CONSTRUCTION NOTES:

A. GENERAL

1. 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 VERSIONS OF STANDARDS SHALL APPLY.
2. READ THESE DRAWINGS IN CONJUNCTION WITH ALL RELATED CONTRACT DOCUMENTS AND CONSULTANT DRAWINGS.
3. 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.
4. DRAWINGS ARE NOT TO BE SCALED.
5. 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.
6. 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.
7. THE ENGINEER SHALL BE GIVEN MINIMUM 24 HOURS NOTICE BY THE CONTRACTOR FOR ALL CONSTRUCTION REVIEWS. SITE VISITS AND REVIEWS BY THE ENGINEER OR THEIR REPRESENTATIVES ARE INTENDED FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEWS SHALL NOT MEAN THAT THE ENGINEER HAS SEEN ALL CONSTRUCTION PROCEDURES. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS.
8. 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 O.REG 213/91. 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.
9. NO SUBSTITUTIONS FROM THE SPECIFIED PRODUCTS AND MATERIALS ARE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

TESTING REQUIREMENTS	
TEST	COMMENTS
SOIL BEARING CAPACITY	BY GEOTECH.
SOIL COMPACTION	BY GEOTECH.
REINFORCING STEEL PLACEMENT	FINAL PLACEMENT
CONCRETE COMPRESSIVE TESTS	MIN. 1 SETS PER 100 m^3
CONCRETE SLUMP	
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

1. REFERENCE FRAMING PLANS FOR DESIGN LOADS OF FLOORS AND ROOFS.

C. FOUNDATIONS

1. FOUNDATIONS ARE TO BEAR DIRECTLY ON UNDISTURBED SOIL OR COMPACTED FILL WITH A MINIMUM BEARING CAPACITY OF 75 kPa SLS AND 115 kPa ULS, GEOTECH. ENGINEER TO CONFIRM.
2. REMOVE ALL TOP SOIL, ORGANIC MATERIAL, LOOSE FILL AND OTHER DELETERIOUS MATERIAL FROM THE BUILDING AREA PRIOR TO CONSTRUCTION.
3. PROOF ROLL EXISTING FILL MATERIALS. SOFT AREAS UNCOVERED DURING EXCAVATION SHALL BE SUB-EXCAVATED TO SOUND MATERIAL AND REPLACED WITH CLEAN, FREE DRAINING FILL COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
4. COMPACTED FILL BENEATH FOOTINGS AND FLOOR SLABS SHALL BE COMPACTED IN MAXIMUM 6" (152mm) LAYERS.
5. PLACE ALL FOOTINGS EXPOSED TO FREEZING WEATHER MINIMUM 4'-0" (1220mm) BELOW GRADE UNLESS OTHERWISE PROTECTED. PROTECT SOIL BELOW AND ADJACENT TO ALL FOOTINGS FROM FREEZING DURING CONSTRUCTION.
6. NECESSARY PRECAUTIONS SHALL BE TAKEN TO ENSURE EXISTING FOOTINGS ARE NOT DISTURBED OR UNDERMINED DURING CONSTRUCTION.
7. BACKFILL AGAINST FOUNDATION WALLS IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 20" (508mm) HIGHER THAN THE LEVEL ON THE LOWER SIDE OF THE WALL EXCEPT WHERE TEMPORARY SUPPORT FOR THE WALL IS PROVIDED OR THE WALLS ARE DESIGNED FOR SUCH UNEVEN PRESSURES.
8. LOCATE ALL PIERS AND FOOTINGS CONCENTRIC UNDER COLUMNS AND WALLS UNLESS OTHERWISE NOTED.
9. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT OCCUR IN CONCRETE WALLS UNLESS APPROVED BY THE ENGINEER.

D. CONCRETE

1. CONCRETE WORK SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA-A23.1, A23.2 AND A23.3.
2. CONCRETE PROPERTIES: (MINIMUM COMPRESSIVE STRENGTH MEASURED AT 28 DAYS UNLESS NOTED)
   a) ALL CONCRETE UNLESS NOTED OTHERWISE - 20 MPa
   b) SEE CHART FOR CONCRETE TYPES

CONCRETE PROPERTIES	CSA CLASS	28 DAY COMP. STRENGTH MPa	MAX. W/C RATIO	AIR CONTENT %	MAX. AGGREGEATE mm	SLUMP mm
LOCATION						
FOOTINGS	N	20	NA	NA	20	80 ±30
CONCRETE IN AN UNSATURATED CONDITION EXPOSED TO FREEZING AND THAWING BUT NOT CHLORIDES (EXTERIOR WALLS AND PIERS)	F-2	25	0.55	4-7	20	80 ±30
INTERIOR PIERS AND WALLS	N	25	NA	NA	20	80 ±30
INTERIOR CONCRETE SLABS	N	25	0.50	NA	20	80 ±30
CRYSTALLINE WATERPROOFING TO BE USED AT ELEVATOR, SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS						

3. CONCRETE DESIGN IS BASED ON COMPRESSIVE STRENGTH. PHYSICAL PROPERTIES (SLUMP, AGGREGATE SIZE, ETC.) TO SUIT INSTALLATION (BY OTHERS) NOT TO AFFECT STRENGTH SPECIFIED.
4. ALL CONCRETE SHALL BE TESTED BY A CSA CERTIFIED CONCRETE TESTING LABORATORY. CONTRACTOR TO PROVIDE COPIES OF TESTING REPORTS TO THE ENGINEER. NOT LESS THAN ONE TEST SHALL BE MADE FOR EACH 100m^3 OF CONCRETE WITH AT LEAST ONE TEST FOR EACH CLASS OF CONCRETE USED. A MINIMUM OF THREE TESTS IS REQUIRED FOR EACH CLASS.
5. SLUMP OF CONCRETE TO BE 80mm ±30mm PRIOR TO SUPER PLASTICIZERS BEING ADDED.
6. ALL CONCRETE FORMS ARE TO BE WET THOROUGHLY PRIOR TO PLACING CONCRETE. WATER CURING OF CONCRETE IS RECOMMENDED.
7. DO NOT ADD WATER TO THE CONCRETE.
8. ALL CONCRETE EXCEPT FOR CONCRETE SLABS 6" (152mm) OR LESS SHALL BE MECHANICALLY VIBRATED.
9. CONTROL JOINTS IN CONCRETE SLABS ON GRADE ARE TO BE SPACED AT MAXIMUM 30 TIMES THE SLAB THICKNESS NOT TO EXCEED 15'-0 (4570mm) AND A DEPTH OF 1/3 THE THICKNESS OF THE SLAB. CUT 50% OF THE REINFORCING STEEL AT CONTROL JOINT LOCATIONS.
10. REINFORCING STEEL SHALL CONFORM TO THE LATEST VERSIONS OF CAN/CSA-G30.18. REINFORCING BARS SHALL BE DEFORMED, GRADE 400 MPa.
11. MAINTAIN THE FOLLOWING CONCRETE CLEAR COVER TO REINFORCING:
    a) 3" (76mm) FOR CONCRETE CAST AGAINST EARTH
    b) 1 1/2" (38mm) FOR CONCRETE CAST AGAINST FORMWORK
    c) 2 1/2" (64mm) FOR CONCRETE EXPOSED TO DE-ICING CHEMICALS
12. ALL REINFORCING STEEL, DOWELS AND ANCHOR BOLTS ARE TO BE CLEAN AND FREE OF RUST, DIRT, FORM RELEASE AGENT, ETC. PRIOR TO POURING CONCRETE.
13. LAP ALL REINFORCING AS PER REINFORCING STEEL CHART BELOW (MIN). LAP ALL HORIZONTAL BARS AT CORNERS WITH BENT DOWELS MEETING THE MINIMUM LAP REQUIREMENTS IN BOTH DIRECTIONS. SHOP FABRICATE ALL REINFORCING STEEL TO INCLUDE HOOKS AND BENDS.
14. REINFORCING STEEL, DOWELS AND ANCHOR BOLTS ARE TO BE SECURELY TIED PRIOR TO PLACING CONCRETE. REINFORCING STEEL CHAIRS AND SUPPORTS SHALL BE MADE OF CONCRETE BLOCKS, PLASTIC OR WIRE.
15. DOWELS SHALL MATCH REINFORCING UNLESS NOTED OTHERWISE.
16. INSTALLATION OF ALL PROPRIETARY ANCHORS IS TO BE COMPLETED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION REQUIREMENTS. SPECIALIZED TRAINING MAYBE REQUIRED DEPENDING ON THE PRODUCT. CONTRACTOR IS TO CONTACT THE MANUFACTURER/SUPPLIER TO ARRANGE THE REQUIRED TRAINING.

REINFORCING STEEL MINIMUM LAP LENGTHS

CONCRETE / BAR SIZE	TENSION SPLICE 25 MPa	TENSION SPLICE 30 MPa	TENSION SPLICE 35 MPa	COMPRESSION EMBEDMENT 20 MPa	REINFORCED MASONRY 20 MPa GROUT	
10M	406 (16")	406 (16")	406 (16")	457 (18")	508 (20")	NOTE: INCREASE LAP SPLICE LENGTHS IN TABLE BY 1.3 WHERE MORE THAN 300mm OF FRESH CONCRETE IS CAST BELOW THE SPLICE
15M	610 (24")	610 (24")	610 (24")	660 (26")	762 (30")	
20M	813 (32")	813 (32")	813 (32")	914 (36")	914 (36")	

E. MASONRY

1. MASONRY TO CONFORM TO THE LATEST VERSION OF CAN/CSA-S304.1 AND CSA A371.
2. STRENGTH OF LOAD-BEARING MASONRY UNITS TO BE MINIMUM 15 MPa FOR HOLLOW UNITS BASED ON NET AREA.
3. 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.
4. ALL MASONRY WALLS SHALL BE CONSTRUCTED WITH FULL MORTAR JOINTS.
5. VERTICAL CONTROL JOINTS SHALL BE INSTALLED AT 6000mm (20'-0") 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.
6. REINFORCE ALL MASONRY WITH HOT DIP GALVANIZED NO. 9 TRUSS TYPE WIRE REINFORCING @ 16" (406mm). PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
7. INSTALLATION OF ALL PROPRIETARY ANCHORS IS TO BE COMPLETED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION REQUIREMENTS. SPECIALIZED TRAINING MAYBE REQUIRED DEPENDING ON THE PRODUCT. CONTRACTOR IS TO CONTACT THE MANUFACTURER/SUPPLIER TO ARRANGE THE REQUIRED TRAINING. ADHESIVE ANCHORS INTO HOLLOW CONCRETE BLOCK ARE TO BE INSTALLED WITH SCREEN TUBES.
8. 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) 1/2" (13mm) DIAMETER x18" (457mm) LONG ANCHORS WITH 2" (51mm) HOOK.
9. 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 x48" (1220mm) LONG UNDER BEARING PLATE.
10. 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.
11. ALL MASONRY INSTALLED ABOVE PARAPETS OR BELOW GRADE ARE TO BE FULLY GROUTED.
12. FOR MASONRY OPENINGS NOT SHOWN ON THE FRAMING PLANS UP TO 48" (1220mm) WIDE, PROVIDE ONE L3.5x3.5x0.25 (L89x89x6.4) FOR EACH 3 1/2" (89mm) THICKNESS OF MASONRY.
13. PROVIDE DOWELS FROM THE FOUNDATION WALL TO MASONRY WALLS TO MATCH VERTICAL REINFORCING SPACING AND SIZE.
14. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
15. 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

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.
2. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA G40.20, G40.21 GRADE 350W CLASS C FOR H.S.S., G40.21 GRADE 350W FOR W SHAPE SECTIONS AND G40.21 GRADE 300W FOR CHANNELS, ANGLES AND MISCELLANEOUS METAL.
3. BOLTED CONNECTIONS SHALL USE GRADE A325 BOLTS.
4. ANCHOR BOLTS SHALL BE FABRICATED USING STEEL ROD CONFORMING TO THE LATEST VERSION OF CSA G40.21 GRADE 300W.
5. 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 CWB CERTIFIED FABRICATOR AND ERECTOR TO THE CSA-STANDARDS W178.1 AND W178.2.
6. WHERE FORCES ARE NOT SHOWN ON THE DRAWINGS BEAM REACTIONS SHALL BE 1/2 THE TOTAL UNIFORM DISTRIBUTED FACTORED LOADS NOTED IN THE BEAM LOAD TABLES OF PART 5 OF THE CISC'S HANDBOOK OF STEEL CONSTRUCTION.
7. COLUMN BEARING GROUT SHALL BE 40 MPa MINIMUM, NON-SHRINK AND 1 1/2" (38mm) MINIMUM THICK.
8. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED WITHOUT THE APPROVAL OF THE ENGINEER.
9. STEEL BEAMS AND LINTELS SHALL HAVE MINIMUM 8" (203mm) BEARING ON MASONRY UNLESS OTHERWISE NOTED. WELD BEAMS AND LINTELS TO BEARING PLATES WHERE PROVIDED WITH MINIMUM 3/16"x2" (4.8mmx51mm) FILLET WELD EACH SIDE.
10. PROVIDE (2) 3/8" (9.5mm) STIFFENER PLATES EACH SIDE OF BEAMS CANTILEVERED OVER COLUMNS OR SUPPORTS OR SUPPORTING COLUMNS.
11. ALL COLUMNS EMBEDDED IN OR ADJACENT TO MASONRY WALLS SHALL HAVE ADJUSTABLE ANCHORS @ 16" (406mm) O.C.
12. 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 PRIMED STEEL AND ZINC RICH PAINT FOR GALVANIZED STEEL.

G. LIGHT GAUGE STRUCTURAL STEEL FRAMING

1. DESIGN AND INSTALLATION OF COLD FORM STEEL FRAMING TO CONFORM TO THE LATEST VERSION OF CAN/CSA-136.
2. DESIGN OF COLD FORM STEEL FRAMING TO BE AS PER THE GRAVITY AND LATERAL LOADS SPECIFIED ON THE DRAWINGS AND AS PER THE ONTARIO BUILDING CODE. FOR STUDS BRACING MASONRY VENEER THE DEFLECTION CRITERIA SHALL CONFORM TO THE LATEST VERSION OF CSA S304.1.
3. THE COLD FORM STEEL FRAMING DESIGN ENGINEER SHALL VISIT THE SITE TO PROVIDE FINAL CONSTRUCTION CERTIFICATION FOR THE WORK.
4. COLD FORM STEEL MEMBERS SHALL CONFORM TO THE LATEST VERSION OF ASTM A653. MEMBERS WITH THICKNESS OF 18 Ga. OR LIGHTER TO BE MINIMUM 230 MPa (33 ksi) YIELD STRENGTH. MEMBERS HEAVIER THAN 18 Ga. TO BE MINIMUM 345 MPa (50 ksi).

H. LUMBER

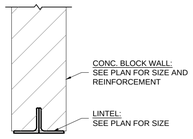
1. WOOD FRAMING DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST VERSION OF CSA O86.
2. SAWN LUMBER SHALL CONFORM TO CSA STANDARD O141 AND BE S-P-F GRADE NO. 2 OR BETTER.
3. STRUCTURAL COMPOSITE LUMBER SHALL BE:
   a) LAMINATED STRAND LUMBER (LSL) - TIMBERSTRAND GRADE 1.5SE AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL.
   b) LAMINATED VENEER LUMBER (LVL) - MICROLAM GRADE 2.0E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL.
   c) PARALLEL STRAND LUMBER (PSL) - PARALLAM GRADE 2.0E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL.
4. GLUE LAMINATED MEMBERS ARE TO CONFORM TO THE LATEST VERSION OF CAN/CSA-0122. THE MANUFACTURER SHALL BE QUALIFIED PER CSA STANDARD 0177. CONNECTIONS AND END BEARING CONDITIONS TO CONFORM TO CSA STANDARD S16. GLUE LAMINATED MEMBERS ARE NOT TO BE CUT OR MODIFIED IN THE FIELD. COAT ENDS OF GLULAM MEMBERS WITH APPROVED END SEALER.
5. NAILS SHALL CONFORM TO STEEL WIRE NAILS AND SPIKES AS DEFINED IN CSA B111 UNLESS NOTED OTHERWISE.
6. LATERALLY SUPPORT ALL STEEL BEAMS BY PRE-DRILLING FLANGES FOR 1/2" (13mm) BOLTED ATTACHMENT OF WOOD NAILERS WITH 5/8" (16mm) HOLES STAGGERED @ 24" (610mm) O.C.
7. PROVIDE SOLID HORIZONTAL BLOCKING @ 48" (1220mm) O.C. IN THE FIRST TWO JOIST SPACES ADJACENT TO THE EXTERIOR WALLS. BRIDGING SHALL BE ATTACHED TO THE EXTERIOR WALL TO PROVIDE LATERAL STABILITY.
8. ALL NAILS AND FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD ARE TO BE HOT DIP GALVANIZED OR STAINLESS STEEL.
9. ALL STUD WALLS TO BE ANCHORED TO THE FOUNDATION WALL OR FLOOR SLAB WITH 1/2" (13mm) DIAMETER ANCHORS @ 32" (813mm) O.C., ANCHOR BOLTS SHALL BE PLACED WITHIN 16" (406mm) OF THE EXTERIOR EDGE OF ALL STUD WALLS.
10. RETIGHTEN ALL BOLTED CONNECTIONS SIX MONTHS AFTER FIRST INSTALLATION AND EVERY SIX MONTHS THEREAFTER UNTIL NO APPRECIABLE CHANGE IS EVIDENT.

NAILING REQUIREMENTS

MEMBER CONNECTION	NAIL LENGTH	NUMBER OF NAILS
STUD TO WALL PLATE	83mm (3 1/4")	2
BOTTOM WALL PLATE TO FLOOR JOISTS	83mm (3 1/4")	406mm (16") O.C.
BUILT-UP LINTELS	83mm (3 1/4")	305mm x 64mm (12"x2 1/2") O.C.
KING/JACK POSTS & COLUMNS	83mm (3 1/4")	2 @ 305mm (12") O.C.
FLOOR/CEILING JOIST TO TOP PLATE	83mm (3 1/4")	2
ROOF RAFTER TO TOP PLATE	83mm (3 1/4")	3
LINTEL TO KING POST	83mm (3 1/4")	51mm (2") O.C.
ROOF RAFTER TO RIDGE BEAM	83mm (3 1/4")	3
COLLAR TIE TO ROOF RAFTER	83mm (3 1/4")	3
WALL SHEATHING -PERIMETER -INTERIOR	51mm (2")	152mm (6") O.C. 305mm (12") O.C.
ROOF SHEATHING -PERIMETER -INTERIOR	51mm (2")	152mm (6") O.C. 305mm (12") O.C.
FLOOR SHEATHING -PERIMETER -INTERIOR	51mm (2") SCREWS	152mm (6") O.C. 305mm (12") O.C.

SHOP DRAWINGS REQUIREMENTS

NAME	REQ'D	P.ENG. STAMP	MINIMUM CERTIFICATION REQUIREMENTS:
CONCRETE MIX DESIGN	YES	NO	
REBAR	YES	NO	
STRUCTURAL STEEL	YES	YES	CONNECTIONS ONLY
STEEL STUD FRAMING	YES	YES	MATERIALS, CONNECTIONS, BRACING AND BRIDGING
MISCELLANEOUS STEEL	YES	YES	STAIRS, LADDERS AND GUARDS
ELEVATOR	YES	YES	LAYOUT AND WALL CONNECTIONS
UNIVERSAL WASHROOM LIFT	YES	YES	LAYOUT AND CONNECTIONS
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.			



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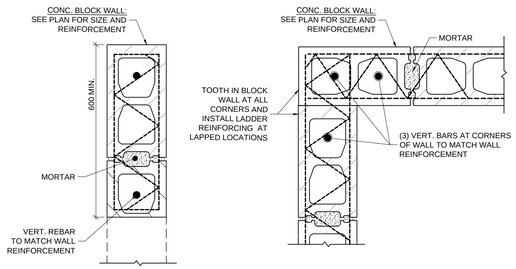
CONC. BLOCK WALL LINTEL



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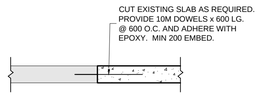
CONC. BLOCK WALL CORNER BARS



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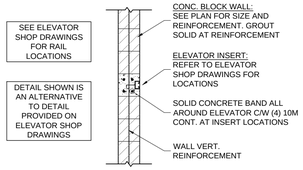
SLAB DOWEL



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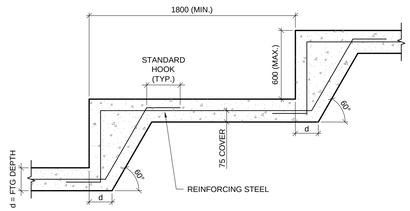
ELEVATOR INSERTS



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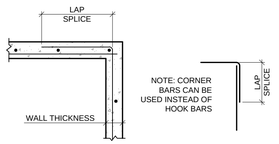
STEP FOOTING



F S0.0 DETAIL (TYP.) N.T.S.
HORIZONTAL REINFORCING @ CORNERS

No.	REVISIONS	DATE

ISSUED FOR BID	2024.03.19
ISSUED FOR PERMIT	2024.02.09
CHRONOLOGY	DATE

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

aba architects inc.
101 Randall Drive, Unit 8, Waterloo ON, TEL 519 884 2711 www.abaarchitect.ca

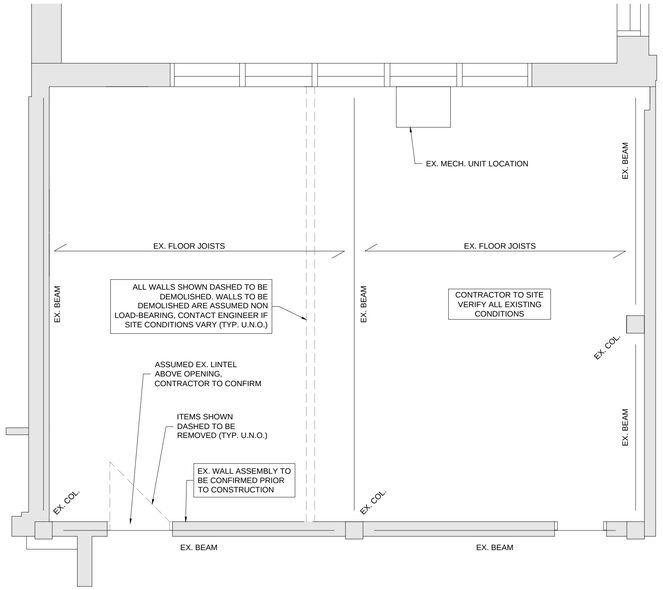
LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

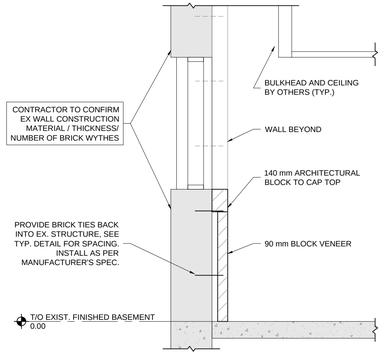
DRAWING TITLE
GENERAL NOTES & TYP. DETAILS

SCALE	AS NOTED
SHEET SIZE	24x36
PROJECT NUMBER	13382-203
DRAWING NUMBER	S0.0

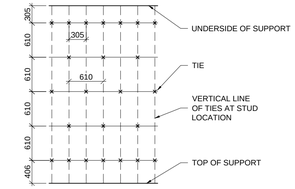


1 S2.0 **PARTIAL DEMOLITION PLAN** 1:50

CLASSROOM
REFER TO ARCH. PLAN 1/A2.1

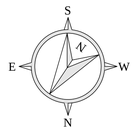


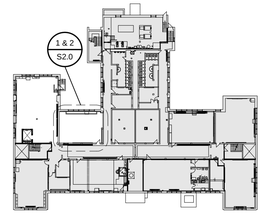
3 S2.0 **SECTION** 1:25



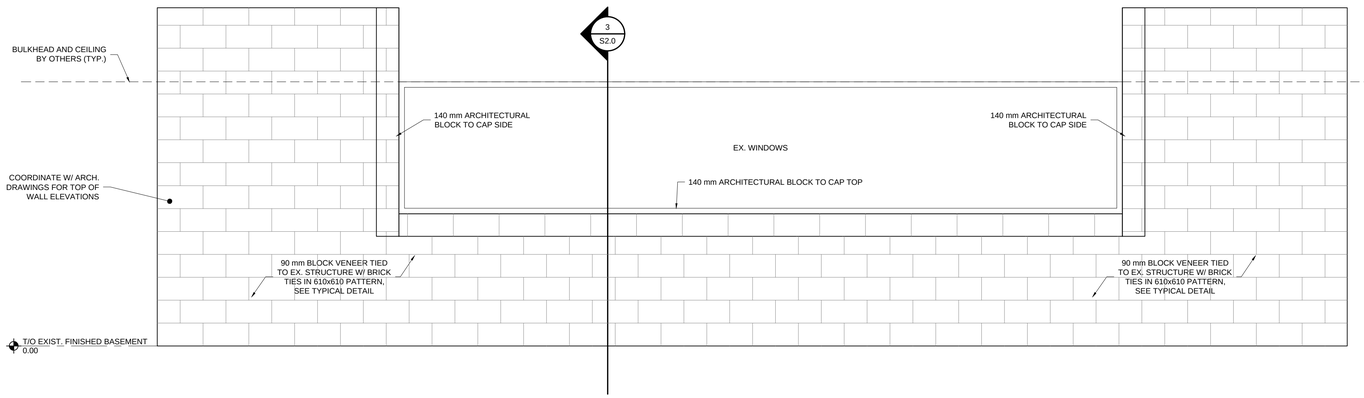
A S2.0 **DETAIL (TYP.)** N.T.S.

BRICK TIE SPACING

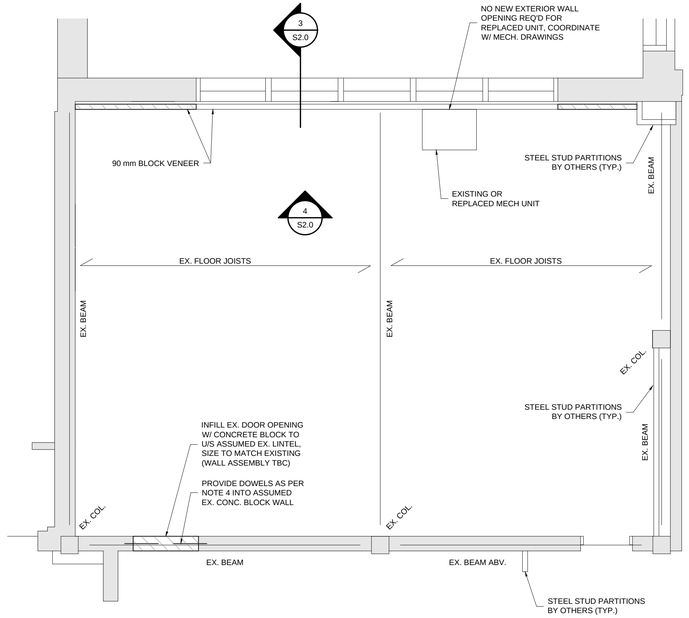




BASEMENT KEY PLAN



4 S2.0 **ELEVATION** 1:25



2 S2.0 **PARTIAL FIRST (MAIN) FLR. FRAMING PLAN** 1:50

CLASSROOM
REFER TO ARCH. PLAN 2/A2.1

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE (1) FULL HEIGHT VERTICAL AT ALL EDGES OF ALL OPENINGS AND ENDS OF BLOCK WALLS. PROVIDE (3) VERTICAL AT ALL CORNERS IN BLOCK WALLS. GROUT ALL CORES SOLID AT DOWELS AND ALL WALL REINFORCING LOCATIONS.
3. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.
4. PROVIDE 10M DOWELS x 400mm LG. @ EVERY OTHER MORTAR BED. ADHERE WITH HILTI HY-270 EPOXY INTO EX. CONCRETE, EX. CONCRETE BLOCK, EX. MULTI-WYTHE BRICK OR EX. SPEED TILE WALLS, MINIMUM 100mm EMBED. PROVIDE SCREEN TUBES AT EX. SPEED TILE WALLS. DOWELS ARE REQ'D AT ALL LOCATIONS WHERE NEW BLOCK ABUTS EXISTING WALLS.
5. TOP (2) COURSES OF CONCRETE BLOCK WALL TO BE GROUTED SOLID (TYP.)
6. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
7. CORE 127Ø (MAX.) HOLE IN BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

LINTEL SCHEDULE

LINTEL	SIZE	END BEARING
L1	(2) L127x89x7.9 LLV	200mm EACH END
L2	(2) L89x89x7.9	200mm EACH END
L3	(2) L152x89x7.9 LLV	200mm EACH END

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS (mm)	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMU4	90	15 MPa	YES	-
CMU8	190	15 MPa	AT REINFORCING	15M @ 400 O.C.

NOTES:
- COORDINATE BLOCK WALL THICKNESS W/ ARCH. DRAWINGS.
- ALL WALLS TO HAVE CORES GROUTED SOLID AT REINFORCING STEEL LOCATIONS.
- PROVIDE ADDITIONAL BARS AT CORNERS AND AT OPENINGS / END OF WALLS AS PER FLOOR FRAMING NOTES.
- HORIZONTAL REINFORCING TO BE HOT DIP GALVANIZED NO. 9 TRUSS TYPE WIRE REINFORCING @ 16" (406mm). PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
- ALL WALLS TO BE TOOTHED INTO ADJACENT WALL.
- PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (200 mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
ISSUED FOR BID	2024.03.19
ISSUED FOR PERMIT	2024.02.09

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Waterloo, Ontario, N2J 4G8
www.witzeldyce.com

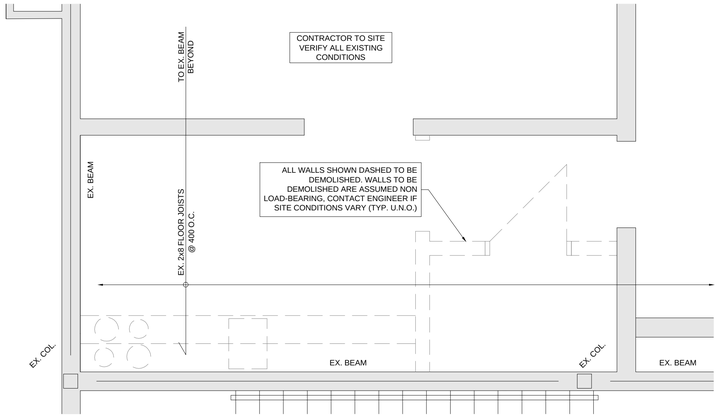
aba architects inc.
101 Randall Drive, Unit B, Waterloo ON. TEL 519 884 2711 www.abaarchitect.co

CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

DRAWING TITLE
CLASSROOM RENOVATION: DEMOLITION & MAIN FLR. FRAMING

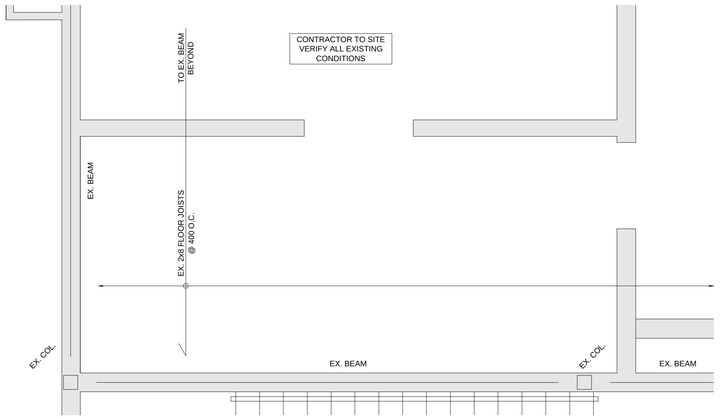
SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203
DRAWING NUMBER: S2.0



1 / S3.0 PARTIAL DEMOLITION PLAN 1:30

STORAGE

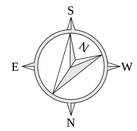
REFER TO ARCH. PLAN 1/A3.1

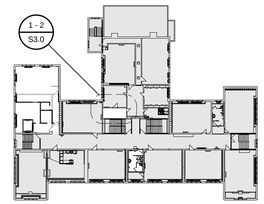


2 / S3.0 PARTIAL ATTIC FRAMING PLAN 1:30

STORAGE

REFER TO ARCH. PLAN 2/A3.1





SECOND FLR. KEY PLAN

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

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CLIENT

WATERLOO REGION DISTRICT SCHOOL BOARD

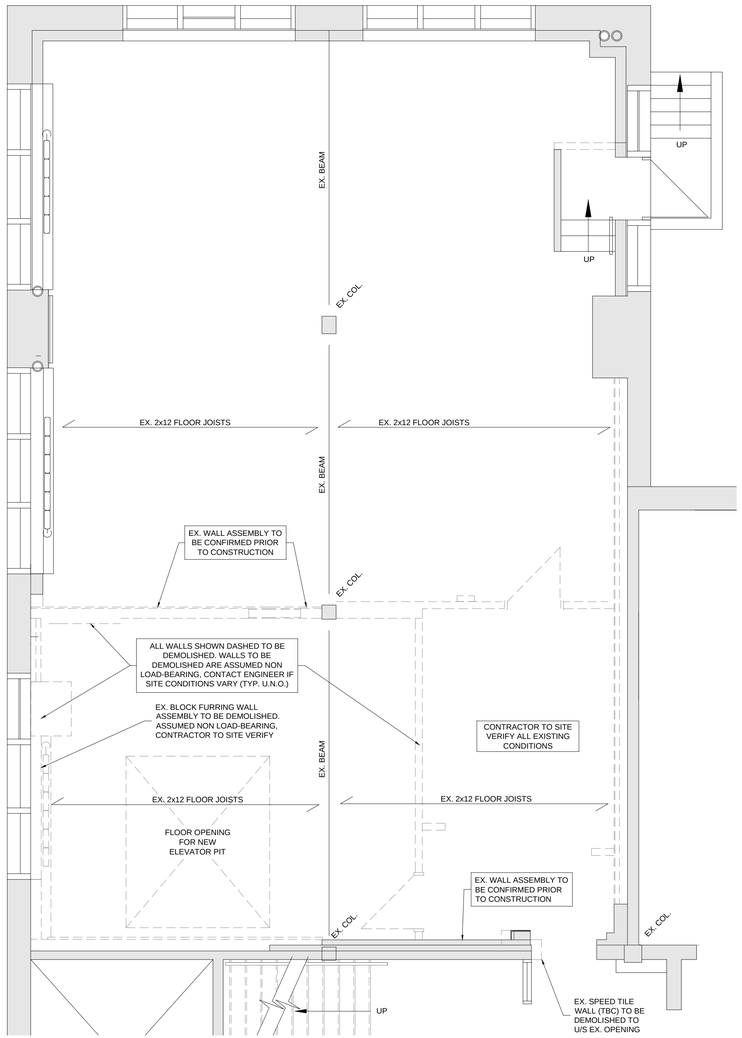
PROJECT NAME

SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

DRAWING TITLE

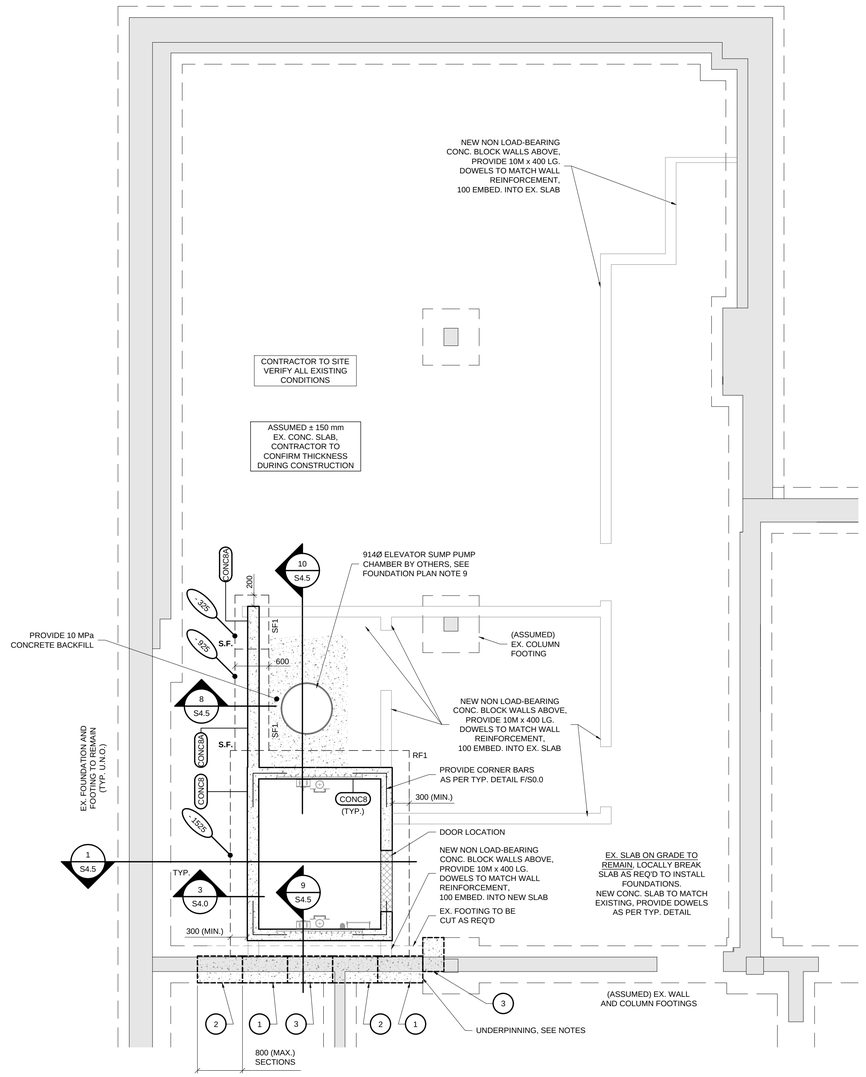
LEVEL 2 STORAGE ROOM: DEMOLITION & ATTIC FRAMING

SCALE	DRAWING NUMBER
AS NOTED	S3.0
SHEET SIZE: 24x36	
PROJECT NUMBER: 13382-203	



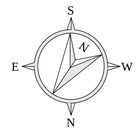
1 S4.0 **PARTIAL BASEMENT DEMOLITION PLAN** 1:50

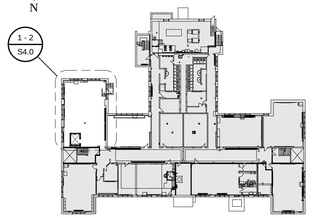
ELEVATOR
REFER TO ARCH. PLAN 1/A4.1



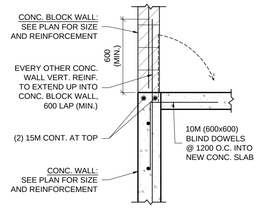
2 S4.0 **PARTIAL FOUNDATION PLAN** 1:50

ELEVATOR





BASEMENT KEY PLAN



3 S4.0 **SECTION** 1:25

CONC. WALL TO CONC. BLOCK WALL TYPICAL

ELEVATOR FOUNDATION NOTES

1. UNDERPINNING TO BE COMPLETED IN SECTIONS. SEQUENCING OF SECTIONS ARE SHOWN. EXCAVATE AND POUR ONE SEQUENCE IN THE SAME DAY THEN WAIT 24 HOURS (MIN.) FOR CONCRETE TO CURE UNTIL EXCAVATING AND POURING THE NEXT SEQUENCE.
2. CONTRACTOR TO ENSURE THAT EXISTING FOOTINGS ARE NOT UNDERMINED DURING NEW ELEVATOR PIT FOUNDATION CONSTRUCTION, PROVIDE SHORING AS NECESSARY.
3. CONTACT GEOTECHNICAL ENGINEER TO REVIEW SOIL CONDITION AND UNDERPINNING PROCEDURE AND DESIGN PRIOR TO CONSTRUCTION.
4. CONTRACTOR MAY HAVE TO RETAIN A DEWATERING DESIGN, CONTACT GEOTECH. ENGINEER FOR REVIEW AS NOTED.
5. MAX. LENGTH OF SECTIONS AS PER PLAN.

(1) DENOTES SEQUENCING OF UNDERPINNING SECTIONS

FOUNDATION PLAN NOTES

1. REFER TO ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS FOR ALL SLAB DEPRESSIONS, SLOPES AND UNDER SLAB INSULATION REQUIREMENTS.
2. CONTRACTOR TO PROTECT FOUNDATIONS AND SOIL FROM FROST DURING CONSTRUCTION.
3. STEP FOOTINGS FOR STORM INVERTS AS REQUIRED.
4. TOP OF FOOTING ELEVATIONS GIVEN ARE MINIMUM DEPTH. CONTRACTOR TO ENSURE THAT FOOTINGS BEAR ON SOIL APPROVED BY QUALIFIED SOILS ENGINEER.
5. DROP TOP OF FOUNDATION WALL 8" (200 mm) (ONE BLOCK COURSE) @ ALL DOOR OPENINGS. POUR SLAB OVER WALL AS PER TYPICAL DETAIL. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR LOCATIONS.
6. COORDINATE MECHANICAL, ELECTRICAL AND CIVIL SLEEVES, PIPES AND CONDUITS PRIOR TO CONCRETE POUR.
7. DROP FOOTINGS AT ELEVATOR PITS AND ELEVATOR SUMP PITS.
8. PROVIDE LEAN MIX CONCRETE TO FILL EXCAVATIONS TO U/S OF ADJACENT BUILDING FOOTING ELEVATIONS.
9. 914Ø ELEVATOR SUMP PUMP CHAMBER BY OTHERS, CONFIRM W/ MECH. DRAWINGS FOR LOCATION AND ELEVATION. **EXCAVATE W/ HYDRO VAC**.

LEGEND:

DENOTES DOOR LOCATION

S.F. DENOTES LOCATION OF STEP FOOTING

600 T/O FOOTING ELEVATION RELATIVE TO T/O BASEMENT SLAB

CF1 COLUMN FOOTING DESIGNATION

POURED CONCRETE WALL SCHEDULE

MARK	THICKNESS (mm)	REINFORCING	COMMENTS
CONC8	203	15M @ 600 O.C. E.W. CENTERED	(2) 15M CONT. TOP
CONC8A	203	-	(2) 15M CONT. TOP
PROVIDE CORNER BARS AS PER TYP. DETAIL F/S0.0			

FOOTING SCHEDULE

FOOTING	SIZE	REINFORCING
RF1	400 THICK	15M @ 300 E.W. TOP + BOTTOM
SF1	600x200	(2) 15M CONT. BOTTOM

No.	REVISIONS	DATE

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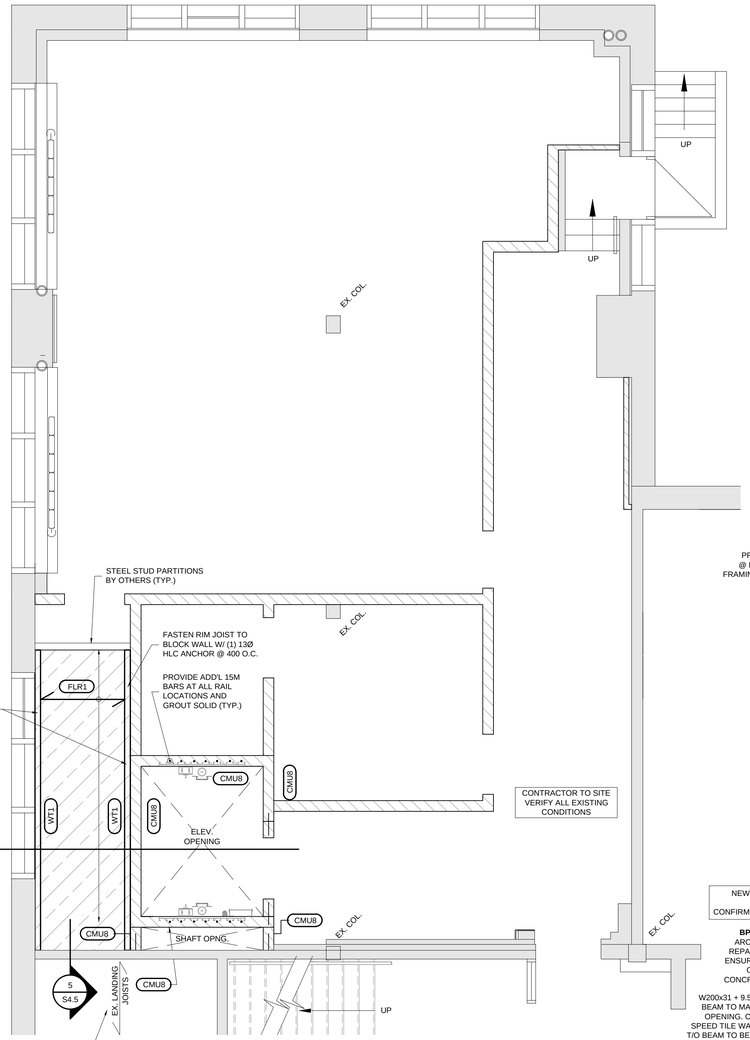
PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

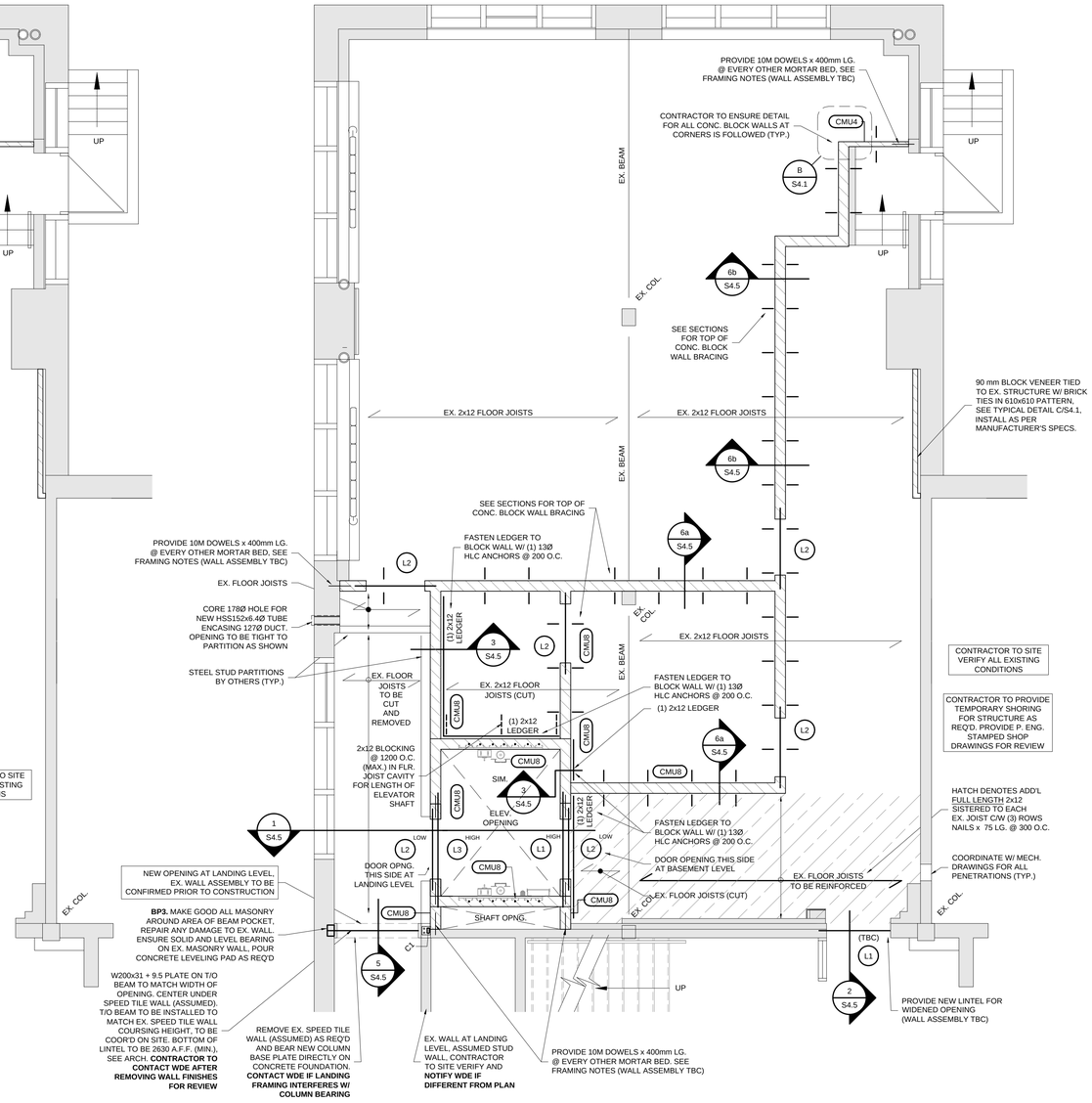
DRAWING TITLE
ELEV. & UNIV. WASH.: DEMOLITION & BASEMENT FOUNDATION

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203
DRAWING NUMBER: S4.0



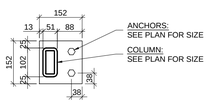
1 S4.1 PARTIAL MAIN (GROUND) LEVEL LANDING FRAMING PLAN 1:50

ELEVATOR
REFER TO ARCH. PLAN 2/A4.3

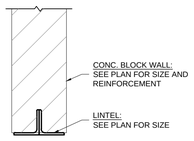


2 S4.1 PARTIAL FIRST (MAIN) FLR. FRAMING PLAN 1:50

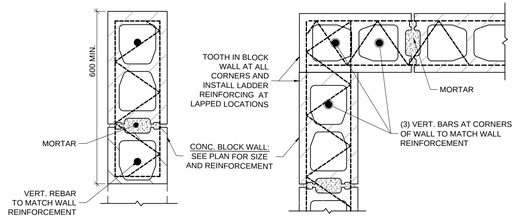
ELEVATOR
REFER TO ARCH. PLAN 2/A4.1



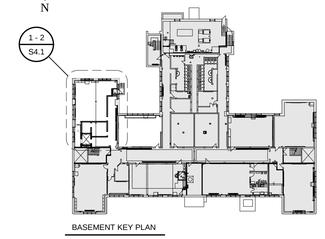
C1 BASE PLATE 1:10



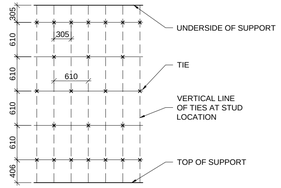
A S4.1 DETAIL (TYP.) N.T.S.
CONC. BLOCK WALL LINTEL



B S4.1 DETAIL (TYP.) 1:10
CONC. BLOCK WALL CORNER BARS



BASEMENT KEY PLAN



C S4.1 DETAIL (TYP.) N.T.S.
BRICK TIE SPACING

CLASSROOM FLOOR DESIGN LOADS

DL = 1.0 kPa (FLR.)
+ 1.0 kPa (PARTITIONS)
= 2.0 kPa
LL = 2.4 kPa

VEST. / CORR. FLOOR DESIGN LOADS

DL = 1.0 kPa + TILE (TBC)
LL = 4.8 kPa

WALL SCHEDULE

MARK	MATERIAL
WT1	· 2x4 WOOD STUDS @ 400 O.C. · 11 mm PLYWD. SHEATHING (MIN. 1 SIDE)

NOTES:
· PROVIDE MID-HEIGHT BLOCKING
· TOP OF WALLS C/W DBL. TOP PLATE

FLOOR SCHEDULE

MARK	MATERIAL
FLR1	· 19 mm PLYWD. SHEATHING · 2x8 WOOD JOISTS @ 400 O.C.

NOTES:
· PROVIDE MID-SPAN BLOCKING

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE (1) FULL HEIGHT VERTICAL AT ALL EDGES OF ALL OPENINGS AND ENDS OF BLOCK WALLS. PROVIDE (3) VERTICAL AT ALL CORNERS IN BLOCK WALLS. GROUT ALL CORES SOLID AT DOWELS AND ALL WALL REINFORCING LOCATIONS.
3. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.
4. PROVIDE 10M DOWELS x 400mm LG. @ EVERY OTHER MORTAR BED. ADHERE WITH HILTI HY-270 EPOXY INTO EX. CONCRETE, EX. CONCRETE BLOCK, EX. MULTI-WYTHE BRICK OR EX. SPEED TILE WALLS, MINIMUM 100mm EMBED. PROVIDE SCREEN TUBES AT EX. SPEED TILE WALLS. DOWELS ARE REQ'D AT ALL LOCATIONS WHERE NEW BLOCK ABUTS EXISTING WALLS.
5. TOP (2) COURSES OF CONCRETE BLOCK WALL TO BE GROUTED SOLID (TYP.)
6. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
7. CORE 127Ø (MAX.) HOLE IN BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

COLUMN SCHEDULE

COLUMN	SIZE	BASE PLATE	ANCHOR BOLTS
C1	HSS102x51x6.4	152x152x19	(2) 13Ø EPOXY ANCHORS, MIN. 200 EMBED. INTO EX. CONC. FOUNDATION

LINTEL SCHEDULE

LINTEL	SIZE	END BEARING
L1	(2) L127x89x7.9 LLV	200mm EACH END
L2	(2) L89x89x7.9	200mm EACH END
L3	(2) L152x89x7.9 LLV	200mm EACH END

BEARING PLATE SCHEDULE

PLATE	SIZE	ANCHORS / NOTES
BP1	178x178x19	(1) 20M x 600 LG. WELDED TO U/S BP
BP2	150x200x13	(1) 20M x 400 LG. WELDED TO U/S BP
BP3	127x200x19	GROUT IN MASONRY WALL CAVITY AFTER INSTALL

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS (mm)	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMU4	90	15 MPa	YES	-
CMU8	190	15 MPa	AT REINFORCING	15M @ 400 O.C.

NOTES:
· COORDINATE BLOCK WALL THICKNESS W/ ARCH. DRAWINGS.
· ALL WALLS TO HAVE CORES GROUTED SOLID AT REINFORCING STEEL LOCATIONS.
· PROVIDE ADDITIONAL BARS AT CORNERS AND AT OPENINGS / END OF WALLS AS PER FLOOR FRAMING NOTES.
· HORIZONTAL REINFORCING TO BE HOT DIP GALVANIZED NO. 9 TRUSS TYPE WIRE REINFORCING @ 16" (406mm). PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
· ALL WALLS TO BE TOOTHED INTO ADJACENT WALL.
· PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (200 mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

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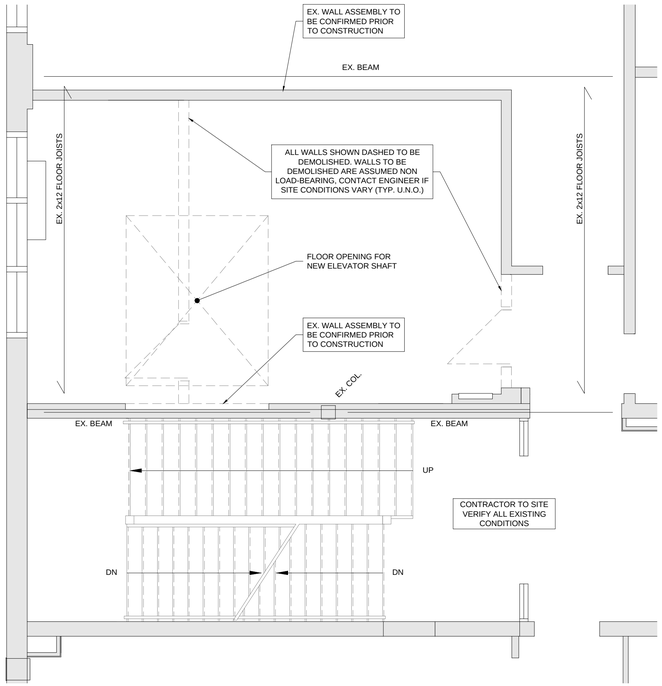
CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

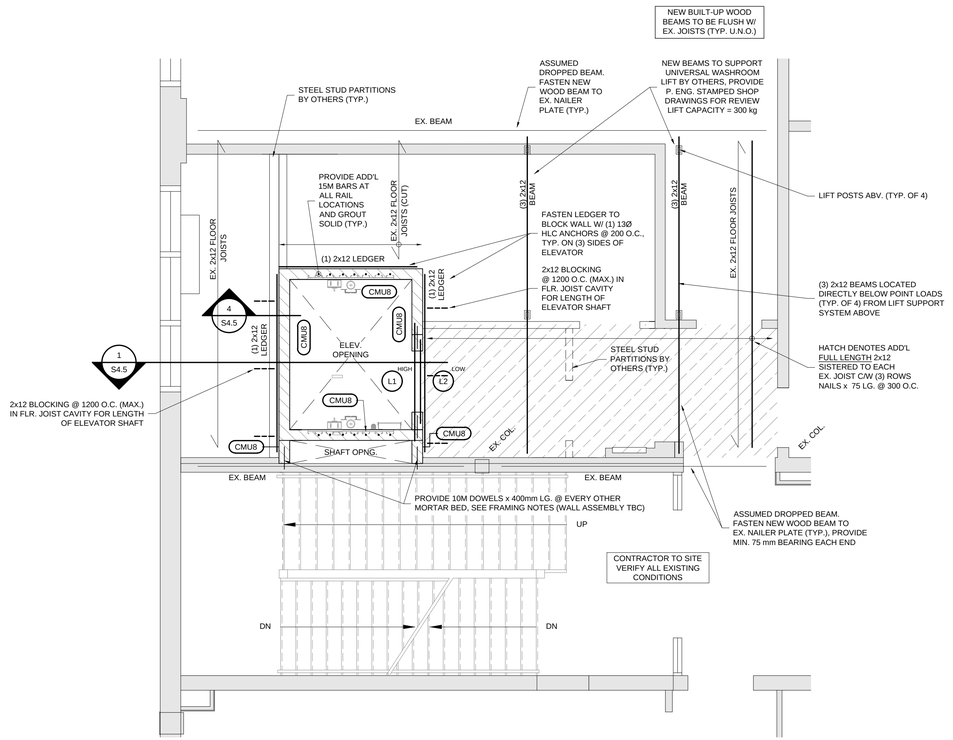
DRAWING TITLE
ELEV. & UNIV. WASH.: LANDING FRAMING & GROUND FLR. FRAMING

SCALE	AS NOTED
SHEET SIZE	24x36
PROJECT NUMBER	13382-203
DRAWING NUMBER	S4.1



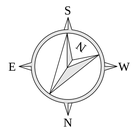
1 / S4.2 PARTIAL FIRST (MAIN) FLOOR DEMOLITION PLAN 1:50

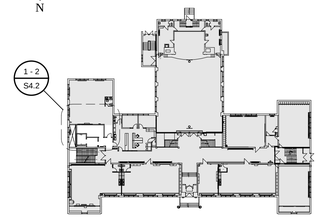
ELEVATOR
REFER TO ARCH. PLAN 1/A4.5



1 / S4.2 PARTIAL SECOND FLOOR FRAMING PLAN 1:50

ELEVATOR
REFER TO ARCH. PLAN 2/A4.5





FIRST (MAIN) FLR. KEY PLAN

CLASSROOM FLOOR DESIGN LOADS

DL = 1.0 kPa (FLR.)
+ 1.0 kPa (PARTITIONS)
= 2.0 kPa
LL = 2.4 kPa

VEST. / CORR. FLOOR DESIGN LOADS

DL = 1.0 kPa + TILE (TBC)
LL = 4.8 kPa

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE (1) FULL HEIGHT VERTICAL AT ALL EDGES OF ALL OPENINGS AND ENDS OF BLOCK WALLS. PROVIDE (3) VERTICAL AT ALL CORNERS IN BLOCK WALLS. GROUT ALL CORES SOLID AT DOWELS AND ALL WALL REINFORCING LOCATIONS.
3. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.
4. PROVIDE 10M DOWELS x 400mm LG. @ EVERY OTHER MORTAR BED. ADHERE WITH HILTI HY-270 EPOXY INTO EX. CONCRETE, EX. CONCRETE BLOCK, EX. MULTI-WYTHE BRICK OR EX. SPEED TILE WALLS, MINIMUM 100mm EMBED. PROVIDE SCREEN TUBES AT EX. SPEED TILE WALLS. DOWELS ARE REQ'D AT ALL LOCATIONS WHERE NEW BLOCK ABUTS EXISTING WALLS.
5. TOP (2) COURSES OF CONCRETE BLOCK WALL TO BE GROUTED SOLID (TYP.)
6. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
7. CORE 127Ø (MAX.) HOLE IN BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

LINTEL SCHEDULE

LINTEL	SIZE	END BEARING
L1	(2) L127x89x7.9 LLV	200mm EACH END
L2	(2) L89x89x7.9	200mm EACH END
L3	(2) L152x89x7.9 LLV	200mm EACH END

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS (mm)	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMU4	90	15 MPa	YES	-
CMU8	190	15 MPa	AT REINFORCING	15M @ 400 O.C.

NOTES:
- COORDINATE BLOCK WALL THICKNESS W/ ARCH. DRAWINGS.
- ALL WALLS TO HAVE CORES GROUTED SOLID AT REINFORCING STEEL LOCATIONS.
- PROVIDE ADDITIONAL BARS AT CORNERS AND AT OPENINGS / END OF WALLS AS PER FLOOR FRAMING NOTES.
- HORIZONTAL REINFORCING TO BE HOT DIP GALVANIZED NO. 9 TRUSS TYPE WIRE REINFORCING @ 16" (406mm). PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
- ALL WALLS TO BE TOOTHED INTO ADJACENT WALL.
- PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (200 mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

ISSUED FOR BID	2024.03.19
ISSUED FOR PERMIT	2024.02.09
CHRONOLOGY	DATE

WitzelDyce ENGINEERING INC.
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www.witzeldyce.com

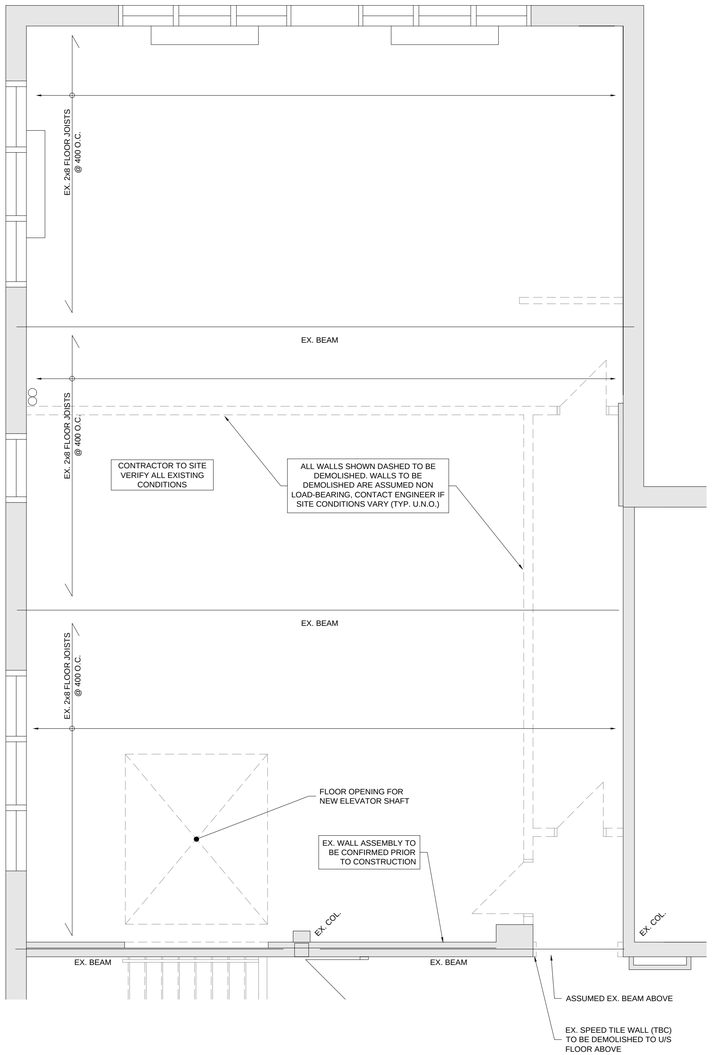
aba architects inc.
101 Randall Drive, Unit 8, Waterloo ON. TEL 519 884 2711 www.abaarchitect.co

CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

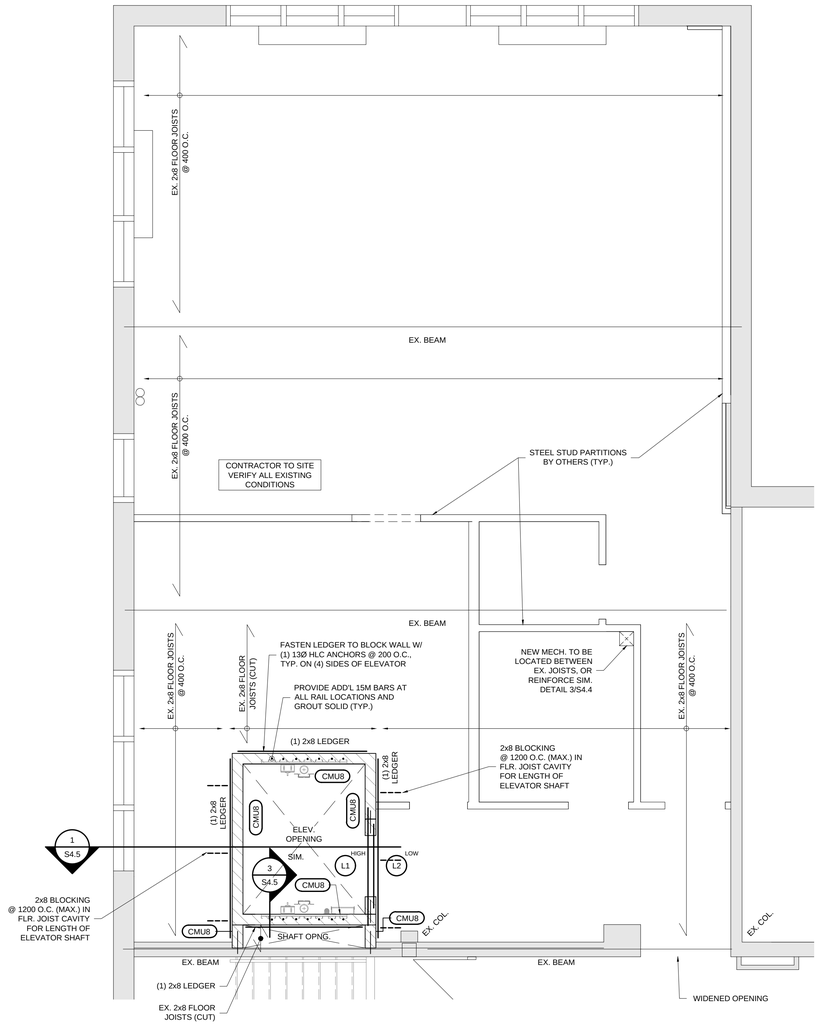
DRAWING TITLE
ELEV. & UNIV. WASH.: DEMOLITION & SECOND FLR. FRAMING

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203
DRAWING NUMBER: S4.2



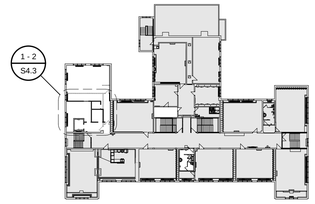
1 S4.3 PARTIAL SECOND FLOOR DEMOLITION PLAN 1:50

ELEVATOR
REFER TO ARCH. PLAN 1/A4.7



2 S4.3 PARTIAL ATTIC FRAMING PLAN 1:50

ELEVATOR
REFER TO ARCH. PLAN 2/A4.7



SECOND FLR. KEY PLAN

ATTIC DESIGN LOADS

DL = 0.72 kPa
LL = 0.50 kPa

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE (1) FULL HEIGHT VERTICAL AT ALL EDGES OF ALL OPENINGS AND ENDS OF BLOCK WALLS. PROVIDE (3) VERTICAL AT ALL CORNERS IN BLOCK WALLS. GROUT ALL CORES SOLID AT DOWELS AND ALL WALL REINFORCING LOCATIONS.
3. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.
4. PROVIDE 10M DOWELS x 400mm LG. @ EVERY OTHER MORTAR BED. ADHERE WITH HILTI HY-270 EPOXY INTO EX. CONCRETE, EX. CONCRETE BLOCK, EX. MULTI-WYTHE BRICK OR EX. SPEED TILE WALLS, MINIMUM 100mm EMBED. PROVIDE SCREEN TUBES AT EX. SPEED TILE WALLS. DOWELS ARE REQ'D AT ALL LOCATIONS WHERE NEW BLOCK ABUTS EXISTING WALLS.
5. TOP (2) COURSES OF CONCRETE BLOCK WALL TO BE GROUTED SOLID (TYP.)
6. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
7. CORE 127Ø (MAX.) HOLE IN BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

LINTEL SCHEDULE

LINTEL	SIZE	END BEARING
L1	(2) L127x89x7.9 LLV	200mm EACH END
L2	(2) L89x89x7.9	200mm EACH END
L3	(2) L152x89x7.9 LLV	200mm EACH END

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS (mm)	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMU4	90	15 MPa	YES	-
CMU8	190	15 MPa	AT REINFORCING	15M @ 400 O.C.

NOTES:
- COORDINATE BLOCK WALL THICKNESS W/ ARCH. DRAWINGS.
- ALL WALLS TO HAVE CORES GROUTED SOLID AT REINFORCING STEEL LOCATIONS.
- PROVIDE ADDITIONAL BARS AT CORNERS AND AT OPENINGS / END OF WALLS AS PER FLOOR FRAMING NOTES.
- HORIZONTAL REINFORCING TO BE HOT DIP GALVANIZED NO. 9 TRUSS TYPE WIRE REINFORCING @ 16" (406mm). PROVIDE FULL OVERLAP AT ALL INTERSECTIONS AND CORNERS.
- ALL WALLS TO BE TOOTHED INTO ADJACENT WALL.
- PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (200 mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
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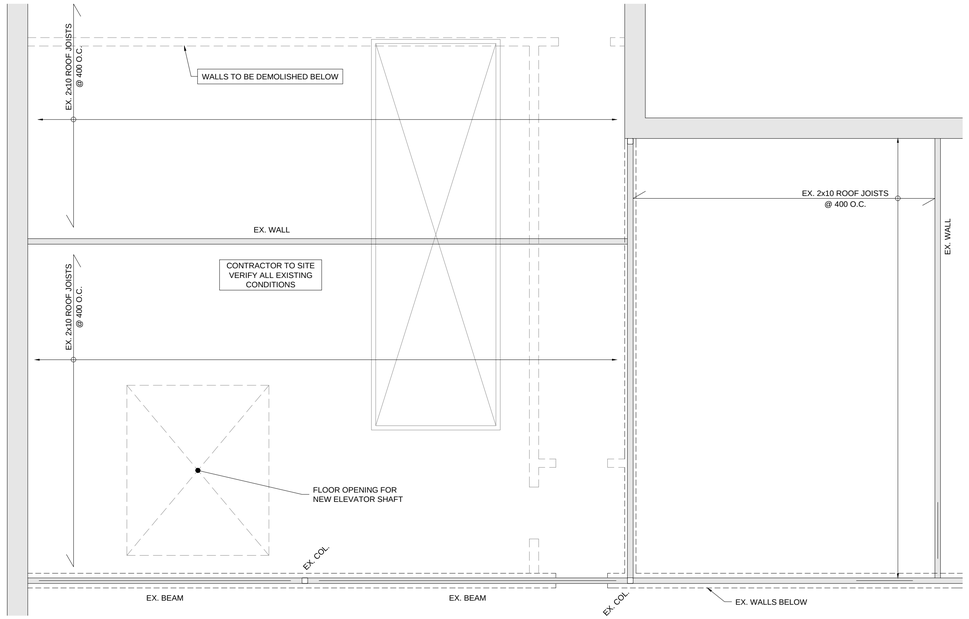
PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

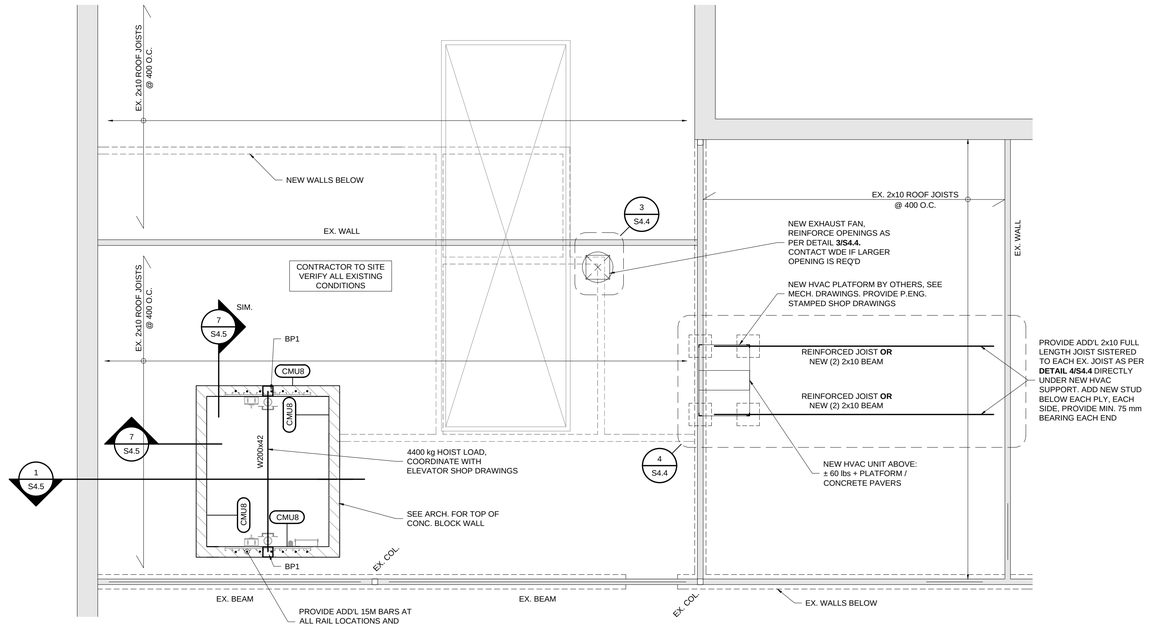
DRAWING TITLE
ELEV. & UNIV. WASH.: DEMOLITION & ATTIC FRAMING

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203
DRAWING NUMBER: S4.3



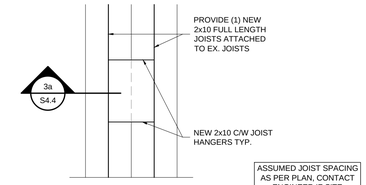
1 S4.4 — **PARTIAL ATTIC DEMOLITION PLAN** 1:50

ELEVATOR
REFER TO ARCH. PLAN 1/A4.9



2 S4.4 — **PARTIAL ROOF FRAMING PLAN** 1:50

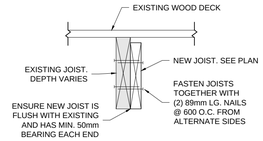
ELEVATOR
REFER TO ARCH. PLAN 2/A4.9



ASSUMED JOIST SPACING AS PER PLAN, CONTACT ENGINEER IF SITE CONDITIONS VARY

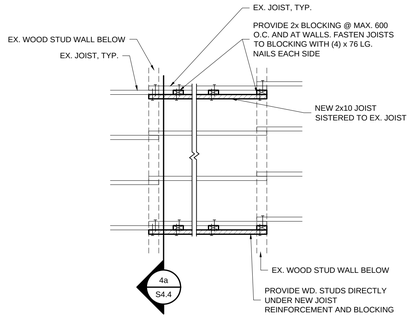
3 S4.4 — **FRAMING PLAN** 1:50

CUTTING 1 JOIST FOR ROOF OPENINGS



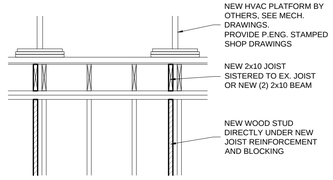
3a S4.4 — **SECTION** 1:10

DOUBLING OF ROOF JOISTS TYP.



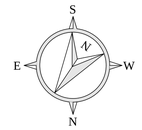
4 S4.4 — **DETAIL** 1:25

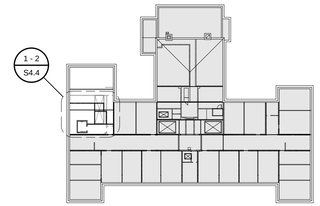
JOIST REINFORCEMENT UNDER NEW HVAC UNITS



4a S4.4 — **SECTION** 1:25

JOIST REINFORCEMENT UNDER NEW HVAC UNITS





ATTIC KEY PLAN

ROOF DESIGN LOADS

DL = 1.0 kPa
SL = 2.3 kPa

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE (1) FULL HEIGHT VERTICAL AT ALL EDGES OF ALL OPENINGS AND ENDS OF BLOCK WALLS. PROVIDE (3) VERTICAL AT ALL CORNERS IN BLOCK WALLS. GROUT ALL CORES SOLID AT DOWELS AND ALL WALL REINFORCING LOCATIONS.
3. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.
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6. PROVIDE 15M BAR GROUTED INTO EACH EMPTY CORE 8" (203mm) O.C., CONTINUOUS BEHIND EACH ELEVATOR INSERT.
7. CORE 127Ø (MAX.) HOLE IN BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

BEARING PLATE SCHEDULE

PLATE	SIZE	ANCHORS / NOTES
BP1	178x178x19	(1) 20M x 600 LG. WELDED TO U/S BP
BP2	150x200x13	(1) 20M x 400 LG. WELDED TO U/S BP
BP3	127x200x19	GROUT IN MASONRY WALL CAVITY AFTER INSTALL

CONCRETE BLOCK WALL SCHEDULE

MARK	THICKNESS (mm)	COMP. STR.	FULLY GROUTED	VERT. REINF.
CMU4	90	15 MPa	YES	-
CMU8	190	15 MPa	AT REINFORCING	15M @ 400 O.C.

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No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
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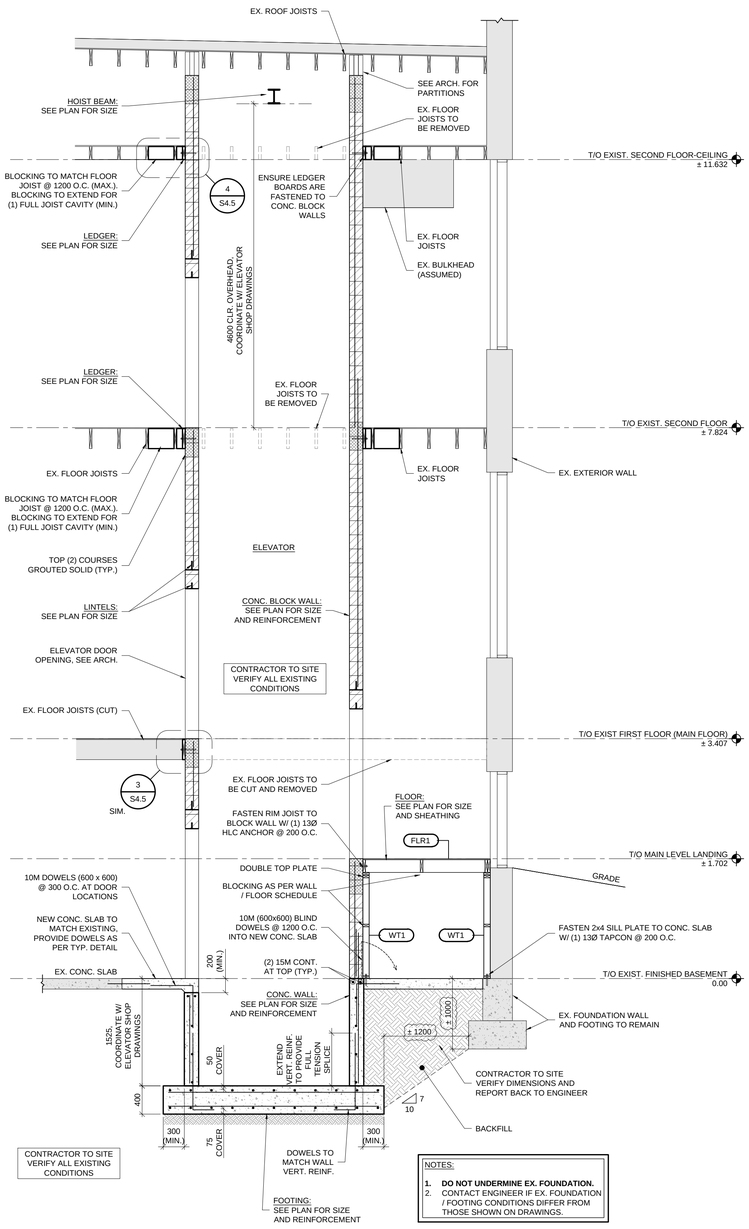
CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

DRAWING TITLE
ELEV. & UNIV. WASH.: DEMOLITION & ROOF FRAMING

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203

DRAWING NUMBER: S4.4

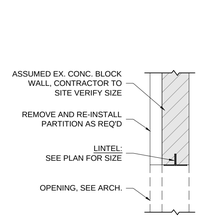


NOTES:

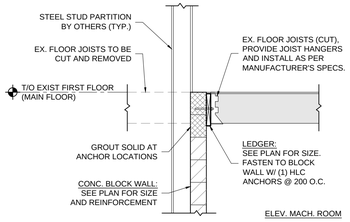
1. **DO NOT UNDERMINE EX. FOUNDATION.**
2. CONTACT ENGINEER IF EX. FOUNDATION / FOOTING CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS.

CONTRACTOR TO NOTIFY ENGINEER PRIOR TO EXPOSING EX. FOOTING FOR VERIFICATION. PROVIDE ENGINEER WITH **MINIMUM 24 HOUR** NOTICE PRIOR TO EXCAVATION TO REVIEW EX. FOUNDATIONS

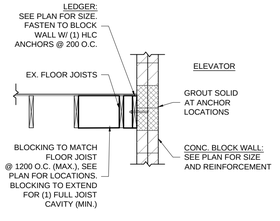
1 S4.5 **SECTION** 1:40
ELEVATOR



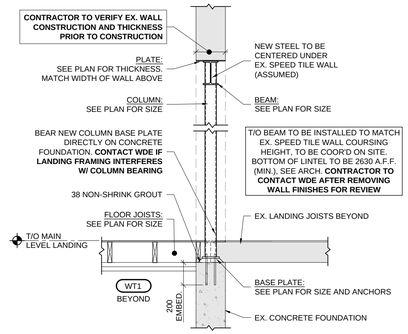
2 S4.5 **SECTION** 1:25
LINTEL @ EX. CONC. BLOCK WALL



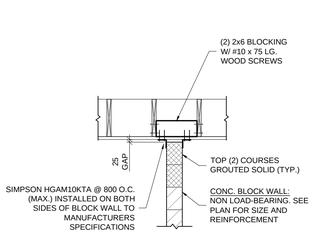
3 S4.5 **SECTION** 1:25
EX. FLOOR JOISTS PERP. TO ELEV. CONC. BLOCK WALL



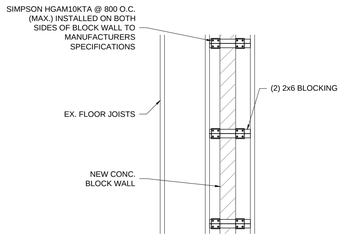
4 S4.5 **SECTION** 1:25
EX. FLOOR JOISTS @ ELEVATOR



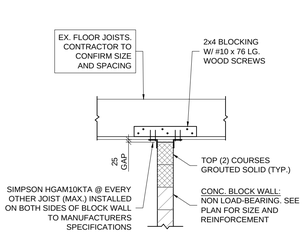
5 S4.5 **SECTION** 1:25



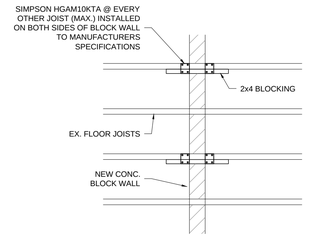
6a S4.5 **SECTION** 1:25
CONC. BLOCK WALL BRACING EX. FRAMING PARALLEL



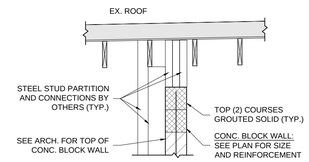
PLAN VIEW



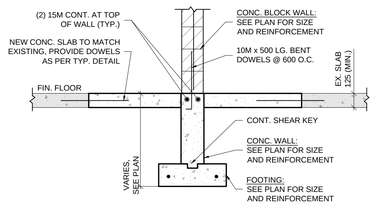
6b S4.5 **SECTION** 1:25
CONC. BLOCK WALL BRACING EX. FRAMING PERP.



PLAN VIEW

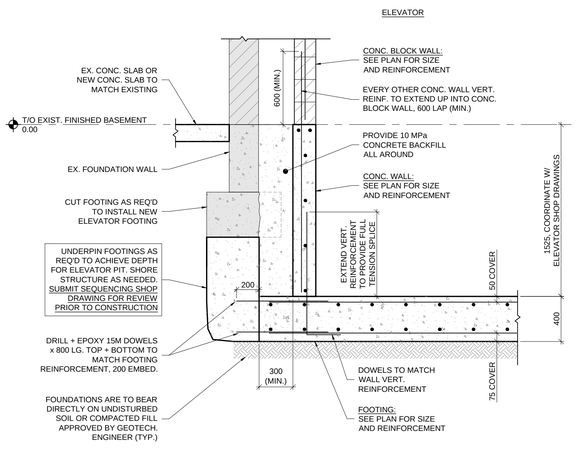


7 S4.5 **SECTION** 1:25
TOP OF CONC. BLOCK WALL @ ELEVATOR



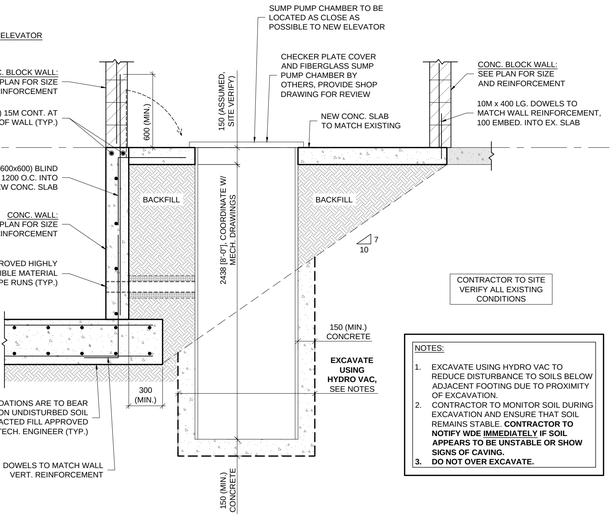
8 S4.5 **SECTION** 1:25
LOAD-BRG. CONC. BLOCK WALL

CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS



CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

9 S4.5 **SECTION** 1:25
ELEVATOR UNDERPINNING



NOTES:

1. EXCAVATE USING HYDRO VAC TO REDUCE DISTURBANCE TO SOILS BELOW ADJACENT FOOTING DUE TO PROXIMITY OF EXCAVATION.
2. CONTRACTOR TO MONITOR SOIL DURING EXCAVATION AND ENSURE THAT SOIL REMAINS STABLE. **CONTRACTOR TO NOTIFY WDE IMMEDIATELY IF SOIL APPEARS TO BE UNSTABLE OR SHOW SIGNS OF CAVING.**
3. **DO NOT OVER EXCAVATE.**

10 S4.5 **SECTION** 1:25
ELEVATOR SUMP PIT

No.	REVISIONS	DATE

ISSUED FOR BID	2024.03.19
ISSUED FOR PERMIT	2024.02.09
CHRONOLOGY	DATE

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LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

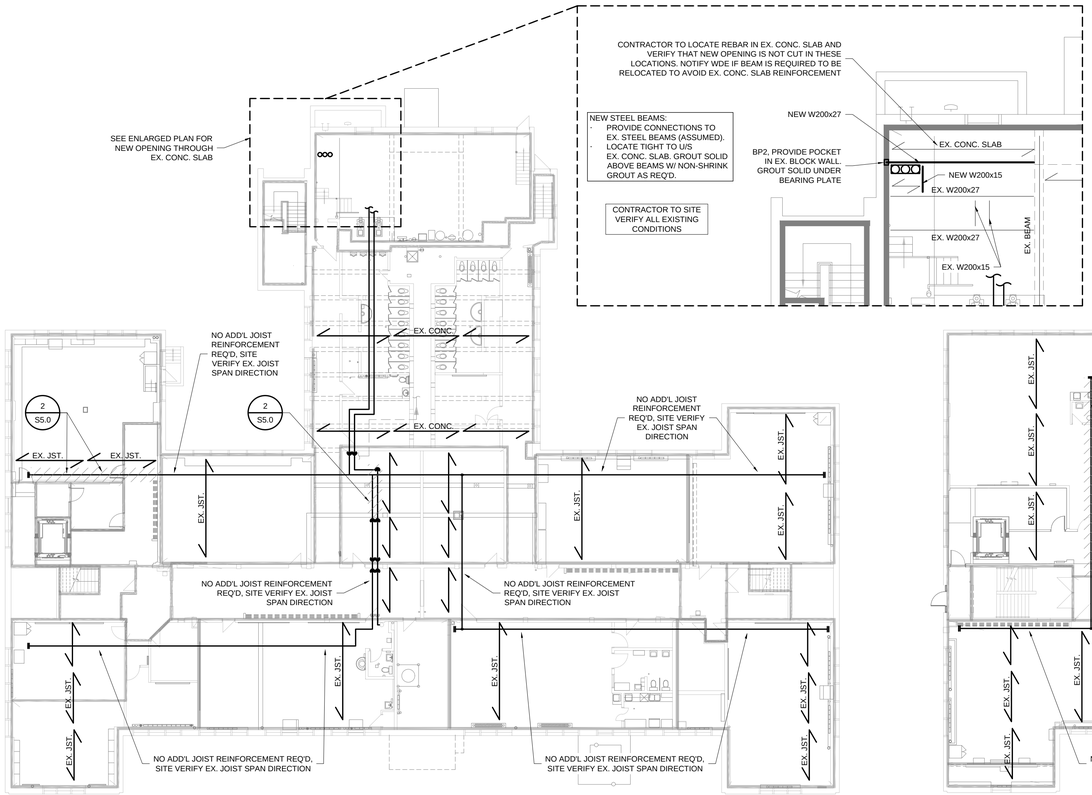
DRAWING TITLE

SECTIONS

SCALE	AS NOTED
SHEET SIZE	24x36
PROJECT NUMBER	13382-203

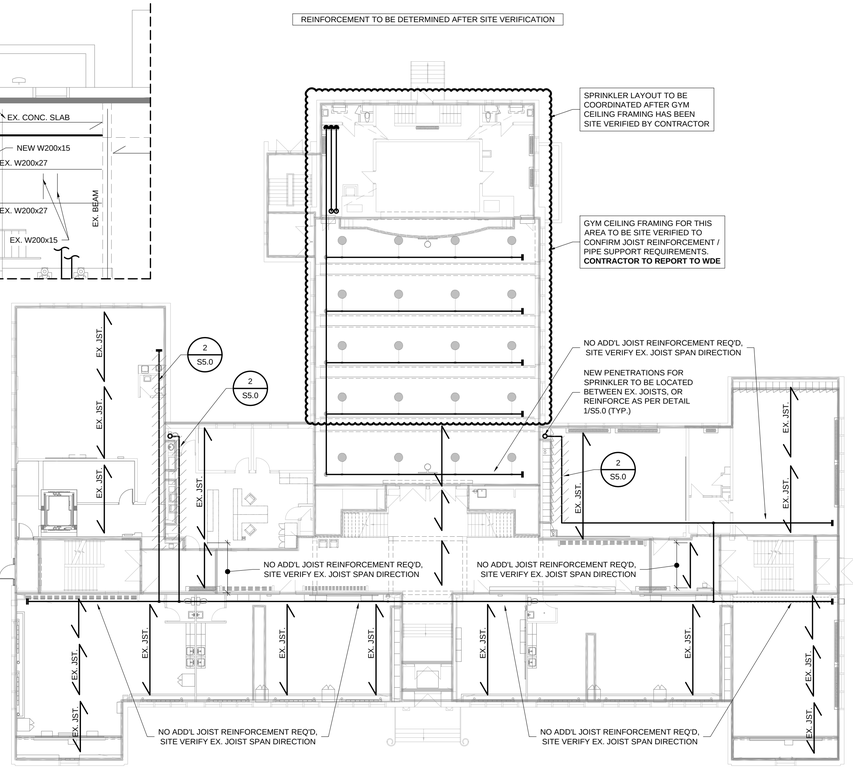
DRAWING NUMBER

S4.5



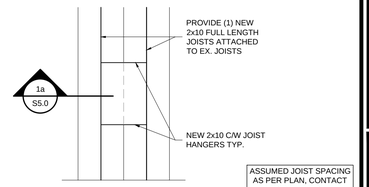
FIRST FLOOR FRAMING PLAN 1:200

BASEMENT SPRINKLER PLAN
MECH. REF.: M5.1



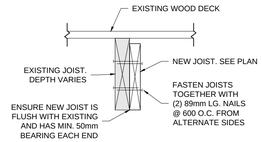
SECOND FLOOR FRAMING PLAN 1:200

FIRST FLOOR SPRINKLER PLAN
MECH. REF.: M5.1



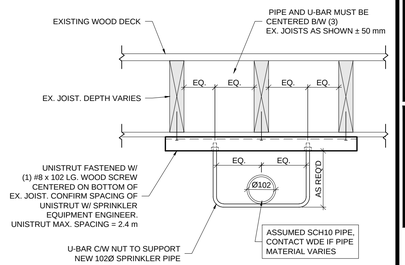
1 S5.0 FRAMING PLAN 1:50

CUTTING 1 JOIST FOR ROOF OPENINGS



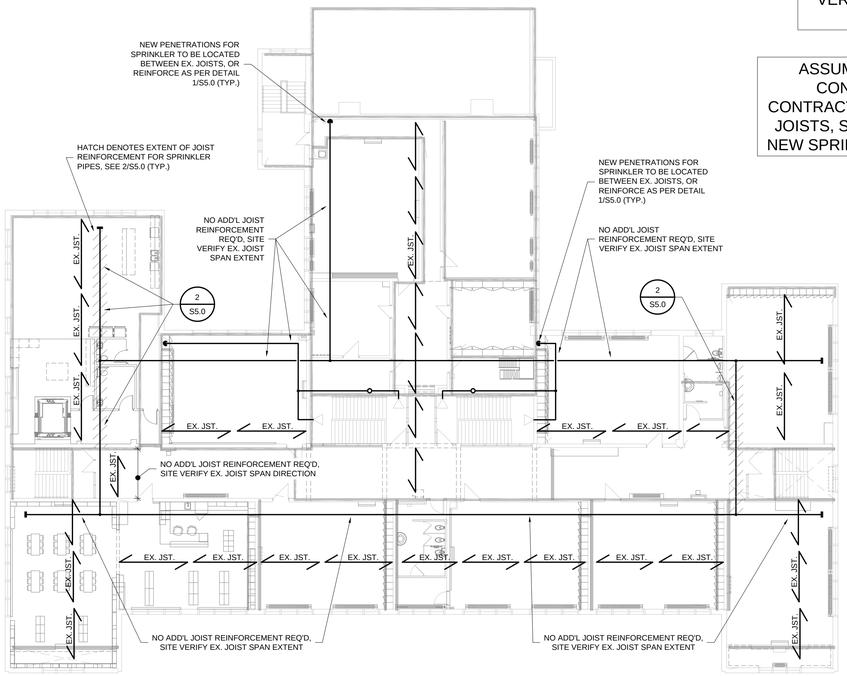
1a S5.0 SECTION 1:10

DOUBLING OF ROOF JOISTS TYP.



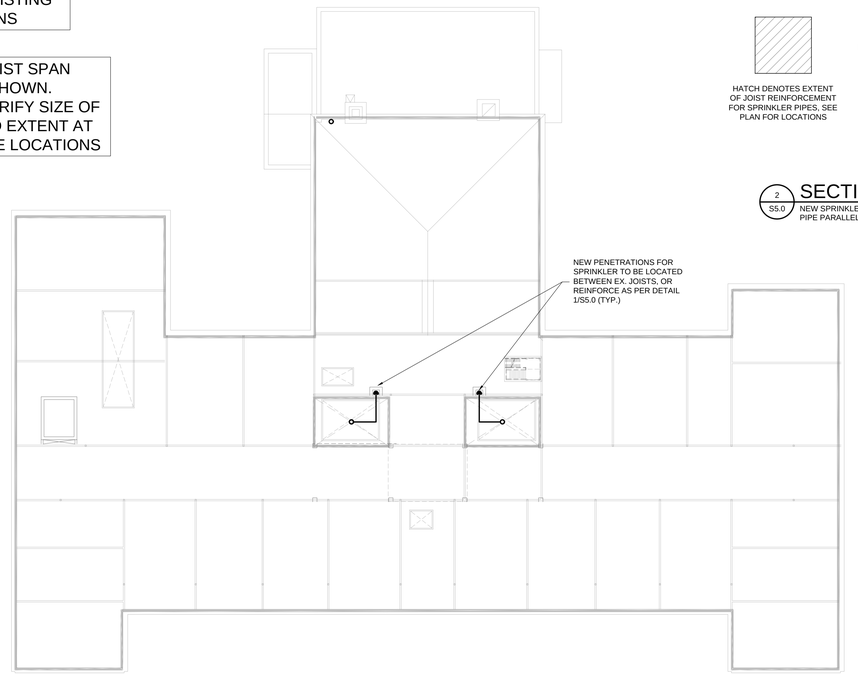
CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

ASSUMED EX. JOIST SPAN CONDITIONS SHOWN. CONTRACTOR TO VERIFY SIZE OF JOISTS, SPANS, AND EXTENT AT NEW SPRINKLER PIPE LOCATIONS



ATTIC FRAMING PLAN 1:200

SECOND FLOOR SPRINKLER PLAN
MECH. REF.: M5.1



ROOF FRAMING PLAN 1:200

ATTIC SPRINKLER PLAN
MECH. REF.: M5.1

HATCH DENOTES EXTENT OF JOIST REINFORCEMENT FOR SPRINKLER PIPES, SEE PLAN FOR LOCATIONS

2 S5.0 SECTION 1:10

NEW SPRINKLER PIPE SUPPORT PIPE PARALLEL W/ EX. JOIST

PIPE DESIGN LOADS

102Ø SCH10 PIPE = 11 lb/ft (0.16 kN/m)

FIRST FLOOR DESIGN LOADS

GYM STAGE / CHANGE ROOMS (AT EX. CONC. SLAB AREA):
DL = 7.2 kPa
LL = 4.8 kPa

CLASSROOM:
DL = 2.0 kPa
LL = 2.4 kPa

VEST. / CORRIDOR:
DL = 1.0 kPa + NEW TILES AT RENO. AREA
LL = 4.8 kPa

SECOND FLOOR DESIGN LOADS

CLASSROOM:
DL = 2.0 kPa
LL = 2.4 kPa

VEST. / CORRIDOR:
DL = 1.0 kPa + NEW TILES AT RENO. AREA
LL = 4.8 kPa

ATTIC DESIGN LOADS

DL = 0.72 kPa
LL = 0.5 kPa

NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. CONTRACTOR TO SITE VERIFY EXISTING CONDITIONS.
3. CORE BLOCK FOR 102Ø SPRINKLER PIPES. LOCATE PIPING AT TOP OF BLOCK WALL WHERE POSSIBLE.

BEARING PLATE SCHEDULE

PLATE	SIZE	ANCHORS / NOTES
BP1	178x178x19	(1) 20M x 600 LG. WELDED TO U/S BP
BP2	150x200x13	(1) 20M x 400 LG. WELDED TO U/S BP
BP3	127x200x19	GROUT IN MASONRY WALL CAVITY AFTER INSTALL

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 14, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
ISSUED FOR BID	2024.03.19
ISSUED FOR PERMIT	2024.02.09

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101 Randall Drive, Unit 8, Waterloo ON. TEL 519 884 2711 www.abaarchitect.ca

CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
SUDDABY PUBLIC SCHOOL
ELEVATOR, WASHROOM & SPRINKLER UPGRADES
171 FREDRICK ST., KITCHENER, ON, N2H 2M6

DRAWING TITLE
SPRINKLER UPGRADE FRAMING PLANS SECTIONS & DETAILS

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 13382-203
DRAWING NUMBER: S5.0