

CONSTRUCTION NOTES:

- A. GENERAL**
- ALL WORK SHALL CONFORM TO THE ONTARIO BUILDING CODE AND ALL STANDARDS REFERENCED WITHIN, LOCAL REGULATIONS AND BYLAWS, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT FOR CONSTRUCTION PROJECTS. THE LATEST VERSION OF STANDARDS SHALL APPLY.
 - READ THESE DRAWINGS IN CONJUNCTION WITH ALL RELATED CONTRACT DOCUMENTS AND CONSULTANT DRAWINGS.
 - THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS IN RELATION TO THE DRAWINGS AND NOTIFY THE ENGINEER TO ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. DRAWINGS ARE NOT TO BE SCALED.
 - THE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE WITH THE PARTY WHOM THE ENGINEER HAS ENTERED INTO CONTRACT. THERE ARE NO REPRESENTATIONS MADE TO ANY PARTY WITH WHOM THE ENGINEER HAS NOT ENTERED INTO CONTRACT.
 - THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING AND INSPECTION COMPANY TO ENSURE THAT THE WORK IS DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS INCLUDING COMPACTION TESTING, REINFORCING STEEL PLACEMENT, CONCRETE TESTING AND STRUCTURAL STEEL.
 - THE ENGINEER SHALL BE GIVEN MINIMUM 24 HOURS NOTICE BY THE CONTRACTOR FOR ALL CONSTRUCTION REVIEWS, SITE VISITS AND REVIEWS BY THE ENGINEER OR HIS REPRESENTATIVE ARE INTENDED FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEWS SHALL NOT MEAN THAT THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS.
 - THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION LOADS AND TEMPORARY BRACING TO ENSURE SAFETY AND THE BUILDING IS PLUMB AND IN TRUE ALIGNMENT AT ALL PHASES OF CONSTRUCTION AS PER OREG 21391. ALL BRACING MEMBERS SHOWN ON THE DRAWINGS ARE DESIGNED FOR THE FINISHED STRUCTURE AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES. SHORING AND BRACING IS REQUIRED UNTIL PROPOSED STRUCTURE IS PROPERLY IN PLACE. SHORING AND BRACING SHALL BE DESIGNED, REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED WITH P.ENG'S STAMP FOR OUR REVIEW PRIOR TO CONSTRUCTION.
 - NO SUBSTITUTIONS FROM THE SPECIFIED PRODUCTS AND MATERIALS ARE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

TESTING REQUIREMENTS

TEST	COMMENTS
REINFORCING STEEL PLACEMENT	FINAL PAVED
STRUCTURAL STEEL CONNECTIONS	INSPECT ALL FIELD WELDS

MORTAR CUBES

ALL TESTING TO BE COMPLETED BY A CERTIFIED INDEPENDENT TESTING AND INSPECTION COMPANY. COPIES OF ALL REPORTS ARE TO BE FORWARDED TO THE ENGINEER FOR REVIEW.

- B. DESIGN PARAMETERS**
- REFERENCE FRAMING PLANS FOR DESIGN LOADS OF FLOORS AND ROOFS.
 - BUILDING IMPORTANCE CATEGORY: HIGH
 - CLIMATIC DESIGN DATA:
 - EARTHQUAKE
 - Sa (0.2) = 0.118
 - Sa (0.5) = 0.104
 - Sa (1.0) = 0.044
 - Sa (2.0) = 0.023
 - Sa (5.0) = 0.0066
 - Sa (10.0) = 0.0022
 - PGA = 0.072
 - SITE CLASS "D"
 - R_h = 1.5
 - R_o = 1.3
 - I_ef_aS_a (0.20) = 0.19
 - ADDITIONAL DEAD LOAD ALLOWANCE SHALL BE INCLUDED IN ADDITION TO THE LOADS SPECIFIED ON THE DRAWINGS FOR PIPING IN EXCESS OF 75mm (3") CARRYING FLUIDS (SPRINKLERS), ROOF TOP MECHANICAL UNITS AND ROOF TOP PATIO SLABS.
 - ALL ROOF FRAMING ELEMENTS INCLUDING JOISTS, OWSJ AND TRUSSES ARE TO BE DESIGNED FOR WIND UPLIFT IN ACCORDANCE WITH OBC 2012 AND NBC 2015 STRUCTURAL COMMENTARIES USING THE ABOVE NOTED DESIGN PARAMETERS.
- C. MASONRY**
- MASONRY TO CONFORM TO THE LATEST VERSION OF CAN/CSA-S304.1 AND CSA A371.
 - STRENGTH OF LOAD-BEARING MASONRY UNITS TO BE MINIMUM 15 MPa FOR HOLLOW UNITS BASED ON NET AREA.
 - TYPE 'S' MORTAR SHALL BE USED FOR CONCRETE BLOCK. TYPE 'N' MORTAR SHALL BE USED FOR BRICK AND DECORATIVE BLOCK. GROUT STRENGTH SHALL BE 20 MPa UNLESS NOTED OTHERWISE. MORTAR AND GROUT TO CONFORM TO THE LATEST VERSION OF CSA A179.
 - ALL MASONRY WALLS SHALL BE CONSTRUCTED WITH FULL MORTAR JOINTS.
 - VERTICAL CONTROL JOINTS SHALL BE INSTALLED AT 800mm (20") SPACING MAXIMUM. REINFORCING SHALL NOT CROSS A CONTROL JOINT. PROVIDE FOAM BACKING ROD AND CAULKING AT CONTROL JOINTS AND ENSURE MORTAR DOES NOT FILL THE JOINT.
 - REINFORCE ALL MASONRY WITH HOT DIP GALVANIZED NO. 9 TRUSS TYPE

- WIRE REINFORCING AT 400mm (16"), PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
- ALL STEEL BEAMS AND JOISTS SHALL BE SUPPORTED BY BEARING PLATES DESIGNED TO THE LATEST VERSION OF CAN/CSA S16. BEARING PLATES SHALL HAVE MINIMUM (2) 12mm (1/2") DIAMETER x 450mm (18") LONG ANCHORS WITH 50mm (2") HOOK.
 - ALL MASONRY UNDER CONCENTRATED LOADS SHALL BE FILLED SOLID WITH GROUT FOR A WIDTH AND DEPTH EQUAL TO 3 TIMES THE LENGTH OF BEARING. WHERE OPEN WEB STEEL JOISTS OR BEAMS BEAR ON UNREINFORCED MASONRY WALLS PROVIDE (1) 15M VERTICAL x 1200mm (48") LONG UNDER BEARING PLATE.
 - ALL MASONRY WALLS ARE TO BE ADEQUATELY BRACED DURING CONSTRUCTION UNTIL THE FLOOR AND ROOF STRUCTURES ARE IN PLACE. BRACING SHALL BE DESIGNED, REVIEWED AND APPROVED BY CONTRACTOR'S ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED WITH ENGINEERING'S STAMP FOR OUR REVIEW PRIOR TO CONSTRUCTION.
 - FOR MASONRY OPENINGS NOT SHOWN ON THE FRAMING PLANS UP TO 1200mm (48") WIDE, PROVIDE ONE L89x89x6.4 (3.5x3.5x2.5) FOR EACH 900mm (3 1/2") THICKNESS OF MASONRY.
 - PROVIDE DOWELS FROM MASONRY WALLS TO EXISTING CONCRETE SLAB TO MATCH VERTICAL REINFORCING SPACING AND SIZE.
 - REINFORCED MASONRY
 - a) GROUT ALL REINFORCED CELLS SOLID AS PER NOTE 3. REINFORCED CELLS TO BE KEPT CLEAR OF MORTAR.
 - b) PROVIDE (1) FULL HEIGHT VERTICAL BAR EACH SIDE OF CONTROL JOINTS, OPENINGS, INTERSECTIONS AND ENDS OF WALLS.
 - c) LAP ALL REINFORCING AS PER REINFORCING STEEL CHART ABOVE (MIN).
- F. STRUCTURAL STEEL**
- STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.
 - STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA G40.21, G40.21 GRADE 350W CLASS C FOR H.S.S., G40.21 GRADE 350W FOR W SHAPE SECTIONS AND G40.21 GRADE 350W FOR CHANNELS, ANGLES AND MISCELLANEOUS METAL.
 - BOLTED CONNECTIONS SHALL USE GRADE A325 BOLTS.
 - ANCHOR BOLTS SHALL BE FABRICATED USING STEEL ROD CONFORMING TO THE LATEST VERSION OF CSA G40.21 GRADE 300W.
 - WELDING SHALL CONFORM TO CSA W59 AND CSA W47 DIVISION 1 OR DIVISION 2.1 BY THE CANADIAN WELDING BUREAU. WELDING SHALL BE COMPLETED BY CWC CERTIFIED FABRICATOR AND ERECTOR TO THE CSA STANDARDS W178.1 AND W178.2.
 - WHERE FORCES ARE NOT SHOWN ON THE DRAWINGS BEAM REACTIONS SHALL BE 1/2 THE DISTRIBUTED FACTORED LOADS NOTED IN THE BEAM LOAD TABLES OF PART 5 OF THE CISC'S HANDBOOK OF STEEL CONSTRUCTION.
 - STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED WITHOUT THE APPROVAL OF THE ENGINEER.
 - STEEL BEAMS AND LINTELS SHALL HAVE MINIMUM 200mm (8") BEARING ON MASONRY UNLESS OTHERWISE NOTED. WELD BEAMS AND LINTELS TO BEARING WHERE PROVIDED WITH MINIMUM 4.8mm x 50mm (3/16"x2") FILLET WELD EACH SIDE.
 - ALL ROOF OPENINGS IN METAL DECK AND SUPPORT OF ALL ROOF UNIT CURBS ON METAL DECK ARE TO BE REINFORCED WITH C130x10 (C5x8.7) CHANNEL FRAMES UNLESS NOTED OTHERWISE.
 - ALL STRUCTURAL STEEL IS TO BE SHOP PRIME PAINTED UNLESS NOTED OTHERWISE. STRUCTURAL STEEL WHICH IS TO BE PROTECTED WITH SPRAY APPLIED FIREPROOFING IS TO BE KEPT CLEAN AND UNCOATED. STRUCTURAL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED CONFORMING TO THE LATEST VERSION OF CAN/CSA-G164. ALL COATINGS ARE TO BE TOUCHED UP ON SITE WITH APPROVED PAINT FOR PRIME STEEL AND ZINC RICH PAINT FOR GALVANIZED STEEL.
 - ALL BUILDING MATERIALS AND EQUIPMENT SUPPORTED BY OPEN WEB STEEL JOISTS ARE TO BE CONNECTED AT JOIST PANEL POINTS.
 - DESIGN METAL DECK IN CONFORMANCE TO THE LATEST VERSION OF CAN/CSA-S136 INCLUDING SUPPLEMENT CAN/CSA-S136S1.
 - DESIGN METAL DECK IN CONFORMANCE TO THE LATEST VERSION OF CAN/CSA-S136 INCLUDING SUPPLEMENT CAN/CSA-S136S1.
 - ROOF DECK SHALL BE MINIMUM 38mm x 0.76mm (1 1/2"x.030") L2C UNLESS NOTED OTHERWISE. FLOOR DECK SHALL BE MINIMUM 38mm x 0.76mm (1 1/2"x.030") L2C-H-80ND UNLESS NOTED OTHERWISE.
 - WELDS FROM DECK TO STRUCTURAL STEEL SHALL BE MINIMUM 19mm (3/4") DIAMETER PUDDLE WELD AT THE FOLLOWING MINIMUM SPACING:
 - TRANSVERSE WELDS 300mm (12")
 - PERIMETER WELDS 300mm (12")
 - LONGITUDINAL WELDS 600mm (24")
 - BUTTON PUNCH ALL SEAMS AT 300mm (12") O.C.
 - DECK OVERLAP AND MINIMUM BEARING LENGTH TO BE MINIMUM 50mm (2").
 - DECK WELDS SHALL BE TOUCHED UP WITH APPROVED PAINT.

SHOP DRAWINGS REQUIRED

NAME	RECD	P.ENG. STAMP	MIN. CERTIFICATION REQ'S:
CONCRETE MIX DESIGN	YES	NO	
REBAR	YES	NO	
STRUCTURAL STEEL	YES	YES	CONNECTIONS ONLY
MISCELLANEOUS STEEL	YES	YES	STAIRS, LADDERS & GUARDS
MASONRY WALL BRACING	YES	YES	LAYOUT, & ANCHORAGE DETAILS

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO ISSUING TO THE ENGINEER FOR REVIEW.

CONTRACTOR TO ENSURE MECH. UNIT OPENINGS DON'T INTERFERE WITH OWSJ LOCATIONS

ROOF FRAMING PLAN NOTES:

- STANDARD JOIST SHOE DEPTH TO BE 100mm (TYPICAL, U.N.O.)
- ALL ROOF TOP UNITS TO BE FRAMED WITH C130x10 (TYPICAL, U.N.O.) REFER TO MECHANICAL DRAWINGS FOR EXACT UNIT LOCATION AND SIZE.
- REFER TO ARCH. AND MECH. DRAWINGS FOR ROOF DRAIN LOCATIONS AND ROOF SLOPES.
- PROVIDE BEARING PLATES IN ACCORDANCE WITH SCHEDULE FOR ALL NEW BEAMS BEARING ON MASONRY WALLS.
- GROUT SOLID BELOW ALL BEARING PLATES FOR MIN. DEPTH OF 1220, CW (1) 15M x1220 L.G. SEE NOTE E.8 ON S0.0.
- GENERAL CONTRACTOR TO COORDINATE MASONRY WALL THICKNESS WITH ARCHITECTURAL DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS FOR INTERIOR DIMENSIONS.
- ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE.

ROOF DESIGN LOADS

DEAD LOAD= 1.0 kPa	EXISTING ROOF DESIGN LOADS:
LIVE LOAD= 2.3 kPa	DEAD LOAD= 1.05 kPa
	LIVE LOAD = 2.68 kPa+3.64 kPa DRIFT

LINTEL SCHEDULE

LINTEL	SIZE	END BEARING
L1	(2) L89x89x6.4	200 mm EACH END
L2	W200x27 + 6.4mm PL	200 mm EACH END
L3	(2) L89x89x6.4 BRICK LINTEL	200 mm EACH END
L4	(2) L127x89x6.4	200 mm EACH END

- ALL BRICK LINTELS AND EXTERIOR LINTELS EXPOSED TO WEATHER TO BE HOT DIP GALVANIZED
- ALL NEW DUCT OPENINGS IN MASONRY WALL UP TO 1200 WIDE TO BE L89x89x6.4

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMUB	190 mm	15 MPa	NO	NO

- ALL WALLS TO HAVE CORES GROUTED SOLID AT REINFORCING STEEL LOCATIONS
- PROVIDE ONE EXTRA VERTICAL BAR AT ENDS OF WALLS AND EACH SIDE OF OPENINGS.
- HORIZONTAL REINFORCING TO BE BLOK-LOG LBL-TYPE W/ (2) 4.8mmØ RODS @ 400 O.C. (U.N.O.)

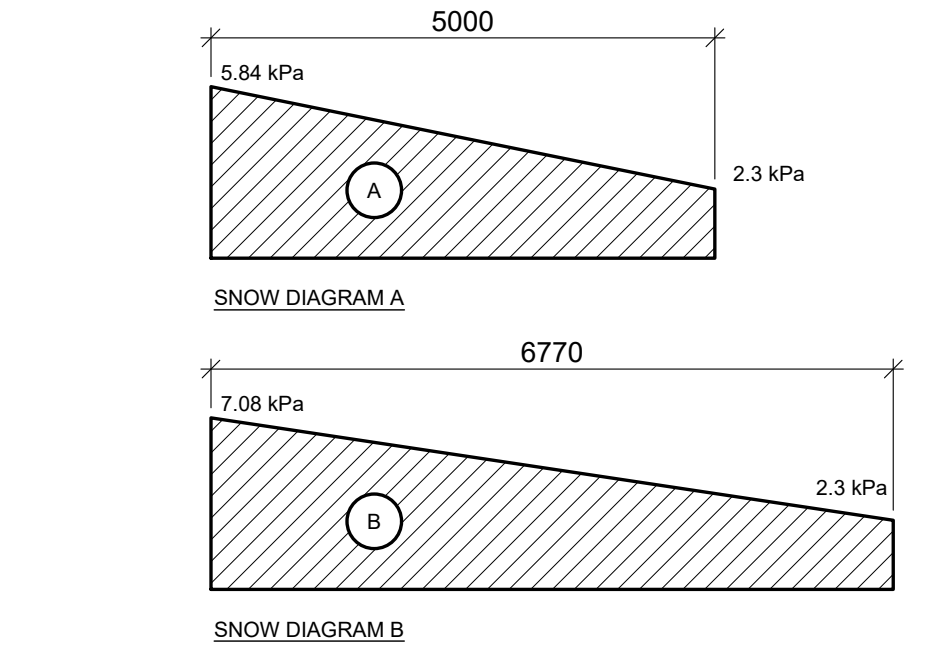
COLUMN SCHEDULE

COLUMN	SIZE	BASE PLATE	ANCHOR BOLTS
C1	HSS 178x178x6.4	190x255x12.7	(2) 19mmx152L.G. ANCHORS

BEARING PLATE SCHEDULE

PLATE	SIZE
BP1	190x16x190

PROVIDE (1) 15Mx200 L.G. REBAR DOWEL @ EA. BP



NO.	DATE	REVISION
3	2022.02.11	ISSUED FOR TENDER
2	2022.01.31	ISSUED FOR 90% CD REVIEW
1	2022.01.25	ISSUED FOR PERMIT

WitzelDyce ENGINEERING INC.
 826 King Street North, Unit 20
 Waterloo, Ontario, N2J 4G8
 www.witzeldyce.com

PROFESSIONAL ENGINEER
 D. L. NADON
 100127727
 Feb 07, 2022
 PROVINCE OF ONTARIO

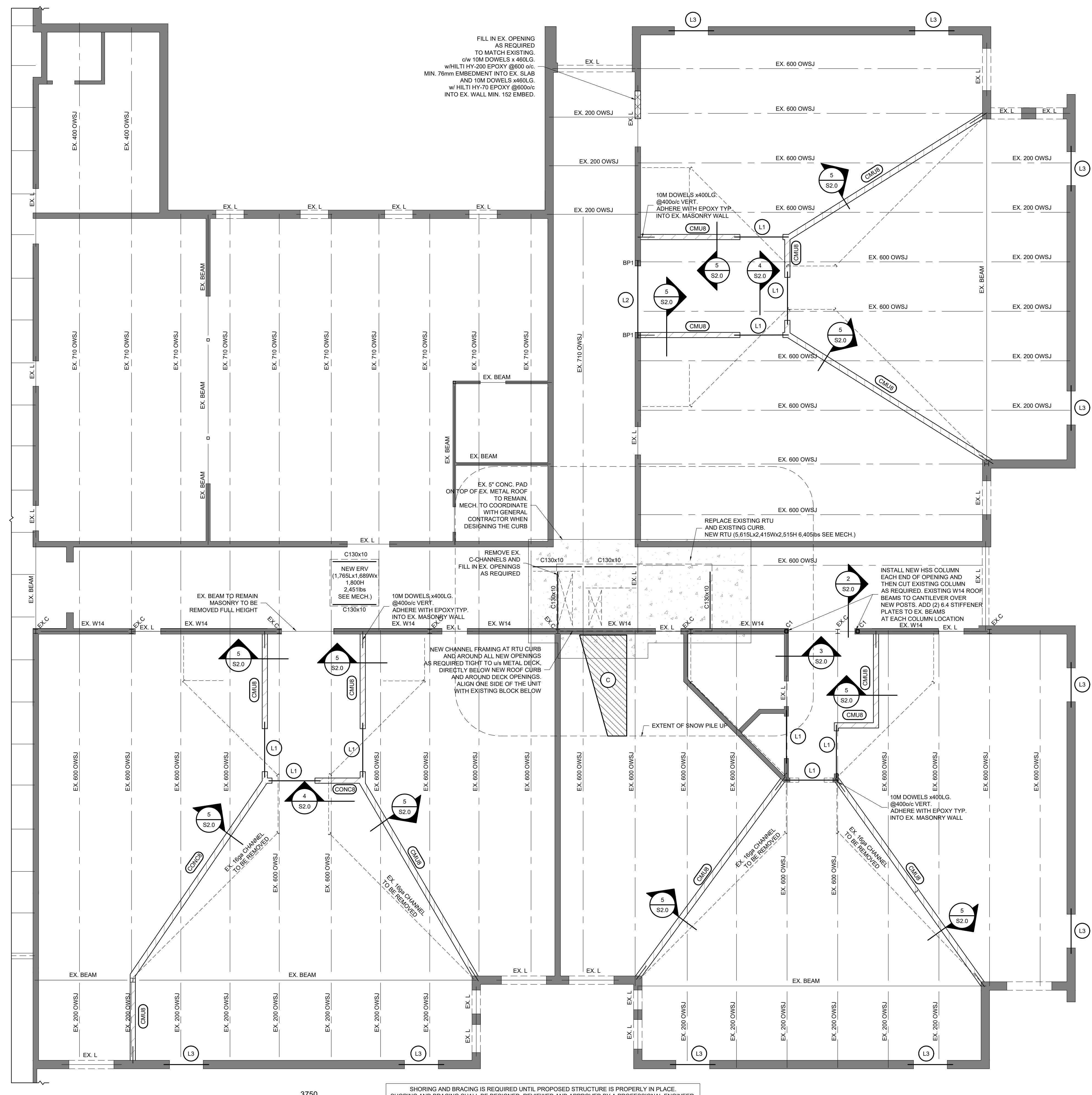
PROJECT
**PARK MANOR PHASE 2
 INTERIOR AND WINDOW
 ENHANCEMENTS**
 18 MOCKINGBIRD DR. ELMIRA, ON.

DRAWING
**ROOF FRAMING PLAN
 (OFFICE AREA) AND
 GENERAL NOTES**

DESIGNER	DLN	PROJECT NO.	13694-101
DRAWN	DAR	DRAWING NO.	
DATE	JANUARY 2022		S1.0
SCALE	AS NOTED		

ROOF FRAMING PLAN 1:75
OFFICE AREA

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ROOF FRAMING PLAN NOTES:

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- PROVIDE BEARING PLATES IN ACCORDANCE WITH SCHEDULE FOR ALL NEW BEAMS BEARING ON MASONRY WALLS.
- GROUT SOLID BELOW ALL BEARING PLATES FOR MIN. DEPTH OF 1200, C/W (1) 15M x1200 LG. SEE NOTE E-8 ON S0.0.
- GENERAL CONTRACTOR TO COORDINATE MASONRY WALL THICKNESS WITH ARCHITECTURAL DRAWINGS SET.
- SEE ARCHITECTURAL DRAWINGS FOR INTERIOR DIMENSIONS.
- ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE.

ROOF DESIGN LOADS

DEAD LOAD = 1.0 kPa
LIVE LOAD = 2.3 kPa

EXISTING ROOF DESIGN LOADS:
DEAD LOAD = 1.05 kPa
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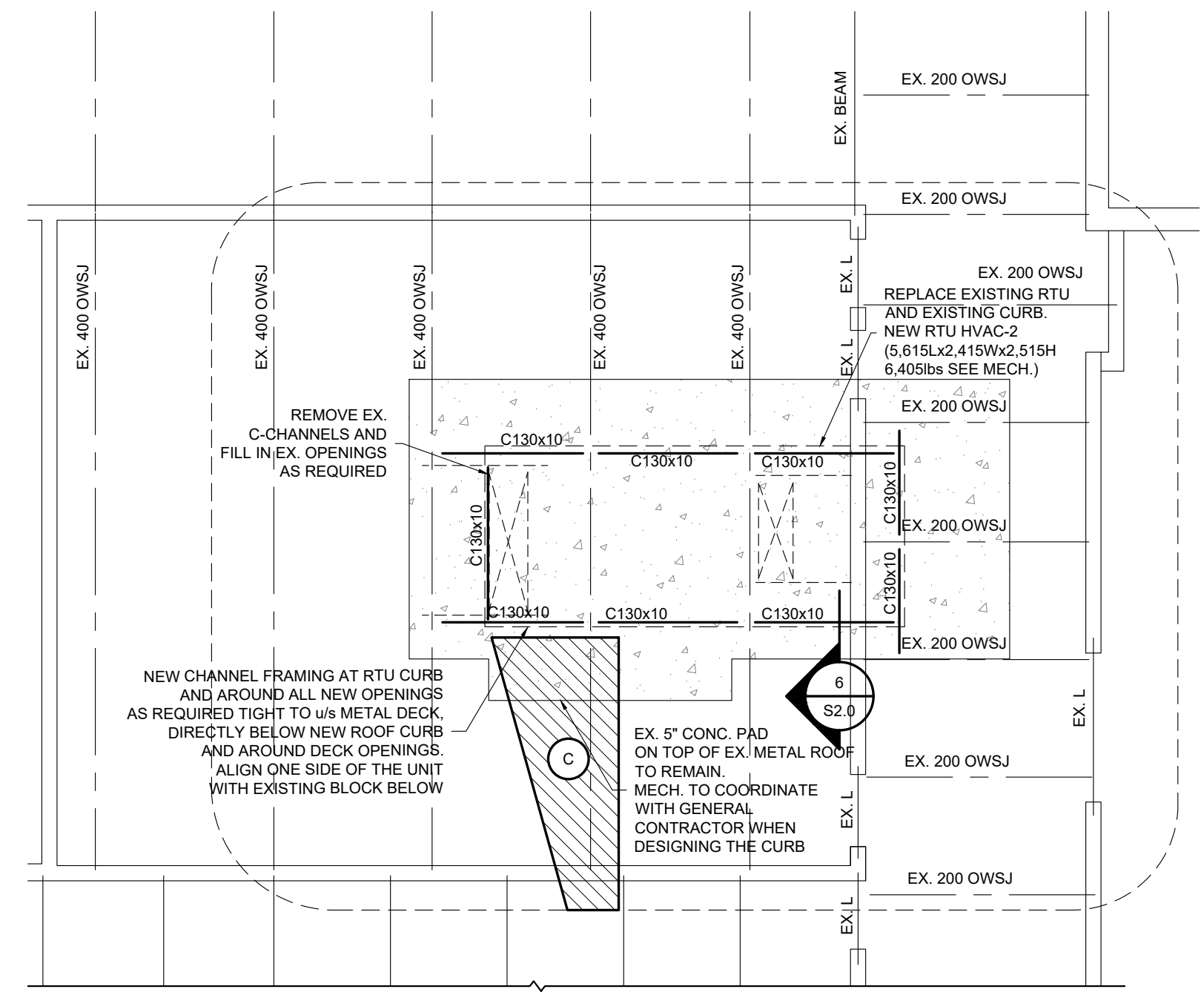
COLUMN SCHEDULE

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BEARING PLATE SCHEDULE

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PROVIDE (1) 15M x200 LG. REBAR DOWEL @ EA. BP



ROOF FRAMING PLAN
LIBRARY AREA

KEY PLAN

NO.	DATE	REVISION
3	2022.02.11	ISSUED FOR TENDER
2	2022.01.31	ISSUED FOR 90% CD REVIEW
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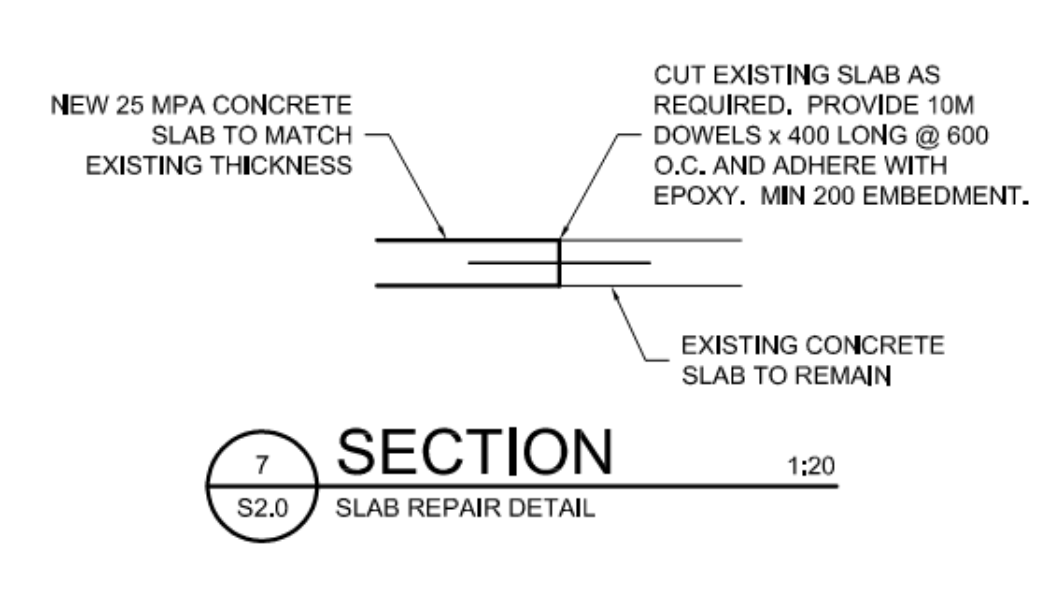
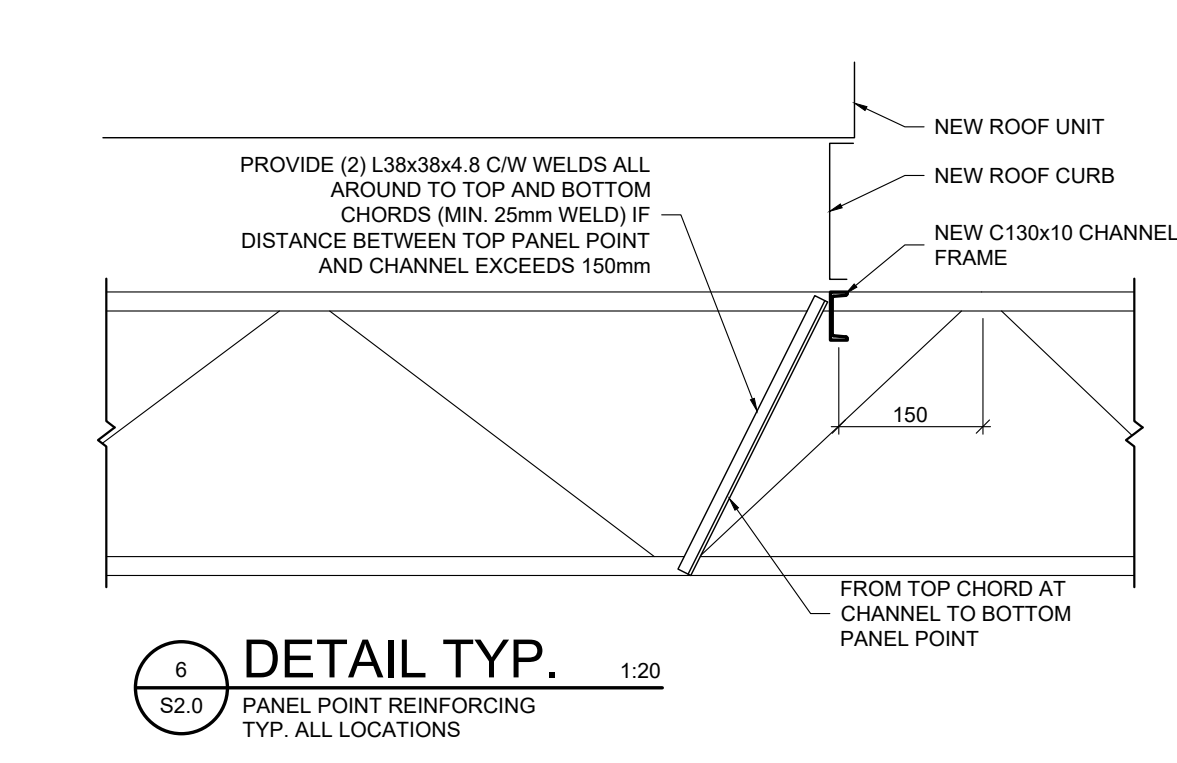
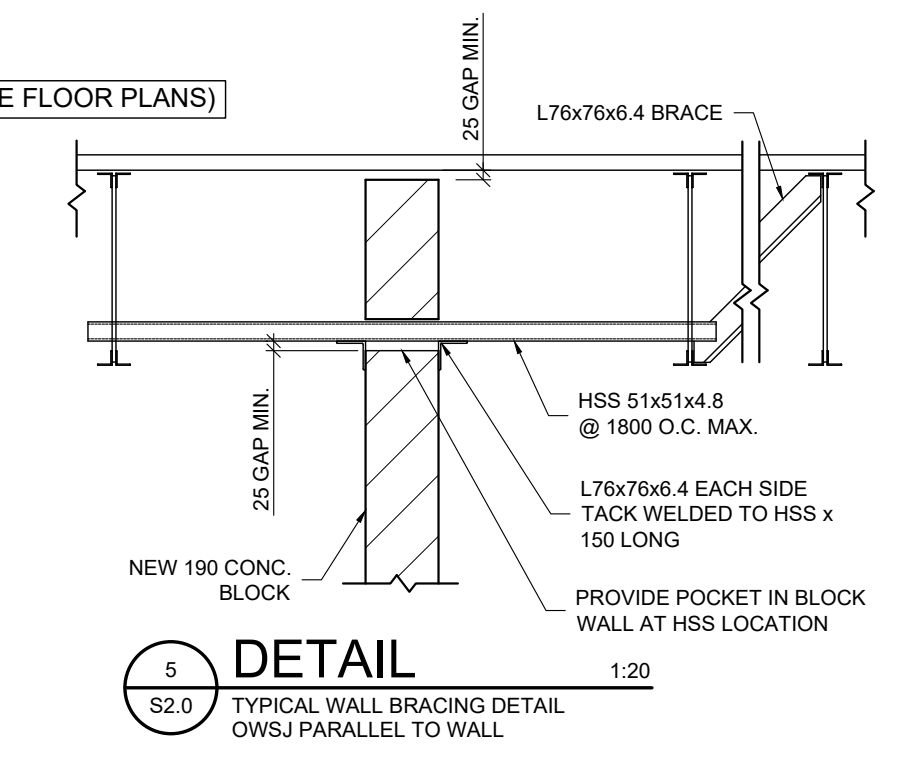
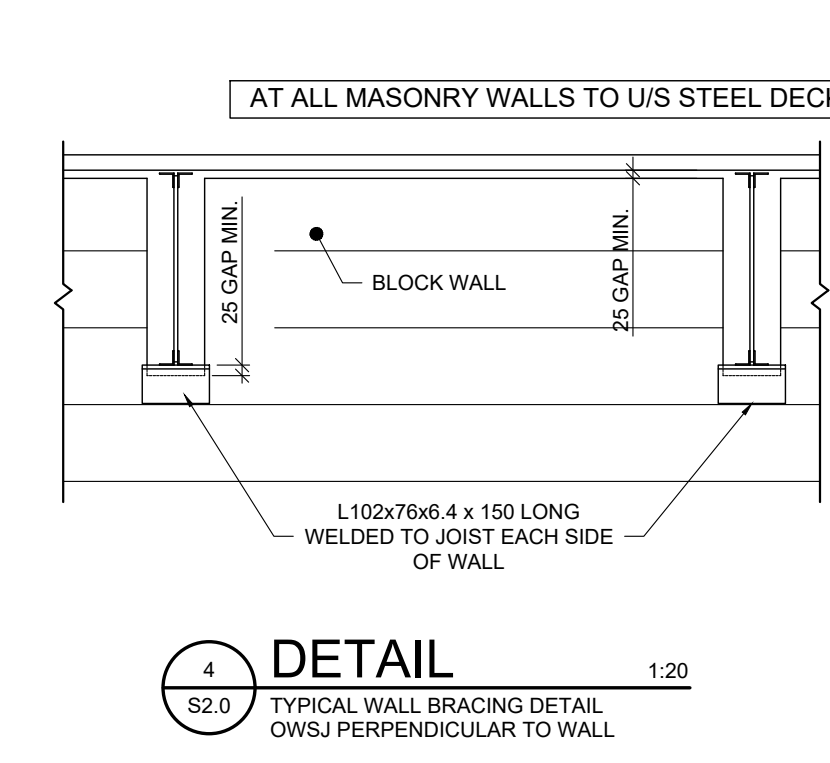
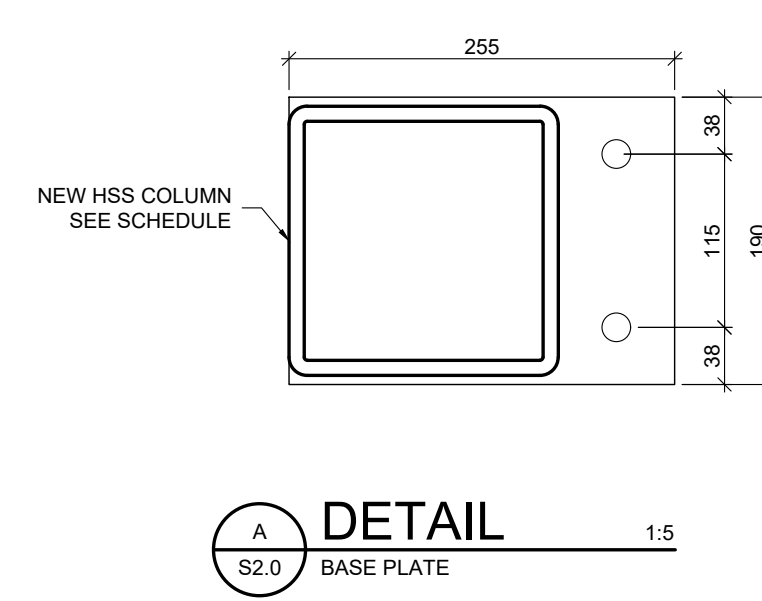
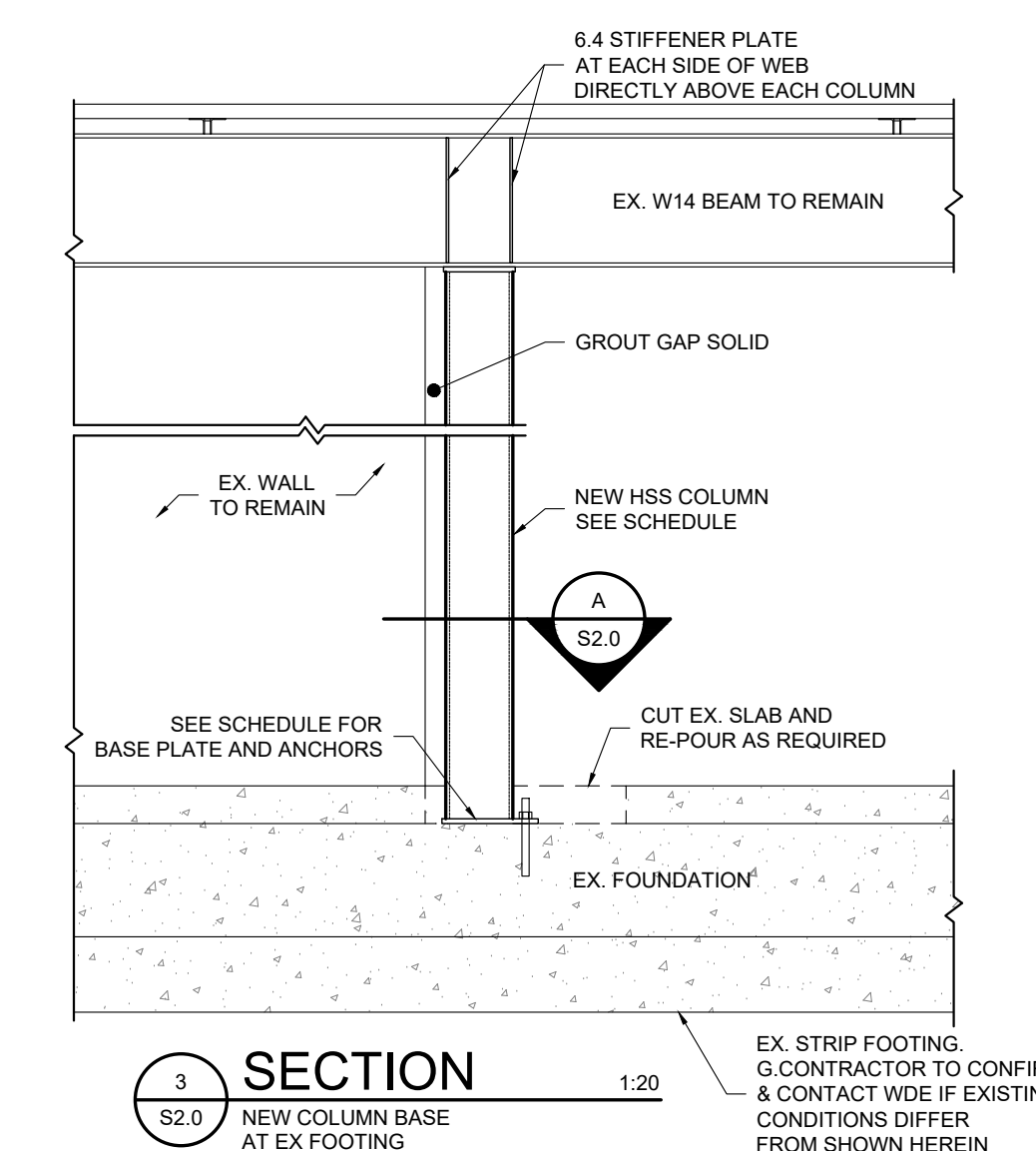
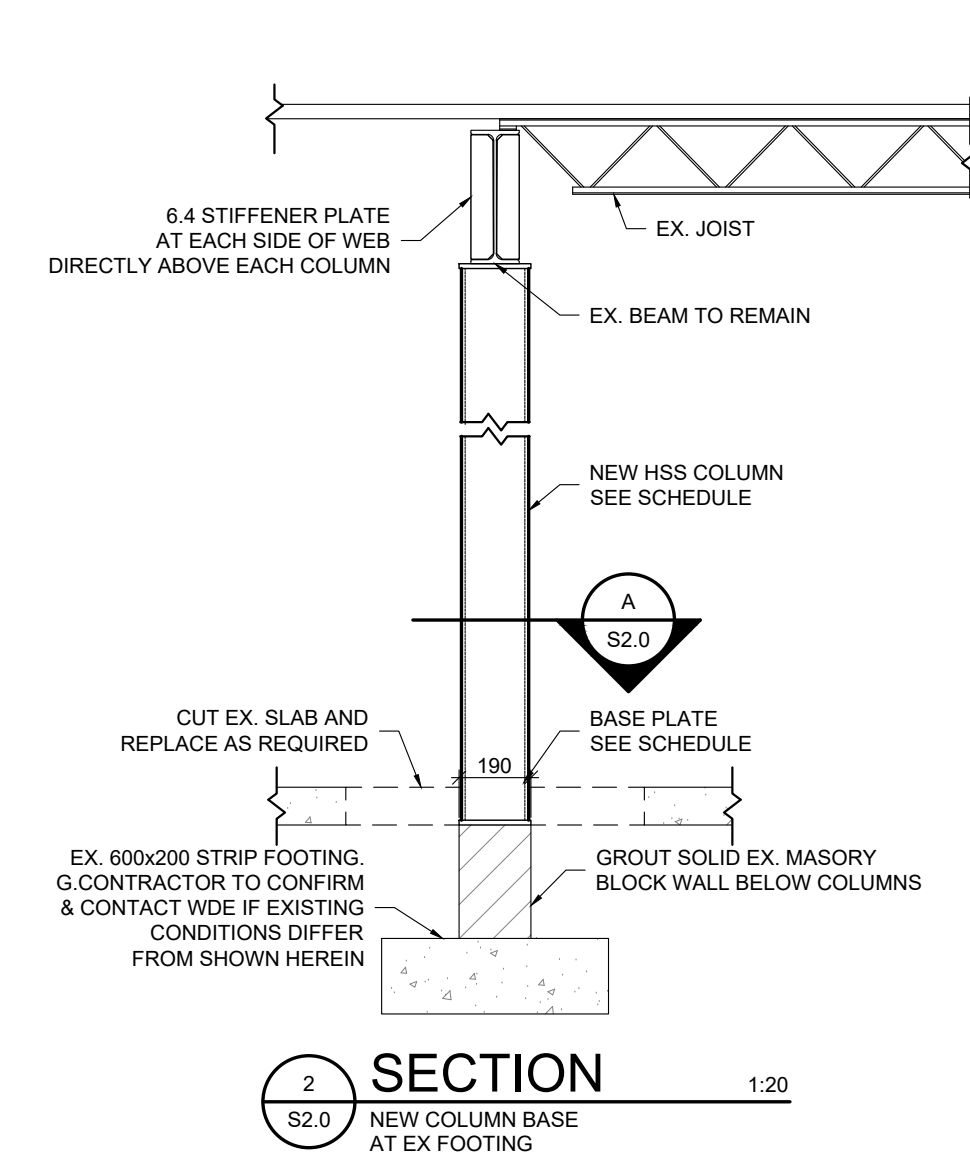
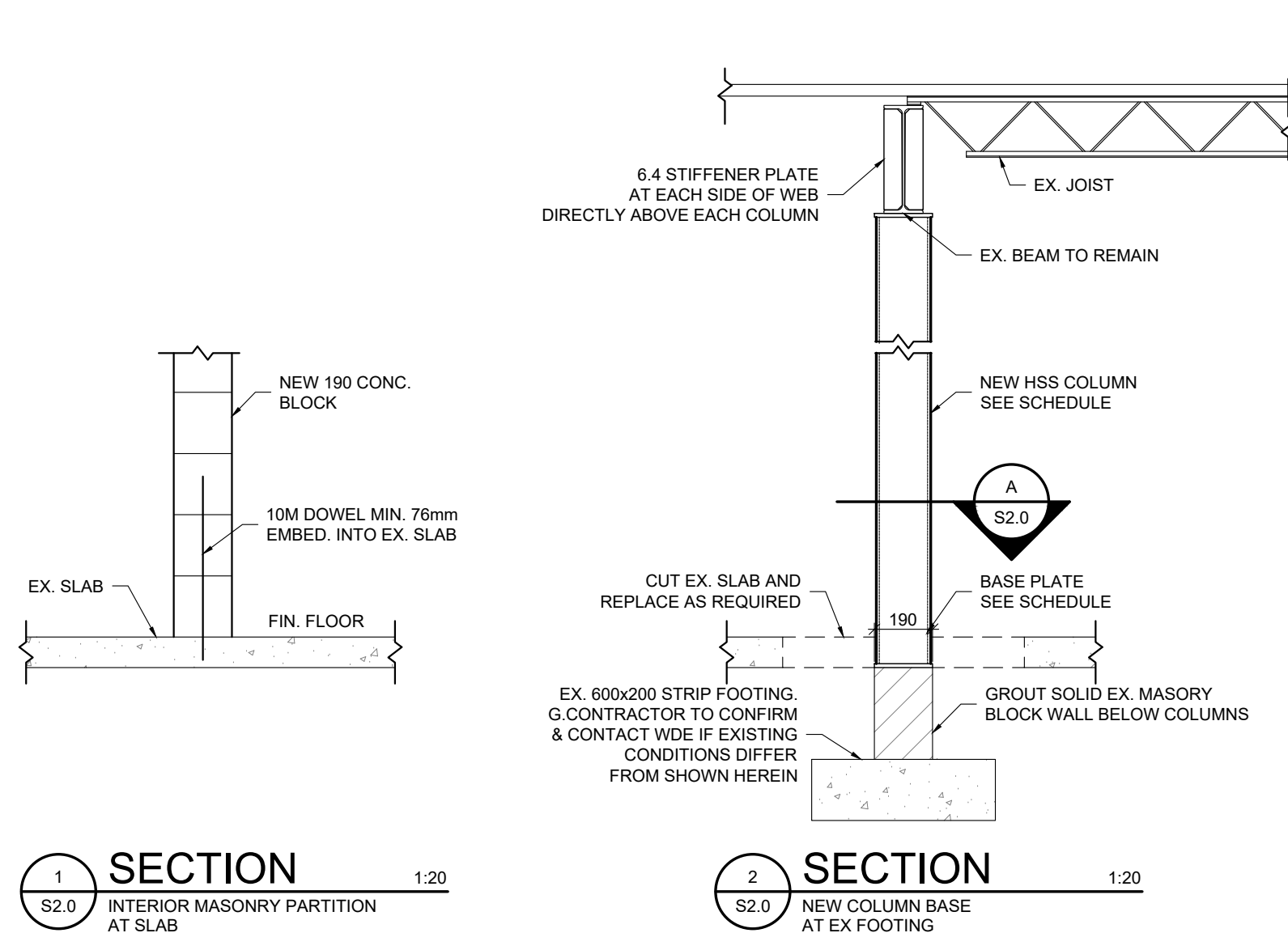
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LICENSED PROFESSIONAL ENGINEER
D. L. NADON
10012727
Feb 07, 2022
PROVINCE OF ONTARIO

PROJECT
PARK MANOR PUBLIC SCHOOL RENOVATION (PHASE 2)
18 MOCKINGBIRD DR. ELMIRA, ON.

DRAWING
ROOF FRAMING PLAN (CLASSROOMS)

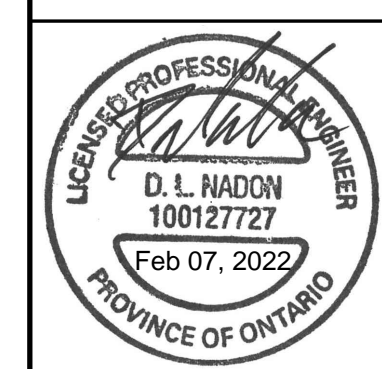
DESIGNER DLN	PROJECT NO. 13694-101
DRAWN DAR	DRAWING NO. S1.1
DATE JANUARY 2022	
SCALE AS NOTED	



KEY PLAN

NO.	DATE	REVISION
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PROJECT
PARK MANOR PUBLIC SCHOOL RENOVATION (PHASE 2)
18 MOCKINGBIRD DR. ELMIRA, ON.

DRAWING
DETAILS

DESIGNER DLN	PROJECT NO. 13694-101
DRAWN DAR	DRAWING NO. S2.0
DATE JANUARY 2022	
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