

**GENERAL NOTES:**

1. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE REMAINDER OF THE CONTRACT DRAWINGS AND DOCUMENTS.
2. VERIFY ALL DIMENSIONS ON THE STRUCTURAL DRAWINGS WITH THE REMAINDER OF THE CONTRACT DRAWINGS BEFORE CONSTRUCTION. ANY DISCREPANCIES OR ERRORS MUST BE REPORTED TO THE ENGINEER PRIOR TO STARTING THE WORK.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. DO NOT SCALE FROM DRAWINGS. REPORT ANY DISCREPANCIES TO THE CONSULTANT FOR CLARIFICATION BEFORE PROCEEDING.
4. DESIGN LOADS INDICATED ARE UNFACTORED UNLESS NOTED OTHERWISE.
5. DESIGN LIVE LOADS FOR EACH PORTION OF THE STRUCTURE ARE SHOWN. DO NOT EXCEED THESE LOADS DURING CONSTRUCTION.
6. STRUCTURAL DESIGN IS BASED ON THE LATEST EDITION OF THE NATIONAL AND ONTARIO BUILDING CODES, SUBSTRUCTURES AND WATER RETAINING TANKS, RESERVOIRS AND CONDUITS HAVE BEEN DESIGNED IN ACCORDANCE WITH CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES (ACI) 350-06 EXCEPT WHERE IT WAS NOT CONSIDERED APPLICABLE.
7. FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE OF THE SAME CHARACTER AS THOSE NOTED FOR SIMILAR CONDITIONS.
8. COORDINATE PLACEMENT AND LOCATION OF ITEMS BY SUBSEQUENT TRADES. RELEVANT TRADES SHALL REVIEW PRIOR TO ERECTION AND/OR INSTALLATION.
9. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SMALL OPENINGS, SLEEVES, RECESSES, DEPRESSIONS, SUMPS, TRENCHES, CURBS, HOUSEKEEPING PADS, EQUIPMENT BASES, AND SLOPES NOT INDICATED ON THE STRUCTURAL DRAWINGS.
10. DO NOT SCALE DRAWINGS.
11. ALL CODES REFERENCED ARE TO BE THE LATEST VERSION AT THE DATE OF ISSUE.
12. SUBMIT DRAWINGS OF EXISTING BUILDING SHORING FOR REVIEW. DRAWINGS TO BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.

**FOUNDATION**

1. THE DESIGN OF TEMPORARY WORKS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTROL OF THE GROUND WATER SHALL BE CARRIED OUT BY A SPECIALIZED FOUNDATION CONSULTANT, ENGAGED BY THE CONTRACTOR, THE COSTS OF ANY ADDITION GEOTECHNICAL INVESTIGATION AND/OR TESTING IS INCIDENTAL TO THE WORK AND WILL NOT BE CONSIDERED AS EXTRA COST TO THE OWNER.
2. THE SPECIALIZED FOUNDATION CONSULTANTS SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, TESTING, MONITORING AND, IF REQUIRED, REMOVAL OF TEMPORARY SHORING AND DEWATERING SYSTEMS.
3. BACKFILL AGAINST FOUNDATION WALL IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 450mm DIFFERENCE FROM THE LEVEL ON THE OTHER SIDE OF THE WALL UNLESS TEMPORARY SUPPORT FOR THE WALL IS PROVIDED.
4. SOFT AREAS UNCOVERED ON EXCAVATION SHALL BE SUB EXCAVATED TO SOUND MATERIAL AND FILLED WITH GRANULAR 'A' SOIL COMPACTED TO 100% STANDARD PROCTOR DRY DENSITY.
5. PLACE SLAB ON GRADE ON SOIL CAPABLE OF SUSTAINING 24 kPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOOTINGS.

**STRUCTURAL STEEL:**

1. COORDINATE WITH MECHANICAL ENGINEER, ELECTRICAL ENGINEER AND ALL SUB-TRADES WHOSE WORK AFFECTS THE DETAILING, FABRICATION AND ERECTION OF THE STRUCTURAL STEEL. DO NOT CUT OPENINGS IN STRUCTURAL STEEL MEMBERS WITHOUT APPROVAL OF ENGINEER.
2. PREPARE AND SUBMIT FULLY DETAILED AND DIMENSIONED DRAWINGS AND ERECTION DIAGRAMS. COPIES SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW. ERECTION DRAWINGS SHALL BE SEALED BY THE FABRICATOR'S ENGINEER.
3. COPIES OF THE ERECTION AND FABRICATION DRAWINGS SHALL BE PROVIDED AS REQUIRED FOR THE OWNER'S FILE AND/OR THE MUNICIPALITY.
4. BOLTED CONNECTIONS SHALL BE MADE USING HIGH TENSILE STRENGTH BOLTS.
5. PROVIDE TEMPORARY BRACING NECESSARY TO KEEP THE STRUCTURE TRUE AND PLUMB DURING CONSTRUCTION UNTIL PERMANENT BRACING IS INSTALLED. BRACING DESIGN SHALL BE PROVIDED AND CERTIFIED BY FABRICATOR'S ENGINEER.
6. ALL CONNECTIONS TO BE STANDARD FRAME BEAM CONNECTIONS AND ARE TO BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S ENGINEER AS PER CSA S16.1.
7. VARIATIONS FROM PLUMB AND LEVEL:  
EXTERIOR COLUMNS, SPANDREL BEAMS, AND ANGLES: ± 3/3000  
OTHER MEMBERS: ± 6/3000
8. STEEL SHALL BE THOROUGHLY CLEANED AND BE GIVEN ONE SHOP COAT OF ANTI-CORROSION PRIMER. AREAS Affected BY WEATHERING, OR ANY OTHER DAMAGE SHALL HAVE THE RUST REMOVED AND BE 'TOUCHED UP' IN THE FIELD. STEEL PERMANENTLY EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED ELSEWHERE. GALVANIZING SHALL BE REMOVED LOCALLY PRIOR TO ANY STRUCTURAL FIELD WELDING.

**MATERIALS:**

1. CONCRETE SLAB INFILL AND THICKENING SHALL BE 25 MPa, CLASS N. CONCRETE PILE CAP AND FOUNDATION WALLS SHALL BE 35 MPa, CLASS N.
2. ALL REINFORCING BAR SHALL BE GRADE 400MPa, DEFORMED, CAN/CSA-G30.18.
3. CONCRETE BLOCK SHALL CONFORM TO THE LATEST EDITION OF THE RELEVANT CODES AND STANDARDS AND THE BLOCK STRENGTH SHALL BE 15MPa ON NET AREA.
4. MORTAR SHALL BE TYPE "S" UNLESS NOTED OTHERWISE.
5. CONCRETE FILL IN REINFORCED MASONRY SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 20MPa.
6. COLUMN BEARING GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 40MPa.
7. STRUCTURAL STEEL TO CONFORM TO CAN/CSA-G40.21, UNO.
- W SECTIONS: GRADE 350W  
L AND C SECTIONS: GRADE 350W  
HSS SECTIONS: GRADE 350 CLASS 'H'
8. THE WELDING ELECTRODES SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W48 (LATEST EDITION).

**MASONRY:**

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE RELEVANT CODES AND STANDARD AS REQUIRED IN THE PROJECT SPECIFICATION.
2. THE MASONRY WORK HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATIONS.
3. NO MASONRY WORK SHALL BE PERMITTED WITH THE TEMPERATURE BELOW 5°C UNLESS PROVISIONS ARE MADE FOR HEATING THE MATERIALS AND WORK AREA AND PROTECTING THE WORK.
4. OBTAIN ENGINEER'S PERMISSION FOR ALL OPENINGS, SLEEVES AND SLOTS OTHER THAN SHOWN ON THE STRUCTURAL DRAWINGS. WHERE DOWELS, ANCHOR BOLTS, ETC., ARE SHOWN PROJECTING INTO MASONRY, BUILD THESE INTO MASONRY VOIDS WITH GROUT.
5. ALL MASONRY SHALL BE SET WITH FULLY FILLED JOINTS.
6. CELLS TO BE REINFORCED SHALL BE KEPT CLEAN OF MORTAR.
7. PROVIDE A MINIMUM 25mm GROUT UNDER ALL WALL PLATES AND BASE PLATES AND BEAR ON SOLID MASONRY OF 400mm (MINIMUM) DEPTH.
8. PROVIDE AND INSTALL LINTELS OVER ALL OPENINGS OR RECESSES IN MASONRY WALLS INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT, IN ACCORDANCE WITH THE REQUIREMENTS OF THE LINTEL SCHEDULE.
9. PROVIDE A MINIMUM LENGTH OF 200mm OF 100% SOLID MASONRY UNITS FOR BEARING OF STEEL, CONCRETE OR REINFORCED MASONRY LINTELS. FILL LINTELS WITH 20MPa CONCRETE GROUT CONTAINING 10mm AGGREGATE.
10. ALL MASONRY WALLS TO BE REINFORCED WITH 15M @ 1200 UNLESS NOTED OTHERWISE.
11. THE CONCRETE CONTRACTOR MUST PROVIDE REINFORCING DOWELS PROJECTING FROM CAST-IN-PLACE CONCRETE INTO BLOCK WALLS TO MATCH VERTICAL REINFORCING IN BLOCK WALLS. LAPS IN REINFORCING:

WIRE REINFORCING	150
10M	600
15M	750
20M	950
25M	1100
30M	1600
35M	MECHANICAL SPLICING

12. FILL CELLS CONTAINING VERTICAL REINFORCING WITH 20MPa CONCRETE GROUT CONTAINING 10mm AGGREGATE AND UP TO 250mm SLUMP, VIBRATE OR PUDDLE TO FILL CELLS COMPLETELY. USING JOINT MORTAR FOR FILLING THE CELLS IS NOT ACCEPTABLE AND WILL REQUIRE RECONSTRUCTION OF WALL.

13. FILL CELLS IN 150mm HIGH LIFTS OR IF CLEANOUTS ARE PROVIDED IN 2400mm HIGH LIFTS.

14. PROVIDE CONTINUOUS LADDER TYPE JOINT REINFORCING AT 400mm c/c AND USE "CORNER-LOK" AT ALL WALL INTERSECTIONS. REINFORCING TO BE GALVANIZED TO ASTM A153 CLASS B2 (458g/m<sup>2</sup>).

FOR CAVITY WALL AND SINGLE WYTHE 3.65mm Ø WIRES (9 GAUGE)  
FOR COMPOSITE WYTHE 4.76mm Ø WIRES

15. ALL METAL ANCHORS TO SECURE WALLS EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED.

16. ANCHOR MASONRY TO STEEL COLUMNS WITH STEEL STRAP PLATE AS INDICATED.

17. JOINTS IN MASONRY SHALL BE LOCATED AT LEAST 300mm FROM ANY OPENING IN THE WALL, UNLESS SPECIFICALLY NOTED OTHERWISE.

**CAST-IN-PLACE CONCRETE:**

1. DO CONCRETE WORK IN ACCORDANCE WITH THE LATEST VERSION OF THE APPLICABLE CODES AND STANDARDS.
2. SUBMIT REINFORCING DIAGRAMS BEFORE FABRICATION FOR REVIEW BY THE ENGINEER.
3. REINFORCING IS TO BE GENERALLY DETAILED IN ACCORDANCE WITH RSC. MANUAL OF STANDARD PRACTICE (LATEST EDITION). SPLICES SHALL CONFORM TO TABLE OF CLASS 'B' TENSION LAPS AND STANDARD 90° HOOKS' PROVIDED ON THE DRAWINGS.
4. THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND SURFACE OF CONCRETE SHALL BE AS FOLLOWS:

FORMED CONCRETE NOT EXPOSED  
TO WATER OR WEATHER: 40mm  
FORMED CONCRETE EXPOSED  
TO WATER, WEATHER OR EARTH: 50mm  
CONCRETE PLACED AGAINST MUD MAT: 50mm  
CONCRETE PLACED AGAINST EARTH: 75mm

5. UNLESS INDICATED OTHERWISE, ALL DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THE REINFORCING STEEL TO WHICH THEY ARE SPLICED.

6. ALL REINFORCING STEEL PLACEMENT TO BE INSPECTED BY THE ENGINEER BEFORE PLACING THE CONCRETE.

7. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.

8. DO NOT SAWCUT THE SLAB ON GRADE OR OTHER FLOORS, UNLESS SPECIFICALLY SHOWN AND DETAILED ON THE DESIGN DRAWINGS.

9. ALL REINFORCING BARS SHALL BE SUPPORTED IN THE FORMS AND SPACED WITH STANDARD ACCESSORIES SO THAT THERE IS NO MOVEMENT DURING CONCRETE PLACEMENT.

10. PROVIDE REINFORCING DOWELS PROJECTING FROM CAST-IN-PLACE CONCRETE INTO BLOCK WALLS TO MATCH VERTICAL REINFORCING IN BLOCK WALLS.

**DELEGATED DESIGN:**

1. SUBMIT SHOP DRAWINGS FOR COMPONENTS REQUIRING DELEGATED DESIGN UNDER THE SEAL AND SIGNATURE OF THE ENGINEER RESPONSIBLE FOR THE DESIGN TO THE PRIME CONSULTANT FOR COORDINATION REVIEW.
2. SHOP DRAWINGS SHALL CLEARLY INDICATE ANY LOADS IMPARTED TO THE STRUCTURE.
3. CONNECTIONS TO THE PRIMARY STRUCTURE SHALL ACCOMMODATE DEFLECTIONS IN THE PRIMARY STRUCTURE. THE CONTRACTOR MAY SEEK GUIDANCE FROM THE ENGINEER OF RECORD AS TO DESIGN LOADS, DEFLECTIONS, ETC.

**EXISTING STRUCTURES:**

1. DIMENSIONS PERTAINING TO EXISTING STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND FABRICATION. CIMA IS TO BE NOTIFIED OF ANY DISCREPANCIES.
2. THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, REPAIR ANY DAMAGE TO THE EXISTING STRUCTURE, EQUIPMENT & FINISHES CAUSED BY THE CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE SUBJECT TO THE ARCHITECT'S APPROVAL.

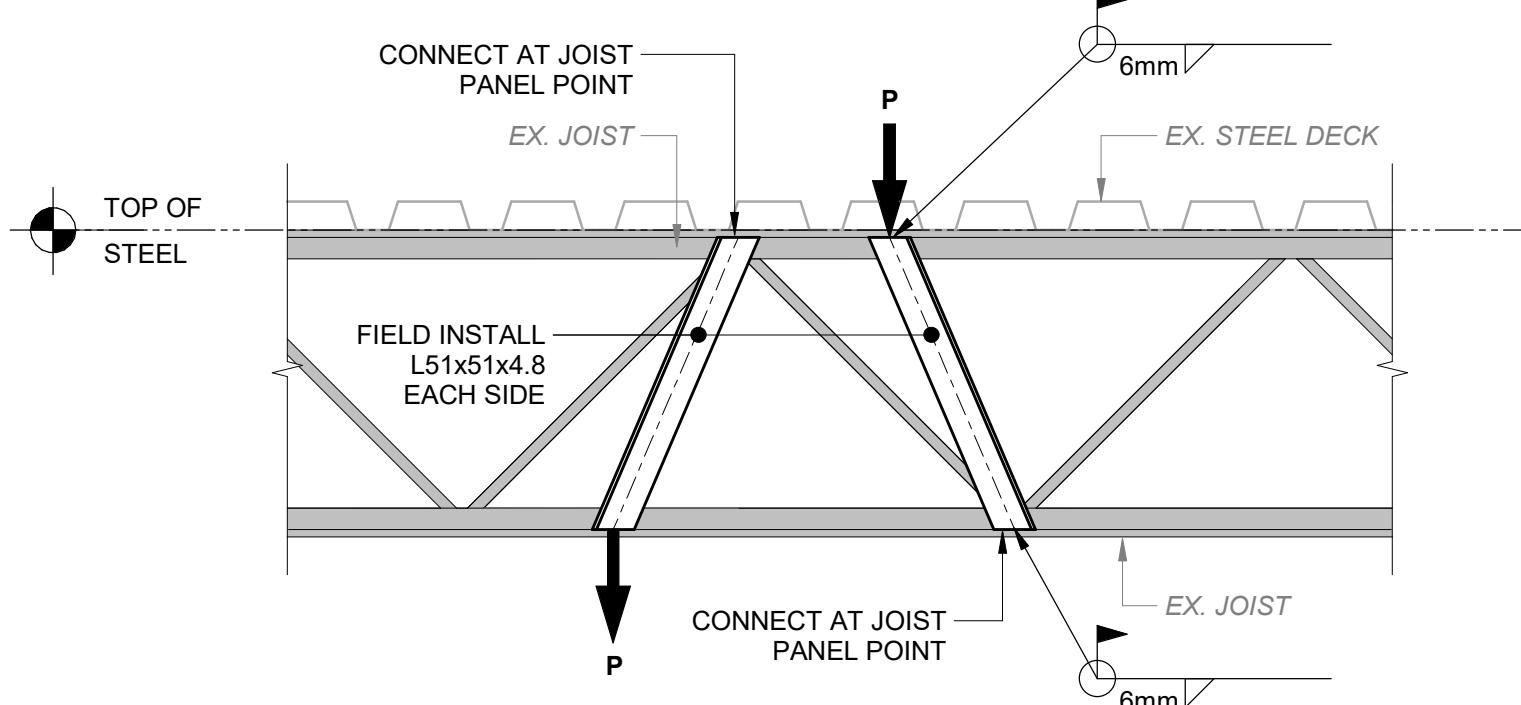
**SHORING:**

1. THE SITE CONDITIONS WILL NOT PERMIT AN OPEN EXCAVATION.
2. ALL SIDES OF THE EXCAVATION MUST BE BRACED OR SHORED TO MAINTAIN STRICT ADHERENCE TO THE OCCUPATIONAL HEALTH AND SAFETY ACT.
3. THE LINE OF THE SHORING SHOWN ON THE DRAWING HAS BEEN PROVIDED AS A GUIDE INDICATING THE GENERAL EXTENT AND LOCATION OF THE SYSTEM. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SYSTEM TO SUIT THEIR CONSTRUCTION REQUIREMENTS.
4. THE CONTRACTOR SHALL ENGAGE A STRUCTURAL ENGINEER TO DESIGN AND INSPECT THE SHORING SYSTEM.
5. THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO REVIEW AND CARRY OUT AN ASSESSMENT OF THE SITE CONDITIONS, BASED ON THIS WORK AND A REVIEW OF THE AVAILABLE GEOTECHNICAL INFORMATION. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A DESIGN INFORMATION TO THE STRUCTURAL ENGINEER ENGAGED BY THE CONTRACTOR TO DESIGN THE SHORING SYSTEM.
6. THE STRUCTURAL ENGINEER SHALL SUBMIT SEALED COPIES OF THE DESIGN DRAWINGS FOR REVIEW BY THE OWNER'S ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. THE CONTRACTOR SHALL NOT DISTURB OR DAMAGE ADJACENT STRUCTURES DURING EXCAVATION CONSTRUCTION, BACKFILL OR COMPACTION OPERATIONS, INCLUDING THE DRIVING OR REMOVAL OF ANY SHORING.
8. THE CONTRACTOR SHALL PROVIDE FOR CONDUCTING PRECONDITION SURVEYS OF EXISTING ADJACENT BUILDINGS AND FOR DESIGNING APPROPRIATE CONSTRUCTION METHODS TO AVOID DAMAGE TO THESE BUILDINGS AND/OR PREMISES.

**ABBREVIATIONS:**

ADDL	ADDITIONAL	L	LENGTH OF REBAR
AGGR	AGGREGATE	LG	LONG
ALT	ALTERNATE	LL	LOWER LEVEL OR LIVE LOAD
ALUM	ALUMINUM	LLH	LONG LEG HORIZONTAL
APPROX	APPROXIMATE	LLV	LONG LEG VERTICAL
ARCH	ARCHITECTURAL	LNTL	LINTEL
B/	BOTTOM OF	LP	LOW POINT
BLDG	BUILDING	LW	LONG WAY
BM	BEAM	MAX	MAXIMUM
BPL	BASE PLATE	MC	MOMENT CONNECTION
BLL	BOTTOM LOWER LAYER	MECH	MECHANICAL
BOT	BOTTOM	MEMB	MEMBRANE
BRG	BEARING	MEZZ	MEZZANINE
BR	BRACING	MID	MIDDLE
BRDG	BRIDGING	MIN	MINIMUM
BS	BOTH SIDES	MIRR	MIRROR
BWN	BETWEEN	MISC	MISCELLANEOUS
BUL	BOTTOM UPPER LAYER	N/A	NOT APPLICABLE
BW	BOTH WAYS	NTS	NOT TO SCALE
C/C	CENTER TO CENTER	OC	ON CENTER
C/W	COMPLETE WITH	OD	OUTSIDE DIAMETER
CANT	CANTILEVER	OF	OUTSIDE FACE
CIP	CAST-IN-PLACE	OH	OVERHEAD
CL or CL	CENTERLINE	OPNG	OPENING
CP	COMPLETE PENETRATION	OPP	OPPOSITE
CLR	CLEAR	OR	OUTSIDE RADIUS
COL	COLUMN	OWSJ	OPEN WEB STEEL JOIST
CONC	CONCRETE	PCP	PRECAST CONCRETE PANEL
CONN	CONNECTION	PERP	PERPENDICULAR
CONT	CONTINUOUS	PL	PLATE
COORD	COORDINATE	± PL	PLUS MINUS
CTR	CENTRE	PRCST	PRECAST
CTRL JT	CONTROL JOINT	PROC	PROCESS
DEMO	DEMOLISH	PSI	POUNDS PER SQUARE INCH
DEI	DETERMINATION	PT CONC	POST-TENSIONED CONCRETE
DIA	DIAMETER	QTY	QUANTITY
DAG	DIAGONAL	R	RADIUS
DIM	DIMENSION	R/W	REINFORCED WITH
DIST	DISTANCE	REF	REFERENCE
DL	DEAD LOAD	REINF	REINFORCEMENT
-DO	REPEAT INSTRUCTION	REQD	REQUIRED
DWG	DRAWING	RWL	RAIN WATER LEADER
DWL	DOWEL	S/W	SHORT WAY
EF	EACH FACE	SCD	SCUPPER DRAIN
EJ	EXPANSION JOINT	SCHED	SCHEDULE
ELEC	ELECTRICAL	SECT	SECTION
EL	ELEVATION	SF	STEP FOOTING
EMB	EMBEDMENT	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SOC	SLAB ON GRADE
EQUIV	EQUIVALENT	SPEC	SPECIFICATION
E/S	EACH SIDE	SPMDD	STANDARD PROCTOR
EX	EXISTING	SS	STAINLESS STEEL
EXP	EXPANSION	STIF	STIFFENER
EXT	EXTERIOR	STIR	STIRRUP
EW	EACH WAY	STD	STANDARD
FD	FLOOR DRAIN	STR	STRINGER
FDN	FOUNDATION	STAG	STAGGERED
FMC	FULL MOMENT CONNECTION	STRUCT	STRUCTURAL
FRMG	FRAMING	SYMM	SYMMETRICAL
FTG	FOOTING	TEMP	TEMPORARY
GA	GAUGE	THK	THICK
GALV	GALVANIZED	T/	TOP OF
GIR	GIRDER	THRU	THROUGH
GL	GRID LINE	TJ	TIE JOIST
GR	GRADE	TLL	TOP LOWER LAYER
GR BM	GRADE BEAM	TUL	TOP UPPER LAYER

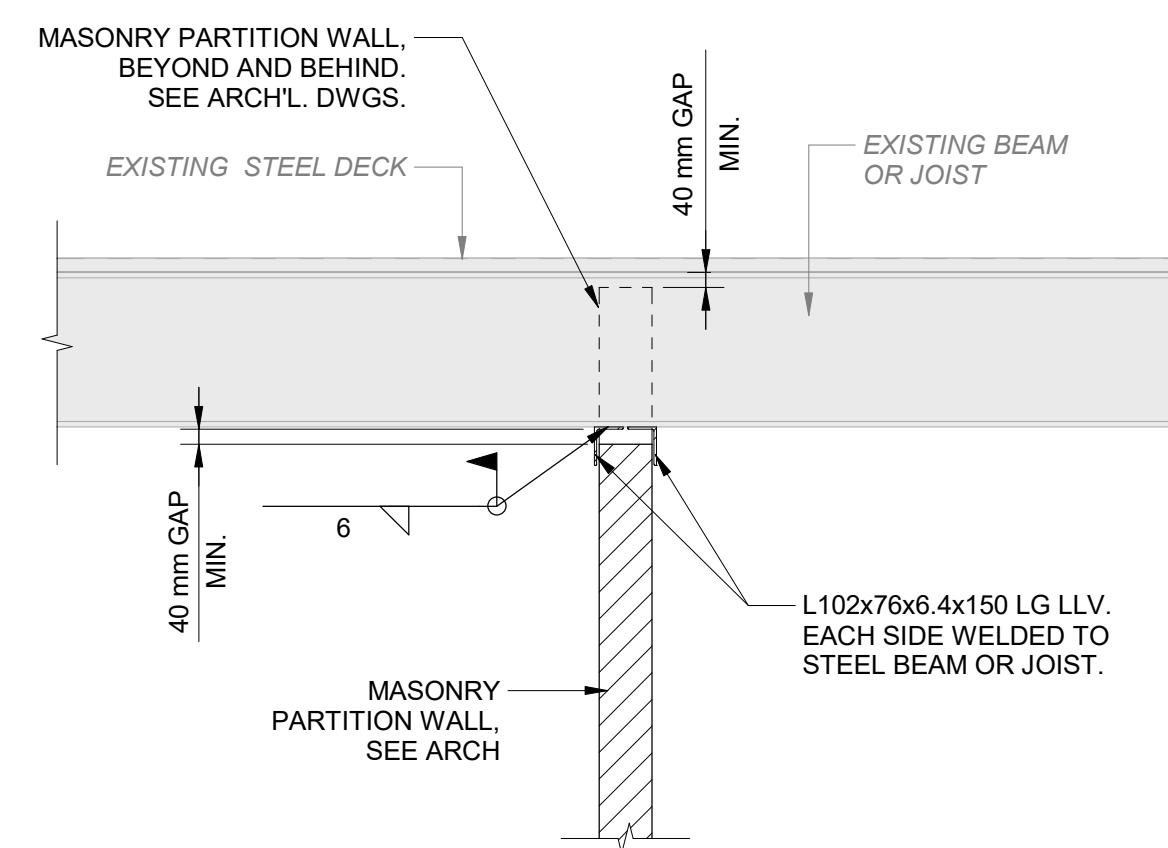




### 1 EXISTING JOIST REINFORCING

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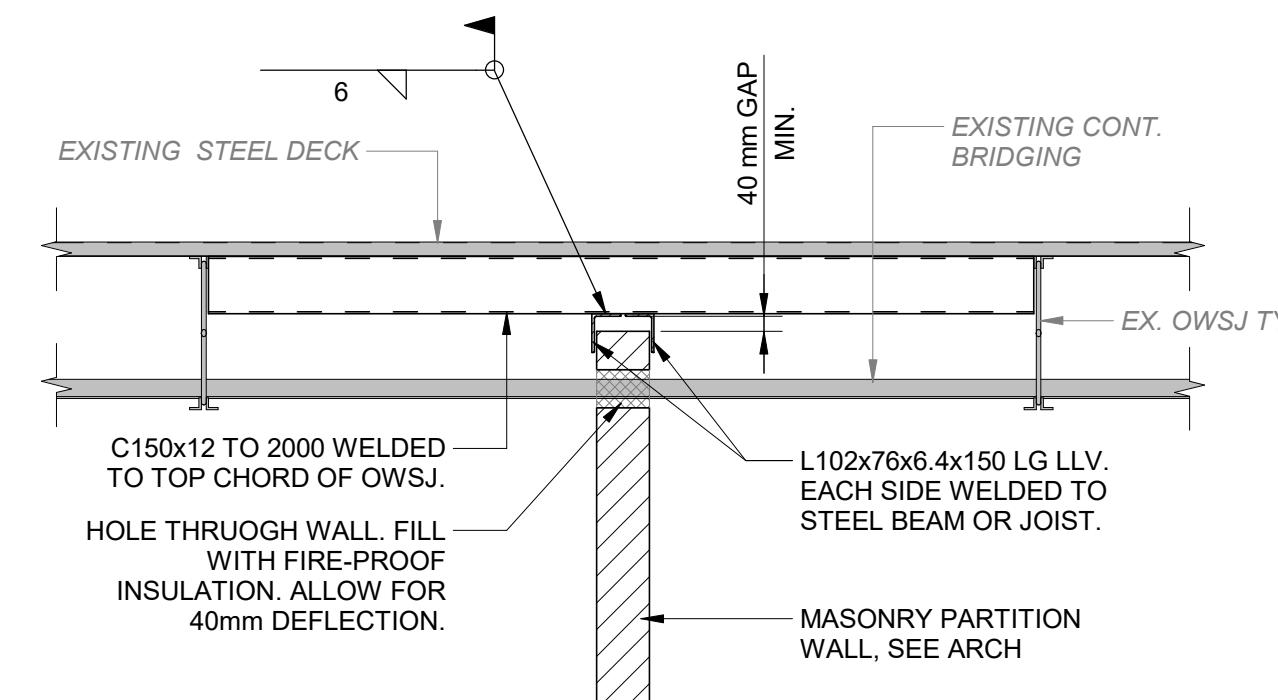
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### 2 LATERAL SUPPORT OF BLOCK WALL PERPENDICULAR TO BEAMS OR JOISTS

S201

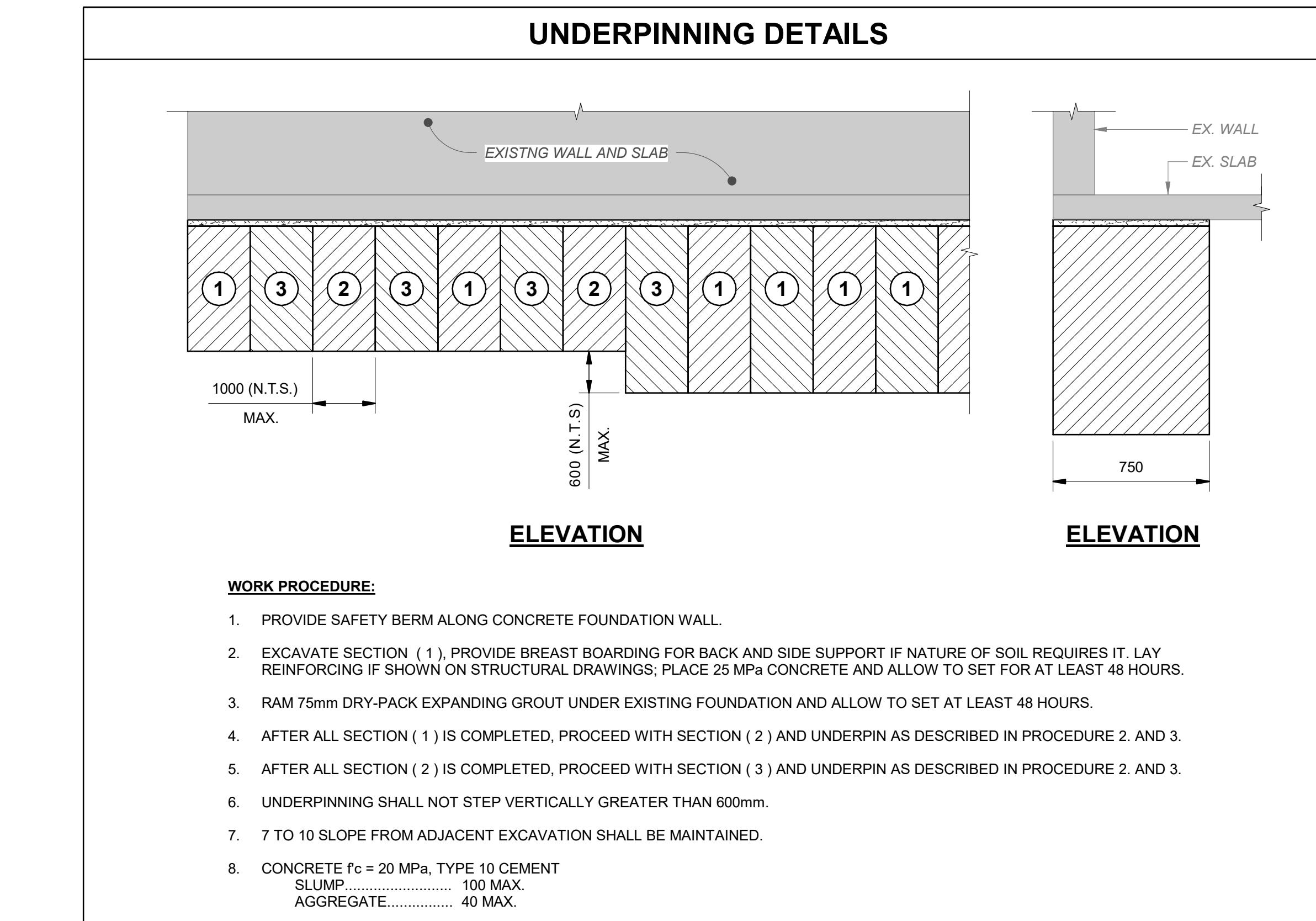
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### 3 LATERAL SUPPORT OF BLOCK WALL PARALLEL TO JOISTS

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### ELEVATION

### ELEVATION

#### WORK PROCEDURE:

1. PROVIDE SAFETY BERM ALONG CONCRETE FOUNDATION WALL.
2. EXCAVE SECTION (1), PROVIDE BREAST BOARDING FOR BACK AND SIDE SUPPORT IF NATURE OF SOIL REQUIRES IT. LAY REINFORCING IF SHOWN ON STRUCTURAL DRAWINGS; PLACE 25 MPa CONCRETE AND ALLOW TO SET FOR AT LEAST 48 HOURS.
3. RAM 75mm DRY-PACK EXPANDING GROUT UNDER EXISTING FOUNDATION AND ALLOW TO SET AT LEAST 48 HOURS.
4. AFTER ALL SECTION (1) IS COMPLETED, PROCEED WITH SECTION (2) AND UNDERPIN AS DESCRIBED IN PROCEDURE 2. AND 3.
5. AFTER ALL SECTION (2) IS COMPLETED, PROCEED WITH SECTION (3) AND UNDERPIN AS DESCRIBED IN PROCEDURE 2. AND 3.
6. UNDERPINNING SHALL NOT STEP VERTICALLY GREATER THAN 600mm.
7. 7 TO 10 SLOPE FROM ADJACENT EXCAVATION SHALL BE MAINTAINED.
8. CONCRETE  $f_c = 20$  MPa, TYPE 10 CEMENT SLUMP ..... 100 MAX. AGGREGATE ..... 40 MAX.

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0 12/19/2025 ISSUED FOR TENDER AND PERMIT S.Y.  
No. Date Description By

STAMPS:  
  
DESIGNED BY: APPROVED BY:

BAR SIZE	TENSION LAP SPLICES - CLASS "A" (LTA)													
	TYPE 1 - $f_c$ (MPa)					TYPE 2 - $f_c$ (MPa)								
20	25	30	35	40	45	50	20	25	30	35	40	45	50	
10M	370	330	300	280	260	250	240	490	440	400	370	350	330	310
15M	520	470	430	390	370	350	330	690	620	570	520	490	460	440
20M	630	570	520	480	450	420	400	840	750	690	640	600	560	530
25M	1020	910	830	770	720	680	650	1360	1210	1110	1030	960	910	860
30M	1210	1080	990	910	860	810	770	1610	1440	1320	1220	1140	1070	1020
35M	1440	1290	1180	1090	1020	960	910	1920	1720	1570	1450	1360	1280	1220
45M	TENSION LAP SPLICES NOT PERMITTED										TENSION LAP SPLICES NOT PERMITTED			
55M	TENSION LAP SPLICES NOT PERMITTED										TENSION LAP SPLICES NOT PERMITTED			

BAR SIZE	COMPRESSION LAP SPLICES (Lc)			
	$f_c < 20$ MPa		$f_c > 20$ MPa	
OPEN	ENCLOSED	OPEN	ENCLOSED	
10M	440	370	330	300
15M	630	520	470	390
20M	760	630	570	480
25M	980	820	740	620
30M	1170	970	880	730
35M	1390	1160	1040	870
45M	NOTE 4		NOTE 4	
55M	NOTE 4		NOTE 4	

BAR SIZE	TENSION LAP SPLICES - CLASS "B" (LTB)													
	TYPE 1 - $f_c$ (MPa)					TYPE 2 - $f_c$ (MPa)								
20	25	30	35	40	45	50	20	25	30	35	40	45	50	
10M	480	430	390	360	340	320	300	640	570	520	480	450	430	400
15M	670	600	550	510	480	450	430	900	800	730	680	640	600	570
20M	820	740	670	620	580	550	520	1090	980	890	830	770	730	690
25M	1320	1180	1080	1000	940	880	840	1760	1580	1440	1330	1250	1180	1120
30M	1570	1400	1280	1190	1110	1050	990	2090	1870	1710	1580	1480	1400	1320
35M	1870	1680	1530	1420	1330	1250	1190	2500	2230	2040	1890	1770	1670	1580
45M	TENSION LAP SPLICES NOT PERMITTED										TENSION LAP SPLICES NOT PERMITTED			
55M	TENSION LAP SPLICES NOT PERMITTED										TENSION LAP SPLICES NOT PERMITTED			

#### TENSION LAP SPLICE NOTES

1. REFERENCE CODE CAN/CSA A23.3-19.
2. TABLES ARE IN MILLIMETERS;  $d_b$  = BAR DIAMETER.
3. TENSION LAP SPLICES:
  - A. CLASS "A": APPLICABLE WHEN REINFORCING PROVIDED IS AT LEAST TWICE THAT REQUIRED BY ANALYSIS AND LESS THAN ONE-HALF OF THE TOTAL REINF. IS SPLICED WITHIN THE REQUIRED LAP LENGTH.
  - B. CLASS "B": APPLICABLE EVERYWHERE EXCEPT WHERE CLASS "A" CAN BE USED.
  - C. TENSION LAP SPLICE LENGTH SHALL NOT BE LESS THAN 300mm.
  - D. TENSION LAP SPLICES FOR BARS LARGER THAN 35M ARE NOT PERMITTED.
  - E. TYPES 1 AND 2 ARE THE SAME AS TENSION DEVELOPMENT TYPES - SEE NOTES FOR DEVELOPMENT OF REINFORCING BARS.
  - F. TENSION LAP SPLICES LISTED IN TENSION LAP SPLICE TABLES SHALL BE Multiplied WITH THE FOLLOWING FACTORS FOR:

#### MODIFICATION FACTOR

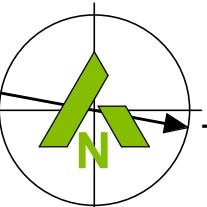
- k1 - TOP BARS HAVING MORE THAN 300mm OF FRESH CONCRETE CAST BELOW THE DEVELOPMENT LENGTH.
- k2 - FOR EPOXY-COATED REINFORCEMENT WITH CLEAR COVER LESS THAN  $d_b$  OR WITH CLEAR SPACING BETWEEN BARS BEING DEVELOPED LESS THAN  $d_b$ .
- k3 - FOR ALL OTHER EPOXY-COATED REINFORCEMENT
- k4 - FOR STRUCTURAL LOW-DENSITY CONCRETE
- k5 - FOR STRUCTURAL SEMI-LOW-DENSITY CONCRETE

THE PRODUCT OF  $k1k2$  NEED TO BE TAKEN GREATER THAN 1.7.

- G. BARS SPLICED BY NON-CONTACT LAP SPLICES SHALL NOT HAVE A TRANSVERSE SPACING EXCEEDING THE LESSER OF ONE-FIFTH OF THE REQUIRED LAP SPLICE LENGTH OR 150mm.
- H. LAP SPLICES OF BARS IN BUNDLE SHALL BE BASED ON THE LAP SPLICE LENGTH REQUIRED FOR INDIVIDUAL BARS WITHIN THE BUNDLE. INCREASED 10% FOR A 2 BAR BUNDLE INCREASED 20% FOR 3 BAR BUNDLES AND 33% FOR 4 BAR BUNDLE. ENTIRE BUNDLE SHALL NOT BE LAP SPLICED WITHIN ONE LAP LENGTH.

BAR SIZE	BAR $\phi$ (mm)	MAXIMUM OFFSET	
		H (mm)	C (mm)
20M	19.5	60	240
25M	25.2	70	270
30M	29.9	80	300
35M	35.7	90	330
45M	43.7	LAP SPLICES NOT PERMITTED	
55M	56.4	LAP SPLICES NOT PERMITTED	

BAR SIZE</



4 5 6 7 7x

APPROXIMATE EXTENT OF  
EXISTING 100mm CONCRETE  
SLAB REMOVAL FOR ELEVATOR  
PIT AND SLAB THICKENING.  
REFER TO ARCHITECTURAL AND  
MECHANICAL DRAWINGS.

APPROXIMATE EXTENT OF TRENCHING.  
REFER TO ARCHITECTURAL AND  
MECHANICAL DRAWINGS.

1 SLAB REMOVAL / DEMO PLAN

S300 SCALE: 1:50

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No. Date Description By

STAMPS:  
LICENCED PROFESSIONAL ENGINEER  
S. L. YOUNG  
100212163  
12/19/2025  
PROVINCE OF ONTARIO

DESIGNED BY  
APPROVED BY

CONSULTANT(S):

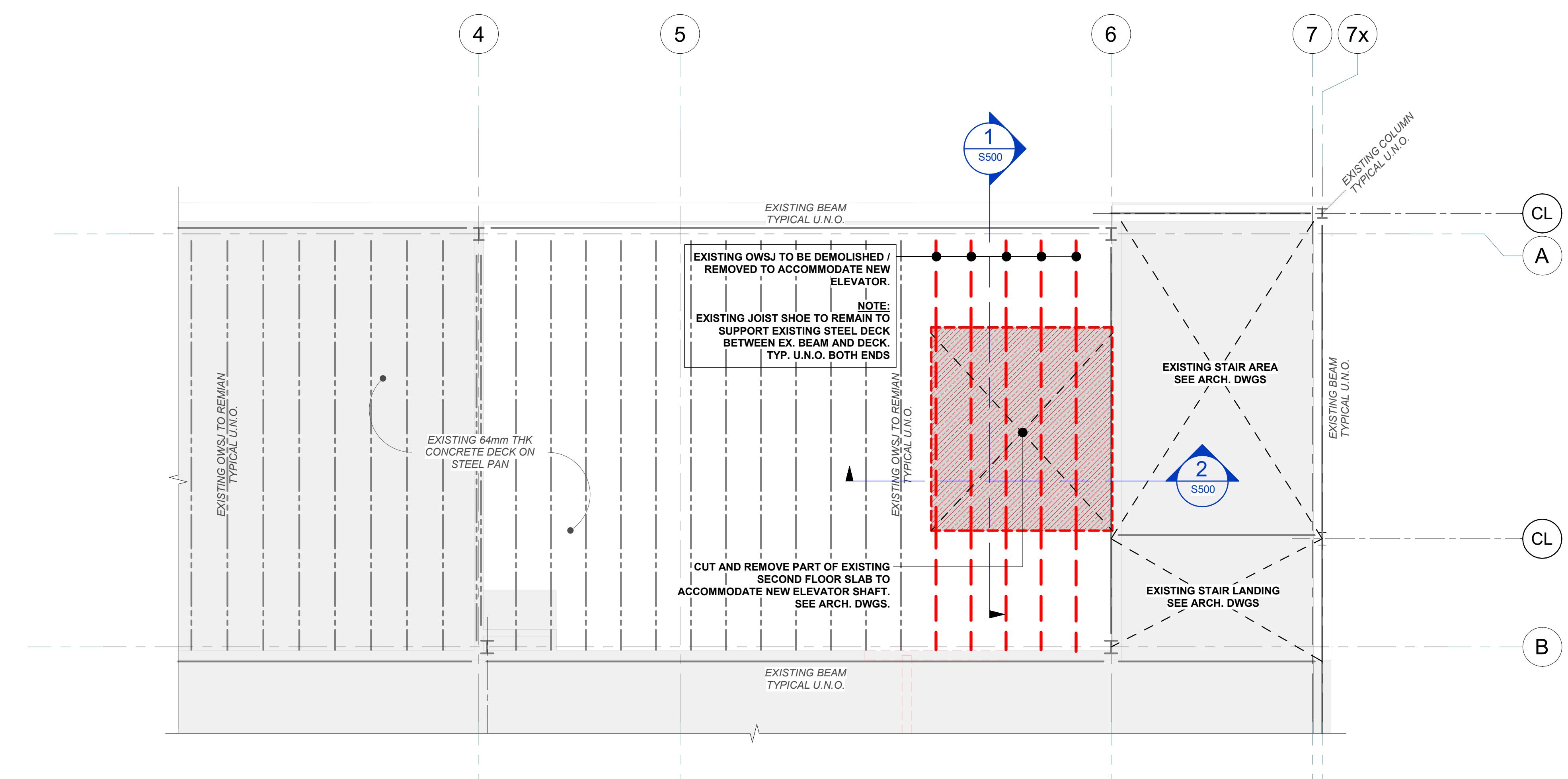
ENGINEER:  
**CIMA+**  
415 Baseline Road West  
Bowmanville, ON L1C 5M2  
T 905.697.4464 F 905.697.0443  
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CLIENT:  
BAYVIEW HEIGHTS PS  
1400 GARVOLIN AVE PICKERING,  
ON L1W 1J6

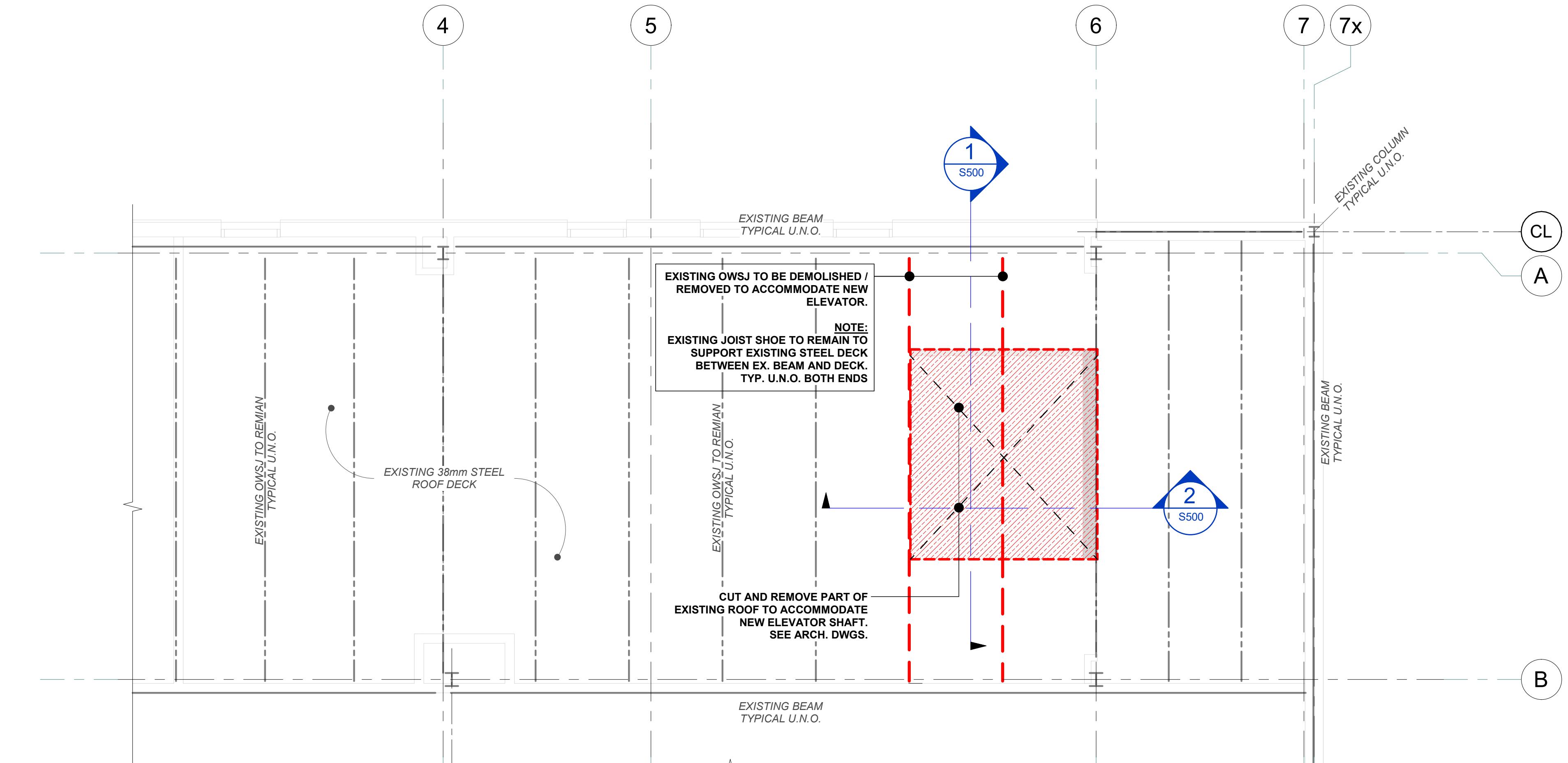
PROJECT NAME:  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

SHEET TITLE:  
DEMOLITION INFO - SLAB

DISCIPLINE: STRUCTURAL  
DRAFTER: K.L. SCALE: AS NOTED  
DESIGNER: B.S. DATE: 12/19/2025  
APPROVER: S.Y. CHECKER: S.Y.  
PROJECT No: A0001195 DRAWING No:  
SHEET No: of S300

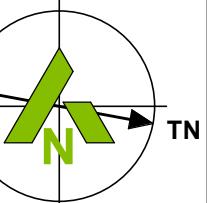


1 PARTIAL EXISTING SECOND FLOOR DEMO PLAN  
S301 SCALE: 1:50



2a PARTIAL EXISTING ROOF FRAMING DEMO PLAN  
S301 SCALE: 1:50

NOTES:	
1.	SHORE EXISTING SECOND FLOOR AND ROOF PRIOR TO JOIST AND DECK REMOVALS.
2.	SHORING TO REMAIN IN PLACE UNTIL NEW STEEL FRAMING HAS BEEN INSTALLED.



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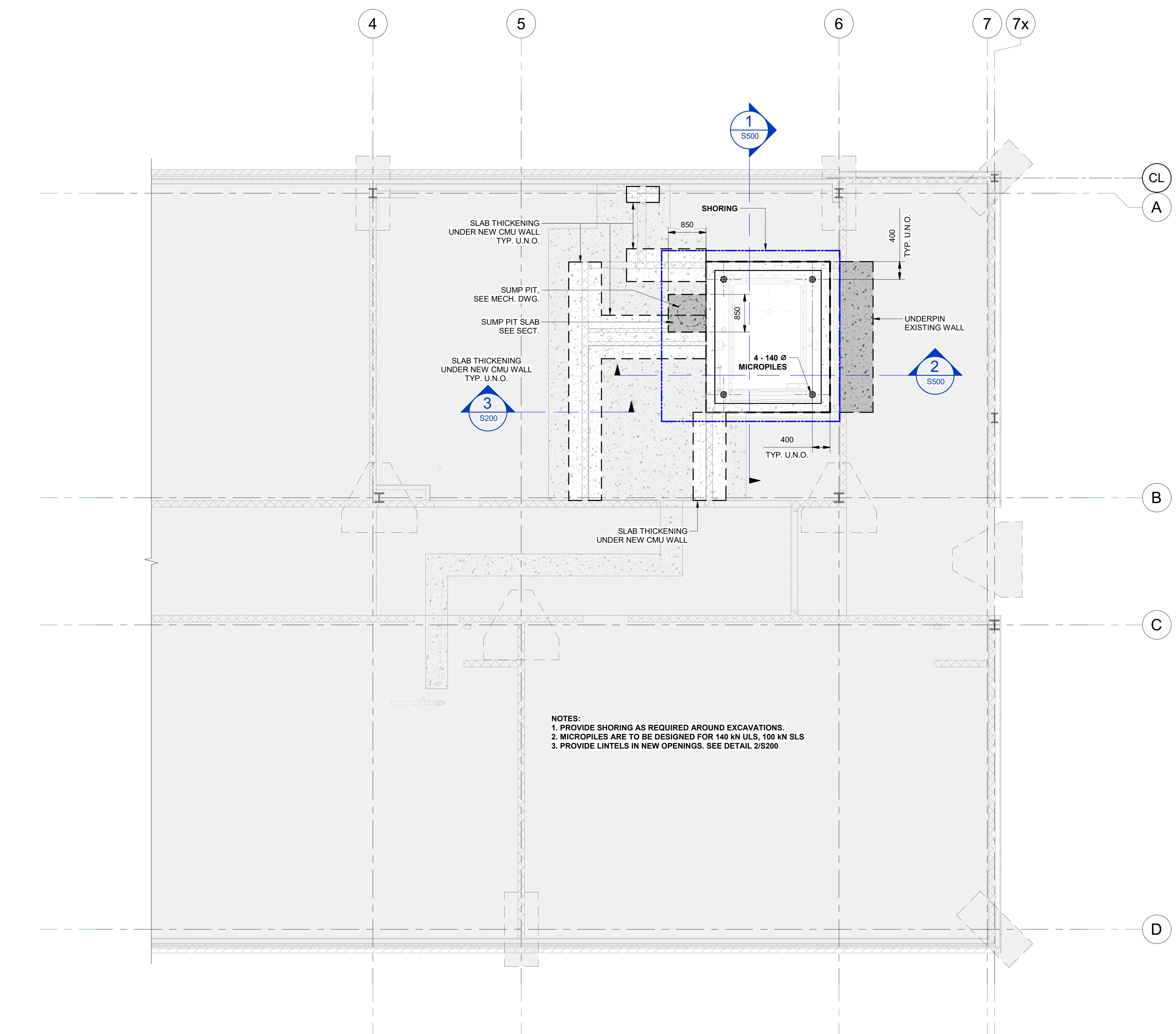
CLIENT:  
BAYVIEW HEIGHTS PS  
1400 GARVOLIN AVE PICKERING,  
ON L1W 1J6

PROJECT NAME:  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

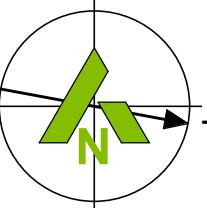
SHEET TITLE:  
DEMOLITION INFO

DISCIPLINE: STRUCTURAL

DRAFTER:	K.L.	SCALE:	AS NOTED
DESIGNER:	B.S.	DATE:	12/19/2025
APPROVER:	S.Y.	CHECKER:	S.Y.
PROJECT No:	A0001195	DRAWING No:	
SHEET No:	of		S301



1 PARTIAL EXISTING FOUNDATION PLAN  
S400 SCALE: 1 : 50



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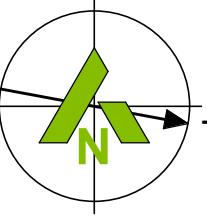
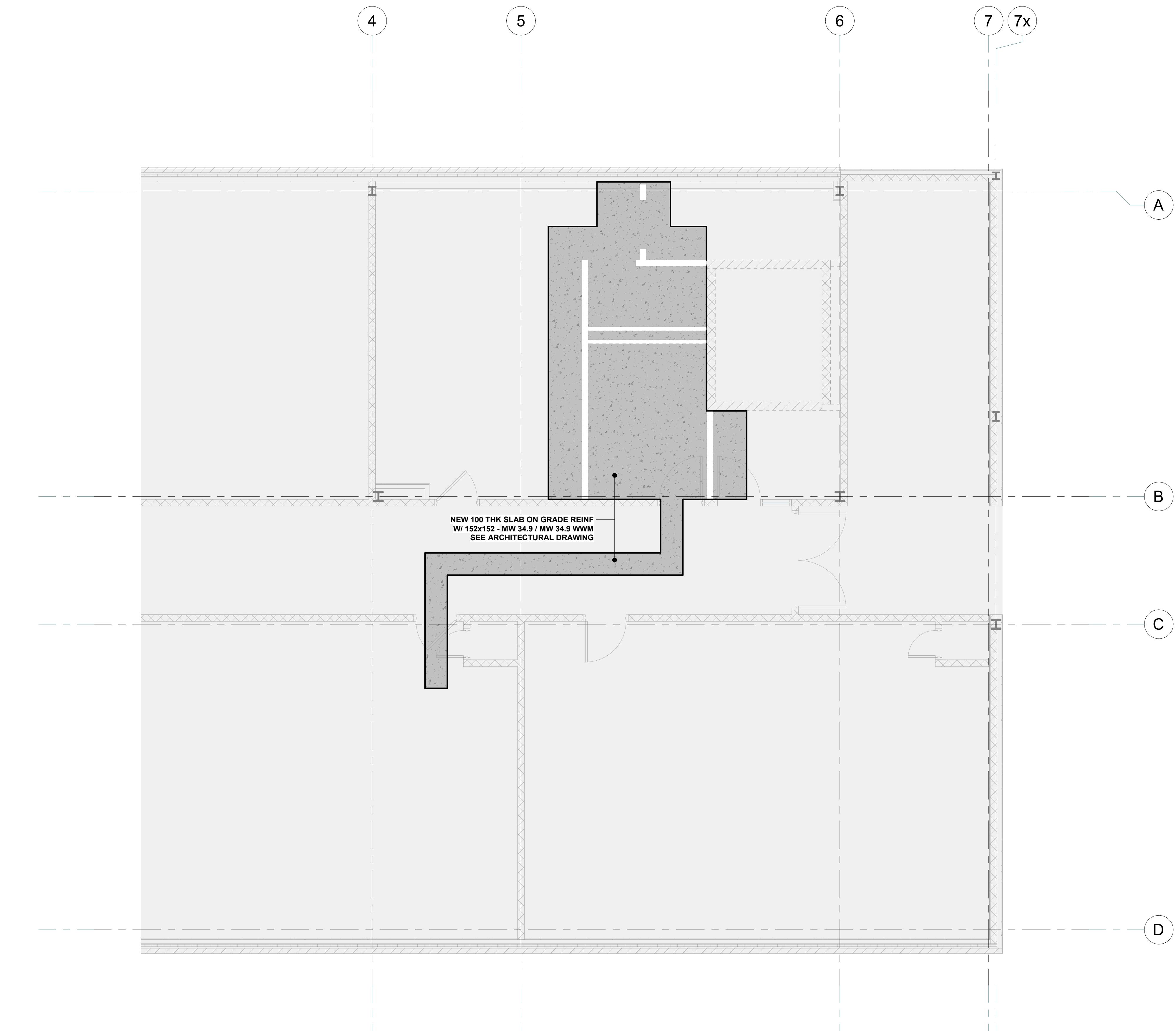
DESIGNED BY  
CONSULTANT(S):

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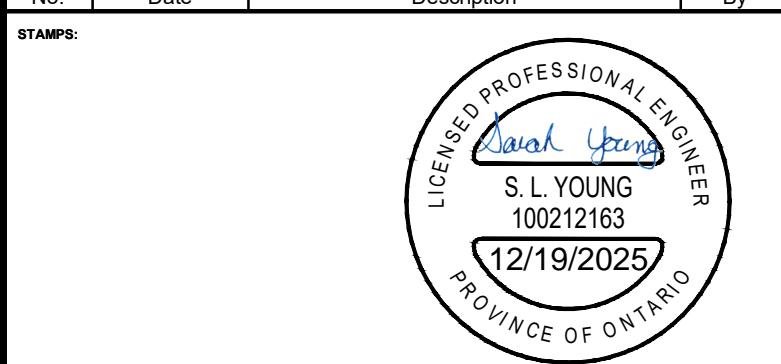
PROJECT NAME:  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

SHEET TITLE:	
DISCIPLINE: STRUCTURAL	
DRAFTER: K.L.	SCALE: AS NOTED
DESIGNER: B.S.	DATE: 12/19/2025
APPROVER: S.Y.	CHECKER: S.Y.
PROJECT No: A0001195	DRAWING No: S400
SHEET No: of	



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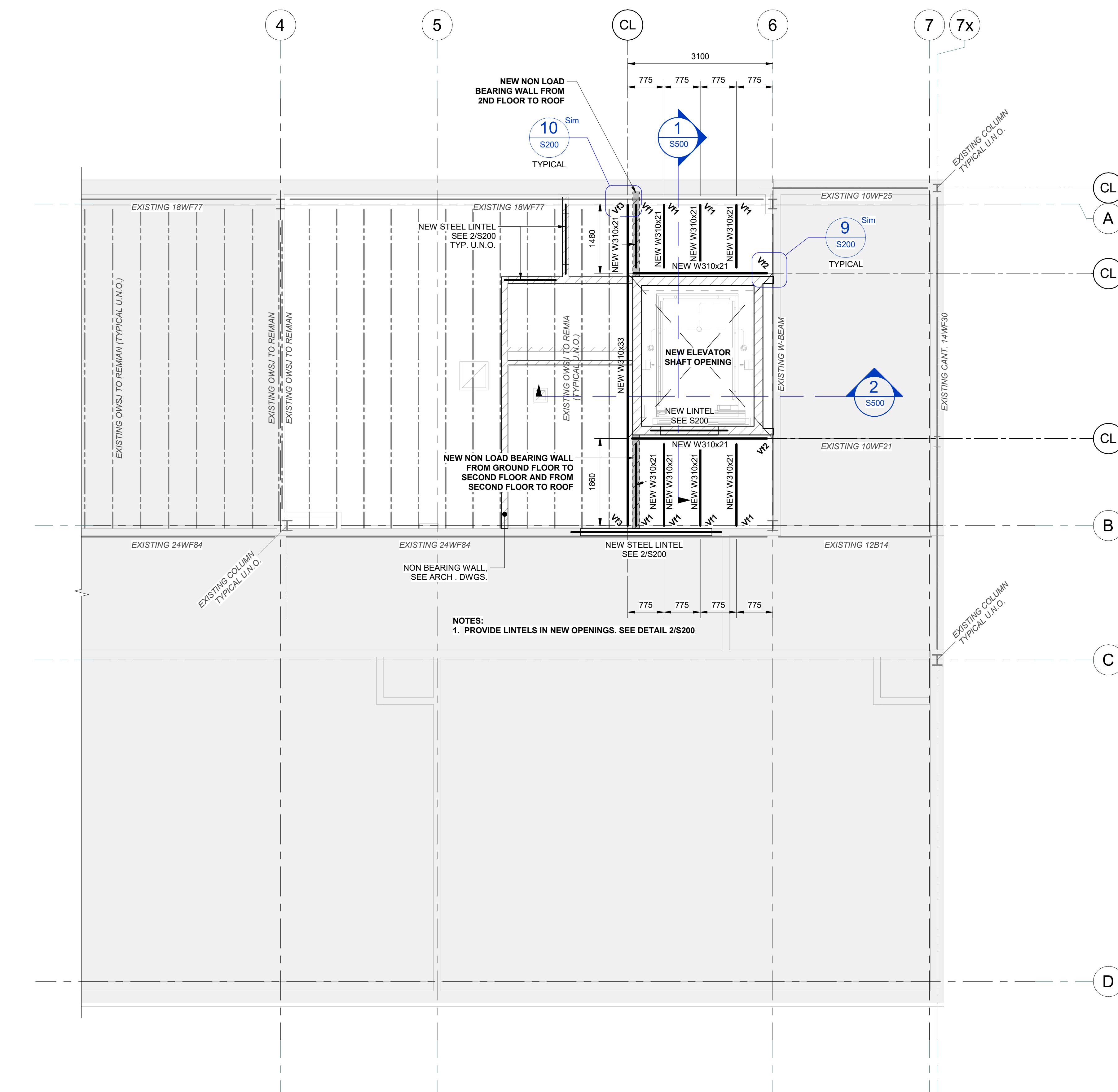
**CLIENT:**  
BAYVIEW HEIGHTS PS  
1400 GARVOLIN AVE PICKERING,  
ON L1W 1J6

**PROJECT NAME:**  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

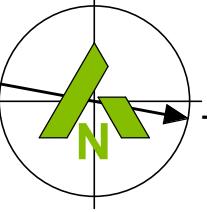
**SHEET TITLE:**  
NEW PARTIAL SLAB PLAN

**DISCIPLINE:** STRUCTURAL  

DRAFTER:	K.L.	SCALE:	AS NOTED
DESIGNER:	B.S.	DATE:	12/19/2025
APPROVER:	S.Y.	CHECKER:	S.Y.
PROJECT No:	A0001195	DRAWING No:	S401
SHEET No:	of		



1 PARTIAL EXISTING SECOND FLOOR PLAN  
S402 SCALE: 1:50



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1400 GARVOLIN AVE PICKERING,  
ON L1W 1J6

**PROJECT NAME:**  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

**SHEET TITLE:**  
PARTIAL EXISTING SECOND  
FLOOR FRAMING PLAN

**NOTES:**

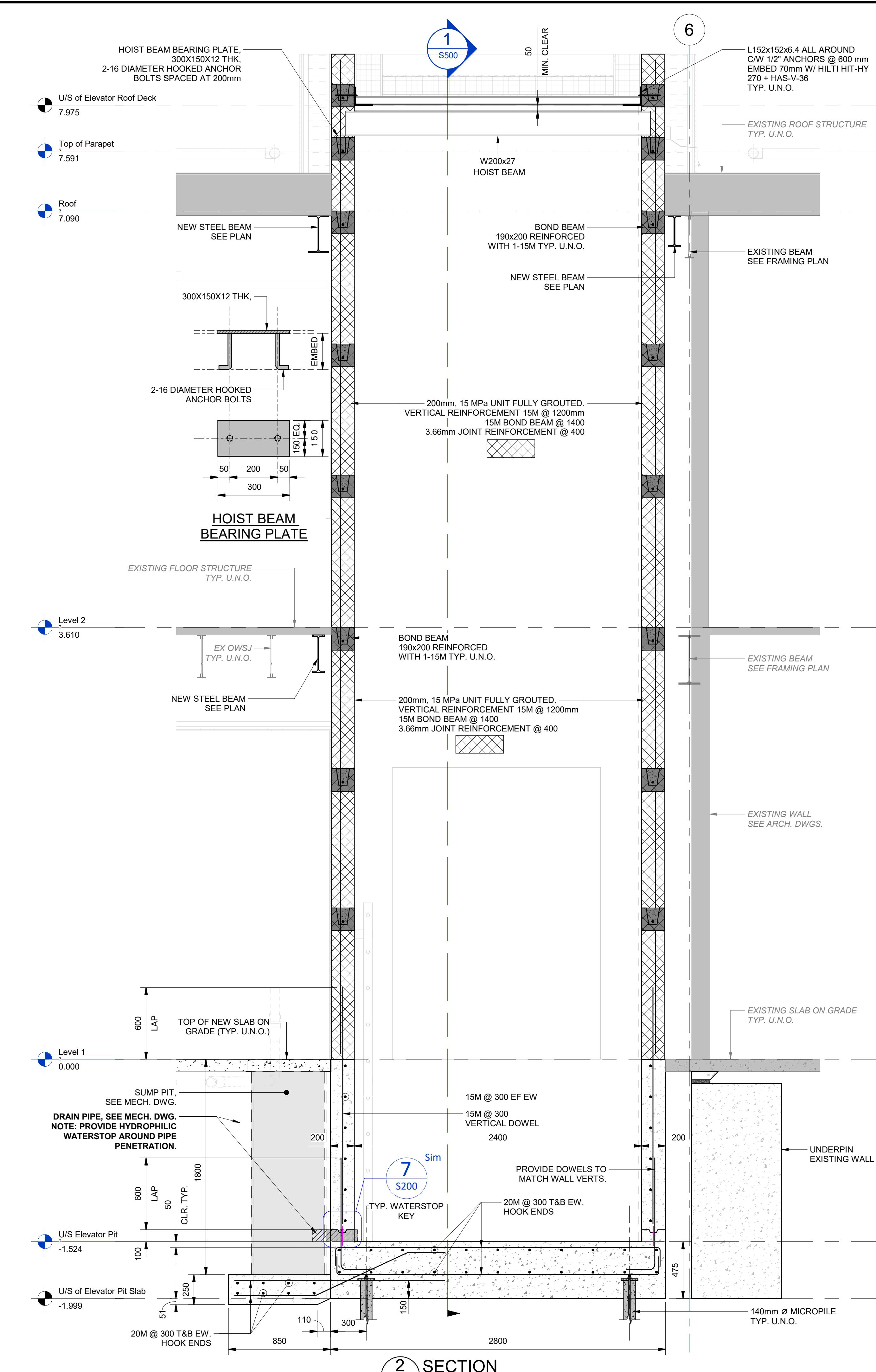
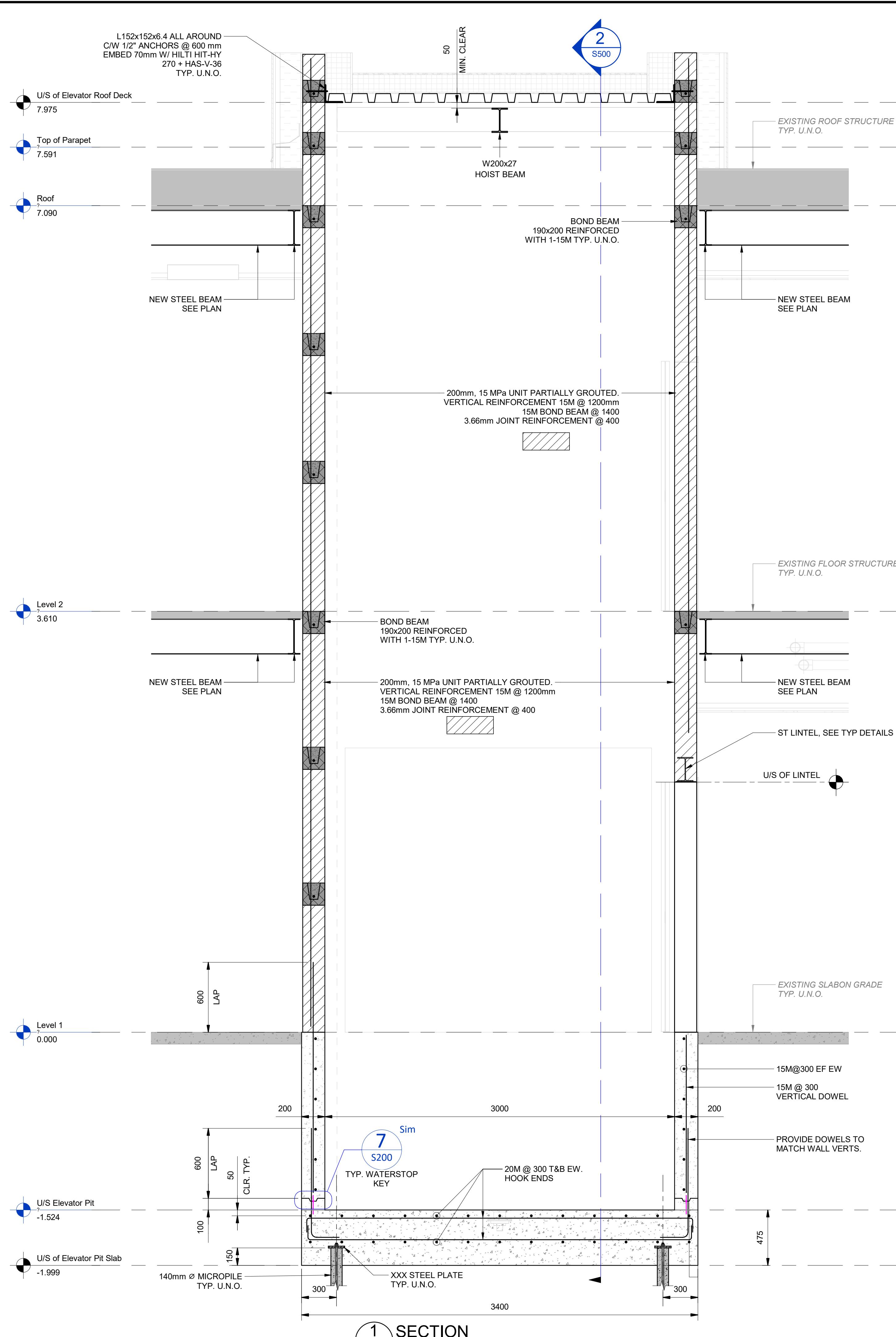
1. CONNECT NEW STEEL TO EXISTING STEEL BEAMS FOR THE FOLLOWING LOADS:  
VR1 = 10 kN  
VR2 = 15 kN  
VR3 = 35 kN
2. SHIM BETWEEN NEW BEAMS AND EXISTING DECK FOR FULL BEARING.

**DESIGN LOADS (UNFACTORED):**

<b>DEAD:</b>	<b>STRUCTURAL</b>	
TILE: 0.07 kPa		
2.5" CONCRETE SLAB ON METAL PAN: 1.53 kPa		
SUSPENDED CEILING: 0.20 kPa		
MECH & ELEC ALLOWANCE: 0.25 kPa		
PARTITION ALLOWANCE: 1.00 kPa		
<b>TOTAL:</b> 3.05 kPa		
<b>PLUS SELF WEIGHT OF STRUCTURAL STEEL</b>		
<b>LIVE:</b> 3.60 kPa		

**DRAWING NO:** S402





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DESIGNED BY \_\_\_\_\_ APPROVED BY \_\_\_\_\_

The image contains the CIMA+ logo, which consists of the letters 'CIMA' in a large, dark grey sans-serif font, with a green plus sign graphic integrated into the letter 'A'. Below the logo, the address '415 Baseline Road West' and 'Bowmanville, ON L1C 5M2' is listed. To the right of the address, the telephone number 'T 905.697.4464' and fax number 'F 905.697.0443' are provided. The website 'www.cima.ca' is also mentioned at the bottom.

**CLIENT:**  
**BAYVIEW HEIGHTS PS**  
**1400 GARVOLIN AVE PICKERING,**

---

**PROJECT NAME:**

**BAYVIEW HEIGHTS PS**  
**ELEVATOR RENOVATION**

**SHEET TITLE:**

## DETAILS AND SECTIONS

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**DISCIPLINE:**

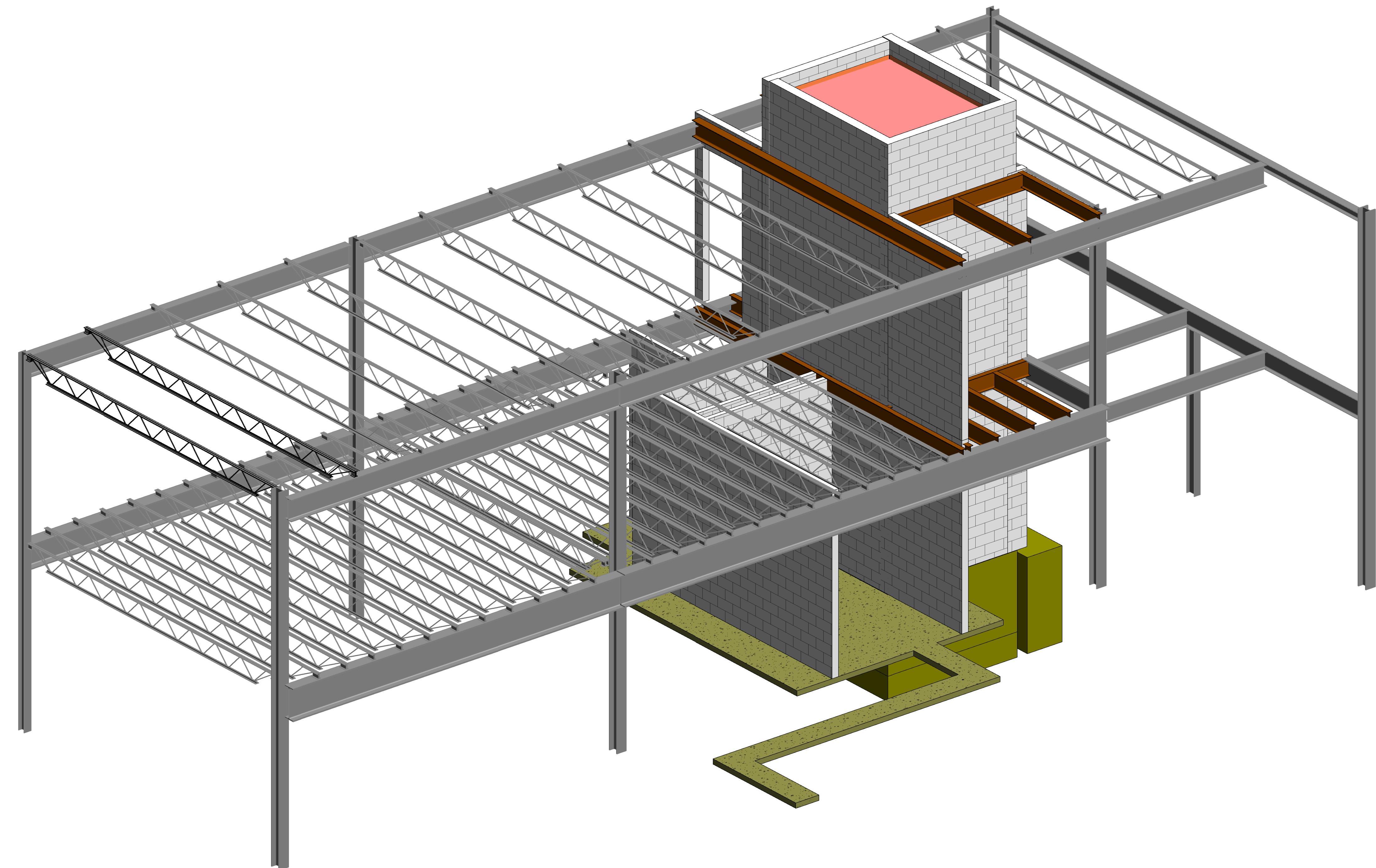
STRUCTURAL

K.L	AS NOTED
DESIGNER:	DATE:

APPROVER: S. V. CHECKER: S. V.

PROJECT No:	A0001195	DRAWING No:	0506
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SHEET No: \_\_\_\_\_ of \_\_\_\_\_



1 ISOMETRIC 3D VIEW

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CLIENT:  
BAYVIEW HEIGHTS PS  
1400 GARVOLIN AVE PICKERING,  
ON L1W 1J6

PROJECT NAME:  
BAYVIEW HEIGHTS PS  
ELEVATOR RENOVATION

SHEET TITLE:

ISOMETRIC VIEW 3D

DISCIPLINE: **STRUCTURAL**  

DRAFTER: K.L.	SCALE: AS NOTED
DESIGNER: B.S.	DATE: 12/19/2025
APPROVER: S.Y.	CHECKER: S.Y.
PROJECT No: A0001195	DRAWING No: S601
SHEET No:	of