made by NORR limited architects and engineers to any party with whom NORR limited architects and engineers has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Keyplan

North Arrow

Detail Symbol

Detail No. Sheet No.

Seal

NORR
NORR Architects & Engineers Limited

175 Bloor Street East
North Tower, 15th Floor
Toronto, ON, Canada M4W 3R8
norr.com

Project Manager
J. Dignazio

Drawn
R. ENDAYA

Project Leader
S.PATEL

Checked
S.PATEL

Client

SickKids

555 University Ave., Toronto, ON M5G 1X8

Project

THE HOSPITAL FOR SICK CHILDREN

Toronto, ON, Canada

Drawing Title

TYPICAL DETAILS

Check Scale (may be photo reduced)

0 1inch 0 10mm

Project No.
ONBL21-0252

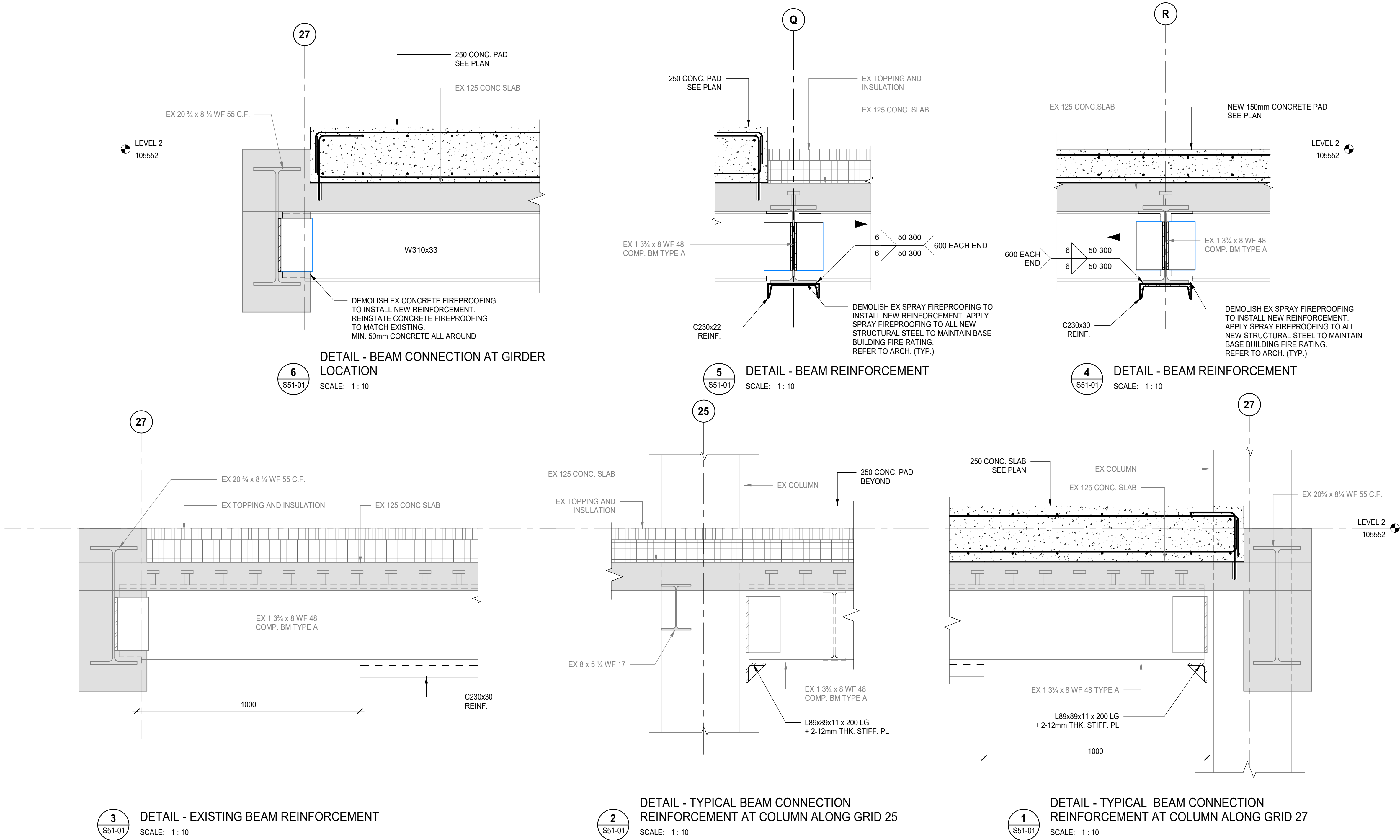
Drawing No.
S02-01

Autodesk Docs/Sick Kids - Spec CT Room/NORR_ONBL21-0252_STRC_SickKids_Spec-CT Room_R201.vt

DETAIL 2

- 1** LEVEL 2 PARTIAL FRAMING PLAN
S22-02 SCALE: 1 : 50

Drawing No.
S22-02



DATE	ISSUED FOR	REV
2025-08-28	95% CD	A
2025-10-01	TENDER - PERMIT	0

This drawing has been prepared solely for the use of SickKids and there are no representations of any kind made by NORR limited architects and engineers to any party with whom NORR limited architects and engineers has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Keyplan

North Arrow

Detail Symbol

Detail No.
Sheet No.

Seal

NORR
NORR Architects & Engineers Limited

175 Bloor Street East
North Tower, 15th Floor
Toronto, ON, Canada M4W 3R8
nor.com

Project Manager J. Dignazio	Drawn R. ENDAYA
Project Leader S.PATEL	Checked S.PATEL

Client

SickKids
555 University Ave., Toronto, ON M5G 1X8

Project

THE HOSPITAL FOR SICK CHILDREN
Toronto, ON, Canada

Drawing Title

DETAILS

Check Scale (may be photo reduced)

Project No.
ONBL21-0252

Drawing No.
S51-01