KING'S ROAD PS
ACCESSIBILITY UPGRADES

660 GREENWOOD DRIVE,

BURLINGTON, ONTARIO L7T 3P3

GENERAL NOTES:

1. MAKE GOOD: RESTORE ALL SURFACES, FINISHES, AND BUILDING ELEMENTS DISTURBED OR DAMAGED BY THE WORK TO MATCH ADJACENT EXISTING CONDITIONS, UNLESS OTHERWISE SPECIFIED. WORK SHALL INCLUDE PATCHING, REPAIRING, REPLACING, AND REFINISHING MATERIALS TO ACHIEVE A UNIFORM AND SEAMLESS APPEARANCE.
2. VERIFY ALL DIMENSIONS AND EXISTING SITE CONDITIONS. REPORT ANY DISCREPANCIES TO ARCHITECT BEFORE PROCEEDING WITH THE WORK.
3. REPORT TO ARCHITECT AT LEAST THREE WORKING DAYS PRIOR TO CONSTRUCTION ALL DISCREPANCIES, OMISSIONS, ERRORS, DEPARTURES FROM BUILDING BY-LAWS, O.B.C., OR GOOD PRACTICE AND POINTS CONSIDERED TO BE OF AMBIGUOUS INTENT, SO THAT THE ARCHITECT MAY, IF NECESSARY, ISSUE INSTRUCTIONS BY ADDENDA. THE ARCHITECT WILL NOT BE RESPONSIBLE FOR ORAL INSTRUCTIONS.
4. DO NOT SCALE DRAWINGS.
5. EXTEND, MAKE GOOD, REPAIR AND CLEAN EXISTING SUBSTRATES, FINISHES, AND COMPONENTS AS REQUIRED TO MATCH EXISTING. PROVIDE ADDITIONAL MATERIALS AND COMPONENTS AS REQUIRED. MAINTAIN CONTINUITY TO EXISTING WORK, FLUSH, PLUMB AND IN ALIGNMENT, AND WITHOUT DETRIMENTS TO VISUAL APPEARANCE. MATCH EXISTING MATERIALS AND METHODS. VARIATIONS WILL BE ACCEPTED BY ARCHITECT'S WRITTEN AUTHORIZATION ONLY, AND WHERE AUTHORIZED MUST MEET OR EXCEED QUALITY AND PERFORMANCE OF EXISTING.
6. PROTECT EXISTING WORK AND ASSEMBLIES TO REMAIN. SHORE AND BRACE AS REQUIRED. BE RESPONSIBLE FOR REPAIRS, MAKING GOOD AND CLEANING IN EVENT PROTECTION IS NOT ADEQUATE.
7. PROTECT PUBLIC AND OTHER PRIVATE PROPERTY BEYOND IMMEDIATE WORK AREA. CONTRACTOR TO HOLD OWNER HARMLESS AGAINST ALL CLAIMS ASSOCIATED WITH THIS WORK.
8. MAINTAIN CONTINUITY OF ALL EXISTING FIRE SEPARATIONS, ASSEMBLIES, AND PROTECTIVE CLADDING.
9. ALL WORK IS TO BE PROVIDED AS COMPLETE, OPERATING SYSTEMS EXCEPT AS NOTED.
10. PREPARE ALL EXISTING SUBSTRATES TO RECEIVE NEW FINISHES AS REQUIRED ACCORDING TO RECOMMENDATIONS OF MANUFACTURER OF NEW FINISH MATERIALS.
11. PROVIDE PURPOSE-MADE ALUMINUM REDUCING STRIPS AT ALL DISSIMILAR FLOOR FINISH MATERIALS, INCLUDING JUNCTION OF EXISTING MATERIALS TO NEW MATERIALS. SUBMIT SAMPLES TO ARCHITECT FOR APPROVAL.
12. MOVE MATERIALS AND DEBRIS FROM IMMEDIATE WORK AREA TO EXTERIOR RUBBISH BINS IN CLOSED DUST-TIGHT CONTAINERS. LOCATE BINS TO APPROVAL OF OWNER.
13. CO-ORDINATE AND PAY FOR ALL CHARGES AND FEES ASSOCIATED WITH THE WORK TO BE PERFORMED AS LEVIED BY THE AUTHORITIES HAVING JURISDICTION. PROCURE ALL ENCROACHMENT AGREEMENTS AS REQUIRED TO PERMIT WORK TO BE PERFORMED.
14. PROVIDE DUST-TIGHT CONSTRUCTION HOARDING TO ISOLATE WORK AREA. SUBMIT SHOP DRAWINGS.
15. PERFORM ALL SITE PREPARATIONS AND DEMOLITIONS AS REQUIRED TO PERMIT WORK TO COMMENCE AND BE ACCOMMODATED.
16. THE SCHEDULE AND SEQUENCE OF THE WORK WILL BE SUBJECT TO THE APPROVAL OF THE OWNER. THE OWNER INTENDS TO OCCUPY AND OPERATE IN THE PREMISES DURING CONSTRUCTION.
17. PROVIDE ACCESS TO ALL CONTROL DEVICES AND MAINTAIN ACCESS TO ALL EXISTING CONTROL DEVICES WHICH ARE COVERED BY FINISHES. PROVIDE PRE-MANUFACTURED ACCESS PANELS TO SUIT. SUBMIT SAMPLES TO ARCHITECT FOR APPROVAL.
18. REMOVE ALL EXISTING INACTIVE AND ABANDONED MECHANICAL AND ELECTRICAL SERVICE LINES. MAKE GOOD.
19. CONFORM TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
20. MAINTAIN ACCESS TO EXITS AT ALL TIMES. PROVIDE ALTERNATE EXITS IN CONSULTATION WITH AND AT APPROVAL OF BUILDING OFFICIAL. PROVIDE TEMPORARY EXIT SIGNS AND ADJUST EXISTING EXIT SIGNS AS REQUIRED. AT COMPLETION OF WORK, REMOVE TEMPORARY SIGNS AND RESTORE SIGNAGE. MAKE GOOD.
21. ACCESS CEILING, WALL AND FLOOR ASSEMBLIES AS REQUIRED TO PERFORM WORK. MAKE GOOD TO MATCH EXISTING OR REMOVE ASSEMBLY AND REPLACE TO APPROVAL OF CONSULTANT.

1 — GENERAL NOTES N.T.S.

GRADING NOTES:

1. SLOPE FINISHED GRADE AWAY FROM BUILDING MINIMUM 2% UNLESS OTHERWISE NOTED. GRADE IS NOT TO SLOPE TOWARDS BUILDING UNDER ANY CIRCUMSTANCE.

2. CAREFULLY AND PROPERLY CUT AND TERMINATE EXISTING SITE FINISHES AS REQUIRED TO ACCOMMODATE WORK. SAWCUT ALL HARD FINISHES. MAKE GOOD SITE FINISHES TO MATCH EXISTING. SAWCUT WHERE EXISTING ASPHALT REQUIRES ADJUSTMENT. AT AREAS TO RECEIVE ASPHALT, EXCAVATE TO REMOVE ALL ORGANIC MATERIAL TO UNDISTURBED SOIL. PROOF ROLL EXISTING FILL ONLY AS DIRECTED BY SOILS REPORT

3. BLEND GRADING GENTLY BETWEEN WORK AND EXISTING SITE FINISHES TO SUIT CONDITIONS. SLOPE SODDED AREAS 1:3 MAXIMUM.

4. REVIEW GRADING PRIOR TO COMMENCEMENT OF WORK AND BRING TO ATTENTION OF CONSULTANT ANY DISCREPANCIES ENCOUNTERED.

5. UNLESS OTHERWISE NOTED, PROVIDE SOD ON TOPSOIL FOR SITE FINISH.

6. REMOVE FROM SITE AND LEGALLY DISPOSE OF ALL EXCESS EXCAVATED MATERIAL.

7. WHERE SUPPLEMENTAL MATERIAL IS REQUIRED TO ACHIEVE FINISHED GRADES AS SPECIFIED, USE COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH SPECIFICATIONS AND SOILS REPORT.

8. MAINTAIN EXISTING DRAINAGE PATTERN.

9. IN BUILDING FOOTPRINT AND BENEATH ALL SLABS ON GRADE AND HARD SITE FINISHES REMOVE ALL EXISTING SITE FINISHES, ORGANIC MATERIAL AND FILL TO UNDISTURBED SOIL. WHERE PERMITTED AS INDICATED IN GEOTECHNICAL REPORT, PROOF-ROLL EXPOSED SUBGRADE FILL WITH HEAVY SHEEP FOOT ROLLER. SUB-EXCAVATE SOFT AREAS AS ENCOUNTERED. PROVIDE SUBGRADE UPFILL OF APPROVED SUITABLE SELECTED ONSITE MATERIALS OR IMPORTED GRANULAR MATERIAL COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. REFER TO CHEMICAL ANALYSIS REPORT. GEOTECHNICAL ENGINEER TO MONITOR REMOVAL OF UNSUITABLE MATERIAL, PROOF-ROLLING OF SUBGRADE, AND UPFILLING OPERATION OF SUBGRADE.

TEMPORARY CONSTRUCTION EXITS:

BARRICADE AND PROVIDE DUST TIGHT HOARDING TO EXISTING BUILDING. ESTABLISH ALTERNATE EXITS DURING CONSTRUCTION THROUGH EXISTING DOORS TO EXTERIOR. PROVIDE EXIT SIGNS AS REQUIRED AND REMOVE AND MAKE GOOD AT COMPLETION OF WORK. MASK EXISTING SIGNS AS REQUIRED FOR TEMPORARY EXITS. REVIEW EXITING DURING CONSTRUCTION WITH LOCAL BUILDING DEPARTMENT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

INFORMATION FOR THIS SITE PLAN TAKEN FROM DOCUMENTS PROVIDED BY THE HALTON DISTRICT SCHOOL BOARD

2 — SITE PLAN NOTES N.T.S.

Revisions

Ref.	No.	Description	Date	Initial
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
△		95% SUBMISSION	2026/04/23	
△		ISSUED FOR PERMIT & TENDER	2026/06/10	

Project:

KING'S ROAD PS
ACCESSIBILITY UPGRADES
660 GREENWOOD DRIVE
BURLINGTON, ON L7T 3P3

liu lim Architects inc.

82 Bellagio Crescent
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ONTARIO ASSOCIATION OF ARCHITECTS
10-06-2026
MINGPENG LIU
LICENCE 9826

Consultant:

Title:

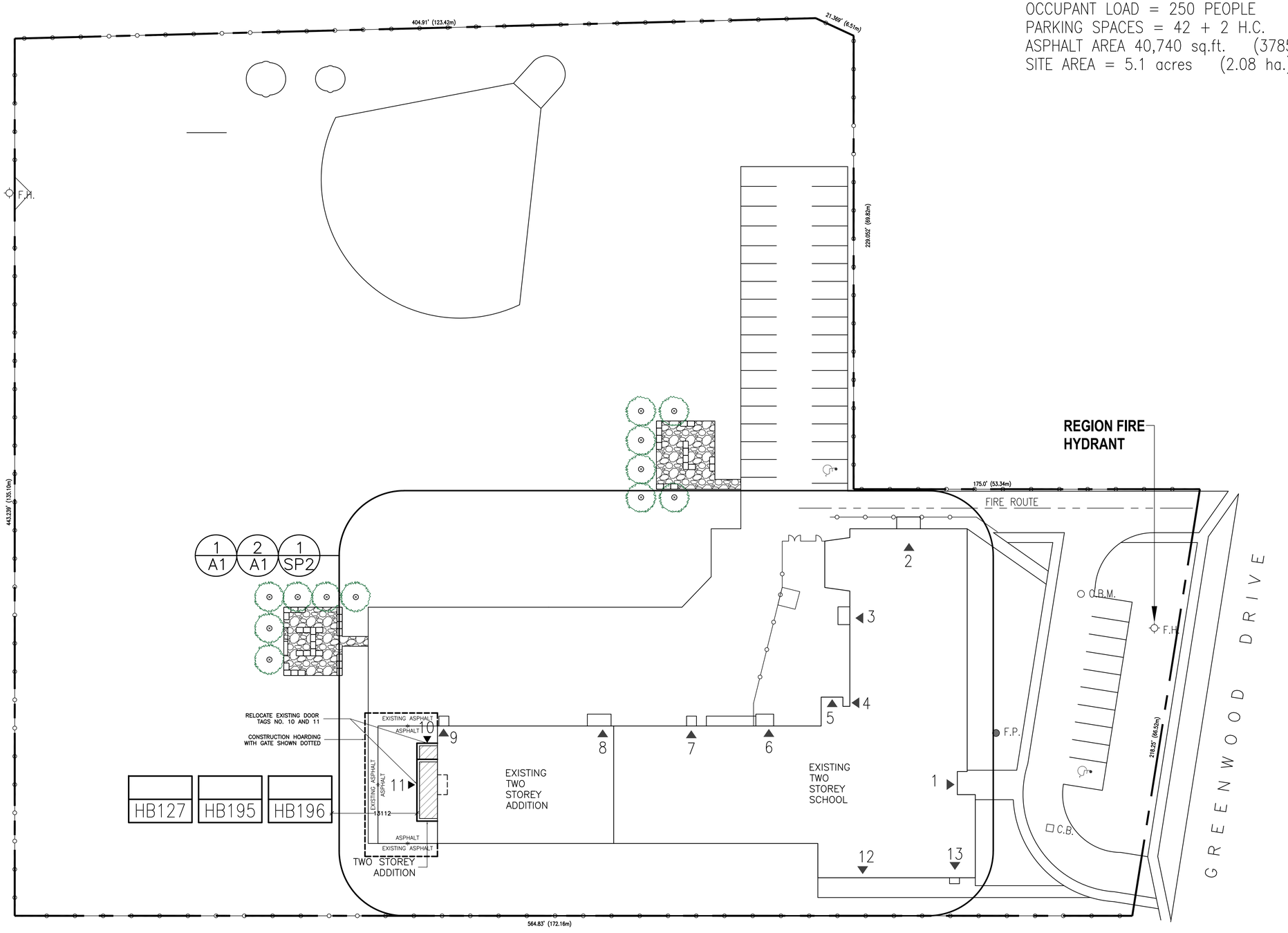
TITLE SHEET, GENERAL NOTES, SITE PLAN NOTES

Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: AS SHOWN	Issued:
Job No.: 25115	Drawing No.: A0
Set No.:	of:

NOTE: SITE PLAN IS ROTATED

LEGAL DESCRIPTION: CON BF PT LOT 1, City of Burlington

OCCUPANT LOAD = 250 PEOPLE
PARKING SPACES = 42 + 2 H.C.
ASPHALT AREA 40,740 sq.ft. (3785m)
SITE AREA = 5.1 acres (2.08 ha.)



1 SITE PLAN

1:300

Revisions

Ref.	No.	Description	Date	Initial
△		CONSULTANTS COORDINATION	2025/11/24	
△		CLIENTS REVIEW	2025/11/24	
△		CLIENTS REVIEW	2026/01/20	
△		CONSULTANTS COORDINATION	2026/01/21	
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
△		95% SUBMISSION	2026/04/23	
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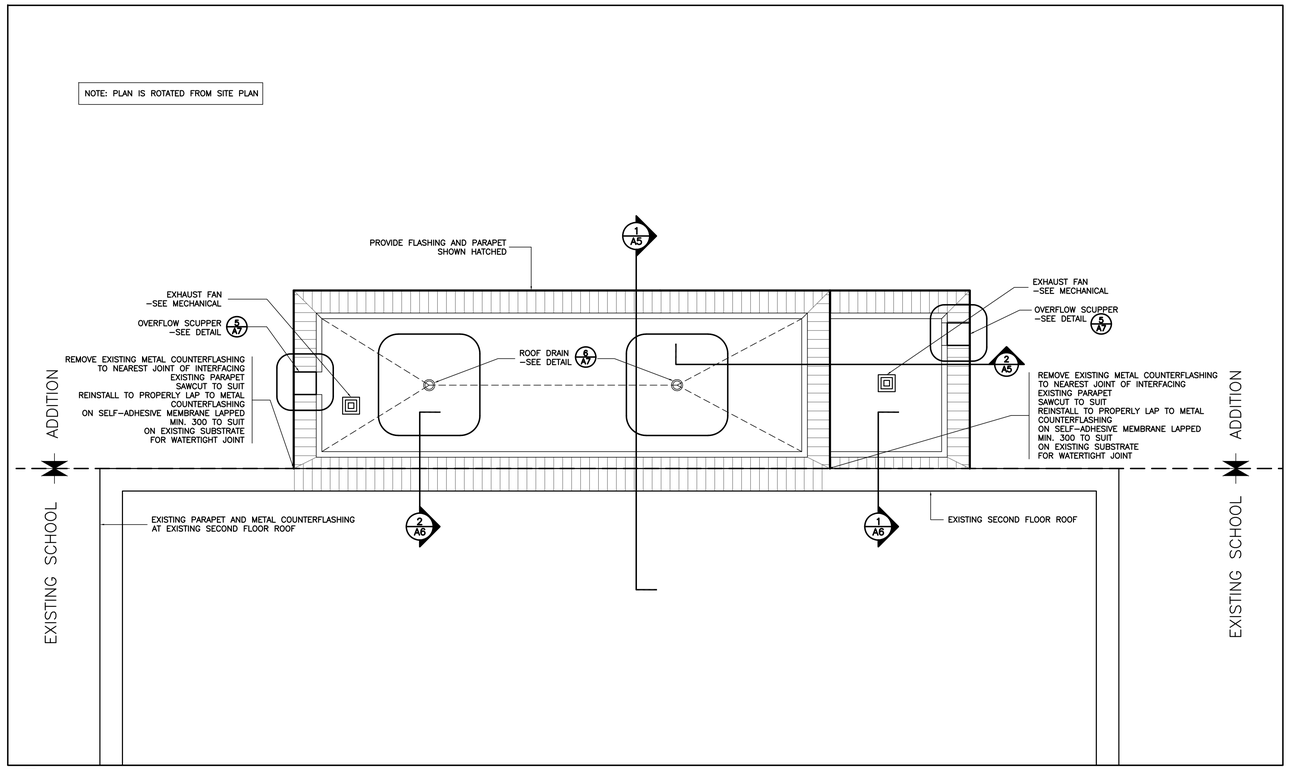
Consultant:

Title:

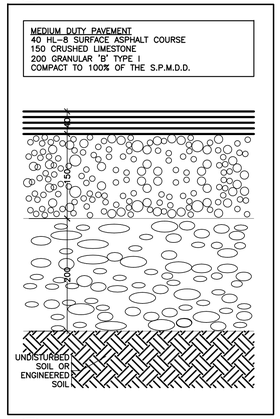
SITE PLAN

Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:300	Issued:
Job No.: 25115	Drawing No.: SP1
Set No.:	of:



1 SP1 ROOF PLAN

1:50



2 SP1 ASPHALT DETAIL

1:5

Revisions

Ref.	No.	Description	Date	Initial
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
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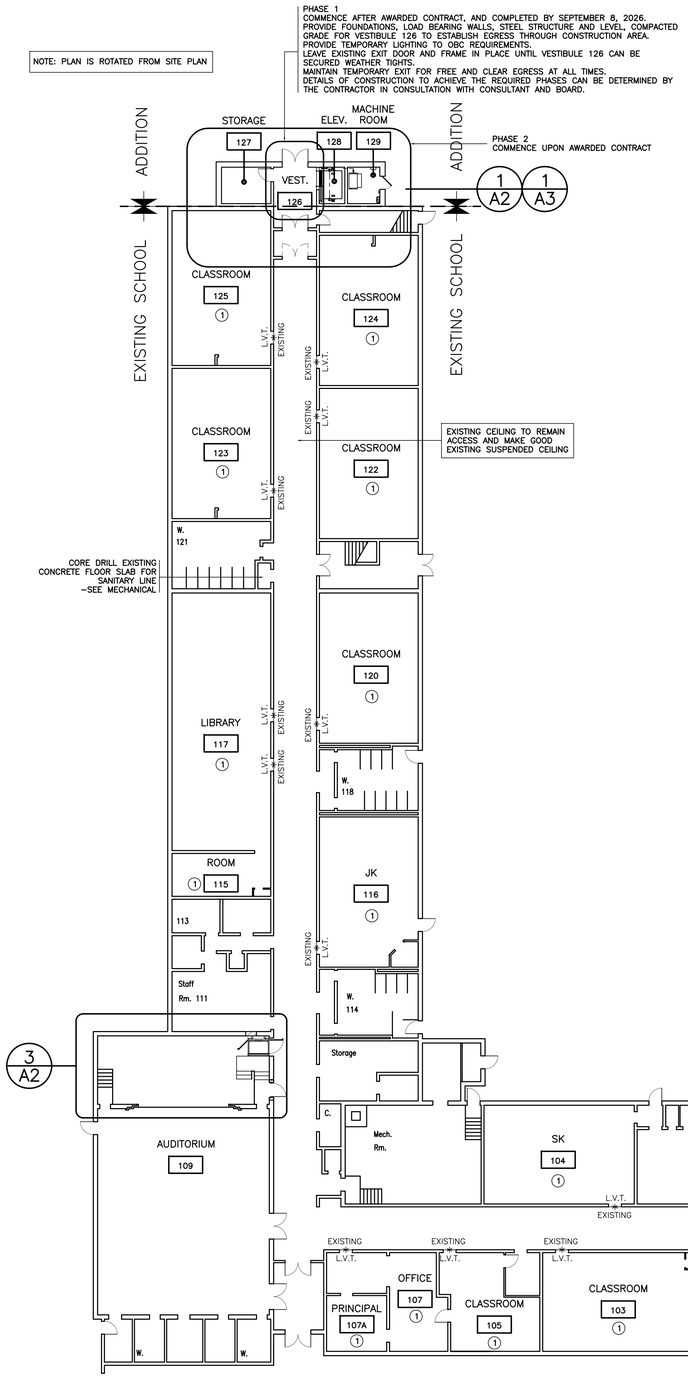
Consultant:

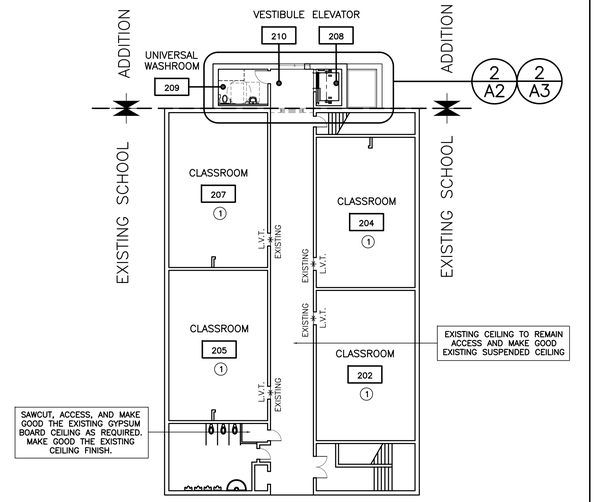
Title:

ROOF PLAN, SITE DETAIL

Drawn by:	Date:
C.C.	OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: AS SHOWN	Issued:
Job No.: 25115	Drawing No.: SP2
Set No.:	of:



1 SP1 GROUND FLOOR KEY PLAN 1:200



2 SP1 SECOND FLOOR KEY PLAN 1:200

WALL TYPES:

EXISTING TO REMAIN

DEMOLISH EXISTING WALL AS SHOWN DOTTED. MAKE GOOD.
RELOCATE EXISTING SERVICES AS REQUIRED.
CAP AND MAKE SAFE ALL SERVICE LINES.
SEE MECHANICAL AND ELECTRICAL.

EXTERIOR WALL TYPE E1
90 FACE BRICK
25 AIR SPACE
75 RIGID INSULATION
AIR/V.B. MEMBRANE
190 CONCRETE BLOCK

INTERIOR WALL TYPE P1
190 CONCRETE BLOCK
WITH 2HR FIRE RATING

INTERIOR WALL TYPE P2
190 CONCRETE BLOCK
WITH 1HR FIRE RATING

FURRING WALL TYPE F1:
16 IMPACT RESISTANT GYPSUM BOARD
ON 89 METAL STUDS @ 400 O.C. MAX.
ON MASONRY WALL
FROM FLOOR TO 150 ABOVE EXISTING CEILING
PROVIDE WOOD BLOCKING BEHIND ALL LOCATIONS AS REQUIRED

AT EXISTING PARTITION TO BE DEMOLISHED:

SAWCUT AND MAKE GOOD AT TERMINATIONS WITH MIN. 200 CAP OF SIMILAR MATERIAL TO MATCH EXISTING
MAKE GOOD EXISTING CEILING, FLOOR AND WALL BASE TO MATCH EXISTING

AT PERPENDICULAR WALL JUNCTIONS, GRIND SMOOTH AS REQUIRED
REMOVE METAL TIES AS REQUIRED AND MAKE GOOD
PAINT ENTIRE AFFECTED WALL PLANES

REMOVE EXISTING WALL MOUNTED EQUIPMENT
RELOCATE AS DIRECTED ON SITE OR TURN OVER TO SCHOOL

LEGEND:

XX MILLWORK TYPE
XXX DOOR NO. XXX
XXX ROOM NO. XXX
PARTITION TYPE XXX
ELEV. ELEVATION A, ELEVATION B, ELEVATION C, ELEVATION D, DRAWING NO. XXX
DETAIL DETAIL NO. XXX/REFERENCE DRAWING YYY
SECTION SECTION NO. XX/REFERENCE DRAWING YYY
LIMIT OF FLOOR FINISH

3 — LEGEND NTS

1 REMOVE AND DEMOLISH EXISTING FLOORING AND WALL BASE
CLEAN AND STRIP SUBSTRATE OF RESIDUAL SEALANT
PROVIDE L.V.T. FLOORING AND RUBBER BASE

4 — NOTES LEGEND N.T.S.

Revisions

Ref.	No.	Description	Date	Initial
1		CONSULTANTS COORDINATION	2025/11/24	
2		CLIENTS REVIEW	2025/11/24	
3		CLIENTS REVIEW	2026/01/20	
4		CONSULTANTS COORDINATION	2026/01/21	
5		50% SUBMISSION	2026/02/20	
6		CONSULTANTS COORDINATION	2026/03/09	
7		CONSULTANTS COORDINATION	2026/03/27	
8		95% SUBMISSION	2026/04/23	
9		ISSUED FOR PERMIT & TENDER	2026/06/10	

Project:

KING'S ROAD PS
ACCESSIBILITY UPGRADES
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BURLINGTON, ON L7T 3P3

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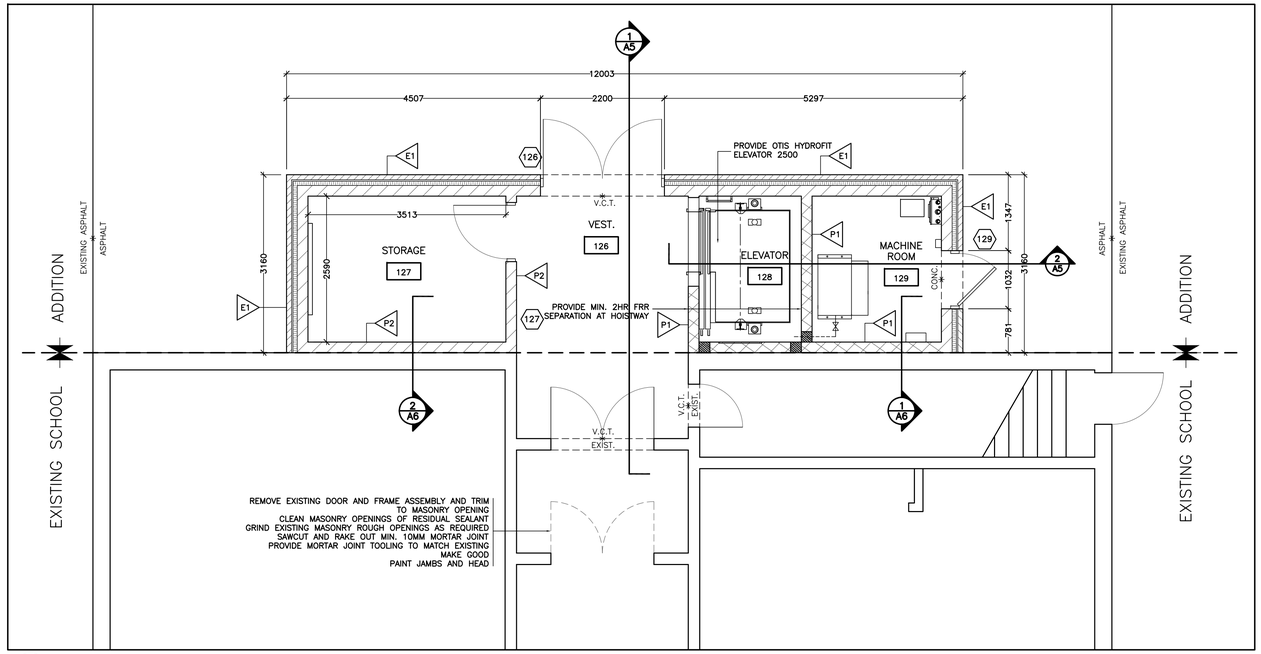
10-06-2026
MINGPENG LIU
LICENCE
9826

Consultant:

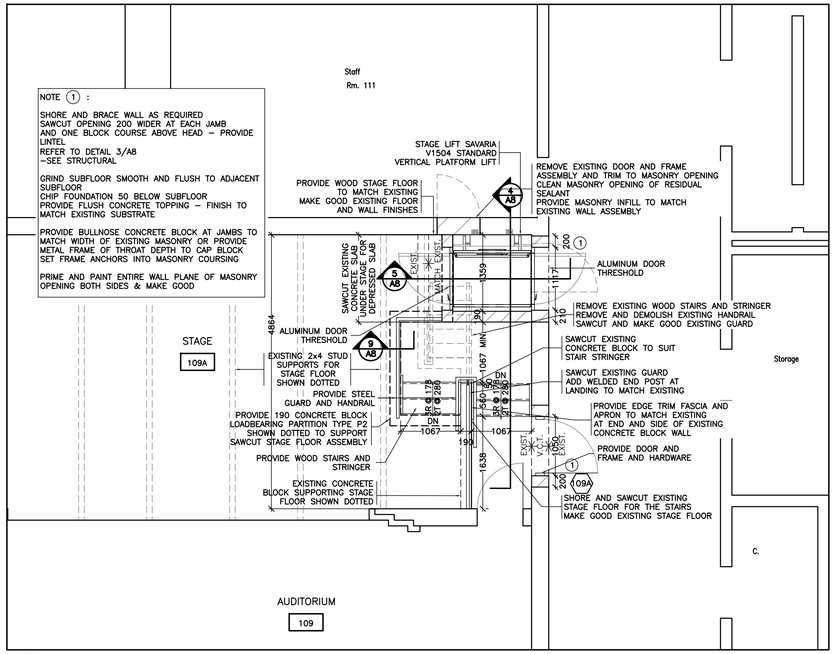
Title:

GROUND & SECOND FLOOR KEY PLANS, LEGENDS

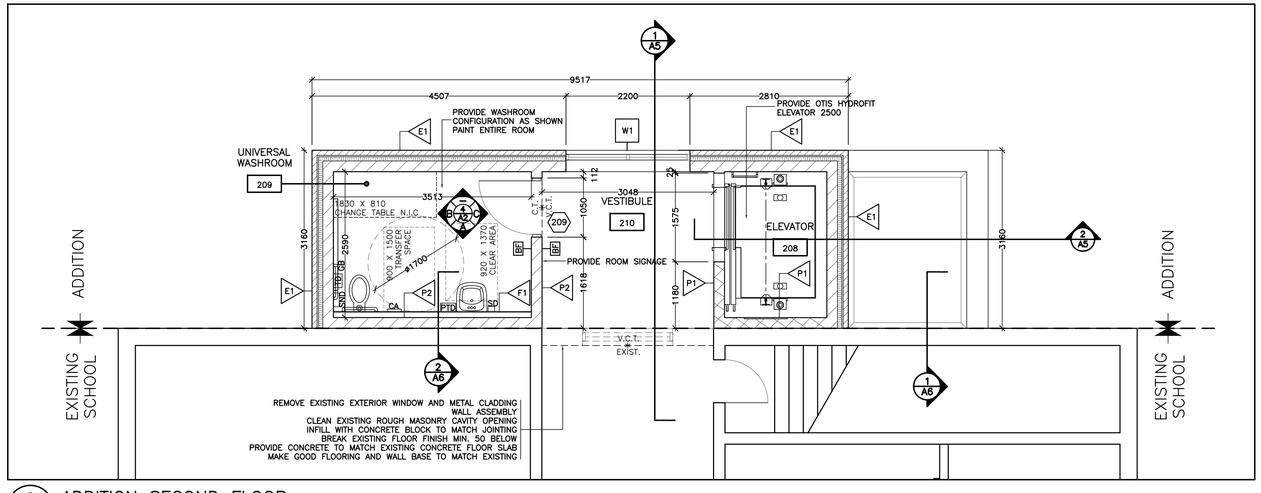
Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:200	Issued:
Job No.: 25115	Drawing No.: A1
Set No.:	of:



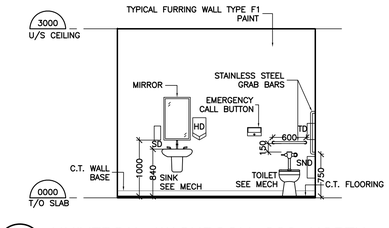
1 A1 ADDITION GROUND FLOOR ENLARGED PLAN 1:50



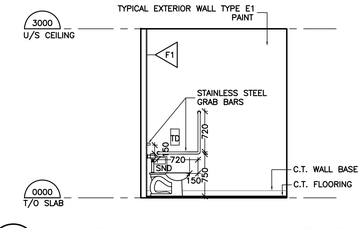
3 A1 STAGE LIFT ENLARGED PLAN 1:50



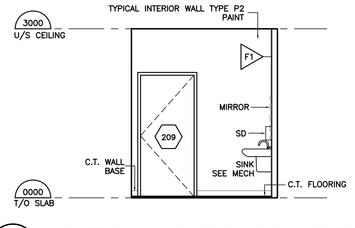
2 A1 ADDITION SECOND FLOOR ENLARGED PLAN 1:50



A – UNIVERSAL WASHROOM 209 NORTH ELEVATION 1:50



B – UNIVERSAL WASHROOM 209 EAST ELEVATION 1:50



C – UNIVERSAL WASHROOM 209 WEST ELEVATION 1:50

4 A2 UNIVERSAL WASHROOM 209 INTERIOR ELEVATIONS 1:50

Revisions

Ref.	No.	Description	Date	Initial
△		CLIENTS REVIEW	2025/11/24	
△		CLIENTS REVIEW	2026/01/20	
△		CONSULTANTS COORDINATION	2026/01/21	
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△		CONSULTANTS COORDINATION	2026/03/27	
△		CONSULTANTS COORDINATION	2026/04/07	
△		95% SUBMISSION	2026/04/23	
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Project:

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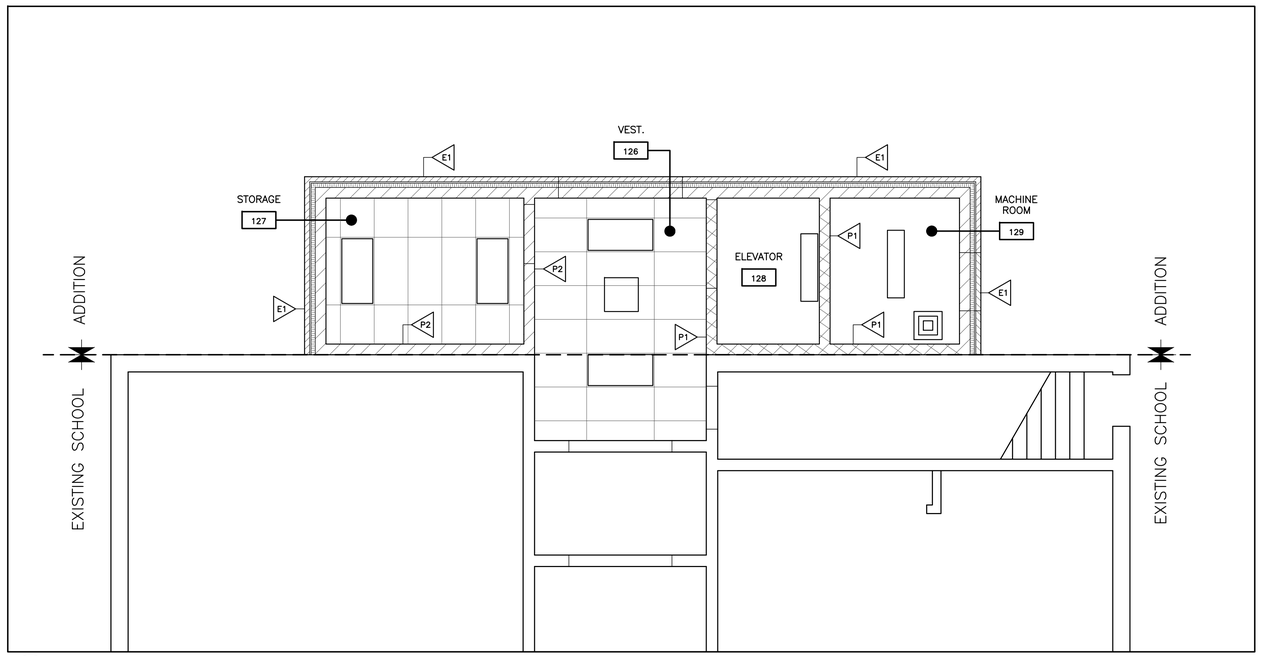
10-06-2026
MINGPENG LIU
LICENCE 9826

Consultant:

Title:

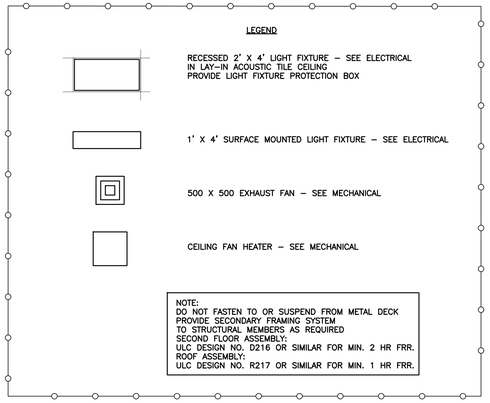
ENLARGED GROUND FLOOR AND SECOND FLOOR PLANS AND INTERIOR ELEVATIONS

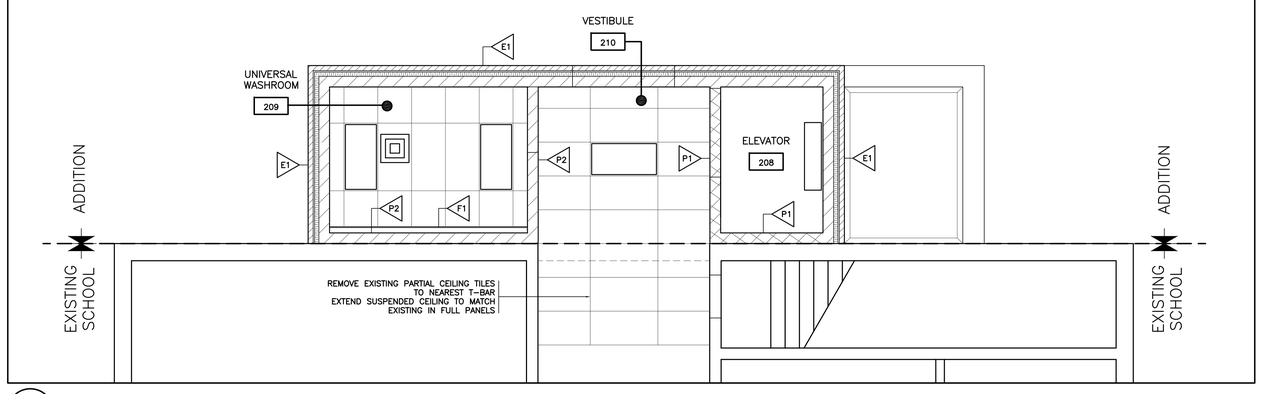
Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:50	Issued:
Job No.: 25115	Drawing No.: A2
Set No.:	of:



1 A1 ENLARGED ADDITION GROUND FLOOR REFLECTED CEILING PLAN

1:50





2 A1 ENLARGED ADDITION SECOND FLOOR REFLECTED CEILING PLAN

1:50

Revisions

Ref.	No.	Description	Date	Initial
△		CONSULTANTS COORDINATION	2026/01/21	
△		50% SUBMISSION	2026/02/20	
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Project:

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10-06-2026
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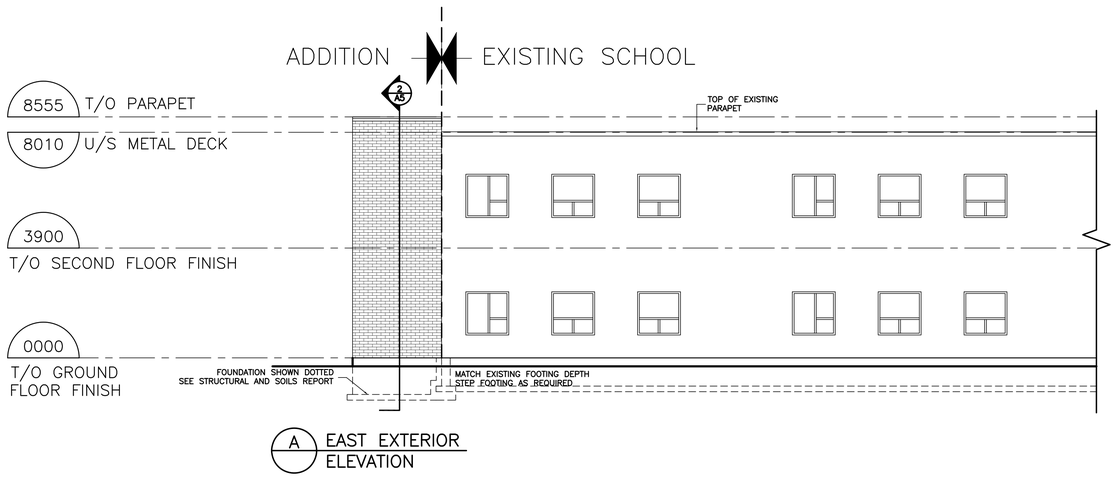
Consultant:

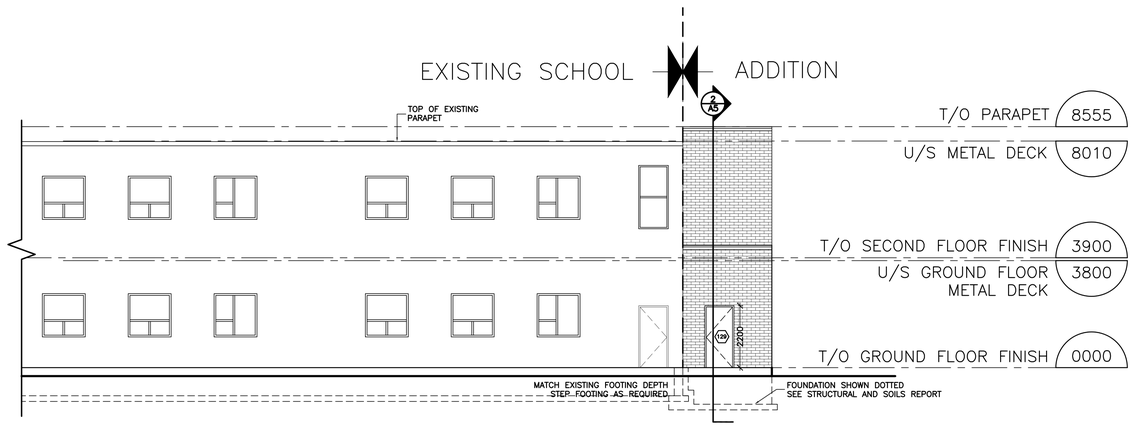
Title:

ENLARGED REFLECTED CEILING PLANS

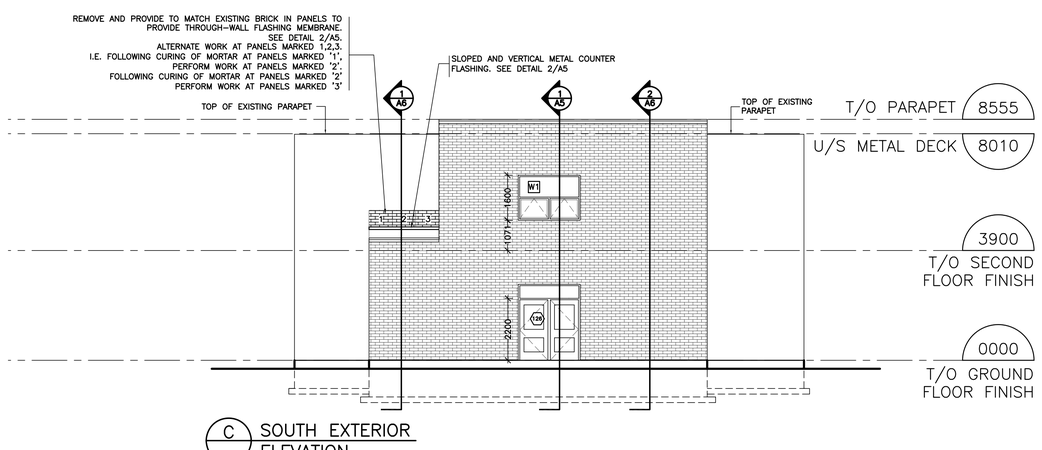
Drawn by:	Date:
C.C.	OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:50	Issued:
Job No.: 25115	Drawing No.: A3
Set No.:	of:



A EAST EXTERIOR ELEVATION



B WEST EXTERIOR ELEVATION



C SOUTH EXTERIOR ELEVATION

1 / A2 EXTERIOR ELEVATIONS

1:100

Revisions

Ref.	No.	Description	Date	Initial
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
△		95% SUBMISSION	2026/04/23	
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Project:

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10-06-2026
MINGPENG LIU
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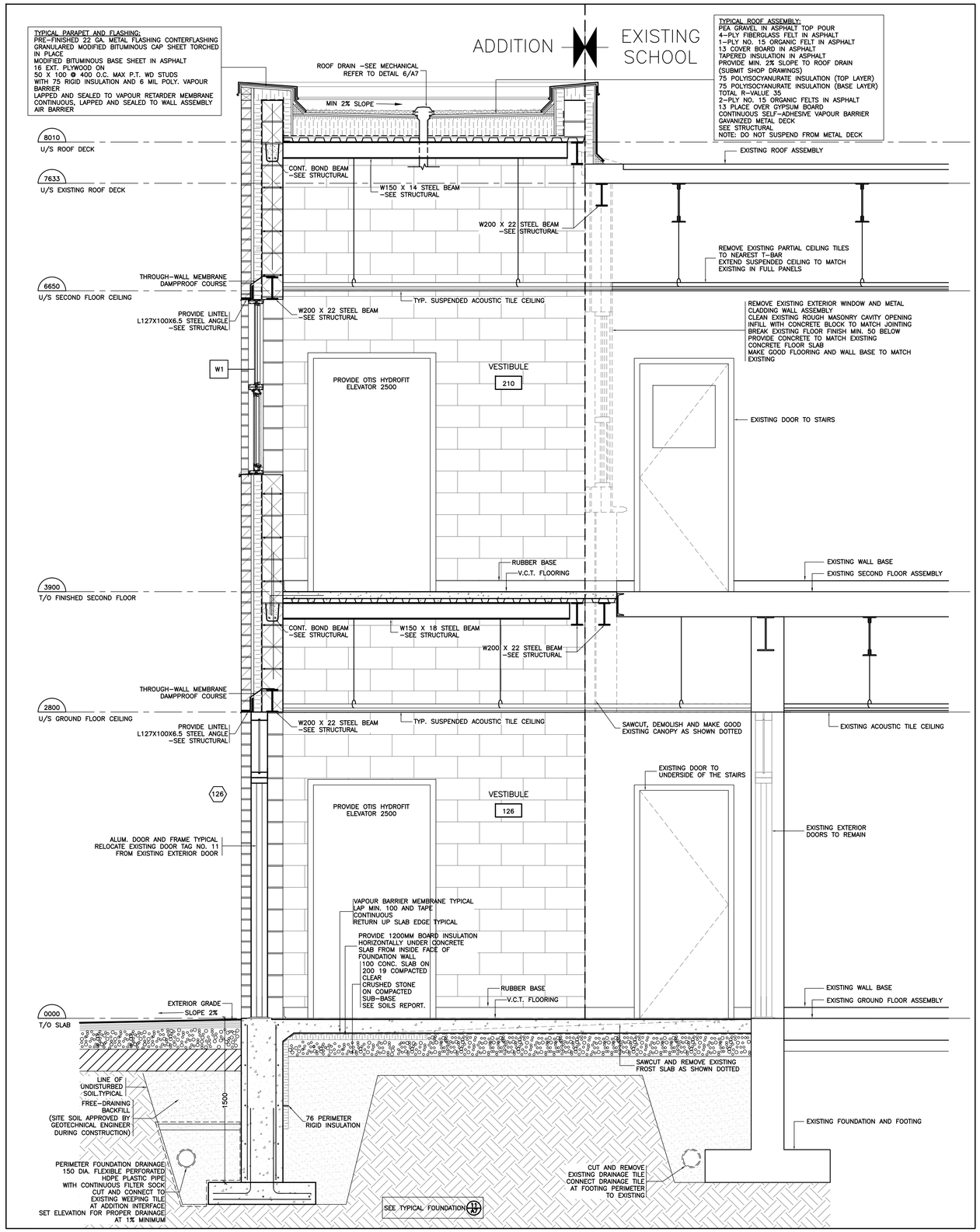
Consultant:

Title:

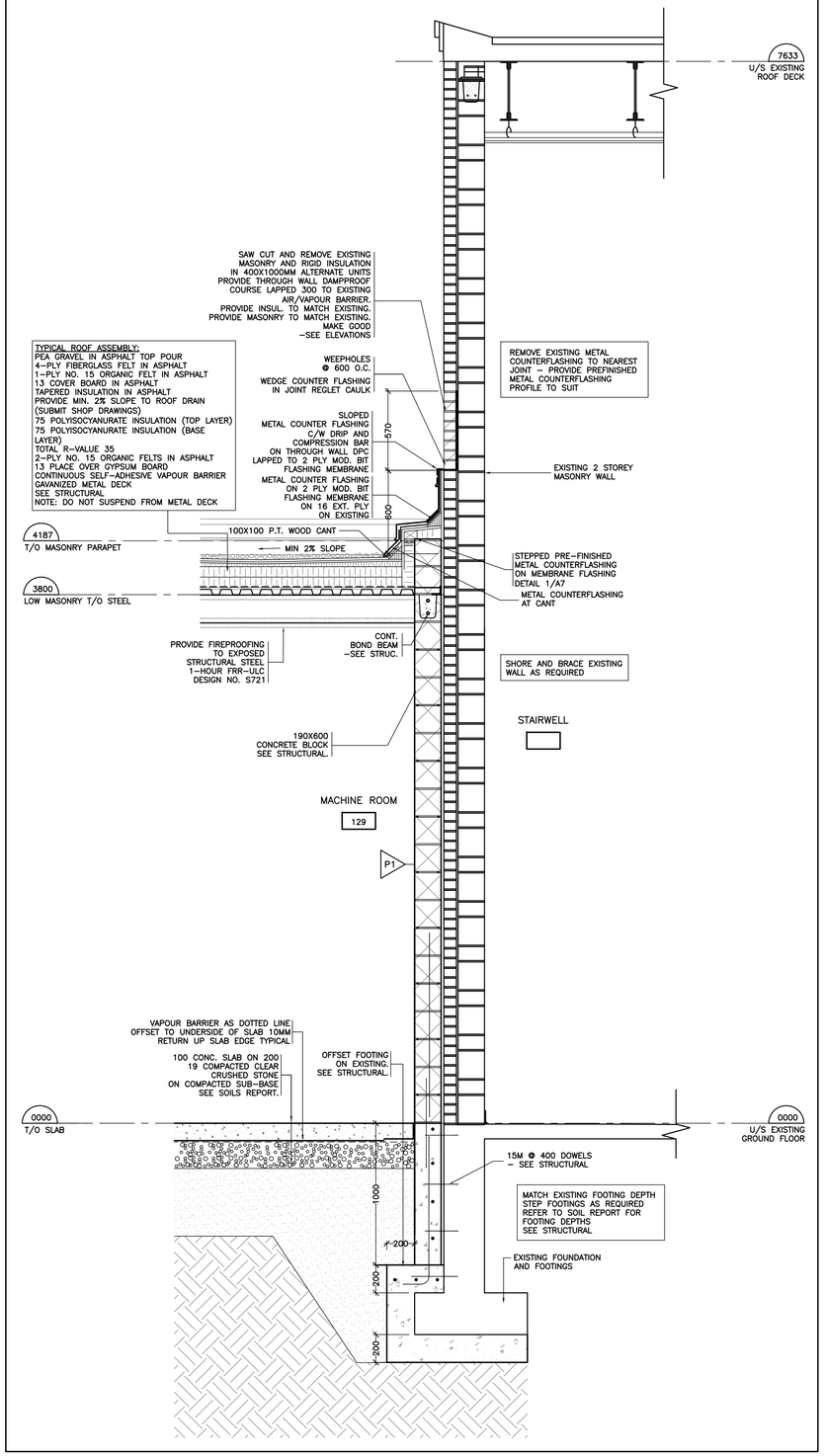
EXTERIOR ELEVATIONS

Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:100	Issued:
Job No.: 25115	Drawing No.: A4
Set No.:	of:



1 A2 VESTIBULE 126 & 210 AT EXISTING SOUTH ENTRANCE SECTION

1:20



2 A2 WALL TO EXISTING WALL SECTION

1:20

Revisions

Ref.	No.	Description	Date	Initial
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
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△		ISSUED FOR PERMIT & TENDER	2026/06/10	

Project:

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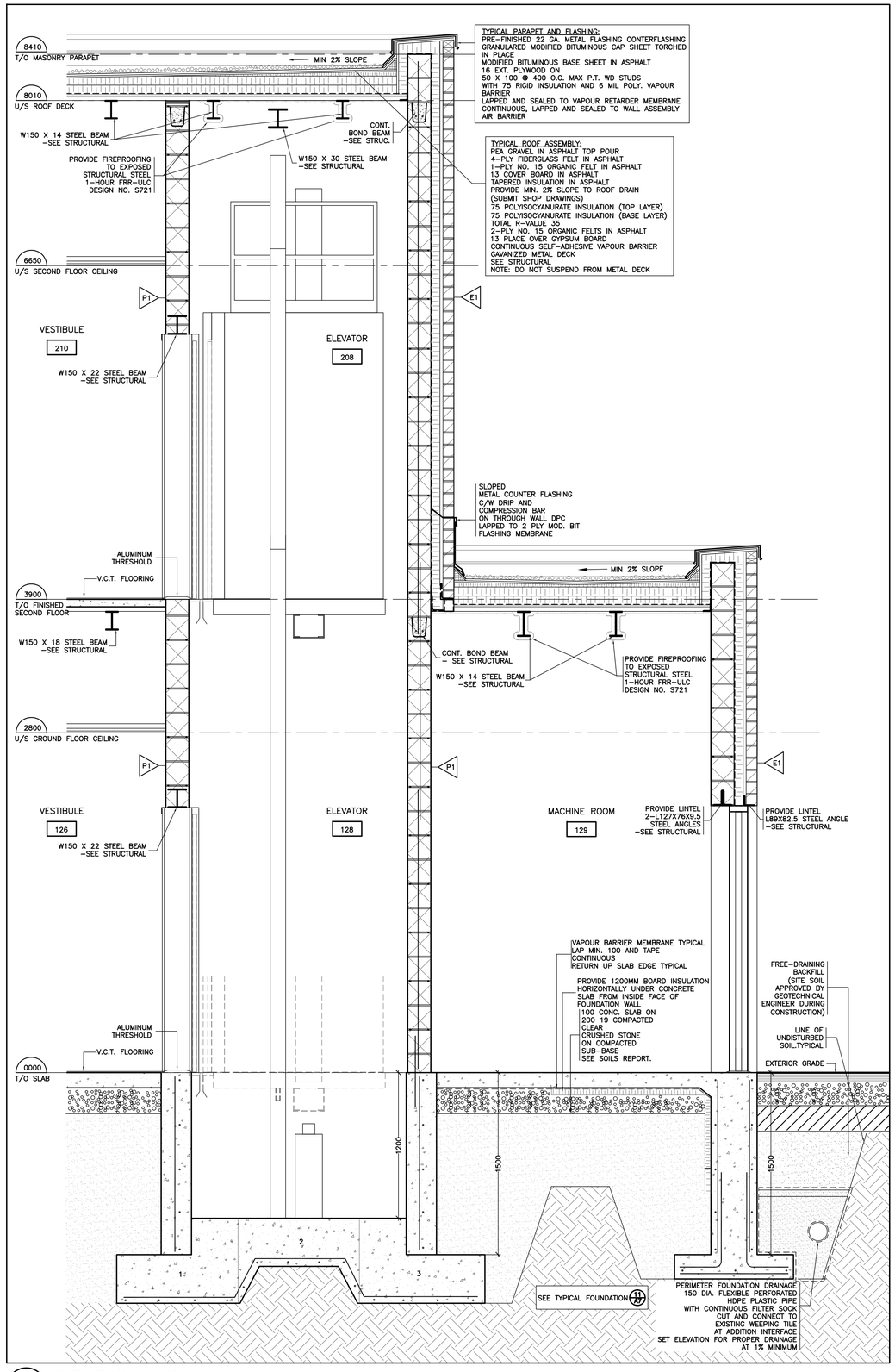
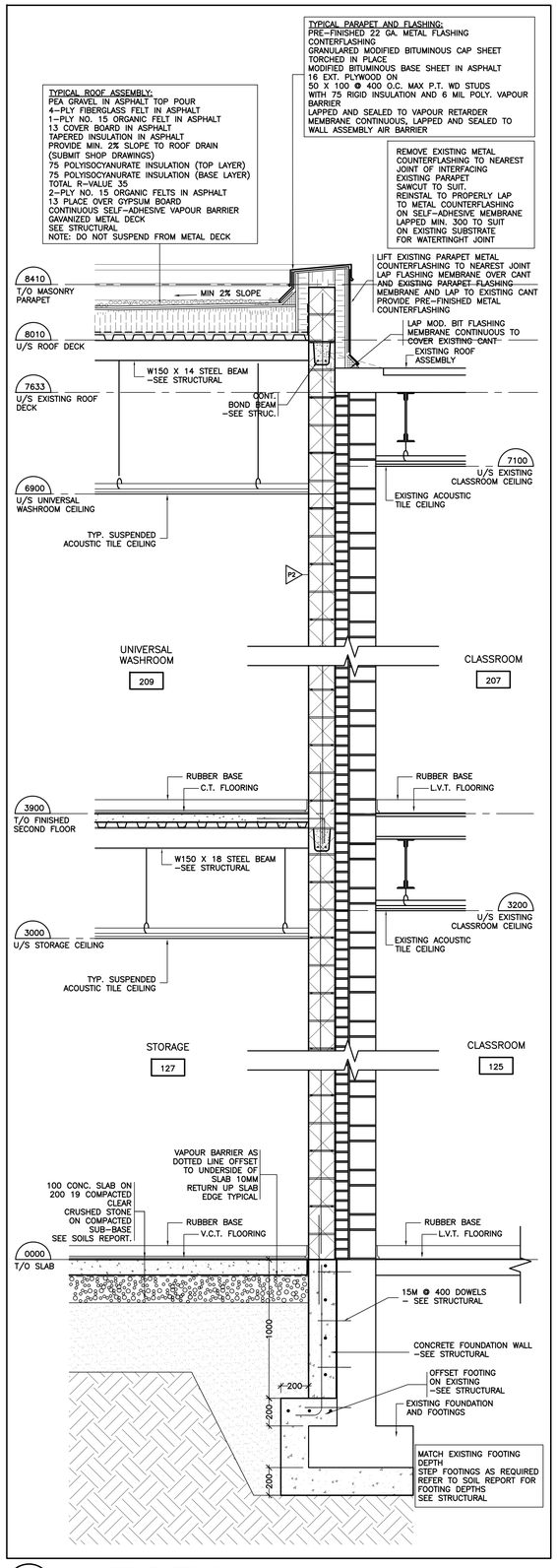
Title:

SECTIONS AND DETAILS

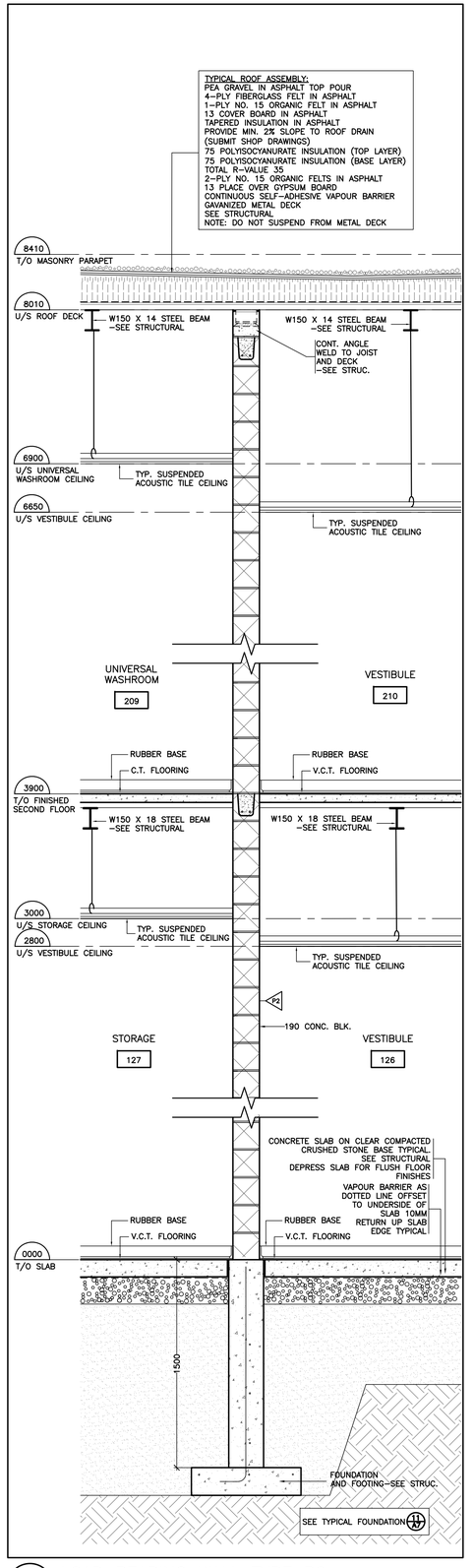
Drawn by: C.C.	Date: OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: 1:20	Issued:
Job No.: 25115	Drawing No.: A5
Set No.:	of:



1 / A2 ELEVATOR HOISTWAY SECTION 1:20



2 / A1 WALL TO EXISTING WALL SECTION 1:20



3 / A2 LOAD BEARING WALL TYPE P2 TYPICAL SECTION 1:20

Revisions

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△		50% SUBMISSION	2026/02/20	
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△		CONSULTANTS COORDINATION	2026/03/27	
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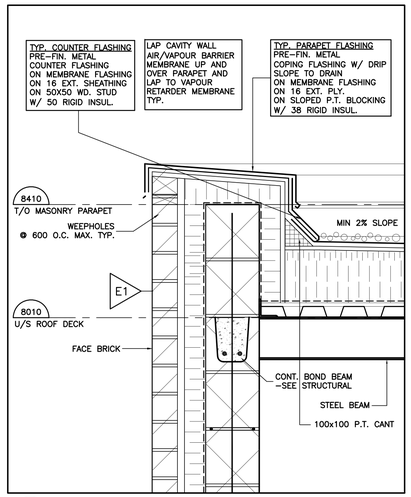
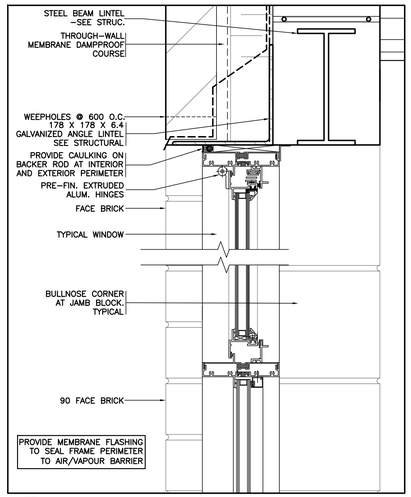
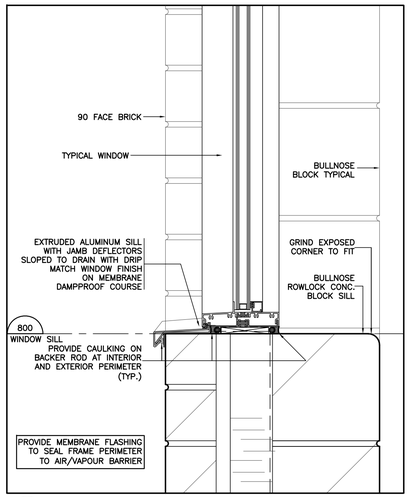
Set No.:	of:



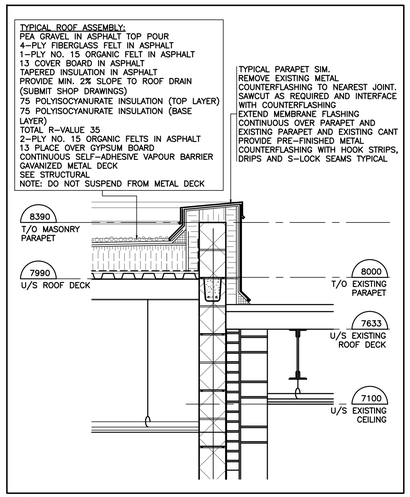
1 — TYPICAL PARAPET SECTION DETAIL 1:10



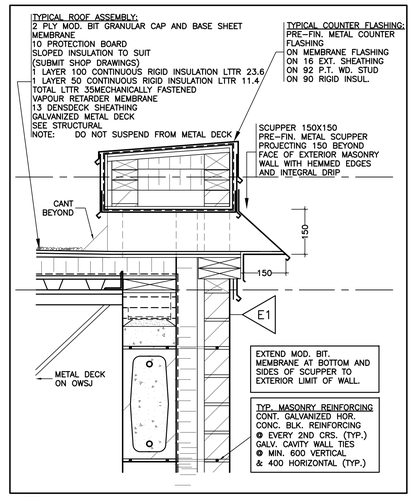
2 — TYPICAL WINDOW AT MASONRY SECTION DETAIL 1:5



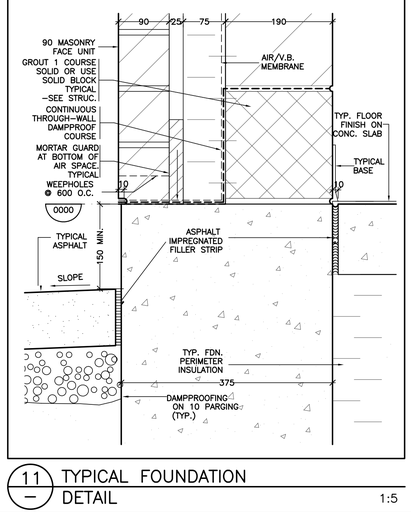
3 — TYPICAL WINDOW SILL AT MASONRY SECTION DETAIL 1:5



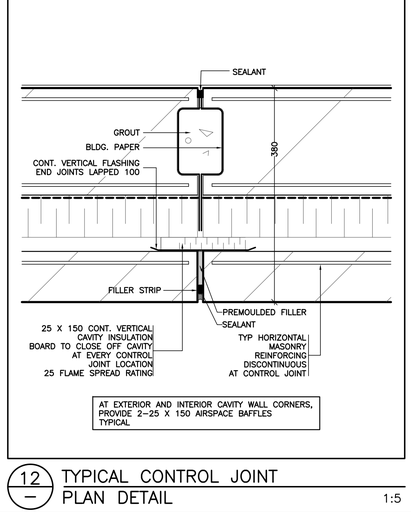
4 A1 — WALL TO EXISTING WALL PARAPET SECTION 1:20



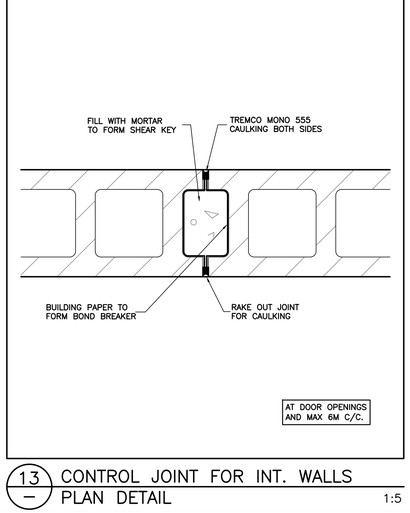
5 — TYPICAL SCUPPER DETAIL 1:10



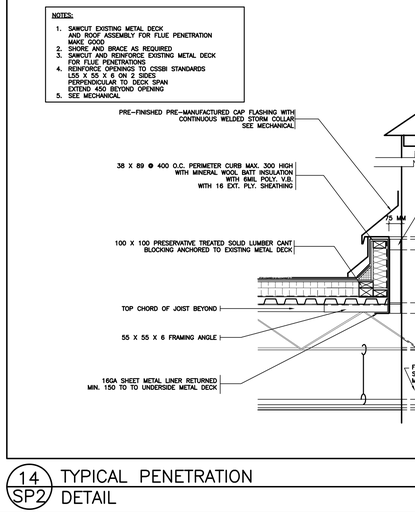
6 — TYPICAL ROOF DRAIN DETAIL 1:5



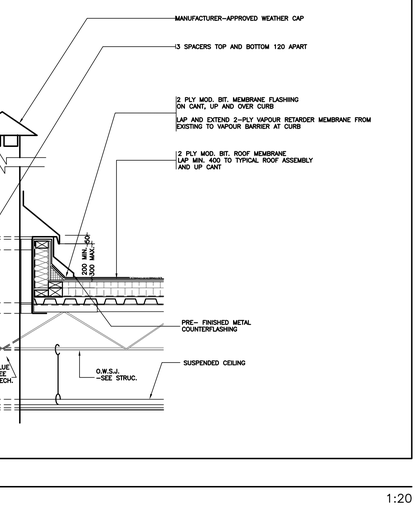
7 — TYPICAL INTERIOR DOOR HEAD SECTION 1:5



8 — TYPICAL EXTERIOR THRESHOLD SECTION 1:5



9 — DOOR JAMB AT CAVITY WALL PLAN DETAIL 1:5

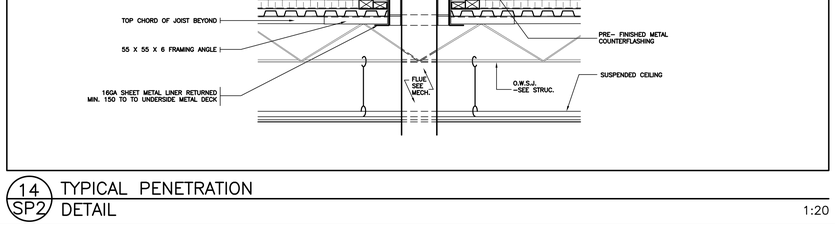


10 — WINDOW JAMB AT MASONRY PLAN DETAIL 1:5

11 — TYPICAL FOUNDATION DETAIL 1:5

12 — TYPICAL CONTROL JOINT PLAN DETAIL 1:5

13 — CONTROL JOINT FOR INT. WALLS PLAN DETAIL 1:5



14 SP2 — TYPICAL PENETRATION DETAIL 1:20

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△		50% SUBMISSION	2026/02/20	
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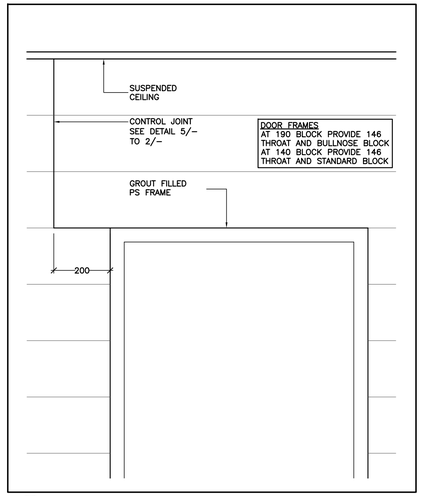
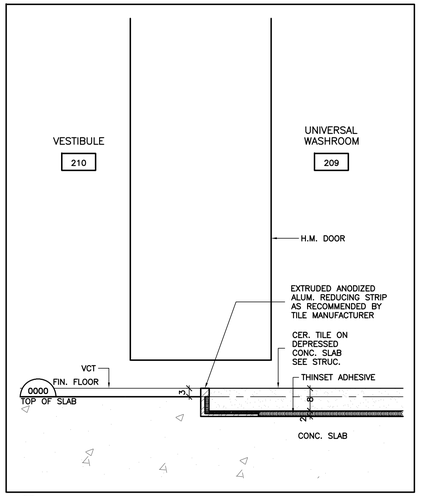
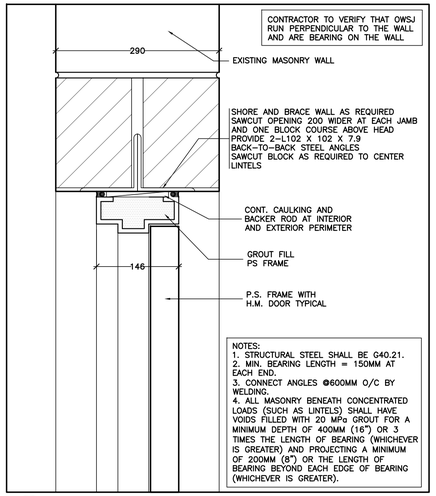


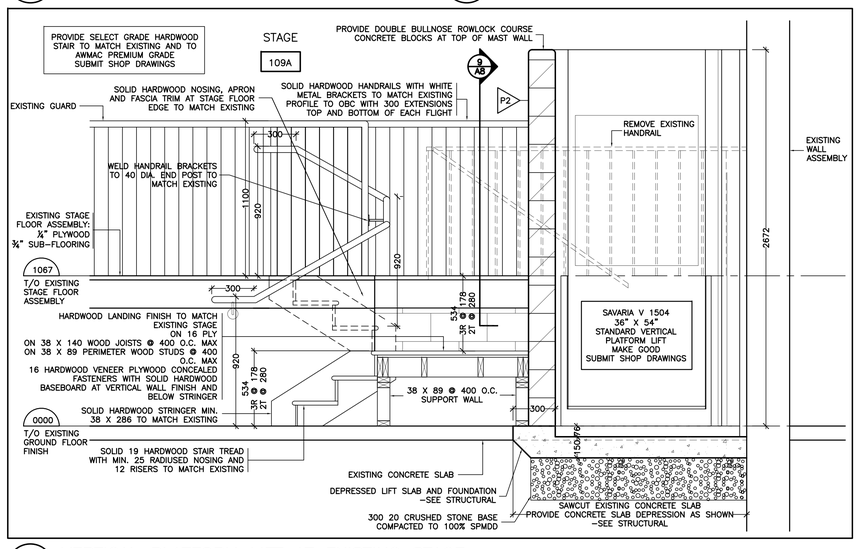
1 – INT. WALL CONTROL JOINT AT DOOR. TYPICAL 1:10



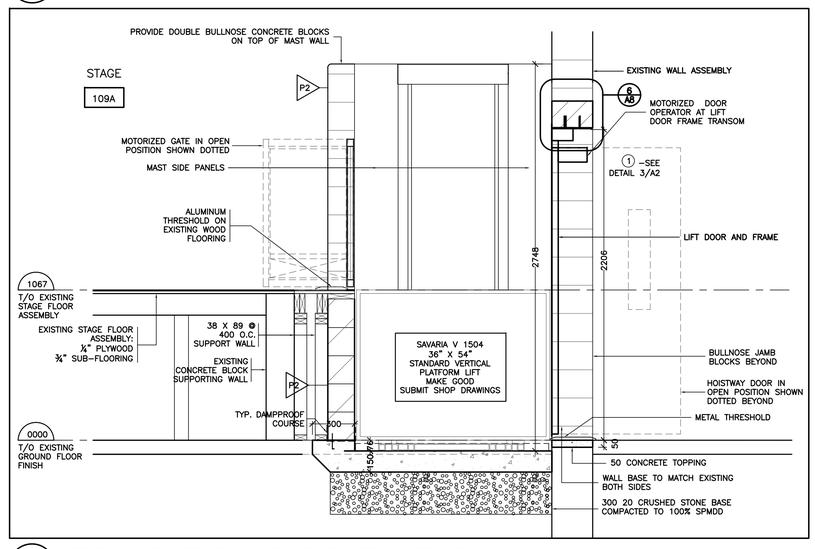
2 – CT/VCT FLOOR JOINT TYPICAL 1:1



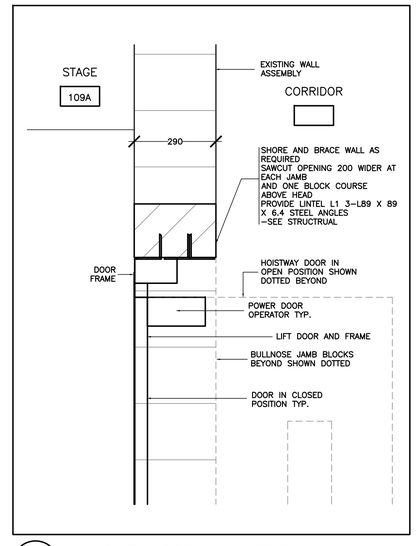
3 A2 MASONRY OPENING DOOR HEAD SECTION 1:5



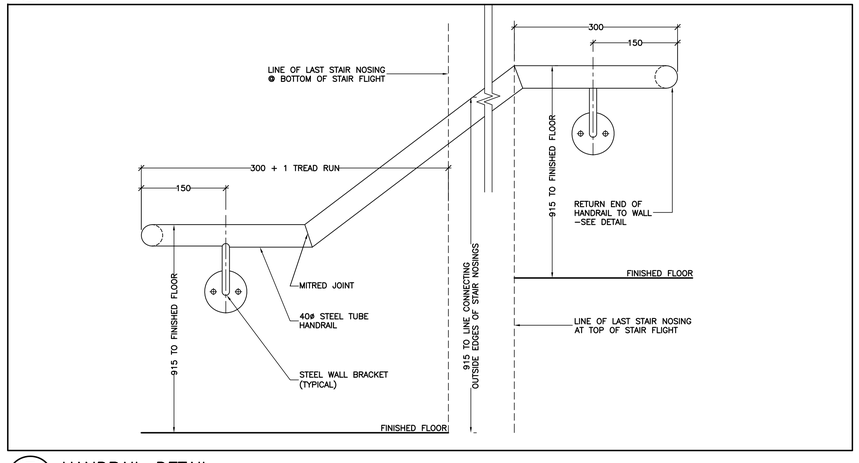
4 A2 VERTICAL PLATFORM LIFT AT EXISTING STAGE SECTION 1:20



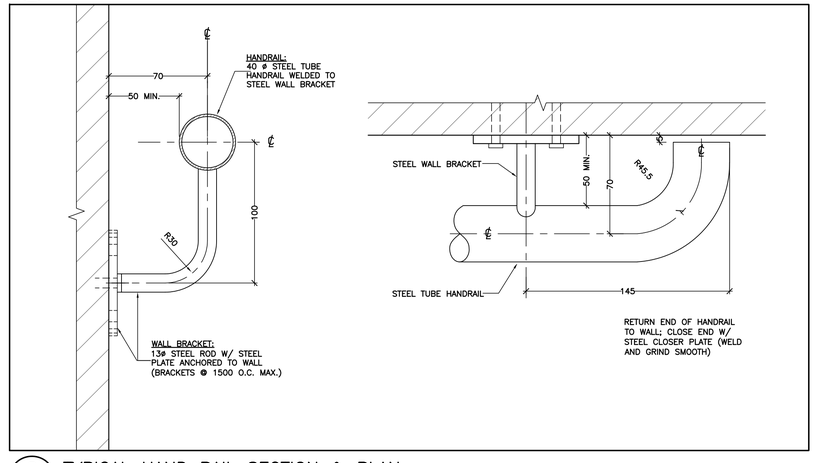
5 A2 VERTICAL PLATFORM LIFT AT EXISTING STAGE SECTION 1:20



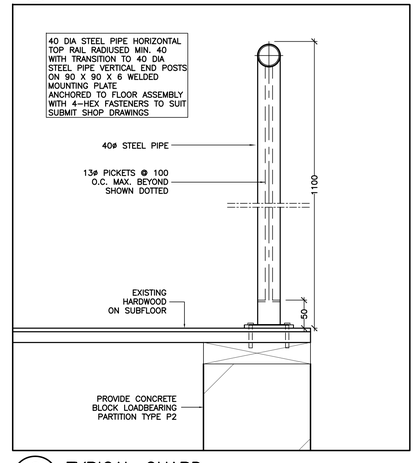
6 – MASONRY OPENING HEAD SECTION 1:10



7 – HANDRAIL DETAIL ELEVATION 1:5



8 – TYPICAL HAND RAIL SECTION & PLAN DETAIL 1:2



9 – TYPICAL GUARD SECTION 1:5

Revisions

Ref.	No.	Description	Date	Initial
△		CLIENTS REVIEW	2026/01/20	
△		CONSULTANTS COORDINATION	2026/01/21	
△		50% SUBMISSION	2026/02/20	
△		CONSULTANTS COORDINATION	2026/03/09	
△		CONSULTANTS COORDINATION	2026/03/27	
△		CONSULTANTS COORDINATION	2026/04/07	
△		95% SUBMISSION	2026/04/23	
△		ISSUED FOR PERMIT & TENDER	2026/06/10	

Project:

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ONTARIO ASSOCIATION OF ARCHITECTS
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SECTIONS AND DETAILS

Drawn by:	Date:
C.C.	OCTOBER 2025
Checked by: P.L.	Plotted:
Scale: AS SHOWN	Issued:
Job No.: 25115	Drawing No.: A8
Set No.:	of:

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GENERAL NOTES
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N01 GENERAL NOTES

1. CONFORM TO THE REQUIREMENTS OF THE LATEST ONTARIO BUILDING CODE (OBC) INCLUDING ALL THE LATEST STANDARDS REFERENCED THEREIN, AND ANY APPLICABLE ACTS OF AUTHORITY HAVING JURISDICTION. THE LATEST VERSION OF ALL STANDARDS AND CODES LISTED BELOW SHALL BE USED.
2. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND CONTRACT DOCUMENTS.
3. WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND APPLICABLE CODES AND ACTS, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL CHECK ALL DIMENSIONS ON WORKING DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
4. THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT AND THERE ARE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO A CONTRACT.
5. THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISION COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION" BY MTE CONSULTANTS.
6. UNDER NO CIRCUMSTANCES ARE THESE DRAWINGS TO BE SCALED, INCLUDING FOR PREPARATION OF SHOP DRAWINGS, CONSTRUCTION LAYOUT, OR BIDDING PURPOSES. ERRORS MADE BY PERSONS SCALING THESE DRAWINGS SHALL NOT BE THE RESPONSIBILITY OF MTE CONSULTANTS.
7. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF PITS, BASES, HOUSE KEEPING PADS, SUMPS, TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS AND SLOPES NOT SHOWN ON STRUCTURAL DRAWINGS.
8. BEFORE PROCEEDING WITH WORK, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH ALL CHARACTERISTICS AFFECTING NEW AND EXISTING CONSTRUCTION. ANY CHANGES, ALTERATIONS OR REVISIONS MUST BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
9. SUBSTITUTIONS FROM SPECIFIED PRODUCTS AND MATERIALS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO ORDERING OF MATERIALS. THE CONTRACTOR SHALL REIMBURSE ALL CONSULTANTS FOR ADDITIONAL COSTS INCURRED AS A RESULT OF REVIEWING ANY CHANGES MADE TO THE CONTRACT DOCUMENTS.
10. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS - O.REG. 213/91.
11. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER O.REG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQUIRED.
12. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT INSPECTION AND TESTING COMPANY TO ENSURE THAT ALL WORK IS DONE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. REQUIRED TESTING SHALL BE AS PER THE TESTING AND INSPECTION TABLE BELOW.
13. MTE CONSULTANTS WILL PROVIDE GENERAL REVIEW OF CONSTRUCTION IN ACCORDANCE WITH THE PERFORMANCE STANDARDS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ONTARIO BY MEANS OF A RATIONAL SAMPLING PROCEDURE TO DETERMINE WHETHER THE CONSTRUCTION OF THAT WORK SHOWN ON THE MTE DRAWINGS IS IN GENERAL CONFORMITY WITH THE PLANS, SKETCHES, DRAWINGS, AND SPECIFICATIONS FORMING PART OF THE CONTRACT DOCUMENTS PREPARED BY "MTE". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL AND THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT. "MTE" SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. IT IS THE RESPONSIBILITY OF BOTH THE OWNER AND THE CONTRACTOR TO NOTIFY THE ENGINEER OF CONSTRUCTION PROGRESS SO THE ENGINEER CAN COMPLETE GENERAL REVIEWS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE PRIOR TO STARTING THE WORK. GENERALLY, REVIEWS BY THE ENGINEER WILL BE REQUIRED FOR REBAR PRIOR TO CONCRETE PLACEMENT, FOOTING AND FOUNDATIONS PRIOR TO BACKFILLING, AND ABOVE GRADE FRAMING PRIOR TO INSTALLATION OF INTERIOR FINISHES.

N02 TESTING AND INSPECTION

THE FOLLOWING ITEMS REQUIRE TESTING OR INSPECTION BY A CERTIFIED INDEPENDENT TESTING OR INSPECTION AGENCY UNLESS NOTED OTHERWISE. THE AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

ITEM	REQ'D	COMMENTS
SOIL BEARING CAPACITY	YES	BY SOILS ENGINEER
SOIL COMPACTION	YES	BY SOILS ENGINEER
REINFORCING STEEL PLACMENT	YES	INSPECT FINAL PLACEMENT
CONC. COMPRESSIVE TESTS	YES	MIN. 2 SETS PER 100 CUBIC METRES
CONCRETE SLUMP	YES	
STRUCTURAL STEEL BOLTING	YES	
STRUCTURAL STEEL WELDING	YES	INSPECT ALL FIELD WELDS
MORTAR CUBES	YES	

N03 REQUIRED SUBMITTALS

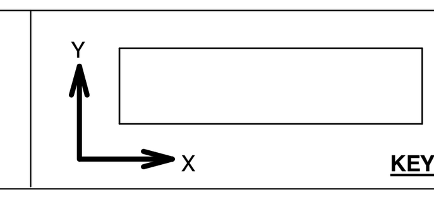
THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

ITEM	REQ'D SUBMITTAL?	ENGINEER'S STAMP REQ'D?	NOTES
REBAR SHOP DRAWINGS	YES	NO	INCL. CONC BLOCK REINF
CONCRETE MIX DESIGNS	YES	NO	
MASONRY GROUT MIX DESIGN	YES	NO	
BLOCK MILL REPORT	YES	NO	
STRUCTURAL STEEL SHOP DRAWINGS	YES	YES	FOR CONNECTIONS ONLY
MISCELLANEOUS STEEL SHOP DRAWINGS	YES	YES	STAMP FOR STAIRS, LADDERS AND GUARDS
STEEL DECK SHOP DRAWINGS	YES	YES	
COLD FORMED STEEL FRAMING SHOP DWGS.	NO	NO	
FALL ARREST ANCHORS	NO	NO	

N04 PROJECT DESIGN DATA TABLE

BUILDING IMPORTANCE CATEGORY	HIGH	
FLOOR AND ROOF DESIGN LOADS AS NOTED ON FRAMING PLANS		
SPECIFIED WIND LOADS		
HOURLY WIND PRESSURE (1/50) DESIGN DATA	0.46 kPa	
WIND DESIGN CATEGORY	CATEGORY 2	
TERRAIN	'OPEN'	
SPECIFIED SNOW LOADS		
BASIC ROOF SNOW LOAD	S	1.47 kPa
SNOW AND RAIN LOADING (1/50) DESIGN DATA	Ss	1.1 kPa
	Sr	0.4 kPa
	24HR RAIN	103 mm
FACTORS USED FOR BASIC ROOF SNOW LOAD	Cb	0.8
	Cw	1.0
	Cs	1.0
	Ca	1.0
ADDITIONAL SNOW ACCUMULATION AROUND OBSTRUCTIONS AND ADJACENT TO HIGHER ROOF LEVELS OR WALLS IS INDICATED ON THE DRAWINGS.		
SPECIFIED EARTHQUAKE LOADS		
SEISMIC LOADING DESIGN DATA	Sa (0.2,X_V)	0.398
	Sa (0.5,X_V)	0.321
	Sa (1.0,X_V)	0.18
	Sa (2.0,X_V)	0.0825
	Sa (5.0,X_V)	0.0212
	Sa (10.0,X_V)	0.00653
	PGA(X_V)	0.251
	PGV(X_V)	0.209
SITE CLASS (ASSUMED)	SITE CLASS ('S' IN Xs)	'D' (ASSUMED)
SEISMIC FORCE MODIFICATION FACTORS FOR SEISMIC FORCE RESISTING SYSTEM	Rd	1.5
	Ro	1.5
SEISMIC CATEGORY	SC3	
STRUCTURAL IRREGULARITIES: NONE		
SFRS - CONVENTIONAL CONSTRUCTION MASONRY SHEAR WALLS		
EQUIVALENT STATIC SEISMIC BASE SHEAR EQ_X = 304 kN EQUIVALENT STATIC SEISMIC BASE SHEAR EQ_Y = 304 kN		

Ie = 1.3
Ta_X = 0.24 s
Ta_Y = 0.24 s



KEY PLAN

NOTES:
1. ALL LOADS AND ANALYSIS CONFORM TO THE 2024 OBC DIV B PART 4 AND THE USER'S GUIDE - NBC 2020 STRUCTURAL COMMENTARIES.
2. ALL DESIGN DATA ABOVE IS FROM THE 2024 OBC SUPPLEMENTARY STANDARD SB-1 TABLE 2 EXCEPT THAT SEISMIC DATA HAS BEEN OBTAINED FROM THE 2020 NBC SEISMIC HAZARD ONLINE TOOL.
3. WIND LOADING IS BASED ON THE STATIC PROCEDURE.
4. SEISMIC LOADING IS BASED ON STATIC ANALYSIS.
5. THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE EXTENSION UNLESS NOTED.
6. THE FOUNDATION WALLS HAVE BEEN DESIGNED ASSUMING THAT THEY ARE NOT SUBJECT TO HYDROSTATIC PRESSURE. ENSURE PROVISIONS HAVE BEEN MADE FOR THE APPROPRIATE DRAINAGE OF GROUND WATER.

N05 FOUNDATION

1. NO SOIL INVESTIGATION WAS UNDERTAKEN FOR THIS SITE AS OF THE LATEST DATE OF THIS DRAWING. THE ALLOWABLE SOIL BEARING CAPACITY HAS BEEN ASSUMED AS PER NOTE #2 BELOW. CONTRACTOR TO RETAIN A GEOTECHNICAL ENGINEER TO CONFIRM THE MINIMUM BEARING CAPACITY. ALL DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. ALL COLUMN AND WALL FOOTINGS SHALL BEAR DIRECTLY ON NATIVE SOILS WITH A MINIMUM SOIL BEARING CAPACITY OF 100 kPa (SLS) AND 150 kPa (ULS) AT THE DEPTHS INDICATED ON THE DRAWINGS. EXISTING FILL MAY BE ENCOUNTERED. USE OF THIS FILL MUST BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF FOOTINGS.
3. NO FOUNDATION MAY BE POURED BEFORE THE BEARING MATERIAL HAS BEEN APPROVED BY THE GEOTECHNICAL ENGINEER. NOTIFY THE GEOTECHNICAL ENGINEER A MINIMUM OF 24 HOURS BEFORE THE INTENDED CONCRETE POUR.
4. REMOVE ALL TOPSOIL, ORGANIC LOOSE FILL AND OTHER DELETERIOUS MATERIAL FROM BUILDING AREA BEFORE STARTING CONSTRUCTION.
5. WHERE APPROVED, GRANULAR FILL UNDER ALL FOOTINGS ON GRADE SHALL BE COMPACTED IN 150 mm (6") LAYERS TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
6. FOUND NEW FOOTINGS WHICH ARE LOCATED ADJACENT TO EXISTING FOOTINGS, AT THE SAME ELEVATION AS THE EXISTING FOOTINGS, UNLESS NOTED OTHERWISE. ANY NECESSARY PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT EXISTING FOOTINGS ARE NOT DISTURBED OR UNDERMINED IN ANY WAY DURING EXCAVATION.
7. FOUND ALL FOOTINGS BELOW THE LEVEL AT WHICH POTENTIAL DAMAGE RESULTING FROM FROST ACTION CAN OCCUR FOR THE FINISHED STRUCTURE, BUT A MINIMUM 1500 (5'-0") BELOW FINISHED EXTERIOR GRADE, UNLESS NOTED OTHERWISE. UNDER NO CIRCUMSTANCES SHOULD DEPTH BE LESS THAN LOCAL FROST PENETRATION REQUIREMENTS.
8. PROTECT ALL SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOUNDATIONS DURING CONSTRUCTION.
9. INSULATION IS SHOWN WHERE REQUIRED FOR PROTECTION OF THE FOUNDATIONS FROM DAMAGE DUE TO FROST ACTION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR FOUNDATION INSULATION NOT SHOWN ON THE STRUCTURAL DRAWINGS.

N05 FOUNDATION (CONT.)

10. SLABS ON GRADE:
    A. PLACE SLABS ON GRADE ON MATERIAL CAPABLE OF SAFELY SUPPORTING 25 kPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOUNDATIONS.
    B. PROOF-ROLL EXISTING FILL MATERIAL. REMOVE ANY LOOSE OR SOFTENED AREAS BENEATH SLAB ON GRADE BEFORE PLACING GRANULAR FILL.
    C. APPROVED GRANULAR FILL UNDER ALL FLOOR SLABS ON GRADE SHALL BE COMPACTED IN 150 mm (6") LAYERS TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
    D. BEFORE CASTING THE SLAB PLACE MINIMUM 200 mm (8") OF 19 mm (3/4") CLEAR CRUSHED STONE OVER THE SUB-BASE AND THOROUGHLY ROLL AND CONSOLIDATE TO THE LEVELS REQUIRED.
    E. WHERE THE SLAB ON GRADE IS USED TO LATERALLY RESTRAIN THE TOP OF AN EARTH-RETAINING WALL, ADEQUATELY SHORE THE WALL UNTIL THE SLAB HAS BEEN CAST AND ATTAINED 70% OF ITS SPECIFIED STRENGTH.
    F. PROVIDE 25 mm (1") RIGID STYROFOAM INSULATION BENEATH FLOOR SLABS IN UNHEATED AREAS.
11. CARRY OUT BACKFILLING AGAINST FOUNDATION WALLS WHERE THERE IS GRADE ON BOTH SIDES IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500 mm (20") DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL, EXCEPT WHERE TEMPORARY SHORING FOR THE WALL IS PROVIDED.
12. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVERED RETAINING WALLS) UNTIL THE WALLS AND THE FLOOR CONSTRUCTIONS AT THE TOP AND BOTTOM OF THE WALLS HAVE BEEN CAST AND HAVE ATTAINED 100% OF THEIR DESIGN STRENGTH.
13. IN NO CASE SHALL HORIZONTAL CONTROL JOINTS BE ALLOWED IN ANY VERTICALLY SPANNING CONCRETE WALLS WITHOUT THE CONSENT OF THE ENGINEER.

N06 CONCRETE AND REINFORCING

1. ALL CONCRETE WORK TO CONFORM TO THE LATEST REQUIREMENTS OF CSA STANDARDS A23.1, A23.2 & A23.3.
2. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.18 GRADE 400W FOR REINFORCING STEEL AND BE DEFORMED HI-BOND HARD GRADE WITH MINIMUM YIELD STRENGTH OF Fy = 400 MPa.
3. WELDED WIRE MESH AND WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.5 WITH A MINIMUM YIELD STRENGTH OF Fy = 450 MPa. ALL WELDED WIRE PRODUCTS ARE TO BE SUPPLIED AS FLAT SHEETS AND SHALL BE LAPPED A MINIMUM OF 150mm (6") AT JOINTS (U.N.O.).
4. DETAILING AND PLACING OF ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE REINFORCING STEEL INSTITUTE OF CANADA "MANUAL OF STANDARD PRACTICE".
5. ALL REINFORCING STEEL SHALL BE SHOP FABRICATED TO INCLUDE HOOKS AND BENDS AS REQUIRED.
6. ALL REINFORCING LAP SPLICES SHALL CONFORM TO THE LATEST CSA STANDARD A23.3 AND ALL BAR SPLICES SHALL BE CLASS 'B' TENSION SPLICES (U.N.O.).
    a. NO BAR SPLICES SHALL BE LESS THAN IN THE TABLE BELOW.
    b. INCREASE HORIZONTAL SPLICE LENGTHS IN THE TABLE BY 1.3 WHERE MORE THAN 300MM (12") OF FRESH CONCRETE IS CAST BELOW THE SPLICE.

CONCRETE / REBAR SIZE	TENSION SPLICE 25 MPa	TENSION SPLICE 30 MPa	TENSION SPLICE 35 MPa	COMPRESSION SPLICE
10M	400 (16")	400 (16")	400 (16")	450 (18")
15M	600 (24")	600 (24")	600 (24")	450 (18")
20M	800 (32")	800 (32")	800 (32")	600 (24")
25M	1200 (48")	1100 (44")	1000 (40")	750 (30")
30M	1400 (56")	1300 (52")	1200 (48")	900 (36")
35M	1650 (66")	1500 (60")	1400 (56")	1050 (42")

7. ALL DOWEL EMBEDMENT SHALL MATCH THE ABOVE TENSION SPLICE LENGTH, UNLESS NOTED OTHERWISE.
8. ALL REINFORCING STEEL FABRICATION AND PLACEMENT DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.
9. PLACE REINFORCING BARS SYMMETRICALLY OVER SUPPORTS AND SYMMETRICALLY IN SPANS, UNLESS NOTED OTHERWISE.
10. REINFORCING BARS, DOWELS AND ANCHOR BOLTS SHALL BE SECURELY TIED IN PLACE SO AS TO MAINTAIN THEIR EXACT POSITION BEFORE AND DURING PLACEMENT OF CONCRETE. BAR SUPPORTS SHALL ONLY BE MADE OF PRECAST CONCRETE BLOCKS, PLASTIC OR WIRE.
11. ALL OIL, GREASE, MUD AND DEBRIS SHALL BE ENTIRELY REMOVED FROM THE REINFORCING STEEL AND ANCHOR BOLTS PRIOR TO THE PLACEMENT OF CONCRETE. REBAR SHALL BE STORED ON SITE IN A MANNER TO BE KEPT CLEAN AND FREE FROM DELETERIOUS MATERIALS.
12. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.
13. CONFORM TO THE CONCRETE COVER REQUIREMENTS OF CSA A23.1 AND THE FOLLOWING, UNLESS NOTED OTHERWISE:
    a. CONCRETE CAST AGAINST EARTH: 75 mm (3")
    b. PIERS AND WALL: 40 mm (1.5")
    c. EXPOSED TO DE-ICING CHEMICALS: 60 mm (2.5")
    d. INTERIOR BEAMS: 30 mm
    e. INTERIOR SLABS: 25 mm (1")
    f. 2-HR FRR WALL: 50 mm (2")
14. CONCRETE PROPERTIES:
    a. ALL CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 35 MPa UNLESS OTHERWISE SPECIFIED.
    b. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE AT JOB SITE.
15. WHEN SUPER-PLASTICIZERS ARE USED, THE SLUMP MAY BE INCREASED BEYOND THE VALUES GIVEN, BUT SHALL BE BELOW THE POINT WHERE SEGREGATION WILL OCCUR. THE COST OF SUPER-PLASTICIZERS SHALL BE INCLUDED IN THE COST OF CONCRETE.
16. DO NOT ADD WATER TO CONCRETE UNLESS WRITTEN APPROVAL GIVEN BY THE ENGINEER. IF HIGHER SLUMP CONCRETE IS DESIRED, CONCRETE SUPPLIER SHALL DESIGN AND SUPPLY ACCORDINGLY.
17. HOT AND COLD WEATHER CONCRETING SHALL COMPLY WITH ALL REQUIREMENTS OF CSA STANDARD A23.1. CALCIUM CHLORIDE ADDITIVES WILL NOT BE PERMITTED.
18. ALL CONCRETE FORMWORK TOLERANCES AND SURFACE FINISHES SHALL COMPLY WITH CSA STANDARD A23.1 UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS.
19. ALL CONCRETE FORMS TO BE WET THOROUGHLY BEFORE POURING CONCRETE.
20. WATER CURING OF CONCRETE IS RECOMMENDED. CURE AND PROTECT ALL CONCRETE IN ACCORDANCE WITH CSA A23.1 SECTION 7.4.
21. ALL CONCRETE EXCEPT SLABS ON GRADE 150mm (6") THICK OR LESS SHALL BE MECHANICALLY VIBRATED SO AS TO COMPLETELY FILL THE FORM WITHOUT CAUSING UNDUE SEGREGATION. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE SATISFACTORILY REPAIRED OR SHALL BE REPLACED.
22. CONTROL JOINTS IN SLABS ON GRADE SHALL BE ¼ THE THICKNESS OF THE SLAB. SPACING OF CONTROL JOINTS IN CONCRETE SLABS-ON-GRADE SHALL NOT EXCEED THE GREATER OF 25 TIMES THE THICKNESS OF THE SLAB OR 3000 MM (10'-0") UNLESS NOTED ON THE DRAWINGS.
23. WHERE STEEL BEARING PLATES ARE SHOWN ON THE DRAWINGS, THEY SHALL BE ANCHORED WITH A MINIMUM OF TWO 12 mm DIA X 450MM LONG + 50 mm (1/2" DIA x 18" LONG + 2") HOOKED ANCHOR RODS WELDED TO THE PLATES AND EMBEDDED INTO THE CONCRETE.

N06 CONCRETE AND REINFORCING (CONT.)

CONCRETE MIX PROPERTIES TABLE

CONCRETE	MIN.28 DAYS STRENGTH (MPa) U.N.O.	SLUMP mm(in)	AIR CONTENT (%)	MAX. AGGREGATE SIZE (in)	EXPOSURE CLASS
EXTERIOR FOUNDATION WALLS, RETAINING WALLS	25	80 (±30")	4-7	3/4"	F-2
INTERIOR PIERS / WALLS/FOOTINGS	25	80 (±30")	0	3/4"	N
INT. S.O.G.	25	80 (±30")	0	3/4"	N
FREEZE THAW EXPOSURE	25	80 (±30")	4-7	3/4"	F-2
EXTERIOR SLAB (UNREINFORCED)	32	80 (±30")	5-8	3/4"	C-2
EXTERIOR SLAB (REINFORCED)	35	80 (±30")	5-8	3/4"	C-1
NON-SHRINKABLE GROUT	30	AS PER MANUF. RECOMEN.	0	-	N
LEAN MIX CONCRETE	8	80 (±30")	0	-	N
EXTERIOR FOOTINGS	25	80 (±30")	4-7	3/4"	F-2

24. CHECK ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, LANDSCAPE AND ALL OTHER RELEVANT DRAWINGS FOR LOCATIONS AND SIZES OF BOLTS, SLEEVES AND OPENINGS.
25. SUPPLY AND SET ANCHOR BOLTS, SLEEVES, PIPE HANGERS, JOISTS AND OTHER INSERTS AND OPENINGS AS INDICATED OR SPECIFIED ELSEWHERE.
    FOR BEAMS AND COLUMNS: NO SLEEVES, DUCTS, PIPES OR OTHER OPENINGS SHALL PASS VERTICALLY OR HORIZONTALLY EXCEPT WHERE EXPLICITLY DETAILED ON STRUCTURAL DRAWINGS OR WHERE APPROVED IN ADVANCE BY ENGINEER.
    FOR SLABS AND WALLS: ALL SLEEVES AND OPENINGS GREATER THAN 100 mm (4") IN ANY DIMENSION OR REQUIRING THE CUTTING OF ANY REINFORCEMENT, AND NOT INDICATED ON STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE ENGINEER.
    FOR MULTIPLE OPENINGS OR SLEEVES: IF WITHIN 600 mm (24") OF EACH OTHER CONSULT ENGINEER FOR DIRECTION.
26. CAST IN ANCHOR BOLTS SHALL CONFORM TO THE LATEST CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPa AND SHALL BE SET TRUE AS O LOCATION, ELEVATION AND PROJECTION TO THE FOLLOWING TOLERANCES:
    ANCHOR BOLT LOCATION = ± 3mm (1/8").
    ANCHOR BOLT PROJECTION = ± 6mm (1/4").
27. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 10000 mm (30'-0"). UNLESS CONTROL JOINTS ARE PROVIDED AS PER TYPICAL DETAIL. TOTAL LENGTH OF POUR TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING.
28. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID SPAN IF POSSIBLE AND BE CLEAR OF SUPPORTS AND POINT LOADS..
29. INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT HEY SHALL NO REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.
30. ELECTRICAL CONDUITS SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER UNLESS APPROVED AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.
31. TYPE 'S' CONCRETE TO BE USED FOR ALL ELEMENTS.

N08 STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL AND CONNECTIONS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST CSA STANDARD S16
2. STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA-G40.20 FOR GENERAL REQUIREMENTS, AND CAN/CSA-G40.21 FOR QUALITY
    a. GRADE 350W CLASS C FOR H.S.S.
    b. GRADE 350W FOR W SHAPES, S SHAPES, AND TEES.
    c. ALL OTHER MISCELLANEOUS METAL SHALL BE MINIMUM GRADE 300W (U.N.O.)
3. BOLTED CONNECTIONS SHALL USE ASTM A325 BOLTS. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 EXCEPT THAT ANCHOR BOLTS SHALL BE FABRICATED FROM STEEL ROD CONFORMING TO CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPa.
4. STEEL COATINGS - UNLESS NOTED OTHERWISE ALL STRUCTURAL STEEL SHALL BE CLEANED AND PREPARED TO A MINIMUM LEVEL OF SSPC SP-3 AND IN ACCORDANCE WITH CSA STANDARD S16:
    a. ALL INTERIOR STEEL THAT IS TO BE PROTECTED BY A SPRAY APPLIED CEMENTIOUS FIRE PROOFING SHALL BE CLEANED AND REMAIN UNCOATED STEEL.
    b. ALL OTHER INTERIOR STRUCTURAL STEEL SHALL BE SHOP PRIME PAINTED AS PER CSA/CAN-S-16. SHOP PRIMER SHALL CONFORM TO CISC/CPMA 1-73A.
    c. ALL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED IN ACCORDANCE TO CAN/CSA-G164. TOUCH UP OF WELDS, CUTS OR SCRATCHES TO GALVANIZING SHALL BE DONE WITH A MINIMUM OF 3 COATS OF ZINC RICH PAINT.
5. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W59 AND SHALL BE UNDERTAKEN BY A FABRICATOR AND ERECTOR FULLY APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA STANDARD W47, DIVISION 1 AND DIVISION 2. FABRICATOR TO SUPPLY CERTIFICATION OF FUSION WELDING, AND WELDING MAY ONLY BE CARRIED OUT IN ACCORDANCE WITH OWNER'S SAFETY REGULATIONS REGARDING WELDING.
6. FABRICATOR SHALL DESIGN CONNECTIONS AND THE LIKE IN ACCORDANCE WITH THE 2012 OBC FOR THE FORCES SHOWN ON THE DRAWINGS. WHERE FORCES ARE NOT NOTED ON THE DRAWINGS, BEAM REACTIONS SHALL BE TAKEN AS ONE-HALF OF THE TOTAL UNIFORMLY DISTRIBUTED FACTORED LOADS NOTED ON THE BEAM LOAD TABLES OF PART FIVE OF CISC'S HANDBOOK OF STEEL CONSTRUCTION, LATEST EDITION, PROVIDED NO POINT LOADS ACT ON THE BEAM. ALL WELDS SHALL BE 5 mm (3/16") MIN. FILLET. ALL BOLTS SHALL BE MIN. M20 (3/4") DIAMETER AND PROVIDE MIN. (2) BOLTS PER CONNECTION.
7. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
8. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE. MEMBERS SHALL NOT BE SPLICED AT POINTS OF MAXIMUM STRESS. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE ENGINEER.
9. MOMENT FRAME AND X-BRACE CONNECTIONS SHALL HAVE ASTM A325 FRICTION TYPE M20 (3/4") MINIMUM DIAMETER BOLTS (U.N.O.).
10. SHAPE AND SIZE GUSSET PLATES TO CLEAR ARCHITECTURAL FINISHES AND MECHANICAL DUCTS AND PIPES AND ELEVATOR SHAFTS.
11. SHOP DRAWINGS OF STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.
12. ALL BEAMS CANTILEVERED OR CONTINUOUS OVER A COLUMN OR OTHER SUPPORT, AND BEAMS SUPPORTING POINTS OF CONCENTRATED LOAD, SHALL HAVE A MIN. OF 2-10 mm (3/8") STIFFENERS EACH SIDE OF WEB UNLESS OTHERWISE NOTED.
13. TOP OF COLUMNS WHICH ARE NOT BRACED BY JOISTS OR BEAMS SHALL BE BRACED DIAGONALLY TO THE ROOF OR FLOOR BY A MINIMUM OF 4-L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR INTERIOR COLUMNS; A MINIMUM 2-L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR EXTERIOR COLUMNS. BRACING SHALL BE BETWEEN TOP OF COLUMN AND TOP CHORD OF JOISTS.
14. COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL BE GROUTED WITH 40 mm (1.5") NON-SHRINK 40 MPa GROUT.

N08 STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL AND CONNECTIONS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST CSA STANDARD S16
2. STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA-G40.20 FOR GENERAL REQUIREMENTS, AND CAN/CSA-G40.21 FOR QUALITY
    a. GRADE 350W CLASS C FOR H.S.S.
    b. GRADE 350W FOR W SHAPES, S SHAPES, AND TEES.
    c. ALL OTHER MISCELLANEOUS METAL SHALL BE MINIMUM GRADE 300W (U.N.O.)
3. BOLTED CONNECTIONS SHALL USE ASTM A325 BOLTS. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 EXCEPT THAT ANCHOR BOLTS SHALL BE FABRICATED FROM STEEL ROD CONFORMING TO CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPa.
4. STEEL COATINGS - UNLESS NOTED OTHERWISE ALL STRUCTURAL STEEL SHALL BE CLEANED AND PREPARED TO A MINIMUM LEVEL OF SSPC SP-3 AND IN ACCORDANCE WITH CSA STANDARD S16:
    a. ALL INTERIOR STEEL THAT IS TO BE PROTECTED BY A SPRAY APPLIED CEMENTIOUS FIRE PROOFING SHALL BE CLEANED AND REMAIN UNCOATED STEEL.
    b. ALL OTHER INTERIOR STRUCTURAL STEEL SHALL BE SHOP PRIME PAINTED AS PER CSA/CAN-S-16. SHOP PRIMER SHALL CONFORM TO CISC/CPMA 1-73A.
    c. ALL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED IN ACCORDANCE TO CAN/CSA-G164. TOUCH UP OF WELDS, CUTS OR SCRATCHES TO GALVANIZING SHALL BE DONE WITH A MINIMUM OF 3 COATS OF ZINC RICH PAINT.
5. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W59 AND SHALL BE UNDERTAKEN BY A FABRICATOR AND ERECTOR FULLY APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA STANDARD W47, DIVISION 1 AND DIVISION 2. FABRICATOR TO SUPPLY CERTIFICATION OF FUSION WELDING, AND WELDING MAY ONLY BE CARRIED OUT IN ACCORDANCE WITH OWNER'S SAFETY REGULATIONS REGARDING WELDING.
6. FABRICATOR SHALL DESIGN CONNECTIONS AND THE LIKE IN ACCORDANCE WITH THE 2012 OBC FOR THE FORCES SHOWN ON THE DRAWINGS. WHERE FORCES ARE NOT NOTED ON THE DRAWINGS, BEAM REACTIONS SHALL BE TAKEN AS ONE-HALF OF THE TOTAL UNIFORMLY DISTRIBUTED FACTORED LOADS NOTED ON THE BEAM LOAD TABLES OF PART FIVE OF CISC'S HANDBOOK OF STEEL CONSTRUCTION, LATEST EDITION, PROVIDED NO POINT LOADS ACT ON THE BEAM. ALL WELDS SHALL BE 5 mm (3/16") MIN. FILLET. ALL BOLTS SHALL BE MIN. M20 (3/4") DIAMETER AND PROVIDE MIN. (2) BOLTS PER CONNECTION.
7. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
8. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE. MEMBERS SHALL NOT BE SPLICED AT POINTS OF MAXIMUM STRESS. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE ENGINEER.
9. MOMENT FRAME AND X-BRACE CONNECTIONS SHALL HAVE ASTM A325 FRICTION TYPE M20 (3/4") MINIMUM DIAMETER BOLTS (U.N.O.).
10. SHAPE AND SIZE GUSSET PLATES TO CLEAR ARCHITECTURAL FINISHES AND MECHANICAL DUCTS AND PIPES AND ELEVATOR SHAFTS.
11. SHOP DRAWINGS OF STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.
12. ALL BEAMS CANTILEVERED OR CONTINUOUS OVER A COLUMN OR OTHER SUPPORT, AND BEAMS SUPPORTING POINTS OF CONCENTRATED LOAD, SHALL HAVE A MIN. OF 2-10 mm (3/8") STIFFENERS EACH SIDE OF WEB UNLESS OTHERWISE NOTED.
13. TOP OF COLUMNS WHICH ARE NOT BRACED BY JOISTS OR BEAMS SHALL BE BRACED DIAGONALLY TO THE ROOF OR FLOOR BY A MINIMUM OF 4-L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR INTERIOR COLUMNS; A MINIMUM 2-L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR EXTERIOR COLUMNS. BRACING SHALL BE BETWEEN TOP OF COLUMN AND TOP CHORD OF JOISTS.
14. COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL BE GROUTED WITH 40 mm (1.5") NON-SHRINK 40 MPa GROUT.
15. ALL COLUMNS BUILT INTO MASONRY WALLS SHALL HAVE ADJUSTABLE ANCHORS AT MINIMUM 400 mm (16") O.C.
16. STEEL BEAMS AND LINTELS SHALL HAVE 200 mm (8") MINIMUM END BEARING ON MASONRY AND 65 mm (2 1/2") MINIMUM BEARING ON STEEL UNLESS INDICATED OTHERWISE.
17. FOR ALL BEAMS AND LINTELS ON STEEL BEARING PLATES.
    a. BEARING PLATES ARE TO BE CENTERED BELOW ALL BEAMS OR LINTELS U.N.O ON THE DRAWINGS.
    b. WELD TO BEARING PLATE WITH A MINIMUM 50 mm x 5 mm (2" x 3/16") FILLET ON BOTH SIDES OF BEAM.
18. WHERE BACK-TO-BACK ANGLES ARE USED AS LINTELS OR SUPPORTS. STITCH WELD TOGETHER AT A MAXIMUM SPACING OF 300mm (12") O.C.
19. ALL ROOF OPENINGS TO BE REINFORCED BY FRAMES COMPRISED OF C130X10 (C5X6.7) CHANNEL MEMBERS UNLESS NOTED OTHERWISE. MAXIMUM SPAN 2250 mm (7'-6").
20. SUPPORT AT COLUMNS AND IRREGULARITIES:
    a. INSTALL L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLE SEATS FOR STEEL DECK AT CONNECTIONS, AT COLUMNS OR OTHER IRREGULARITIES, TO PROVIDE SUPPORT TO THE RIBS OF THE DECK.
    b. INSTALL L102 x 102 x 7.9 mm (L4 x 4 x 5/16") ANGLE SEATS FOR PRECAST SUPPORT AT CONNECTIONS, AT COLUMNS OR OTHER IRREGULARITIES, TO PROVIDE BEARING FOR PRECAST PLANKS.
21. NO STRUCTURAL STEEL SHALL BE CUT IN THE FIELD UNLESS REVIEWED AND APPROVED BY THE ENGINEER.
22. MAINTAIN ERECTION BRACING UNTIL COMPLETION OF ENTIRE STRUCTURE, INCLUDING ROOF DECKS AND OTHER ELEMENTS WHICH ARE PART OF THE LATERAL LOAD RESISTING SYSTEM.

N10 SHOP DRAWING REVIEW

1. ERECTION AND FABRICATION SHOP DRAWINGS FOR ALL BUILDING COMPONENTS AS LISTED IN THE REQUIRED SUBMITTALS TABLE AND ANY RELATED WORKS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE COMMENCING WITH FABRICATION.
2. AS PART OF THEIR FIELD SERVICES, MTE CONSULTANTS ("MTE") WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON MTE CONSULTANT'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS.
3. REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.
4. THE APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF THE FITTING OF BUILDING COMPONENTS. ANY DISCREPANCIES IN THE SHOP DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL SHOP DRAWINGS MUST BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN ONTARIO UNLESS NOTED OTHERWISE IN THE SUBMITTALS TABLE BELOW. UNSEALED SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS ALTERNATIVE ARRANGEMENTS HAVE BEEN AGREED UPON.

NOTE TO CONTRACTOR:

DO NOT SCALE DRAWINGS.

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ISSUANCE	ID	DATE
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ISSUED FOR 75% COORDINAITON	2	FEB. 25, 2026
ISSUED FOR 50% COORDINATION	1	FEB. 13 2026

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LICENSED PROFESSIONAL ENGINEER
D. FINELLI
Jun 09, 2026
PROVINCE OF ONTARIO

CLIENT
W.K. LIM & M.P. LIU ARCHITECTS INC.

PROJECT
KING'S ROAD PUBLIC SCHOOL
660 GREENWOOD DRIVE. BURLINGTON, ON

DRAWING
GENERAL NOTES

Project Manager:	JDD	Start Date:	MAY 2024
Design By:	DRL	Project No.:	64332_001
Drawn By:	DRL/JDG	Drawing No.:	S1.0
Scale:	AS NOTED		

N14 SERVICEABILITY CRITERIA

1. TYPICAL HORIZONTAL ELEMENTS (NOT SUPPORTING CLADDING) HAVE BEEN DESIGNED SO THAT THE THEORETICAL DEFLECTIONS WILL NOT EXCEED THE FOLLOWING VALUES:

TYPE OF MEMBER	DEFLECTION TO BE CONSIDERED	DEFLECTION LIMIT
REINFORCED CONCRETE MEMBERS		
FLAT ROOFS NOT SUPPORTING NON-STRUCTURAL ELEMENTS LIKELY TO BE DAMAGED BY LARGE DEFLECTIONS	IMMEDIATE DEFLECTION DUE TO SPECIFIED LIVE LOAD, L	L/180
FLOORS NOT SUPPORTING NON-STRUCTURAL ELEMENTS LIKELY TO BE DAMAGED BY LARGE DEFLECTIONS	IMMEDIATE DEFLECTION DUE TO SPECIFIED LIVE LOAD, L	L/360
ROOF OR FLOOR CONSTRUCTION SUPPORTING NON-STRUCTURAL ELEMENTS LIKELY TO BE DAMAGED BY LARGE DEFLECTIONS	THAT PART OF THE TOTAL DEFLECTION OCCURRING AFTER ATTACHMENT OF NONSTRUCTURAL ELEMENTS	L/480
ROOF OR FLOOR CONSTRUCTION SUPPORTING NON-STRUCTURAL ELEMENTS NOT LIKELY TO BE DAMAGED BY LARGE DEFLECTIONS	SUM OF THE LONG-TERM DEFLECTIONS DUE TO ALL SUSTAINED LOADS AND THE IMMEDIATE DEFLECTION DUE TO ANY ADDITIONAL LIVE LOAD	L/240
STRUCTURAL STEEL MEMBERS		
SIMPLE SPAN MEMBERS OF FLOORS AND ROOFS SUPPORTING CONSTRUCTION AND FINISHES NOT SUSCEPTIBLE TO CRACKING	LIVE	L/300
SIMPLE SPAN MEMBERS OF FLOORS AND ROOFS SUPPORTING CONSTRUCTION AND FINISHES SUSCEPTIBLE TO CRACKING	LIVE	L/360

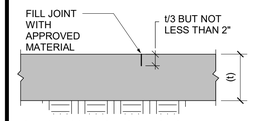
2. NON -STRUCTURAL ELEMENTS SUCH AS CLADDING, MECHANICAL AND ELECTRICAL SERVICES AND SUPPORTS, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED DEFLECTIONS IN THE TABLE ABOVE.
3. PERIMETER OR SPANDREL ELEMENTS (SUPPORTING CLADDING, PRECAST, MASONRY WALLS AND THE LIKE) HAVE BEEN DESIGNED FOR AN ALLOWABLE DEFLECTION AS NOTED IN THE TABLE ABOVE, BUT NOT MORE THAN 12mm (0.5 INCHES) RELATIVE MOVEMENT BETWEEN ADJACENT FLOORS.
4. THE STRUCTURE HAS BEEN DESIGNED TO LIMIT THE MAXIMUM INTERSTOREY DRIFT UNDER SERVICEABILITY LIMIT STATE (SLS) AVERAGE HOURLY WIND PRESSURE TO 'H/500',WHERE 'H' IS THE FLOOR TO FLOOR HEIGHT BETWEEN TWO ADJACENT FLOORS. UNDER SEISMIC LOADS, THE INTERSTOREY DRIFT HAS BEEN LIMITED TO '0.025Hs' WHERE 'Hs' IS THE HEIGHT OF THE STOREY.
5. THE STRUCTURE HAS BEEN DESIGNED ASSUMING THAT THE INSTALLATION OF NONSTRUCTURAL ELEMENTS SUCH AS CLADDING, MECHANICAL AND ELECTRICAL SERVICES WILL NOT COMMENCE UNTIL AT LEAST ONE MONTH AFTER THE REINFORCED CONCRETE SLAB SUPPORTING THE NONSTRUCTURAL ELEMENTS HAS BEEN POURED AND THE RESHORES HAVE BEEN REMOVED.

N15 STRUCTURAL ABBREVIATIONS

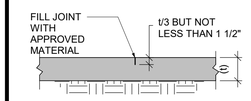
A.B	ANCHOR BOLT
ALT.	ALTERNATE
ALUM.	ALUMINUM
ANCH'S	ANCHORS
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
B/F	BOTTOM FACE
B.PL	BASE PLATE
BLK.	BLOCK
BM.	BEAM
BOT.	BOTTOM
BRG.	BEARING
BT.PL.	BENT PLATE
C/W	COMPLETE WITH
C/C	CENTRE TO CENTRE
C.J.	CONTROL JOINT
CLG.	CEILING
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTRN	CONSTRUCTION
CONT.	CONTINUOUS
DEMO.	DEMOLITION
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DO	DIDO
DP.	DEEP
DWG.	DRAWING
DWL.	DOWEL
E.F.	EACH FACE
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
E.S.	EACH SIDE
E.W.	EACH WAY
EA.	EACH
EL.	ELEVATION
EQ.	EQUAL
EXIST.	EXISTING
F.F	FACE TO FACE
FIN.	FINISHED
FL.	FLOOR
FNDN.	FOUNDATION
FTG.	FOOTING
Ga.	GAUGE
GALV.	GALVANIZED
GRD.	GRADE
HORIZ.	HORIZONTAL
H.D.	HEAVY DUTY
H.D.G.	HOT DIPPED GALVANIZED
H.E.F.	HORIZONTAL EACH FACE
H.P.	HIGH POINT
HSS	HOLLOW STRUCTURAL STEEL
I.D.	INSIDE DIAMETER
kN.	KILONEWTON
kPa	KILOPASCAL
L	ANGLE
L.L.H.	LONG LEG HORIZONTAL
L.L.V.	LONG LEG VERTICAL
L.P.	LOW POINT
LG.	LONG
MAX.	MAXIMUM
MECH	MECHANICAL
MET'L	METAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
m	METRE
mm	MILLIMETRE
MPa	MEGAPASCAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
No.	NUMBER
O.C.	ON CENTRE
O.D.	OUTSIDE DIAMETER
O.H.	OVERHEAD
OWSJ	OWEN WEB STEEL JOIST
OPNG.	OPENING
PART'N	PARTITION
PL.	PLATE
R.C.	REINFORCED CONCRETE
R.D.	ROOF DRAIN
R.O.	ROUGH OPENING
REF.	REFERENCE
REINF.	REINFORCED
REQ'D	REQUIRED
S.C.	SAWCUT
SECT.	SECTION
S.L.H	SHORT LEG HORIZONTAL
S.L.V.	SHORT LEG VERTICAL
S.O.G.	SLAB ON GRADE
S.S.	STAINLESS STEEL
STL.	STEEL
STIFF.	STIFFENER
STRUCT.	STRUCTURAL
T/O	TOP OF
T.L.L	TOP LOWER LAYER
T.U.L.	TOP UPPER LAYER
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
U/S	UNDERSIDE
VERT.	VERTICAL
V.E.F.	VERTICAL EACH FACE
V.I.F.	VERTICAL INSIDE FACE
V.O.F.	VERTICAL OUTSIDE FACE
W.P.	WORKING POINT
W.W.M.	WELDED WIRE MECH @ SPACED AT

C10 SLAB ON GRADE DETAILS (N.T.S.)

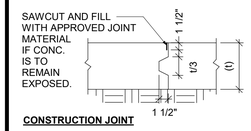
S.O.G. REINFORCED WITH SYNTHETIC FIBRES



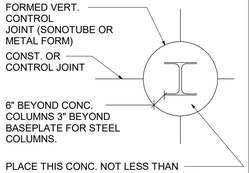
SAWCUT CONTROL JOINT FOR SLAB t GREATER THAN 150mm



SAWCUT CONTROL JOINT FOR SLAB t UP TO 150mm

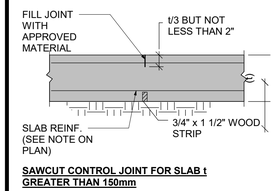


CONSTRUCTION JOINT

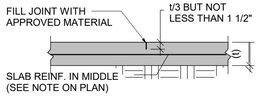


PLAN AT COLUMNS

S.O.G. REINFORCED WITH WELDED WIRE FABRIC OR DEFORMED BARS



SAWCUT CONTROL JOINT FOR SLAB t GREATER THAN 150mm



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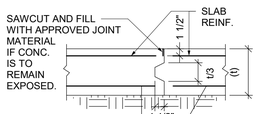
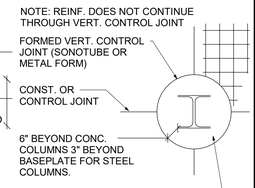


NOTE: REINFORCEMENT DOES NOT CONTINUE THROUGH JOINT

CONSTRUCTION JOINT



PLAN AT COLUMNS

NOTES:

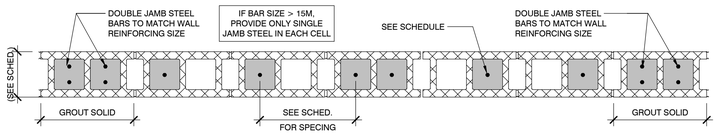
1. SAWCUTTING TO BE DONE AS SOON AS POSSIBLE AFTER SLAB IS PLACED.(MAX. 24 HOURS).
2. JOINTS TO BE AT MAX. 10'-0" o/c U.N.O. OR APPROVED.

CONCRETE BLOCK WALL SCHEDULE

MARK / LEVEL	WALL SIZE and REINFORCING W1	W2
2ND FLOOR	- 190 CONCRETE BLOCK - BLOCK COMP. STRENGTH = 20 MPa - 20M @ 600 VERT. - 4.8mm Ø "HEAVY DUTY" LADDER JOINT REINFORCEMENT @ EVERY COURSE	- 190 CONCRETE BLOCK (FULLY GROUTED) - BLOCK COMP. STRENGTH = 20 MPa - 20M @ 600 VERT. - 4.8mm Ø "HEAVY DUTY" LADDER JOINT REINFORCEMENT @ EVERY COURSE
GROUND FLOOR	- 190 CONCRETE BLOCK - BLOCK COMP. STRENGTH = 20 MPa - 25M @ 600 VERT. - 4.8mm Ø "HEAVY DUTY" LADDER JOINT REINFORCEMENT @ EVERY COURSE	- 190 CONCRETE BLOCK **(FULLY GROUTED)** - BLOCK COMP. STRENGTH = 20 MPa - 25M @ 600 VERT. - 4.8mm Ø "HEAVY DUTY" LADDER JOINT REINFORCEMENT @ EVERY COURSE

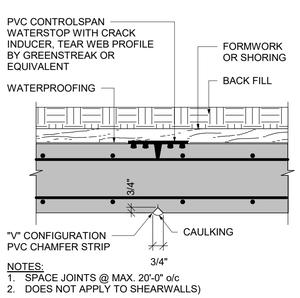
NOTES:

1. ALL MASONRY CORES WITH REINFORCEMENT TO BE FULLY GROUTED.
2. ALL WALLS NOTED FULLY GROUTED ARE TO BE 100% FILLED WITH GROUT.
3. CO-ORDINATE ALL WALL OPENINGS WITH ARCHITECTURAL DRAWINGS AND MECHANICAL CONTRACTOR.
4. PROVIDE ADDITIONAL JAMB STEEL MATCHING WALL REINFORCING SIZE FULL HEIGHT @ ALL WALL ENDS, INTERSECTIONS AND OPENINGS UNLESS OTHERWISE NOTED ON DRAWINGS.
5. PROVIDE STANDARD TENSION SPLICES FOR ALL HORIZONTAL AND VERTICAL WALL REINFORCEMENT.
6. ALL BARS CONNECTING BETWEEN FLOORS TO BE TIED TOGETHER WITH SPLICED DOWELS (REFER TO SECTION DETAILS).
7. SOLID FILLED VOIDS TO BE MADE WITH 20MPa FLOWABLE GROUT (MORTAR FILL NOT PERMITTED).
8. PROVIDE DOWELS FROM THE FOOTING TO WALLS ABOVE TO MATCH VERTICAL WALL REINFORCEMENT.
9. ALL WALLS SHALL CONTAIN 4.8mm (3/16") Ø "HEAVY DUTY" LADDER/TRUSS JOINT REINFORCEMENT AT EVERY COURSE.



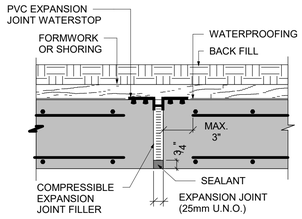
TYPICAL WALL SINGLE LAYER REINFORCING DIAGRAM

C13 JOINTS IN EXTERIOR FOUNDATION WALLS (N.T.S.)

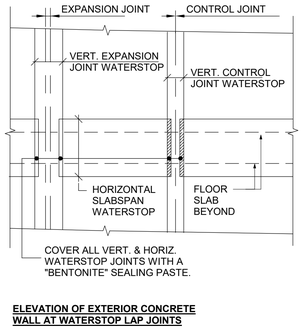


NOTES:
1. SPACE JOINTS @ MAX. 20'-0" o/c
2. DOES NOT APPLY TO SHEARWALLS)

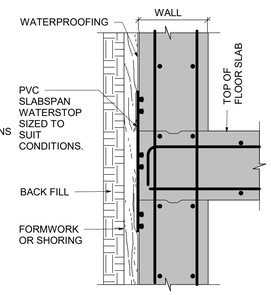
VERTICAL CONTROL JOINT AT EXTERIOR CONCRETE WALL



VERTICAL EXPANSION JOINT AT EXTERIOR CONCRETE WALL



ELEVATION OF EXTERIOR CONCRETE WALL AT WATERSTOP LAP JOINTS

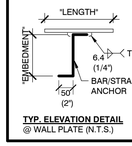


HORIZONTAL CONSTRUCTION JOINT AT EXTERIOR CONC. WALL & SLAB

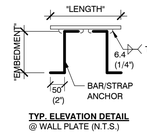
MASONRY WALL PLATE SCHEDULE

	PLATE SIZE THK.xLG.xWD.	ANCHORAGE
WPL.1	9.5 x 175 x 200 mm	2 - 12.7mm Ø ROD (300mm EMBEDMENT, 50mm HOOK)
WPL.2	9.5 x 200 x 175 mm	2 - 12.7mm Ø ROD (300mm EMBEDMENT, 50mm HOOK)

NOTES:
1. PLATE DIMENSION NOTED AS "LENGTH" TO BE PARALLEL WITH BEAM WEB.
2. FIELD WELD BEAM TO BEARING PLATE w/ (2) 6.4mm x 38mm (1/4" x 1-1/2") LG. FILLET WELDS (EACH SIDE)
3. FILL MIN THREE COURSES SOLID WITH GROUT BELOW WALL PLATE IN MASONRY WALLS. (SEE TYPICAL DETAIL)



TYP. ELEVATION DETAIL @ WALL PLATE (N.T.S.)

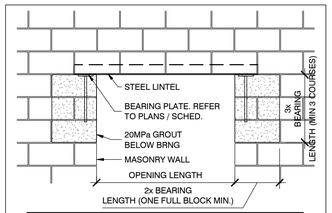


TYP. ELEVATION DETAIL @ WALL PLATE (N.T.S.)

MASONRY VENEER LINTEL SCHED.

MAX. CLEAR SPAN	SIZE	REMARKS
7'-0"	L3 1/2"x3 1/4" (LLH)	
9'-0"	L5x4x1/4"	
10'-0"	L5x3 1/2"x5/16" (LLV)	
11'-0"	L5x3 1/2"x3/8" (LLV)	
12'-0"	L6x4x3/8" (LLV)	
13'-0"	L6x4x3/8" (LLV)	
14'-0"	L7x4x7/16" (LLV)	
15'-0"	L8x4x7/16" (LLV)	

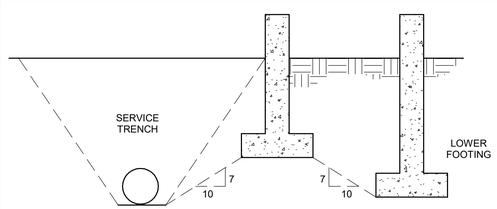
NOTES:
1. LINTEL BEARING LENGTH TO BE MIN. 6".
2. ALL STRUCTURAL STEEL MEMBERS TO BE HOT DIPPED GALVANIZED.
3. SEE ARCHITECTURAL DRAWINGS FOR SPANS.



NOTES:
1. REFER TO SCHEDULES FOR LINTEL SIZES
2. BACK-TO-BACK ANGLE LINTELS SHALL BE STITCH WELDED TOGETHER AT 300mm O/C MAX.

TYPICAL MASONRY LINTEL WITH BEARING PLATE

C36 TYP. FOOTING EXCAVATIONS DETAIL



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LICENCE PROFESSIONAL ENGINEER
D. FINELLI
Jun 09, 2026
PROVINCE OF ONTARIO

CLIENT
W.K. LIM & M.P. LIU ARCHITECTS INC.

PROJECT
KING'S ROAD PUBLIC SCHOOL
660 GREENWOOD DRIVE. BURLINGTON, ON

DRAWING
GENERAL NOTES & TYPICAL DETAILS

Project Manager: JDD	Start Date: MAY 2024
Design By: DRL	Project No.: 64332_001
Drawn By: DRL/JDG	Drawing No.: S1.1
Scale: AS NOTED	

FOUNDATION WALL SCHEDULE

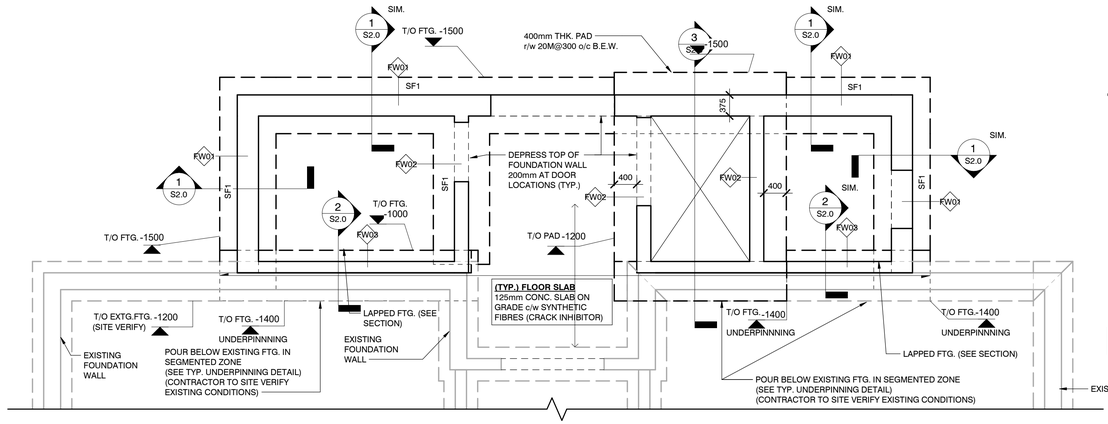
TYPE	WIDTH	REINFORCING
FW01	375	15M@300 VEF, 15M@400 HEF
FW02	250	15M@300 V&H (CENTER IN WALL)
FW03	200	15M@300 V&H (CENTER IN WALL)

1. VEF = VERTICAL EACH FACE, HEF = HORIZONTAL EACH FACE
2. ALL FOUNDATION WALLS TO HAVE MINIMUM CONT. 2-15M HORIZ. TOP & BOTTOM U.N.O.
3. FOR FOUNDATION WALLS BELOW SHEAR WALLS, SEE WALL ELEVATIONS

STRIP FOOTING SCHEDULE

TYPE	WIDTH	THICKNESS	REINFORCING
SF1	<varies>	300	3-15M CONT. BLD & 15M@300 BSD

1. STRIP FOOTINGS ARE CENETERED BELOW WALLS U.N.O.
2. PROVIDE REINFORCING IN STRIP FOOTINGS PER THE ABOVE SCHEDULE U.N.O.
3. REBAR MARKED "ADD ____ " SHALL BE PROVIDED IN ADDITION TO THE REINFORCING IN THE SCHEDULE ABOVE.
4. PROVIDE HOOKED DOWELS INTO FOOTING MATCHING VERTICAL REINFORCING FROM WALL ABOVE
5. BSD = BOTTOM SHORT DIRECTION, BLD = BOTTOM LONG DIRECTION
6. FOR ALL STRIP FOOTINGS, BOTTOM LOWER LAYER BARS SHALL BE PLACED IN THE SHORTER (TRANSVERSE) DIRECTION



FOUNDATION PLAN

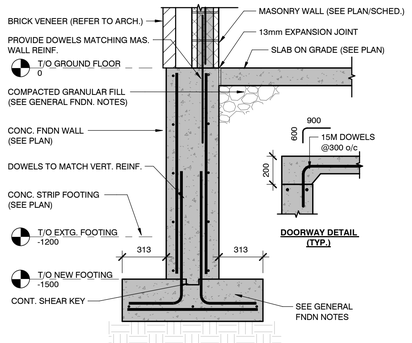
1 : 50

NOTES:

1. T/O GROUND FLOOR SLAB ELEVATION = 0 mm (REF. TO ARCH. DWGS)
2. T/O FOOTING ELEVATION = (MATCH EXISTING, MIN 1200mm BELOW GRADE)
3. REF. TO ARCH. DWGS. FOR DIMENSIONS, OPENINGS, DEPRESSIONS AND SLOPES NOT SHOWN ON THIS DRAWING.
4. THE PROJECT SUPERINTENDANT MUST CONTACT MTE 24hrs PRIOR TO PLACING STRUCTURAL CONCRETE FOR A REVIEW OF THE PREPARATIONS.
5. FOR SYNTHETIC FIBRES IN SLAB-ON-GRADE, CONTRACTOR TO PROVIDE MANUFACTURER'S SPECIFICATIONS TO MTE CONSULTANTS FOR REVIEW. FIBRE DOSAGE BY SUPPLIER.
6. PROVIDE 25 mm CHAMFER ON ALL EXPOSED EDGES OF COLUMNS, WALLS, BEAMS, AND DROPS.
7. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER O.REG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQURIED.

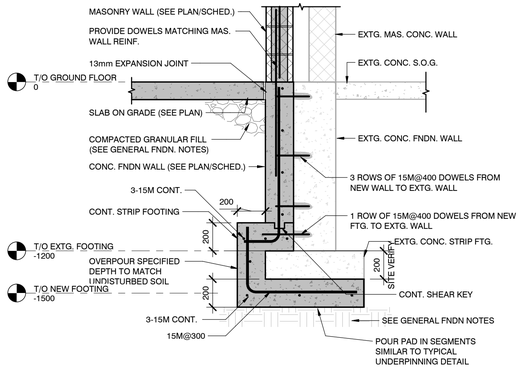
LEGEND:

DENOTES LOCATION OF ROUGH OPENING. REFER TO ARCH. DWGS. FOR DIMENSIONS AND LOCATIONS.



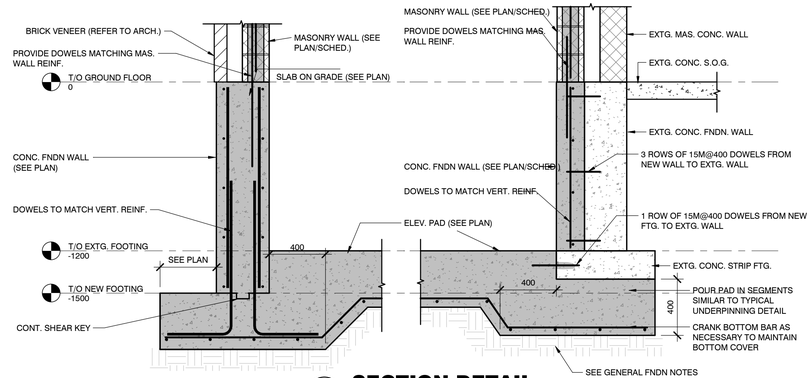
1 S2.0 SECTION DETAIL

1 : 20



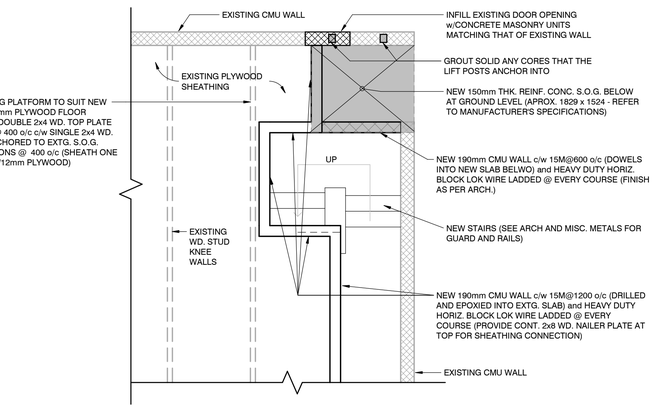
2 S2.0 SECTION DETAIL

1 : 20



3 S2.0 SECTION DETAIL

1 : 20



PARTIAL STAGE FRAMING PLAN

1 : 50

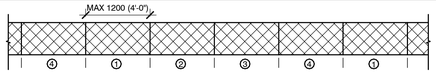
NOTES:

1. T/O PLATFORM ELEVATION = 0 mm (REF. TO ARCH. DWGS)
2. REF. TO ARCH. DWGS. FOR DIMENSIONS, OPENINGS, DEPRESSIONS AND SLOPES NOT SHOWN ON THIS DRAWING.

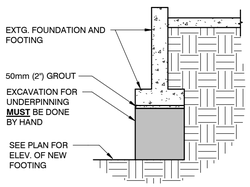
LEGEND:

DENOTES LOCATION OF ROUGH OPENING. REFER TO ARCH. DWGS. FOR DIMENSIONS AND LOCATIONS.

TYPICAL UNDERPINNING

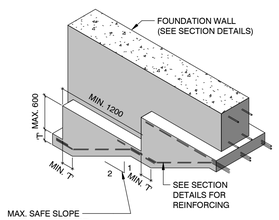


UNDERPINNING PLAN



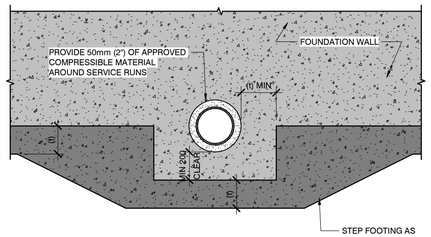
UNDERPINNING SECTION

1. UNDERPINNING TO BE PLACED USING 30MPa CONCRETE AT 28 DAYS. MINIMUM STRENGTH AT 3 DAYS TO BE 25MPa.
2. UNDERPINNING SECTIONS IN 1200mm MAX. WIDTHS IN ORDER 1, 2, 3, 4 AS SHOWN ON PLAN.
3. ALL SECTIONS (1) MUST BE COMPLETE PRIOR TO STARTING ON SECTIONS (2) AND SO FORTH. ALLOW A MINIMUM OF 24 HRS AFTER PLACING GROUT BEFORE STARTING AN ADJACENT SECTION.
4. RAM PACK 50mm (2") OF NON-SHRINK GROUT OR 1:3 CEMENT/SAND GROUT BETWEEN UNDERSIDE OF EXISTING FOOTING AND TOP OF UNDERPINNING NO SOONER THAN 24 HRS. AFTER PLACING UNDERPINNING CONCRETE.
5. UNDERPINNING IS TO BE PLACED DIRECTLY AGAINST EXISTING UNDISTURBED SOIL. ENSURE ALL VOIDS NOT FILLED WITH CONCRETE.
6. ENSURE AGAINST LOSS OF MATERIAL FROM BENEATH EXISTING BUILDING.
7. **CONTRACTOR RESPONSIBLE TO PROVIDE ALL NECESSARY SHORING AND NEEDLING IN ORDER TO SAFELY CARRY OUT THIS WORK AND TO PREVENT DISTRESS IN THE EXISTING BUILDING.**
8. DETAILS SHOWN ARE FOR ASSUMED CONDITIONS. ANY VARIATIONS MUST BE REPORTED TO THE STRUCTURAL CONSULTANT BEFORE PROCEEDING.



TYP. ISOMETRIC DETAIL

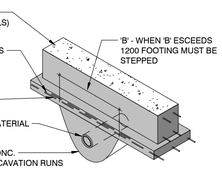
AT STEPPED FOOTING (N.T.S.)



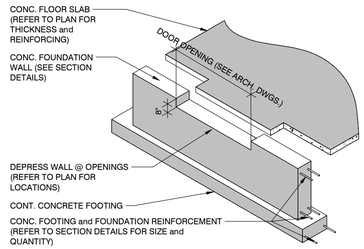
TYP. SECTION DETAIL

SERVICES THROUGH FOUNDATION WALL (N.T.S.)

TYPICAL PIPES BENEATH WALL FOOTINGS DETAIL



TYPICAL DOOR OPENING IN FOUNDATION WALL DETAIL



NOTE TO CONTRACTOR:

DO NOT SCALE DRAWINGS.

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DRAWINGS REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.

ISSUANCE	ID	DATE
ISSUED FOR PERMIT AND TENDER	4	JUN, 09, 2026
ISSUED FOR 95% COORDINATION	3	MAY 12, 2026
ISSUED FOR 75% COORDINAITON	2	FEB. 25, 2026
ISSUED FOR 50% COORDINATION	1	FEB. 13 2026

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Ph. (905) 639-2552 www.mte85.com

LICENCE PROFESSIONAL ENGINEER
D. FINELLI
Jun 09, 2026
PROVINCE OF ONTARIO

CLIENT

W.K. LIM & M.P. LIU ARCHITECTS INC.

PROJECT

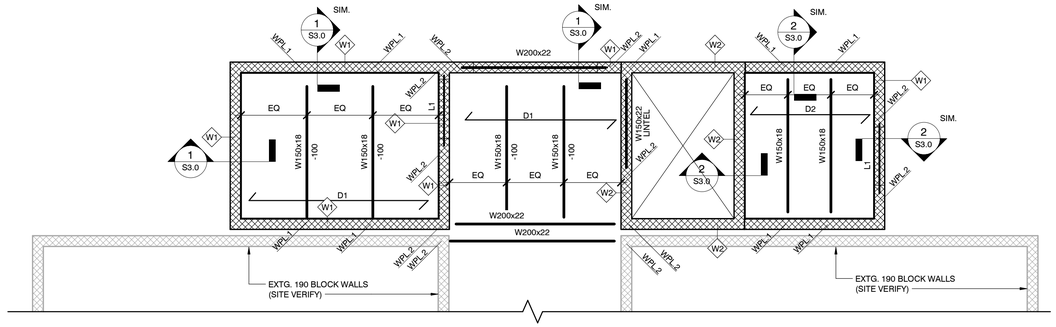
KING'S ROAD PUBLIC SCHOOL

660 GREENWOOD DRIVE. BURLINGTON, ON

DRAWING

FOUNDATION PLAN AND STAGE FLOOR FRAMING PLAN

Project Manager:	JDD	Start Date:	MAY 2024
Design By:	DRL	Project No.:	64332_001
Drawn By:	DRL/JDG	Drawing No.:	S2.0
Scale:	AS NOTED		



SECOND FLOOR FRAMING PLAN

1 : 50

FLOOR PLAN NOTES:

1. T/O FLOOR SLAB ELEVATION = (REF. TO ARCH. DWGS)
2. REF. TO ARCH. DWGS. FOR DIMENSIONS, OPENINGS, DEPRESSIONS AND SLOPES NOT SHOWN ON THIS DRAWING.
3. T/O STEEL EL. ARE REFERENCED FROM T/O SLAB EL.
4. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER O.REG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQURIED.

LEGEND:

D1..... 64mm CONCRETE ON 38 x 0.76mm THK. LZC METAL DECK (3 SPAN CONT.) w/ 152x152 MW9.1/MW9.1 W.W.M.
- TRANSVERSE WELDS: 19mm PUDDLE WELD @ 914/4
- SIDE LAP CONNECTION: BOTTOM PUNCH @ 300mm
- PERIMETER WELDS: 19mm PUDDLE WELD @ 300mm

D2..... 38 mm x 0.76 mm THK. LZC METAL DECK (3 SPAN CONT.)
- TRANSVERSE WELDS: 19mm PUDDLE WELD @ 914/4
- SIDE LAP CONNECTION: BOTTOM PUNCH @ 300mm
- PERIMETER WELDS: 19mm PUDDLE WELD @ 300mm

W1..... (SEE SCHEDULE)
W2..... (SEE SCHEDULE)

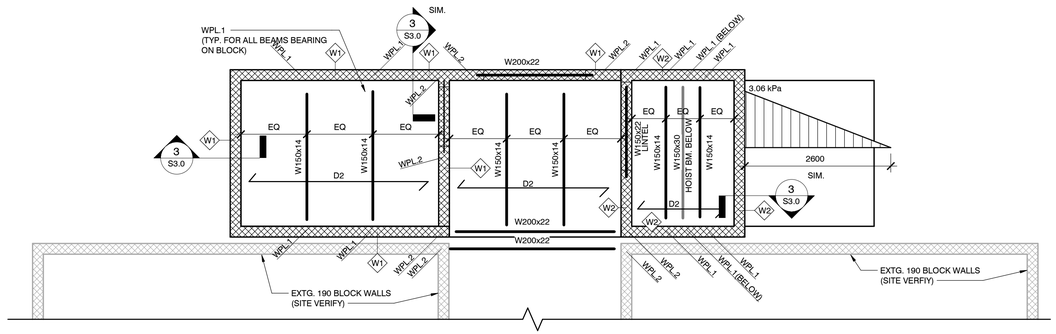
L1..... DOORWAY LINTEL - 2 - L127x76x9.5 (LLV) BACK-TO-BACK ANGLES

DENOTES LOCATION OF ROUGH OPENING. REFER TO ARCH. DWGS. FOR DIMENSIONS AND LOCATIONS.

LOADING:

DEAD LOADS:
- COMPOSITE DECK.....2.5 kPa
- SUPERIMPOSED.....2.0 kPa

LIVE LOADS:
- CORRIDORS.....4.8 kPa
- WASHROOMS.....2.4 kPa
- ROOFS.....1.0 kPa



ROOF FRAMING PLAN

1 : 50

FLOOR PLAN NOTES:

1. U/S DECK ELEVATION = (REF. TO ARCH. DWGS)
2. REF. TO ARCH. DWGS. FOR DIMENSIONS, OPENINGS, DEPRESSIONS AND SLOPES NOT SHOWN ON THIS DRAWING.
3. T/O STEEL EL. ARE REFERENCED FROM T/O SLAB EL.
4. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER O.REG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQUIRED.

LEGEND:

D2..... 38 mm x 0.76 mm THK. LZC METAL DECK (3 SPAN CONT.)
- TRANSVERSE WELDS: 19mm PUDDLE WELD @ 914/4
- SIDE LAP CONNECTION: BOTTOM PUNCH @ 300mm
- PERIMETER WELDS: 19mm PUDDLE WELD @ 300mm

W1..... (SEE SCHEDULE)
W2..... (SEE SCHEDULE)

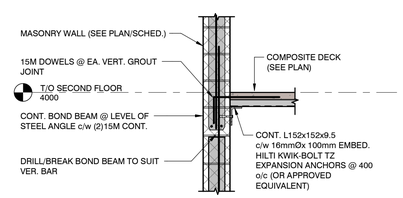
DENOTES LOCATION OF ROUGH OPENING. REFER TO ARCH. DWGS. FOR DIMENSIONS AND LOCATIONS.

LOADING:

DEAD LOADS:
- ROOF DECK.....0.1 kPa
- SUPERIMPOSED.....2.0 kPa

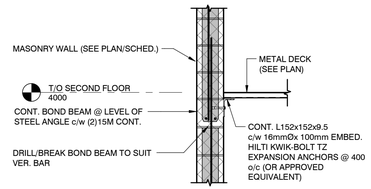
LIVE LOADS:
- ROOFS.....1.0 kPa

SNOW LOADS (BURLINGTON,ON):
- BASIC.....1.47 kPa
- DRIFT.....(SEE PLAN)



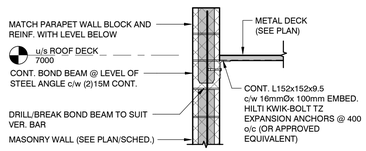
1 S3.0 **SECTION DETAIL**

1 : 20



2 S3.0 **LOW ROOF DECK AT BLOCK**

1 : 20



3 S3.0 **BLOCK PARAPET**

1 : 20

NOTE TO CONTRACTOR:

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ISSUANCE	ID	DATE
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ISSUED FOR 75% COORDINAITON	2	FEB. 25, 2026
ISSUED FOR 50% COORDINATION	1	FEB. 13 2026

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PROJECT

KING'S ROAD PUBLIC SCHOOL

660 GREENWOOD DRIVE. BURLINGTON, ON

DRAWING

2ND FLOOR AND ROOF FRAMING PLAN

Project Manager: JDD	Start Date: MAY 2024
Design By: DRL	Project No.: 64332_001
Drawn By: DRL/JDG	Drawing No.: S3.0
Scale: AS NOTED	

LEGEND – PLUMBING

ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.

REFER	DESCRIPTION
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RECIRC. PIPING
-V-	VENT PIPING
	SANITARY PIPING ABOVE FLOOR
	SANITARY PIPING BELOW GRADE OR FLOOR
	PIPING TO BE REMOVED
	HEAT TRACED PIPING
E	CONNECTION OF NEW AND EXISTING PIPING
	CAPPED PIPE
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
RD	ROOF DRAIN ABOVE
CO	CLEANOUT IN FLOOR
CO	CLEANOUT IN LINE OR STACK
M	WATER METER
	ISOLATION VALVE
	CIRCUIT BALANCING VALVE
	CHECK VALVE
	STRAINER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	3-WAY VALVE
	TEMPERATURE & PRESSURE RELIEF VALVE
CTE	CONNECT TO EXISTING
	UNION
PG	PRESSURE GAUGE
T	THERMOMETER
	PUMP
	PIPE DOWN
	PIPE UP
	PIPE UP & DOWN
	PIPE TEE
E	DENOTES EXISTING
E	EXISTING PIPING
FEX	FIRE EXTINGUISHER – SURFACE MOUNTED

LEGEND – HVAC

ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.

REFER	DESCRIPTION
E(NAME)	EXISTING PIPING TO REMAIN
	POSITIVE PRESSURE (SUPPLY) DUCT UP
	POSITIVE PRESSURE (SUPPLY) DUCT UP
	NEGATIVE PRESSURE (RETURN) DUCT UP
	POSITIVE PRESSURE (SUPPLY) DUCT DOWN
	POSITIVE PRESSURE (SUPPLY) DUCT DOWN
	NEGATIVE PRESSURE (RETURN) DUCT DOWN
	EXISTING DUCTWORK TO BE REMOVED
	EXISTING DUCTWORK TO REMAIN
	NEW DUCTWORK
	SUPPLY AIR DIFFUSER (SQUARE)
	SUPPLY AIR DIFFUSER (ROUND)
	SIDEWALL GRILLE
	RETURN/EXHAUST GRILLE
	FULL RADIUS DUCT CONNECTION
	TAP-IN DUCT CONNECTION
	ROUND DUCT CONNECTION
	TURNING VANES
FD	FIRE DAMPER
EXFD	EXISTING FIRE DAMPER
MD	MOTORIZED DAMPER
EXMD	EXISTING MOTORIZED DAMPER
AD	ACCESS DOOR
BD	BALANCING DAMPER
OBBD	OPPOSED BLADE BALANCING DAMPER
OED	OPEN ENDED DUCT
T	THERMOSTAT
RAT	REVERSE ACTING THERMOSTAT
CAP	CAP

MECHANICAL DRAWING LIST

M1.0	LEGENDS, GENERAL NOTES, EQUIPMENT SCHEDULE
M1.1	MECHANICAL KEY PLANS
M2.0	PROPOSED DRAINAGE PLAN
M2.1	PROPOSED PLUMBING PLAN
M2.2	PROPOSED HVAC PLAN
M3.0	MECHANICAL SPECIFICATIONS AND DETAILS

GENERAL NOTES

REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR COORDINATION OF GRILLES, DIFFUSERS AND OTHER ELEMENTS.

IN ALL INSTANCES THE NEED FOR ACCESS DOORS IN GWB CEILINGS SHOULD BE AVOIDED IF POSSIBLE. WHERE INSTALLATION OF COMPONENTS WHICH REQUIRE ACCESS CANNOT BE AVOIDED, SUBMIT (DIMENSIONED) LAYOUT ON ARCHITECTURAL REFLECTED CEILING PLANS TO CONSULTANTS FOR APPROVAL PRIOR TO INSTALLATION OF COMPONENT.

EXISTING ITEMS TO BE REMOVED REMAIN THE PROPERTY OF THE OWNER AND SHALL BE DELIVERED TO A LOCATION ON SITE DESIGNATED BY THE OWNER. IF THE OWNER DECLARES NO INTEREST IN THE REMOVED ITEMS, ASSUME OWNERSHIP AND REMOVE THE ITEMS FROM THE SITE.

REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATION FOR PHASING AND STAGING.

PLUMBING NOTES

1. CONTRACTOR IS TO VERIFY CONNECTION POINTS TO SERVICES WITH OTHER TRADES ON SITE.
2. CONTRACTOR IS TO CLEAR DUCTWORK WHEN INSTALLING NEW PIPING. CLEARANCES TO BE VERIFIED ON SITE.
3. PROVIDE A CLEANOUT AT THE BOTTOM OF EVERY SOIL AND WASTE STACK THAT CONNECTS TO A HORIZONTAL DRAINAGE PIPE.
4. PROVIDE A CLEANOUT FROM EACH PLUMBING FIXTURE WHERE REQUIRED BY BUILDING CODE, PART 7 – PLUMBING.
5. CHECK AND VERIFY LOCATION OF ALL PIPES, DUCTS AND EQUIPMENT WITH ALL OTHER TRADES TO PREVENT INTERFERENCE. REMOVAL OR RELOCATION OF ANY SUCH WORK INTERFERING WITH WORK OF OTHER TRADES IS THE RESPONSIBILITY OF THE MECHANICAL TRADE CONCERNED UNLESS OTHERWISE APPROVED IN WRITING.
6. ALL PLUMBING FIXTURES INCLUDING FLOOR DRAINS (HUB, FUNNEL FLOOR DRAINS, TRENCH DRAINS) TO BE TRAPPED AND VENTED AS REQUIRED BY BUILDING CODE, PART 7 – PLUMBING.
7. FOR MOUNTING HEIGHT OF ALL PLUMBING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
8. PROVIDE ACCESS DOOR FOR ALL VALVES LOCATED ABOVE DRY WALL CEILING.
9. PROVIDE ACCESS DOOR FOR ALL CLEANOUTS LOCATED ABOVE DRY WALL CEILING.
10. IN ALL INSTANCES THE NEED FOR ACCESS DOOR IN GWB CEILINGS SHOULD BE AVOIDED IF POSSIBLE. WHERE INSTALLATION OF COMPONENTS WHICH REQUIRE ACCESS CANNOT BE AVOIDED, SUBMIT (DIMENSIONED) LAYOUT ON ARCHITECTURAL REFLECTED CEILING PLANS TO CONSULTANTS FOR APPROVAL PRIOR TO INSTALLATION OF COMPONENT.
11. ALL DISTURBED SERVICES AFTER PIPE REMOVAL OR REROUTING TO BE FILLED-IN WITH APPROPRIATE MATERIAL TO MAINTAIN FIRE SEPARATION AND PATCHED TO MATCH EXISTING OR NEW FINISHES.
12. CONTRACTOR IS TO REMOVE ALL OBSOLETE PIPING WHEREVER POSSIBLE.
13. CONTRACTOR IS TO ENSURE THAT ALL EXISTING PIPING SERVING EXISTING AREAS REMAIN IN SERVICE UNTIL THESE AREAS ARE RECONNECTED TO NEW SERVICES. ONLY THEN OBSOLETE PIPING IS TO BE REMOVED AS SHOWN.
14. BEFORE CUTTING ANY HOLES THROUGH THE EXISTING SLAB REFER TO EXISTING STRUCTURAL DRAWINGS FOR GENERAL REQUIREMENTS.
15. AFTER PIPE REMOVAL ALL EXISTING OPENINGS IN FIRE SEPARATION ARE TO BE FILLED-IN TO MAINTAIN INTEGRITY OF THAT FIRE SEPARATION.
16. RECONNECT VENTS FROM EXISTING EQUIPMENT AND PLUMBING FIXTURES WHICH ARE TO REMAIN TO NEW VENTS AS REQUIRED.
17. PROVIDE SIGN IDENTIFYING LOCATION OF ALL VALVES INSTALLED IN CEILING SPACE.
18. ALL WATER, SANITARY, SEWER AND VENT COPPER PIPING WITH SOLDER JOINTS SHALL BE LEAD FREE. DO NOT INSTALL WATER LINES IN OUTSIDE WALL WHERE THEY MAY FREEZE, UNLESS BOTH THE WALL AND THE PIPES ARE PROPERLY INSULATED.
19. INSTALL SHUT-OFF VALVES AT EACH PLUMBING FIXTURE AND EACH EQUIPMENT CONNECTION.
20. REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT. CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO SUIT.

EXHAUST FAN SCHEDULE

REFER	AREA SERVED	AIR FLOW CFM	E.S.P. IN.W.C.	ELECTRICAL		DRIVE	FAN SPEED RPM	UNIT WEIGHT LBS	SOUND LEVEL dBA	CONTROL	MANUFACTURER, MODEL AND ACCESSORIES
				MOTOR SIZE HP	VOLTAGE						
EF-1	UNIVERSAL WASHROOM	122	0.744	1/3	120V/1ø/60Hz	DIRECT	1725	31	–	SWITCH	COOK 101C17D OR60; COMPLETE WITH ROOF CURB
EF-2	MACHINE ROOM	122	0.744	1/3	120V/1ø/60Hz	DIRECT	1725	31	–	SENSOR	COOK 101C17D OR60; COMPLETE WITH ROOF CURB

NOTES:
1. ALL FANS SHALL INCLUDE VIBRATION ISLOATION AND STARTERS.
2. REFER TO THE CONTROL SCHEMATICS AND SEQUENCES OF OPERATION.
3. ACCEPTABLE MANUFACTURERS SUBJECT TO SHOP DRAWING REVIEW: CARNES, GREENHECK, REVERSOMATIC, BROAN.

RETURN/ EXHAUST GRILLE SCHEDULE

SYMBOL	SIZE MM x MM (IN. x IN.)	APPLICATION	NECK SIZE MMø (INSø)	AIRFLOW RANGE CFM	NC RANGE	MANUFACTURER AND MODEL (BASIS OF DESIGN: E.H. PRICE)
R-1 CFM / E-1 CFM	300x300 (12x12)	CEILING GRILLE	–	<450	<30	80D
R-2 CFM / E-2 CFM	600x300 (24x12)	CEILING GRILLE	–	<800	<30	80D
R-3 CFM / E-3 CFM	600x600 (24x24)	CEILING GRILLE	–	<2000	<30	80D
R-4 CFM	500x500 (20x20)	CEILING GRILLE	–	<1500	<30	80D
R-5 CFM	750x350 (30x14)	WALL GRILLE	–	<835	<30	530D
R-6 CFM	750x250 (30x10)	DUCT GRILLE	–	<540	<30	530D

NOTE(S): 1. ACCEPTABLE ALTERNATES SUBJECT TO SHOP DRAWING REVIEW: TITUS, METALAIRE, KRUEGER OR APPROVED EQUAL.
2. ALL RETURN GRILLES SHALL C/W MERV 13 FILTERS.

LOUVER SCHEDULE

TAG	MANUFACTURER	MODEL	MIN SECTION SIZE (IN) (WXH)	MAX SECTION SIZE (IN) (WXH)	FINISH	ACCESSORIES
LOU-1	PRICE INDUSTRIES	DE439 FIXED BLADE LOUVER	9 X 9.5	72 X 120	COLOUR ANODIZED (TO MATCH WITH THE EXISTING BUILDING)	DRAINABLE LOUVER C/W BIRD SCREEN, FRAME, MOTORIZED DAMPER

ISSUE OR REVISION

No.	Description	Date
1	ISSUED FOR 50% CD	Feb 11, 2026
2	ISSUED FOR 95% CD	March 11, 2026
3	ISSUED FOR 95% CD - M	March 19, 2026
4	ISSUED FOR COMMENTS	April 24, 2026
5	ISSUED FOR TENDER	June 4, 2026
6		
7		
8		

PROJECT :
KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
MECHANICAL LEGENDS, GENERAL NOTES, EQUIPMENT SCHEDULE

RCEI
REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
208 Wyecroft Road, Suite 200, Oakville, ON L6K 3S3
PHONE: (905)844-3913
www.regal-eng.com

DATE :	December 2025
SCALE :	NTS
DRAWN BY:	TD
CHECKED BY :	MA
DWG STATUS :	REVIEW
PROJECT No. :	2025-502
DRAWING No. :	M1.0
REVISION	

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	FIXTURN NAME	SANITARY		VENT		DCWS		DHWS		TEMPERED		REMARKS
		MM	INS	MM	INS	MM	INS	MM	INS	MM	INS	
W1–BF	WATER CLOSET FLOOR MOUNTED– FLUSHOMETER –EXPOSED–MANUAL	75	3	38	1.5	32	1.25	–	–	–	–	1. American Standard Madera FloWise 3461001.020 Barrier free Toilet, Floor mounted with floor outlet, Toilet operates in the range of 4.2 to 6.0 LPF (1.1 – 1.6 GPF), Vitreous china, White finish, Ever Clean antimicrobial surface, Elongated bowl, 419 mm (16–1/2") rim height, 254 mm (10") to 305 mm (12") rough–in from wall to the center of waste outlet, Direct–fed siphon jet flush action, 38 mm (1–1/2") top spud, Flush valve by others, Fully–glazed 54 mm (21/8") trapway, Condensation channel, Toilet seat not included, Two (2) colour matched bolt caps with retainers (481310–100). Overall Dimensions: 356 mm (14") wide x 718 mm (28–1/4") from finished wall Water Surface: 254 x 305 mm (10" x 12") water surface area. 2. Centoco #500STSCCFE–001 FAST–N–LOCK, for elongated bowl, Open front, Heavy–duty, For commercial applications, Polypropylene, Toilet seat, Less seat cover, Plastic commercial check hinges, and Stainless–steel hinge pin, Specified in White finish, 3. SL–ROYAL 111–1.28 ROYAL Manual Exposed Water closet flushometer, 38 mm (1–1/2") spud coupling For top spud toilet, constructed from Semi–red brass, Polished chrome finish, High Efficiency 4.8 LPF (1.28 GPF), Chloramine resistant PERMEX®synthetic rubber diaphragm, Metal oscillating handle with triple seal handle packing, Flush tube for 292 mm (11–1/2") rough–in, Adjustable tailpiece, 25mm (1") I.P.S. screwdriver Bak–Chek®angle control stop with free spinning vandal–resistant stop cap, Dual–filtered fixed bypass, Sweat solder adapter kit with cover tube, High back pressure vacuum breaker, Inlet located right of valve, 25 mm (1") supply pipe, Cast wall flange with set screw, Non–hold–open, no external volume adjustment, Pressure Range: 103 – 552 kPa (15 – 80 PSI) operating water pressure Compliances and certifications: Requires less than 5 pounds of force to activate (push–button), cUPC compliant. 4. CM–16104 wall mounting, back rest, solid core plastic laminate panel back, Antique white, 305 mm (12") wide, 102 mm (4") high, 8" (204 mm), 18 gauge stainless steel bar with #4 gloss with flanges and covers, concealed snap flanges and mounting hardware included, Provide adequate backing in wall for support and comply to local codes for barrier free requirements
L1–BF	WALL HUNG LAVATORY– TWO HANDLE FAUCET	50	2	32	1.25	13	0.50	13	0.50	13	0.5	1. American Standard Murro with Ever clean #0954.004EC/0059.020EC Basin, 540mm x 520mm x 165mm (21–1/4" x 20–1/2" x 6–1/2") high, vitreous china, for carrier with concealed arms, rear overflow, recessed self–draining faucet ledge, semi–pedestal P–trap cover. 2. Chicago Faucets #802–VCP–317VP–XK–E2805 Two handle faucet, 4" (102mm) centerset, solid brass body construction, ceramic 1/4 turn cartridge, with Vandal Resistant 1.9LPM (0.5 GPM), aerator outlet, metal red and blue index buttons 102mm (4") long wrist blade handle with vandal resistant screw. 3. McGuire #155AC open grid drain, chrome plated cast brass one piece top, 1.5mm (1/16") tubular 32mm (1–1/4") tailpiece. 4. McGuire #H170BVRB Faucet Supplies, chrome finish polished brass, 13mm (1/2") I. D. Inlet x 127mm (5") horizontal extension tubes, combination V. P. Loose key handle, escutcheon and stainless steel braided flexible riser. 5. McGuire #8872C P–Trap, heavy cast brass adjustable body, with slip nut, 32mm (1–1/4") size, shallow wall flange and seamless tubular wall bend 6. Watts #TCA–411, Carrier, mounted on concrete floor, with epoxy coated cast iron concealed arms with sliding adjustable arm brackets, heavy gauge steel uprights with integral welded feet. Minimum space required: for one unit: 102mm (4") for two to six units in a row: 152mm (6") finished metal stud wall to back of pipe space.
FD	FLOOR DRAIN	75	3	38	1.5	–	–	–	–	–	–	Refer to specifications.
TSP	TRAP SEAL PRIMER	–	–	–	–	10/13	0.38/0.50	–	–	–	–	One – 10MM/0.38" PER FD, FFD, HD, PD

ELECTRIC HEATER SCHEDULE

REFER	TYPE	MAKE/MODEL	AIRFLOW CFM	HEATING CAPACITY	FAN MOTOR	ELECTRICAL			WEIGHT (LBS)	DIMENSIONS LXWXH (IN)	REMARKS
				MBH	HP	VOLTAGE	M.C.A.	M.O.C.P.			
EH–1/ EH–3	HEAVY–DUTY STEEL BASEBOARD HEATER	OUELLET/ OPR1508	–	5.1	–	208/1/60			37	63–15/16 X 3–1/8 X 10–1/8	
EH–2	CEILING FAN HEATER	OUELLET/ ODSR02008	310	6.8	1/50	208/1/60			31	23–5/8 X 23–5/8 X 8–3/4	
UH–1	COMMERCIAL INDUSTRIAL SUSPENDED UNIT HEATER	OUELLET/ OAS02008AM	510	6.8	1/30	208/1/60			45	16–1/2 X 12–1/8 X 17	

NOTE(S): 1. ALTERNATES ARE ACCEPTABLE SUBJECT TO SHOP DRAWING REVIEW.

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PROJECT :
KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

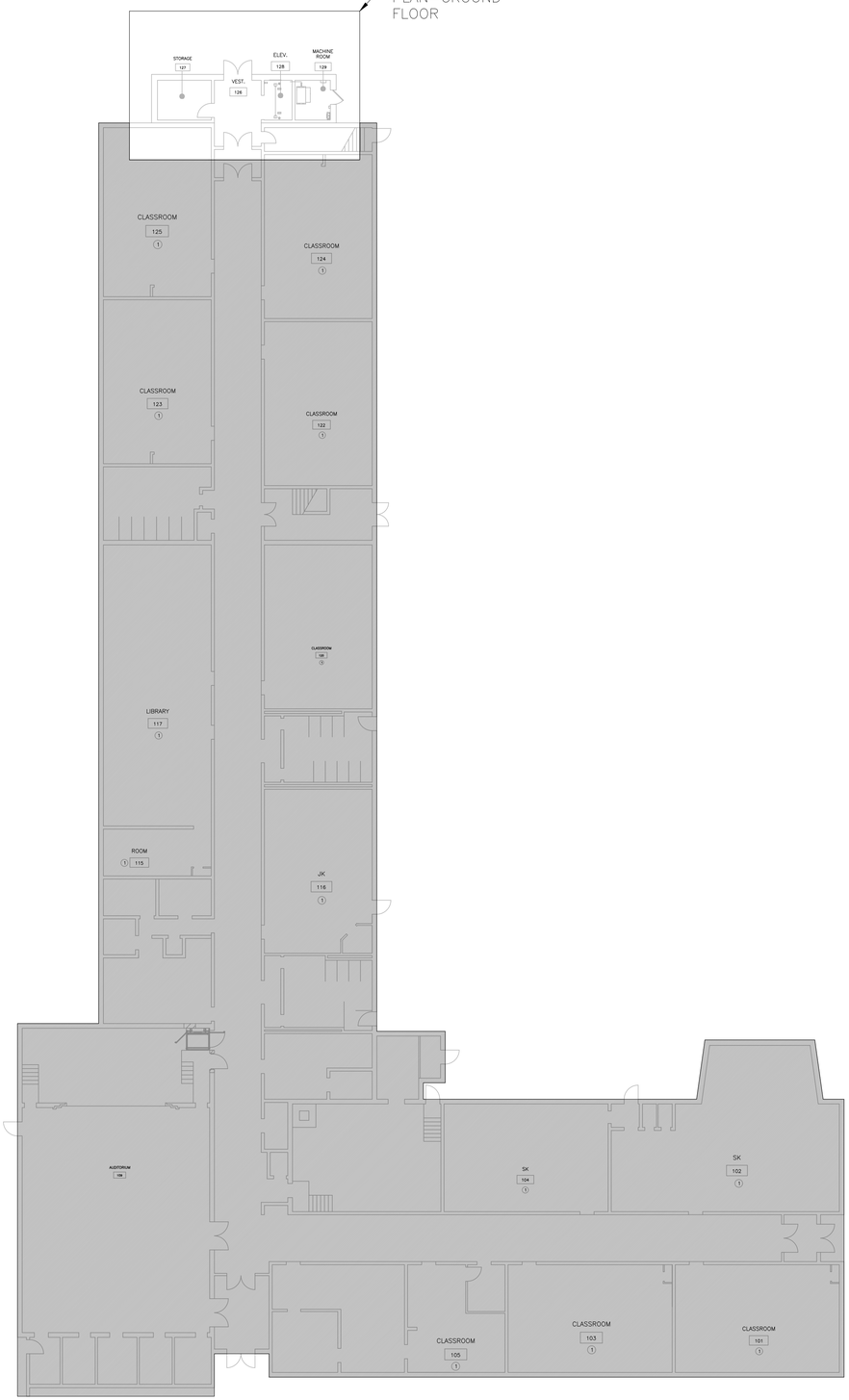
PROFESSIONAL SEAL :

DWG TITLE :
PLUMBING FIXTURE CONNECTION SCHEDULE

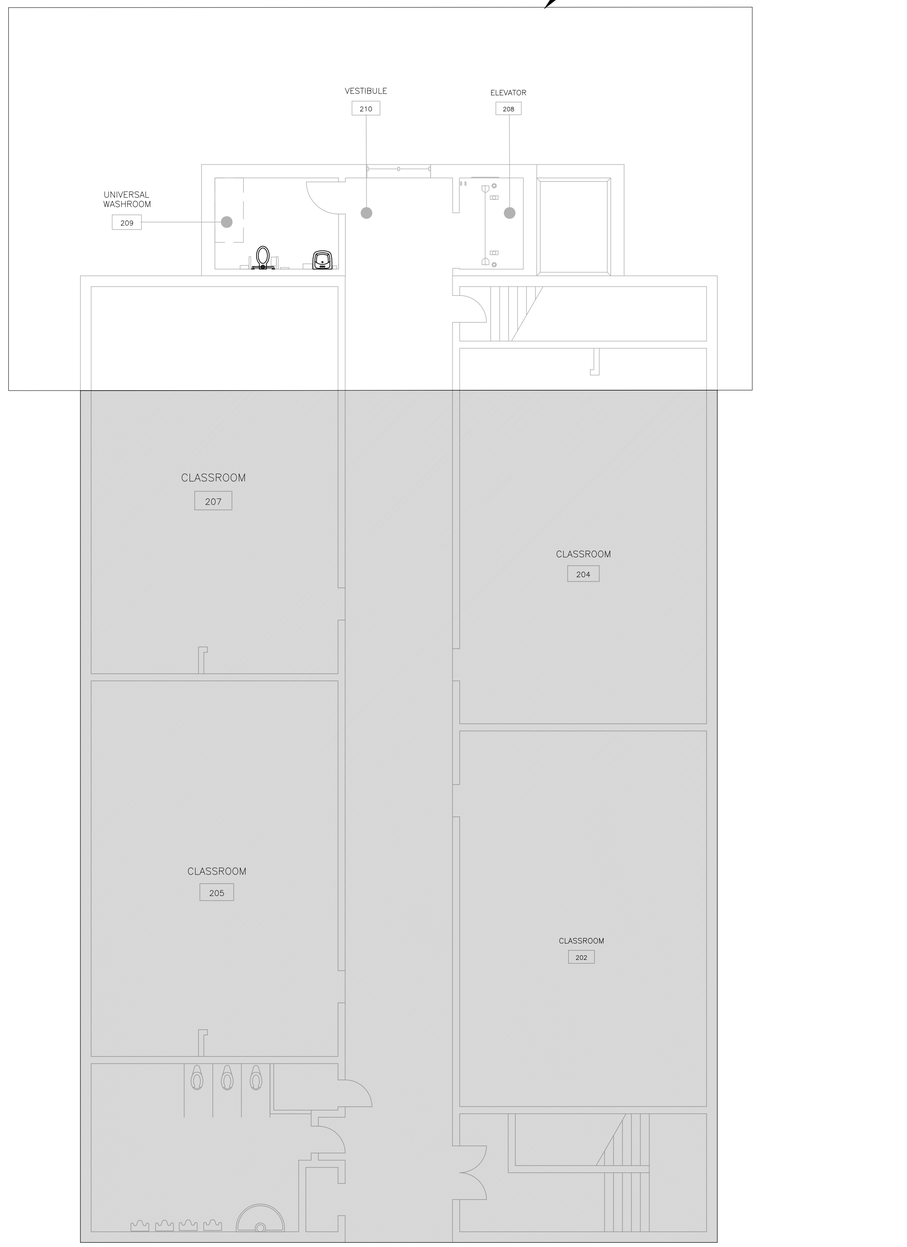
RCEI
REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
208 Wyecroft Road, Suite 200, Oakville, ON L6K 3S3
PHONE: (905)844-3913
www.regal-eng.com

DATE : December 2025
SCALE : NTS
DRAWN BY: TD
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : M1.1
REVISION

MECHANICAL KEY PLAN–GROUND FLOOR



MECHANICAL KEY PLAN–SECOND FLOOR



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PROJECT :

KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT

660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :

MECHANICAL KEY PLANS

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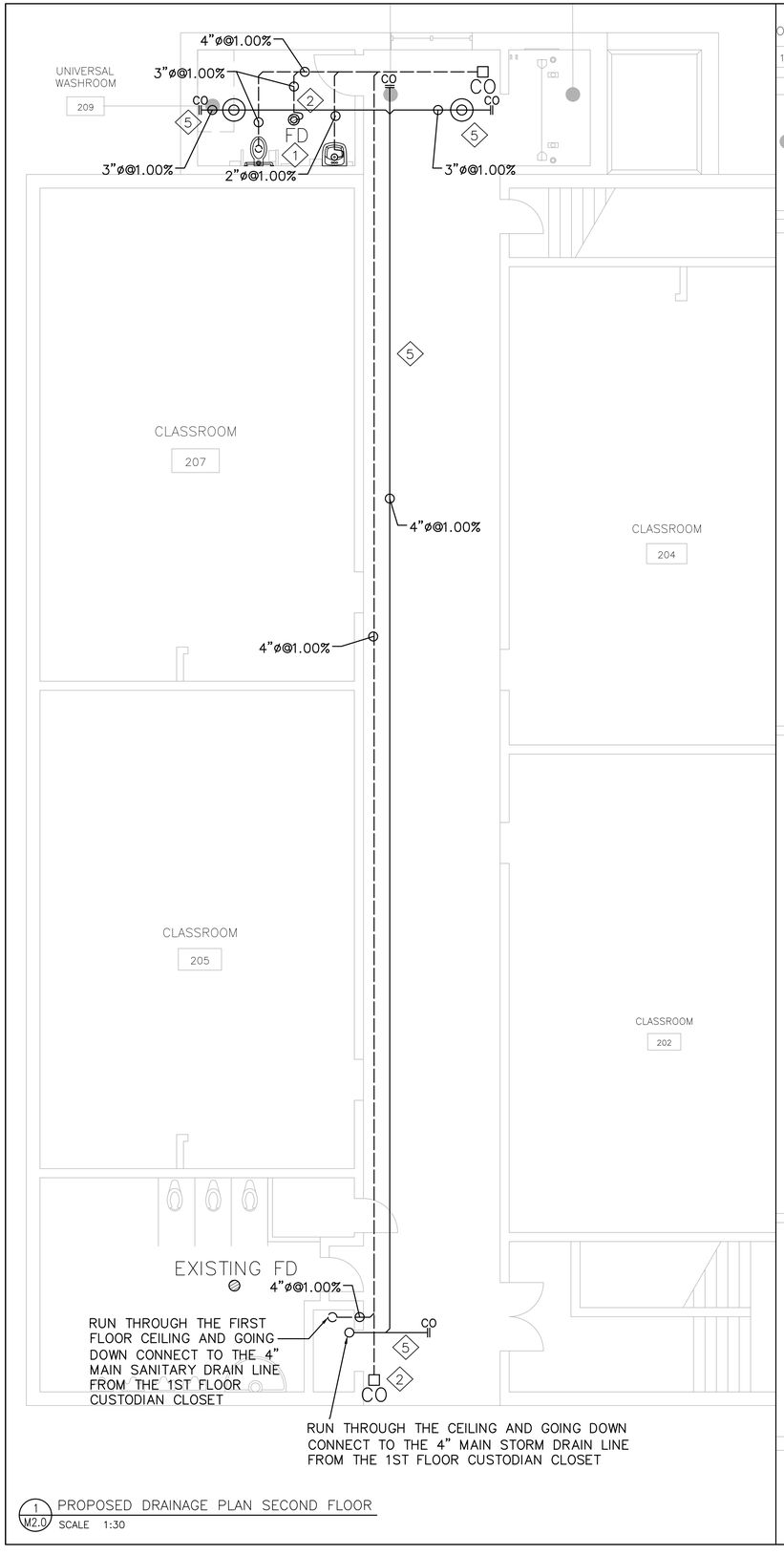
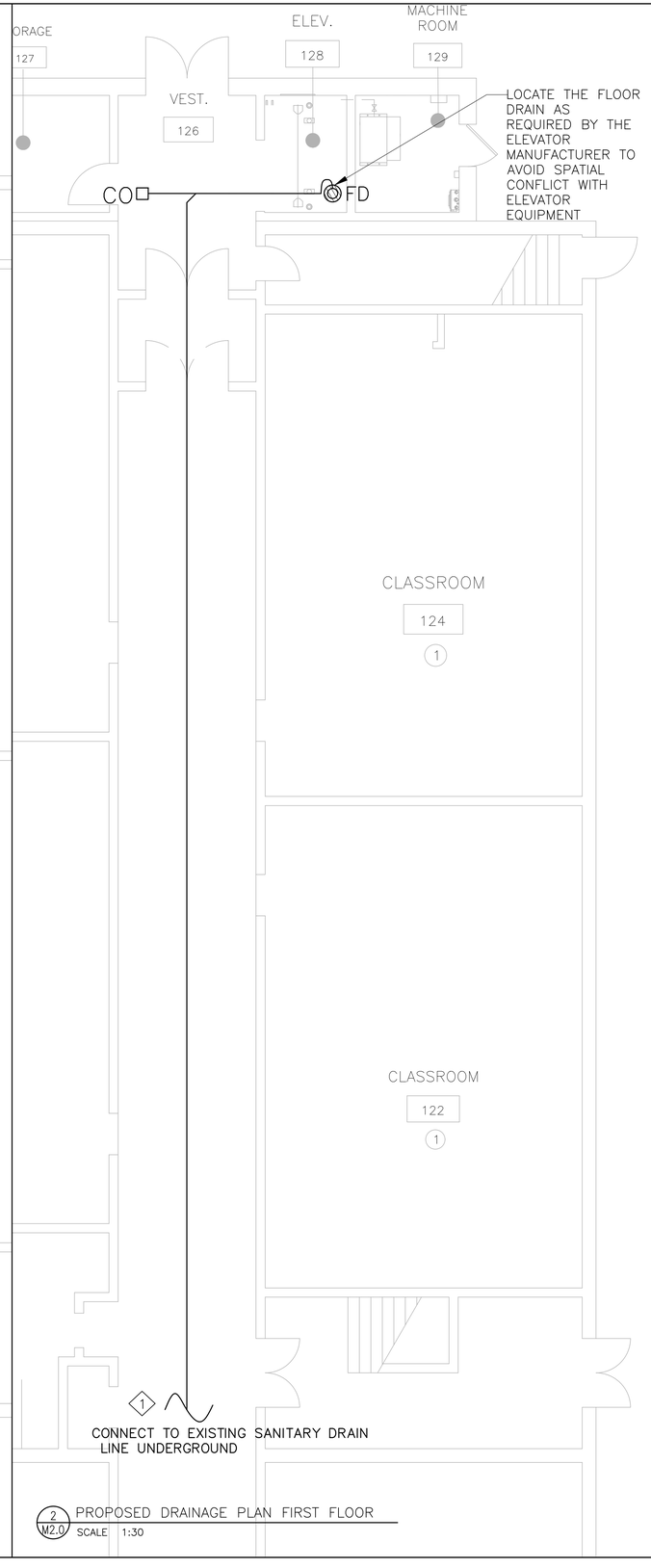
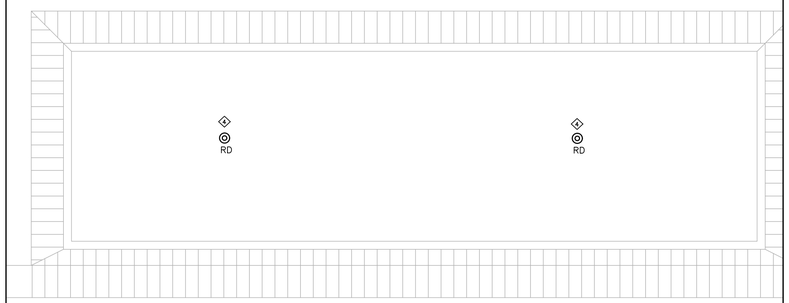
PROJECT No. :	2025-502
DRAWING No. :	M1.2
REVISION	



1 M2.0 PROPOSED DRAINAGE PLAN SECOND FLOOR
SCALE 1:30



2 M2.0 PROPOSED DRAINAGE PLAN FIRST FLOOR
SCALE 1:30

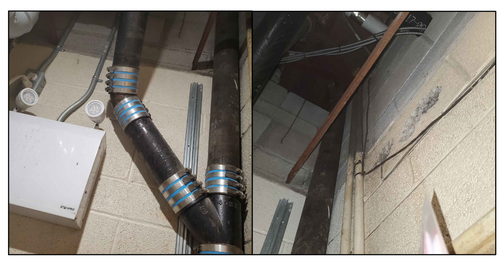


3 M2.0 PROPOSED ROOF DRAINS – SECOND FLOOR ROOF
SCALE 1:70

DRAWING NOTES

1	PROVIDE AND INSTALL NEW SANITARY DRAIN PIPES ALONG WITH P-TRAPS, CLEAN OUT AND ALL ASSOCIATED ACCESSORIES AND CONNECT TO THE NEW PLUMBING FIXTURES AS SHOWN. MECHANICAL TRADE TO SCAN THE FLOOR TO FIND THE EXACT LOCATION OF THE UNDERGROUND EXISTING SANITARY LINE. CONNECT THE NEW SANITARY LINE TO THE EXISTING. THE CONTRACTOR TO CUT AND REMOVE THE CONCRETE SLAB AS REQUIRED TO COMPLETE THE PLUMBING SCOPE.
2	ALL CLEANOUTS AND FLOOR DRAINS TO BE INSTALLED AT THE HEIGHT OF THE FINISHED FLOOR.(USE ADJUSTABLE HEIGHT DRAINS TO ACCOMMODATE DIFFERENT FINISHED FLOOR HEIGHTS)
3	CONTRACTOR TO PROVIDE 3"ø VENT PIPE RISER TO THE CEILING SPACE AND CONNECT TO THE EXISTING VENTING SYSTEM AS PER OBC AND LOCAL AHJ.
4	PROVIDE AND INSTALL RAIN WATER DRAING PIPE AS SHOWN.
5	RUN THE RAIN WATER PIPE AT HIGH LEVEL IN THE CEILING SPACE. COORDINATE WITH OTHER SERVICES IN THE CEILING SPACE.

4" MAIN SAITARY DRAIN LINE FROM THE 1ST FLOOR CUSTODIAN CLOSET



4" MAIN STORM DRAIN LINE FROM THE 1ST FLOOR CUSTODIAN CLOSET

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ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED DRAINAGE PLAN

REGAL CONSULTING ENGINEERS INC.
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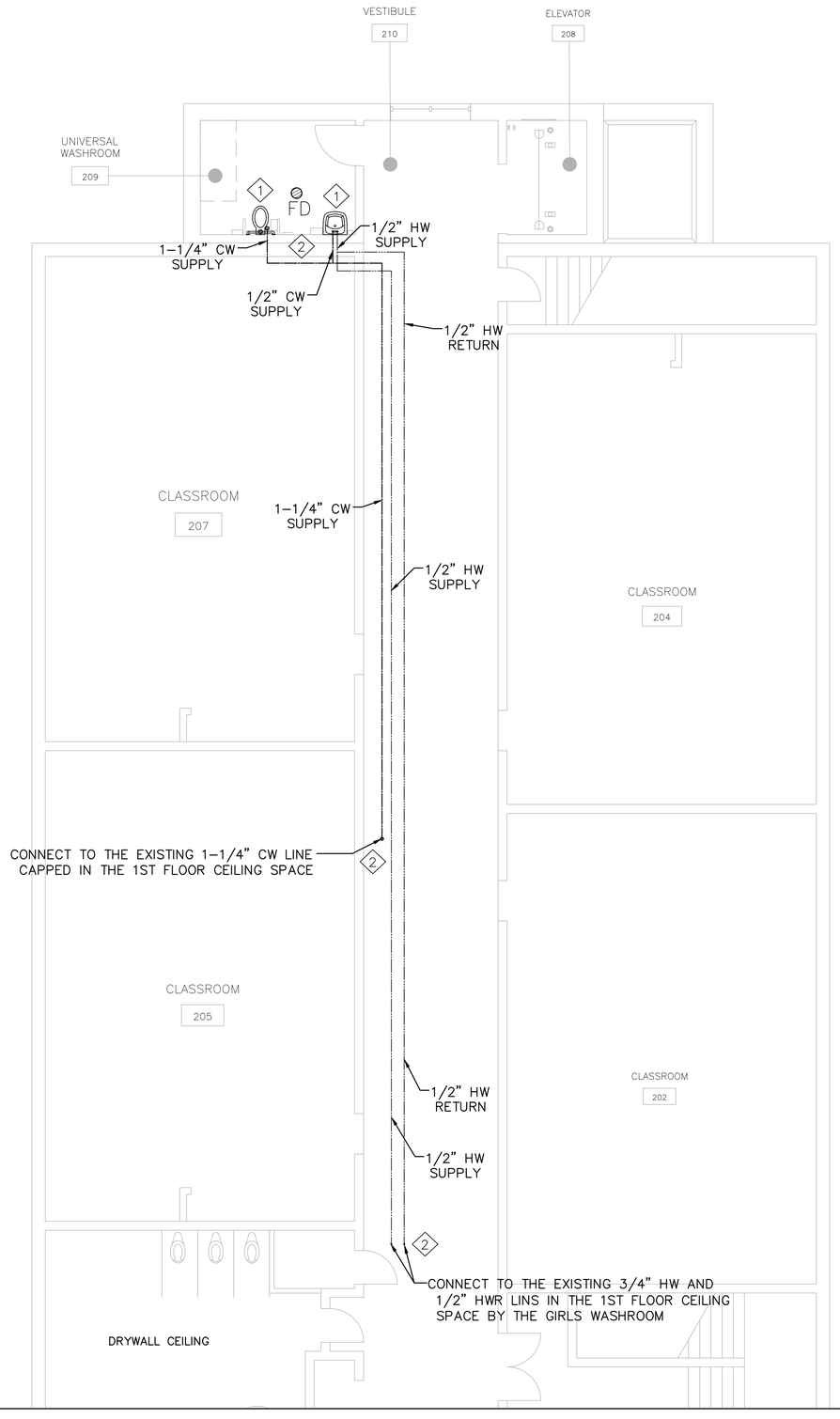

DRAWING NOTES

1	SUPPLY AND INSTALL NEW FIXTURE UNITS AT THE LOCATION SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION. PROVIDE HOT, COLD WATER AND HOT WATER RE-CIRCULATION CONNECTIONS.
2	PROVIDE AND INSTALL NEW DOMESTIC COLD WATER, HOT WATER AND HOT WATER RE-CIRCULATION PIPES FROM THE EXISTING WASHROOM, RUN THROUGH THE CEILING SPACE AND CONNECT TO THE NEW PLUMBING FIXTURES ALONG WITH FITTINGS, SUPPORT, VALVES, INSULATION ETC.
3	MECHANICAL CONTRACTOR TO VERIFY THE EXACT LOCATION OF THE EXISTING PIPES TO CONNECT.

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HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED PLUMBING PLAN

RCEI
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PHONE: (905)844-3913
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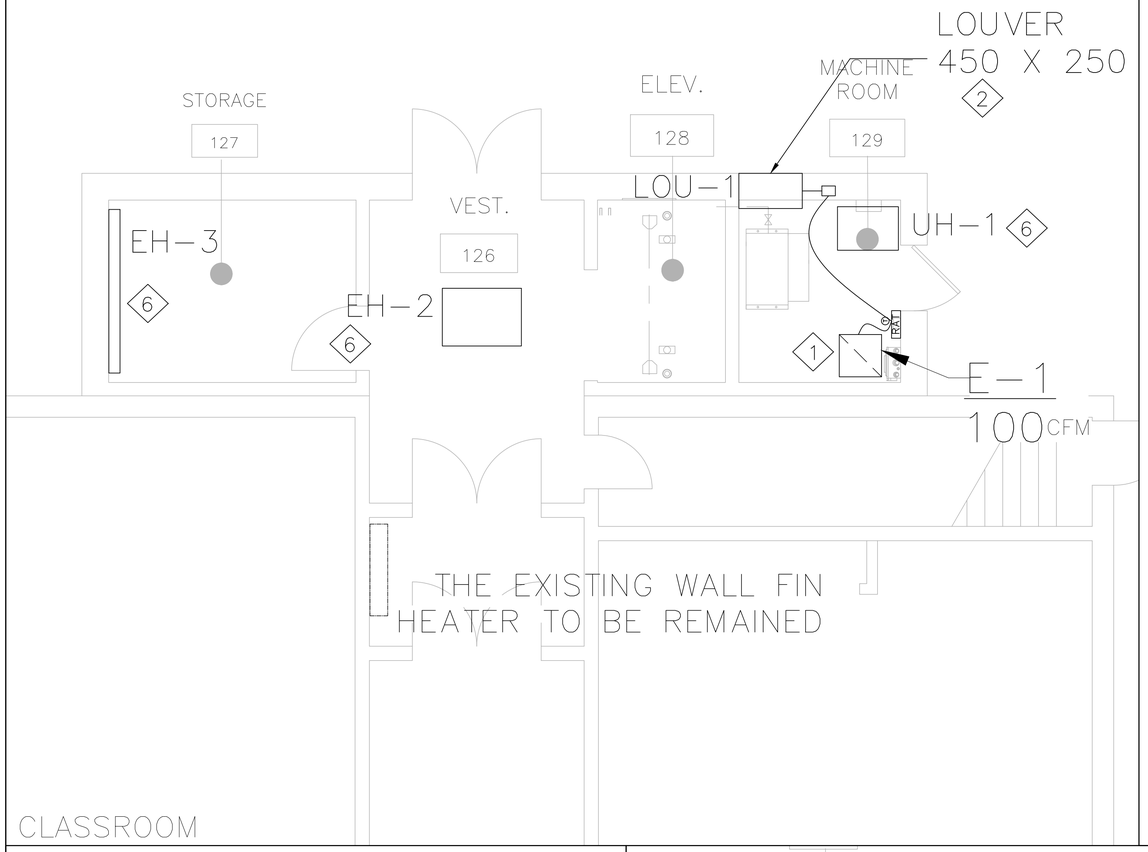
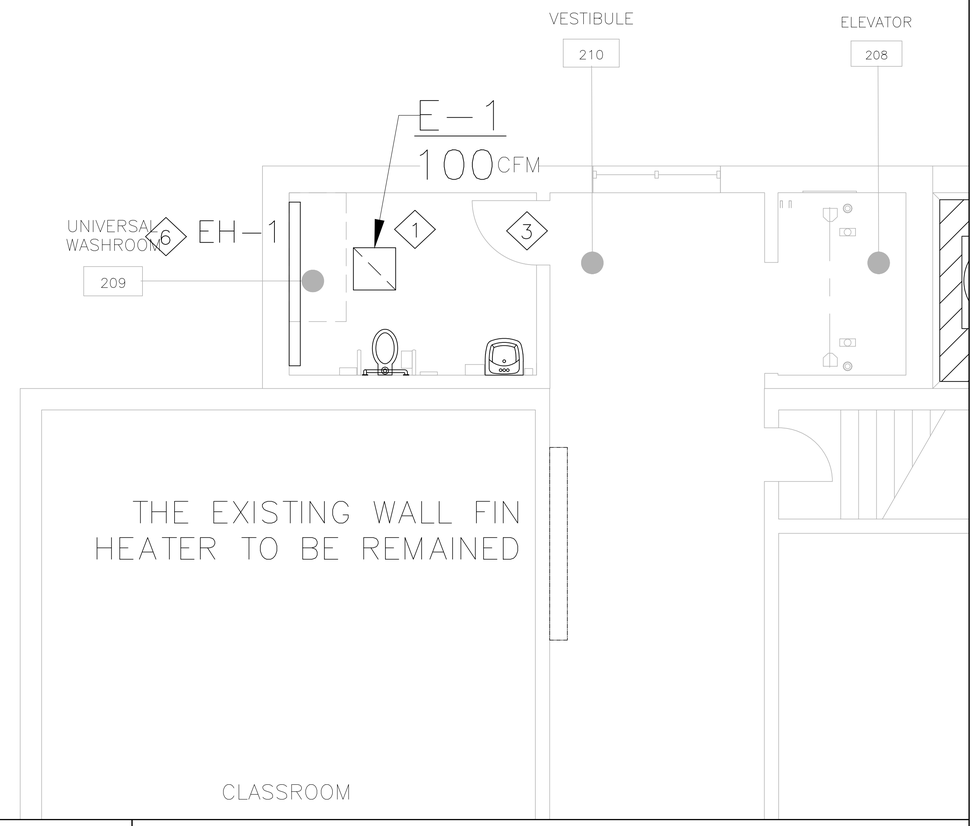
PROJECT No. :	2025-502
DRAWING No. :	M2.1
REVISION	

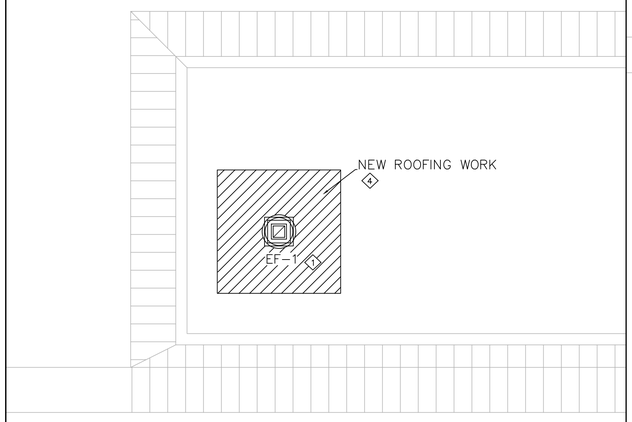
1 M3.0 PROPOSED HVAC PLAN – MACHINE ROOM
SCALE 1:20



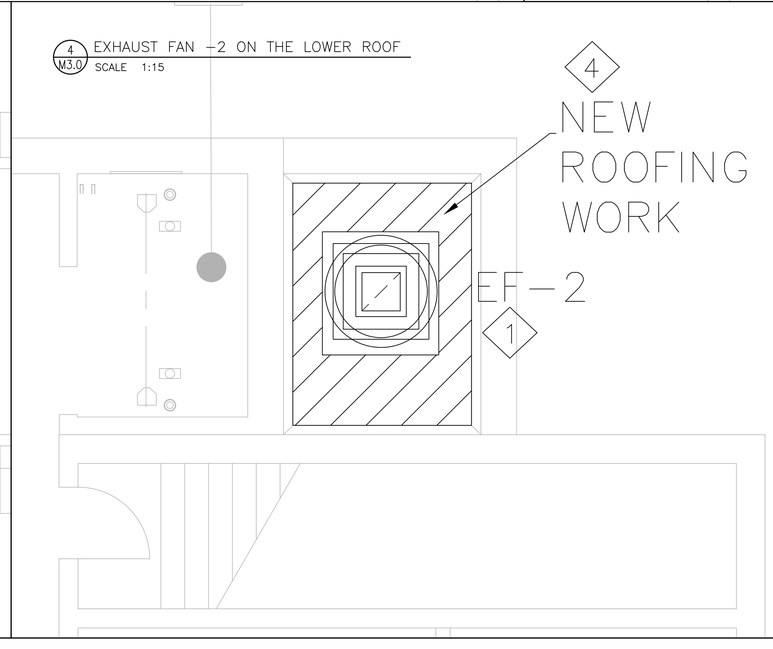
2 M3.0 PROPOSED HVAC PLAN – UNIVERSAL WASHROOM
SCALE 1:20



3 M3.0 EXHAUST FAN –1 ON ROOF
SCALE: 1:50



4 M3.0 EXHAUST FAN –2 ON THE LOWER ROOF
SCALE 1:15



DRAWING NOTES

1	PROVIDE AND INSTALL A DOWNBLAST EXHAUST FAN WITH A ROOF CURB AND A REVERSE ACTING THERMOSTAT.
2	PROVIDE AND INSTALL A DRAINABLE LOUVER WITH A BIRDSCREEN AND A MOTORIZED ACTUATOR CONNECTED TO THE RAT IN THE MECHANICAL ROOM AS SHOWN
3	ARCHITECT TO PROVIDE A DOOR WITH AN UNDERCUT.
4	NEW ROOFING WORK TO BE FINISHED 3FT AROUND THE PROPOSED EQUIPMENT.
5	ALL THE ROOFING WORK REQUIRED SHALL BE CARRIED OUT BY THE SCHOOL BOARD'S APPROVED ROOFING CONTRACTOR.
6	PROVIDE AND INSTALL ELECTRICAL BASEBOARD, CEILING FAN AND UNIT HEATERS AS SHOWN

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660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED HVAC PLAN

RCEI
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REVISION

GENERAL SPECIFICATION

DEFINITIONS

1. WHEREVER THE TERM "INSTALL" IS USED IT MEANS INSTALL AND CONNECT COMPLETE.
2. WHEREVER THE TERM "SUPPLY" IS USED IT MEANS SUPPLY ONLY.
3. WHERE THE TERM "PROVIDE" IS USED IN RELATION TO EQUIPMENT, ETC., IT MEANS "SUPPLY, INSTALL, CONNECT, AND COMMISSION.
4. WHEREVER THE TERM "REMOVE" IS USED IT MEANS DISCONNECT AND DISPOSE FROM THE BUILDING AND SITE.

ABBREVIATIONS

1. "N" NEW ITEM TO BE SUPPLIED AND INSTALLED.
2. "EX" EXISTING ITEM TO REMAIN.
3. "REL" RELOCATE EXISTING ITEM TO NEW LOCATION.
4. "REM" REMOVE EXITING ITEM.

ABBREVIATIONS

1. THE DRAWINGS AND SPECIFICATIONS WILL BE READ WITH ARCHITECTURAL DRAWINGS. THE OWNER'S BUILDING REQUIREMENTS, THE LEGEND, AND SPECIFICATIONS OF THE DRAWING. MAXIMUM CONDITIONS WILL GOVERN. REVIEW MECHANICAL DRAWINGS AND PROVIDE POWER TO ALL MECHANICAL DEVICES WITH MAY BE ABSENT FROM THE ELECTRICAL DRAWINGS.
2. ACCURATE DIMENSIONS FOR THE WORK MUST BE OBTAINED FROM ARCHITECTURAL OR ACTUAL MEASUREMENT ON THE SITE.
3. VISIT THE SITE PRIOR TO TENDER AND VERIFY ALL CONDITIONS AND DIMENSIONS, INCLUDING LOCATIONS OF EXISTING CAPPED SERVICES, AND ALL FOR ANY REROUTING OF EXISTING AND/OR NEW SERVICES AND EQUIPMENT IN TENDER PRICE. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY.
4. REPORT TO THE ENGINEER ALL AMBIGUITIES, DISCREPANCIES, OMISSIONS, ERRORS, DEPARTURES FROM BUILDING BYLAWS AND/OR FROM GOOD PRACTICE PRIOR TO TENDER CLOSING.
5. PROVIDE ALL WORK IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, AND THE REQUIREMENTS OF ALL GOVERNING AUTHORITIES, AND LOCAL BY-LAWS.
6. APPLY FOR, OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED PRIOR TO COMMENCEMENTS OF CONSTRUCTION. INCLUDE ALL PROVINCIAL AND FEDERAL SALES TAXES.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED SCHEDULE TO MEET THE PROJECT COMPLETION DATE AND ALL SPECIFIED INTERIM SCHEDULES.
8. COMPLY WITH THE GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULE.
9. MAKE GOOD ALL DAMAGES TO ADJACENT WORK, PROVIDE ALL CUTTING, PATCHING, FLASHING WORK AND CLEAN-UP OF FLOORS, WALLS, CEILINGS, ETC.
10. PROVIDE PROPER SHOP DRAWINGS OF ALL SPECIFIED PRODUCTS AND SUBMIT FOR APPROVAL TO THE ARCHITECT AND ENGINEER.
11. DURING PROGRESS OF WORK, SUBSTITUTE PRODUCTS WILL ONLY BE CONSIDERED WHEN TENDERED PRODUCTS BECOME UNOBTAINABLE AND WRITTEN PROOF IS SUBMITTED.
12. THE QUALITY AND PERFORMANCE CHARACTERISTICS OF SUBSTITUTE PRODUCTS SHALL BE EQUAL TO THE SPECIFIED PRODUCTS. IMPLEMENTATION OF SUBSTITUTE PRODUCTS IS SUBJECT TO THE REVIEW OF PROPERLY SUBMITTED SHOP DRAWINGS TO THE ARCHITECT AND ENGINEER.
13. ASSUME RESPONSIBILITY AND PAY FOR ANY ADDITIONAL INSTALLATION COSTS INCURRED BY ALL DIVISIONS RESULTING FROM THE ALTERNATES AND/OR SUBSTITUTIONS. MAKE REVISIONS TO RECORD DRAWINGS INCORPORATING ALL ALTERNATES AND/OR SUBSTITUTIONS AND ALL RELATED CHANGES.
14. PROVIDE THE OWNER WITH A WRITHEN WARRANTY, FOR ALL LABOUR, MATERIALS, AND EQUIPMENT IN THIS CONTRACT, FOR A PERIOD OF ONE YEAR COMMENCING AT SUCH TIME AS THE OWNER, OR HIS REPRESENTATIVE, DEEMS THE WORK ACCEPTABLE.
15. OBTAIN AND PAY FOR ONE (1) SET OF TRANSPARENCIES AND ONE (1) SET OF WHITE PRINTS. MARK PRINTS TO ACCURATELY INDICATE INSTALLED WORK AND TRANSFER ALL INFORMATION ONTO THE SET OF TRANSPARENCIES. UPON COMPLETION OF THE WORK SUBMIT THE COMPLETED RECORD DRAWINGS AND TRANSPARENCIES TO THE ENGINEER AND THE OWNER.
16. ASSEMBLE THREE (3) MANUALS, EACH CONTAINING DATA SHEETS, BROCHURES, OPERATING, MAINTENANCE, RECOMMENDED SPARE PARTS, AND LUBRICATING INSTRUCTIONS AND A COMPLETE SET OF REVIEWED SHOP DRAWINGS AND BIND IN HARD SECTIONS AND VOLUMES. PRESENT ONE (1) COPY FOR REVIEW BY CONSULTANT. MAKE ALL CORRECTIONS REQUESTED BY THE CONSULTANT AND RESUBMIT FOR REVIEW.
17. INCLUDE COST OF PREMIUM THE IN TENDER PRICE FOR WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE NORMAL WORKING HOURS NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATIONS, AND TO COMPLETE THE WORK SUBMISSION FOR EXTRA OR DELETED WORK.
18. PROVIDE A COMPLETE COST BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR COSTS ASSOCIATED WITH EACH SUBMISSION FOR EXTRA OR DELETED WORK.
19. CONFER WITH ALL TRADES INSTALLING EQUIPMENT WHICH MAY AFFECT THE MECHANICAL WORK AND ARRANGE THE WORK IN PROPER RELATION WITH EQUIPMENT INSTALLED UNDER ALL DIVISIONS OF THE CONTRACT.
20. INSTALL ALL PIPING IN THE BEST WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADES.
21. PROVIDE SLEEVES FOR ALL NEW PIPING THROUGH EXISTING SLAB, BEAMS, SLAB TO SLAB WALL ETC. WHERE INDICATED AND/OR REQUIRED. OBTAIN BASE BUILDING STRUCTURAL ENGINEER'S APPROVAL PRIOR TO COMMENCEMENT OF WORK.
22. IDENTIFY EACH PIPED AND DUCTED SERVICE COMPLETE WITH DIRECTIONAL FLOW ARROWS. LOCATE IDENTIFICATION AND FLOW ARROWS NOT MORE THAN 12M (40') APART IN STRAIGHT RUNS OF PIES AND DUCTS. USE WORDING INDICATED ON THE MECHANICAL LEGEND. USE 50MM(2") HIGH STENCIL LETTERS.
23. ALL WALL AND FLOOR OPENINGS SHALL BE PACKED AND SEALED WITH AN APPROVED FIRE RESISTANT INSULATION TO 25MM (1") FROM END SIDE OF OPENING ON BOTH SIDES OF FLOOR OR WALL. REMAINING PORTION SHALL BE SEALED WITH AN APPROVED FIRE STOP SUBSTANCE EQUAL TO 'DOW CORNING' #3-6548 SILICON RTV FOAM PENETRATION SEALANT.
24. IN ALL AREAS REQUIRING CORE DRILLING THROUGH EXISTING FLOOR SLAB FOR MECHANICAL SERVICES, ETC. ALLOW FOR ALL NECESSARY RADIOGRAPHY TO LOCATE HIDDEN ELECTRICAL SERVICES, STRUCTURAL REINFORCING, ETC., AND INCLUDE ALL COSTS IN TENDER PRICE. CO-ORDINATE THIS WORK WITH OWNER COOORDINATOR FOR TIME DURATION AND LOCATION REQUIRED AND ADHERE TO THE OWNER'S REQUIREMENTS. SUBMIT CORE DRILLING PLAN TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
25. CHECK AND VERIFY LOCATION OF EXISTING MECHANICAL AND ELECTRICAL INTERFERENCES IN CEILING SPACE OF FLOOR BELOW AND/OR BELOW FLOOR SLAB IN ALL AREAS REQUIRING CORE DRILLING AND/OR CUTTING OF FLOOR SLAB ON GRADE AND ENSURE COMPATIBILITY OF AREA BELOW TO THE SATISFACTION OF THE OWNER.
26. ALL SHUTDOWNS OF ANY PORTION OF THE EXISTING BASE BUILDING SYSTEMS SHALL BE PERFORMED BY THE OWNER'S BUILDING OPERATIONS STAFF AND/OR COORDINATED WITH THE OWNER FOR TIME AND DURATION OF INTERRUPTIONS AND ADHERE TO THE OWNER'S INSTRUCTIONS IN THE REGARD. COST FOR SHUTDOWNS, DRAINING AD REFILLING OF BASE BUILDING SYSTEMS SHALL BE INCLUDED IN THE TENDER PRICE.
27. PROVIDE ALL ACCESS DOORS WHERE SHOWN AND/OR REQUIRED BY SITE CONDITIONS. IN CEILINGS OR WALLS. ACCESS DOORS SHALL BE EQUAL TO MILCOR OR LEHAAGE AND MUST BE COMPATIBLE WITH CEILING/WALL TYPE AND FINISH INSTALLATION TO COMPLY WITH THE ARCHITECT'S APPROVAL. ACCESS DOORS IN RATED CEILINGS OR WALLS SHALL BE ULC APPROVED FOR THE APPLICATION.
28. RE-USE EXITING MATERIALS AND EQUIPMENT WHEREVER POSSIBLE AND PROVIDE NEW ONLY WHERE REQUIRED AND AS SPECIFIED TO ENSURE A COMPLETE INSTALLATION. ALL EQUIPMENT, MATERIALS AND ASSOCIATED CONTROLS NOT USED IN THIS CONTACT SHALL BE RETURNED TO OWNER.
29. CHECK AND VERIFY ON SITE FOR ROUTING OF NEW DUCT WORK, PIPING AND LOCATION OF NEW EQUIPMENT AND INCLUDE IN TENDER PRICE FOR ANY RELOCATIONS OF EXITING SERVICES OR ADJUSTMENTS OF NEW SERVICES OF EQUIPMENT AS REQUIRED TO SUIT SITE CONDITIONS. PROVIDE OFFSETS IN PIPING AND CUT WORK AS REQUIRED TO AVOID INTERFERENCES.
30. SEAL AIRTIGHT ALL AROUND DUCT WORK AND PIPING PENETRATIONS THROUGH PARTITIONS ABOVE CEILING WITH APPROVED SEALANT FOR FIRE RATED ASSEMBLIES.
31. ALL DEFICIENCIES MUST BE COMPLETE WITH 4 WEEKS UPON NOTICE ISSUED BY THE ENGINEER. THE ENGINEER MAY HAVE THE DEFICIENCIES COMPLETED BY OTHERS AT THE CONTRACTOR'S EXPENSE, IF THE DEFICIENCIES ARE NOT CORRECTED.
32. ALL ELECTRIC BASEBOARD AND FORCED FLOW HEATER SHALL BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL ELECTRIC DUCT HEATERS ARE SUPPLIED AND INSTALLED BY THE MECHANICAL CONTRACTOR BUT WIRED BY ELECTRICAL.

MECHANICAL SPECIFICATION

PLUMBING

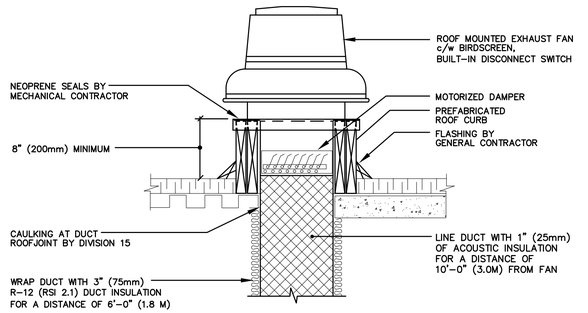
1. PLUMBING SERVICES ARE TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH:
   THE ONTARIO BUILDING CODE (2006)
   THE WATER RESOURCES ACT (REG. 815)
   ASHRAE/IES 90.1 (2004)
   FEDERAL, PROVINCIAL OR LOCAL AUTHORITIES HAVING JURISDICTION.
2. HOT AND COLD PORTABLE WATER PIPING TO BE TYPE-L COPPER (CONFORM TO ASTM-B88) WITH SOLDER-JOINT FITTINGS (CONFORM TO ANSI-B16.18 OR ANSI-B16.22).
3. BURIED DRAINAGE PIPING INSIDE THE BUILDING TO BE ABS PLASTIC (CERTIFIED TO CAN/CSA-B181.1) WITH SOLVENT CEMENT JOINT (CONFORM TO CAN/CSA-181.1).
4. ALL ABOVE GRADE SANITARY DRAINS AND VENT STACKS TO BE CAST IRON, NO HUB, WITH MJ JOINTS (CERTIFIED TO CSA-B70). BRANCH VENTS AND ABOVE GRADE SANITARY DRAINS MAY BE COPPER DRAINAGE TUBE (DWV) (COMPLY WITH ASTM-B306) WITH SOLDER JOINT FITTINGS (CONFORM TO ANSI-B16.29).
5. STANDARD FLOW ROOF DRAINS TO BE SMITH SERIES 1010ERCCID ROOF DRAIN, ALL DUCO COATED 15" (380MM) DIA. CAST IRON BODY, WITH UNDER DECK CLAMP, ADJUSTABLE EXTENSION AND SUMP RECEIVER, 11" (280MM) SECURED C.I. DOME. ON SMALL AREA ROOFS PROVIDE SERIES 1330ERCCID DRAIN, WITH 8 1/2" (212MM) ALUMINUM DOME. IN PATIO AND TRAFFIC AREAS PROVIDE SERIES 1470ERCNB DRAIN, WITH ADJUSTABLE SLOTTED EXTENSIONS AND 8" X 8" (200MM X 200MM) NICKEL BRONZE SQUARE PROMENADE TOP. INVERTED ROOF INSTALLATION USE SERIES 1017EPRCCID DRAINS.
6. FLOW CONTROL ROOF DRAINS SMITH SERIES 1083ERCCID FLOW CONTROL ROOF DRAIN SLOPED ROOF ALL DUCO COATED CST IRON BODY, WITH ECK CLAMP, ADJUSTABLE DETENTION AND SUM RECEIVER, 11" (280MM) SECURED C.I. DOME AND 6" HIGH (150MM) FLOW RATE CONTROL WEIR. INVERTED ROOF INSTALLATION US SERIES 1017-85-ERPCCID DRAINS.
7. PARAPET, SCUPPER DRAINS, GUTTER, AND PIT DRAINS TO BE SMITH SERIES 1510/30SO SCUPPER DRAIN, ALL DUCO COATED CAST IRON BODY, WITH SECURED ANGLED GRATE, FLASHING CLAMP AND 45 DEGREE OR 90 DEGREE OUTLETS. FOR GUTTER INSTALLATION USE SMITH SERIES 1630, WITH 4 1/2 (114MM) HIGH DOME.
8. FLOOR DRAINS IN FINISHED AREAS TO BE SMITH SERIES 2005A FLOOR DRAIN, ALL DUCO COATED CAST IRON BODY, REVERSIBLE CLAMP DEVICE AND ADJUSTABLE 5' DIAMETER (127MM) NICKEL BRONZE 1/4" (6.35MM) THICK STRAINER, SECURED WITH IS.S. SCREWS, 4" (100MM) THROAT ON STRAINER. IN QUARRY OR MOSAIC TILED AREAS, PROVIDE SQUARE 'B' - 5"X5" (127MM X 127MM) POLISHED BRONZE (PB) SQUARE STRAINER. FLOOR DRAIN WITH FUNNEL PROVIDE 2005A-3580NB.
9. FLOOR DRAINS IN MECHANICAL ROOMS AND UNFINISHED AREAS TO BE SMITH SERIES 2320 FLOOR DRAIN, ALL DUCO COATED CAST IRON BODY, SEEPAGE FLANGE, ADJUSTABLE COLLAR, CALMING DEVICE AND 8" (200MM) DIAMETER GRATE. FLOATING FLOORS PROVIDE 9340, WITH MOMENT COMPENSATOR AND VIBRATION ISOLATOR.
10. FLOOR DRAINS WITH COMBINATION FUNNEL TO BE SMITH SERIES 2320-3591FUNNEL FLOOR DRAIN, ALL DUCO COATED CAST IRON BODY, SEEPAGE FLANGE, ADJUSTABLE COLLAR, CLAMPING DEVICE AND 8-1.2" (216MM) WITH 4" X 9" (101.6MM X 228.6MM) OVAL FUNNEL. FLOATING FLOOR PROVIDE 9340*-3591, WITH MOVEMENT COMPENSATOR AND VIBRATION ISOLATOR.
11. EXTERIOR NON-FREEZE WALL HYDRANT TO BE SMITH SERIES 5609QTNB HYDRANT, 1/4 TURN NON-DRIOP, CERAMIC CARTRIDGE, 3/4" (19MM) NON-FREEZE WALL TYPE WITH BRONZE FACE, ADJUSTABLE WALL-OFLANGE OPERATION KEY AND SERF-DRAINING INTEGRAL VACUUM BREAKER. LENGTH TO SUIT WALL THICKNESS.
12. INTERIOR HOSE BIBB TO BE CAMBRIDGE BRASS #32W201 HOSE BIBB, 1/2" (12.7MM) SIZE, WALL TYPE ROUGH BRONZE WITH HOSE END VACUUM BREAKER.
13. LINE CLEANOUTS TO BE SMITH SERIES #4420 LINE CLEANOUTS, IN CAST IRON PIPE WITH BOLTED NEOPRENE CASKETED COVER SECURED TO BODY WITH BRASS BOLTS, WITH FULL SIZE PIPE OPENING.
14. STACK CLEANOUT TO BE SMITH SERIES #4510 STACK CLEANOUT, IN BASE OF CAST IRON STACK WITH NEOPRENE CASKETED SECURED COVER. WHERE CLEANOUTS ARE CONCEALED BEHIND FINISHED WALLS ACCESS SHALL BE MADE BY SMITH 4530 ROUND STAINLESS STEEL PLATE AND SLOTTED FLAT HEAD STAINLESS STEEL SCREWS.
15. URINAL CLEANOUT TO BE SMITH SERIES SQ4-1819 URINAL WALL ACCESS CLEANOUT , WITH S.S BOLT AND WING NUT, COMPLETE WITH ROUND POLISHED S.S. ACCESS COVER AND SECURED WITH V.P. SCREW.
16. FLOOR CLEANOUTS IN UNFINISHED AREAS AND OUTSIDE AREAS, SMITH SERIES 4220 FLOOR CLEANOUT, DUCO COATED CAST IRON BODY WITH INTEGRAL CLAMP DEVICE, AND REMOVABLE POSITIVE SEAL CLOSURE PLUG AND HEAVY DUTY 6" (150MM) ADJUSTABLE COVER SECURED WITH STAINLESS STEEL SCREWS.
17. FLOOR CLEANOUTS IN TILED AREAS, SMITH SERIES 4140 FLOOR CLEANOUT, SAME AS ABOVE WITH SQUARE NICKEL BRONZE COVER AND FRAME RECESSED FOR TILE. COVER CAN BE ADJUSTED TO SUIT FLOOR LINES WHEN INSTALLING FINISHED FLOOR.
18. FLOOR CLEANOUTS IN TERRAZZO AREAS, SMITH SERIES 4180 FLOOR CLEANOUT, SAME AS ABOVE WITH SQUARE NICKEL BRONZE COVER AND FRAME RECESS FOR TERRAZZO. COVER CAN BE ADJUSTED TO SUIT FLOOR LINES WHEN INSTALLING FINISHED FLOOR.
19. FLOOR CLEANOUTS IN CARPETED AREAS, SMITH SERIES 4020Y FLOOR CLEANOUT, SAME AS ABOVE WITH NICKEL BRONZE COVER AND FRAME.
20. FLOOR CLEANOUTS IN OTHER FINISHED AREAS, SMITH SERIES 4020 FLOOR CLEANOUT, SAME AS ABOVE WITH NICKEL BRONZE FRAME AND COVER.
21. FLOOR CLEANOUTS FOR HEAVY TRAFFIC AREAS, SMITH SERIES 4100 FLOOR CLEANOUT, SAME AS ABOVE WITH EXTRA HEAVY NICKEL BRONZE COVER AND FRAME.
22. TRAP SEAL PRIMER SERVING 1 OR 2 DRAINS TO BE P.P.P. INC. MODEL PO-500 AUTOMATIC TRAP SEAL PRIMER VALVE, SEARING INDIVIDUAL OR REMOTE AREA DRAINS WITH ½" NPT (MTOF) CONNECTIONS WITH STRAINER AND INTEGRAL BACK FLOW PREVENTER & VACUUM BREAKER.
23. PROVIDE ISOLATION VALVES ON ALL MAIN LINES, BRANCH LINES AND AT PIECES OF EQUIPMENT. ALL VALVES SHALL BE JENKINS, CRANE OR EQUAL WITH A MINIMUM RATING OF 125% OF THE SYSTEM DESIGN PRESSURE.
24. ALL ABOVE GRADE PIPING IS TO BE INSULATED WITH FIBREGLASS INSULATION TO PREVENT CONDENSATION OR TO RETAIN HEAT FOR ENERGY EFFICIENCY. INSULATION SYSTEM TO BE SCHULLER MICRO-LOK OR EQUAL, WITH SIZES AS SHOWN BELOW.

SERVICE & PIPE SIZE	INSULATION REQUIRED
RAINWATER LEADERS (ANY SIZE)	1"
SANITARY DRAINS (ANY SIZE)	1"
DOMESTIC COLD WATER (ANY SIZE)	1"
DOMESTIC HOT WATER (2" & SMALLER)	1"
DOMESTIC HOT WATER (2½" & LARGER)	1½"
DOMESTIC HOT WATER RECIRC.(ANY SIZE)	1"
DOMESTIC WATER (HOT OR COLD) BRANCHES	½"

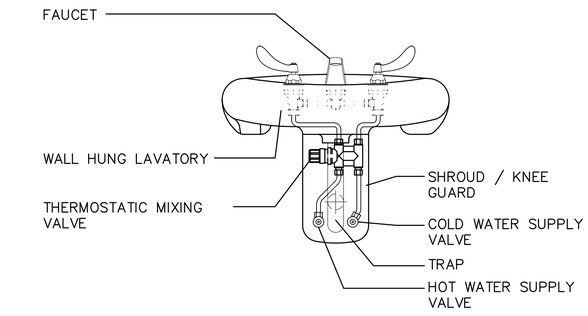
25. IDENTIFY ALL PIPE OR PIPE COVERING WITH SMILLIE MCADAMS SUMMERLIN LTD.COIL-MARK OR ADHESIVE STYLE BUILDING SERVICE PIE MARKER. ALL IDENTIFICATION SHALL INCORPORATE DIRECTION OF FLOW ARROW AND THE MANUFACTURES STANDARD SYSTEM DESIGNATION. IDENTIFICATION MUST BE APPLIED AT INTERVALS NOT GREATER THAN 40 FT. (12M). ADJACENT TO VALVES, BEHIND ACCESS DOORS, AT CHANGES IN DIRECTION AND WHERE PIPES PASS THROUGH WALLS OR FLOORS, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
26. IDENTIFY AL VALVES BY MEANS OF A 1-1/4" (32MM) DIAMETER BRASS TAG WITH 3/8" (9.5 MM) STAMPED BLACK PAINT FILLED CHARACTERS, OR A 1-1/4" (32MM) SQUARE ENGRAVED TWO-PLY PLASTIC TAG WITH 3/8" (9.5MM) BLACK CHARACTERS ON WHITE BACKGROUND, TAGS TO BE CONSECUTIVELY NUMBERED AND SECURED TO VALVES BY A BRASS BEAD CHAIN. PROVIDE AND MOUNT FOR OWNER A TYPED VALVE DIRECTORY IN A BLACK DOCUMENT FRAME, LISTING VALVE NUMBER, LOCATION, AND SERVICE. INDIVIDUAL FIXTURE VALVES NEED NOT BE IDENTIFIED.
27. IDENTIFY ALL EQUIPMENT SUCH AS, BUT NOT LIMITED TO FANS, PUMPS, MOTORS AHU'S AND THEIR RELATED STARTERS BY MEANS OF ON ENGRAVED TWO-PLY PLASTIC I.D. PLATE. EQUIPMENT I.D. PLATES SHALL HAVE 3/8" (9.5 MM) WHITE CHARACTERS ON BLACK BACKGROUND: STARTER I.D. PLATES SHALL BE AS ABOVE WITH 1/8"(3.1MM)CHARACTERS. ALL PLATES SHALL BE SIZED TO ACCOMMODATE REQUIRED DESCRIPTION BEARING TYPE OF EQUIPMENT, NUMBER AND SERVICE. LOCATE CONSPICUOUSLY AND SECURE WITH SELF ADHESIVE TAPE. RECOGNIZED ABBREVIATIONS WILL BE ACCEPTABLE. OTHER PROPOSED ABBREVIATIONS TO BE APPROVED BY THE CONSULTANT.
28. PROVIDE ACCESS PANELS TO ALL CONCEALED VALVES OR EQUIPMENT. SIZE OF PANELS TO ALLOW FOR MAINTENANCE OR REMOVAL OF ITEM.
29. UNIVERSAL ACCESS DOORS FOR WALLS AND CEILINGS TO BE ACUDOR SERIES UF-5000 ACCESS DOORS, 14 GA. (17MM) STEEL, RUST RESISTANT, CONTINUOUS CONCEALED HINGE, WITH POSITIVE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOORS IN TILE WALLS SHALL BE STAINLESS STEEL AND SHALL SUIT TILE PATTERN. ALL OTHER PANELS SHALL BE PRIME PAINTED STEEL. MINIMUM SIZE OF PANELS SHALL BE 12" X 18" (300MM X450MM). WHEREVER POSSIBLE 24" X 24" (600MM X 600MM) PANELS SHALL BE USED.
30. RECESSED ACCESS DOOR FOR TILE APPLICATIONS TO BE ACUDOR SERIES AT-5020 RECESSED ACCESS DOOR FOR CEILING TILE, 16 GA. (1.5MM) STEEL WITH CONCEALED PIVOTING ROD TYPE HINGE AND ALLEN KEY OPERATED LOCK. DOOR TO BE RECESSED 5/8" (14MM) TO RECEIVE CEILING TILE. FOR CERAMIC WALL TILE PROVIDE #AT-5020SS STAINLESS STEEL RECESSED ACCESS DOOR WITH ALLEN KEY LOCK.
31. RECESSED ACCESS DOOR FOR DRYWALL APPLICATIONS TO BE ACUDOR SERIES DW-5015 RECESSED ACCESS DOOR, 16 GA. (1.5MM) STEEL WITH CONCEALED PIVOTING ROD TYPE HIGH AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOOR TO BE RECESSED 5/8"(14MM) TO RECEIVE DRYWALL. FLANGE OF DOOR TO BE GALVANIZED STEEL TAPING BEADING TO PROVIDE FINISH OF DRYWALL JOINTS.
32. FIRE RATED ACCESS DOORS TO BE INSULATED ACUDOR SERIES FW-5050 FIRE RATED ACCESS DOORS, FOR WALLS AND CEILING UL/ULC 1-1/2 HOUR 'B' LABEL WITH MAXIMUM TEMPERATURE RISE OF 250 DEGREES AFTER 30 MINUTES. DOOR WITH 2' (50MM) INSULATION, STEEL. 20 GA (1MM) WITH 16 GA. (1.6MM) FRAME, CONCEALED HINGE, SELF LATCHING RING PULL AND GREY BAKED ENAMEL FINISH.
33. PROVIDE PLUMBING FIXTURES AND EQUIPMENT AS SPECIFIED ON THE DRAWINGS. ALL ITEMS TO BE NEW AND OF THE HIGHEST QUALITY. ALL ITEMS INSTALLED BY THIS CONTRACTOR MUST BE INSTALLED COMPLETE AND INCLUDE ALL PIPING, VALVES AND MISCELLANEOUS FITTINGS, CONTROLS, SUPPORT BASE OR STRUCTURE, TO ENSURE A TOTALLY FUNCTIONAL UNIT OR SYSTEM. COORDINATE INSTALLATION WITH OTHER TRADES AS REQUIRED.
34. ALL PLUMBING INSTALLATIONS ARE TO BE IN THE BEST WORKMANLIKE MANOR AND IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE.
35. SUPPORT ALL PIPING AS FOLLOWS:

PIPE SIZE	DISTANCE BETWEEN SUPPORTS
1" & SMALLER (METALLIC)	6'-0" MAXIMUM
1¼" & SMALLER (METALLIC)	8'-0" MAXIMUM
½" & SMALLER (PLASTIC)	3'-0" MAXIMUM
1¼" & SMALLER (PLASTIC)	4'-0" MAXIMUM

36. PROVIDE SLEEVES FOR ALL PIPING PENETRATING WALLS AND FLOORS. ENSURE ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES ARE PROPERLY SEALED WITH AN APPROVED COMPOUND.
37. ALL TRENCHING, BEDDING, AND BACKFILL OF BURIED PIPING IS THE RESPONSIBILITY OF THE CONTRACTOR.



DETAIL OF ROOF MOUNTED EXHAUST FAN



DETAILS OF UNDER LAVATORY THERMOSTATIC MIXING VALVE

ISSUE OR REVISION

No.	Description	Date
1	ISSUED FOR 50% CD	Feb 11, 2026
2	ISSUED FOR 95% CD	March 11, 2026
3	ISSUED FOR 95% CD - M	March 19, 2026
4	ISSUED FOR COMMENTS	April 24, 2026
5	ISSUED FOR TENDER	June 4, 2026
6		
7		
8		

PROJECT : KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE : MECHANICAL SPECIFICATIONS AND DETAILS

REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
208 Wyecroft Road, Suite 200, Oakville, ON L6K 3S3
PHONE: (905)844-3913
www.regal-eng.com

DATE : December 2025
SCALE : NTS
DRAWN BY: TD
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : M3.0
REVISION

LEGEND

▬	ELECTRICAL PANEL
	NON–FUSED DISCONNECT SWITCH
	MOTOR CONNECTION (SINGLE OR THREE PHASE)
MSB	MAIN SWITCH BOARD
	15A, 120V DUPLEX T–SLOT GROUND FAULT INTERRUPTER RECEPTACLE.
	DOOR OPERATOR
PL	OUTLET FOR PUSH TO LOCK
PUL	OUTLET FOR PUSH TO UNLOCK
SL	STROBE LIGHT FOR EMERGENCY RESPONSE SYSTEM
PU	PATIENT UNIT FOR EMERGENCY RESPONSE SYSTEM
OL	OCCUPIED LIGHT FOR EMERGENCY RESPONSE SYSTEM
ERS	EMERGENCY RESPONSE SYSTEM
HO	DOOR HOLD OPEN DEVICE
▬	FIRE ALARM CONTROL PANEL
	PHOTOELECTRIC TYPE SMOKE DETECTOR
AV	AUDIBLE & VISUAL DEVICE
F	FLUSH WALL OR CEILING MOUNTED FIRE ALARM HORN & STROBE
	EMERGENCY LIGHTING FIXTURE
	EMERGENCY LIGHTING FIXTURE AND BATTERY
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURE. LETTER DENOTES TYPE
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURE. LETTER DENOTES TYPE
	TELEPHONE OUTLET MOUNTED AT 1500MM A.F.F C/W 21MM CONDUIT.
OSS	WALL MOUNT PIR OCCUPANCY SENSOR
HD	HAND DRYER
	CEILING MOUNTED SPEAKER C/W 21MM CONDUIT
	WALL MOUNTED SPEAKER C/W 21MM CONDUIT
ES	OUTLET FOR SECURITY DOOR STRIKE
DC	OUTLET FOR SECURITY CONCEALED DOOR CONTACT
CR	OUTLET FOR SECURITY HID CARD ACCESS READER
WG	WIRE GUARD
R	'R' INDICATES RELOCATE
EX	'EX' INDICATES EXISTING
ER	'ER' INDICATES EXISTING TO REMAIN
	OUTLET FOR CLOSED CIRCUIT CAMERA
OS	CEILING MOUNTED OCCUPANCY SENSOR

GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL BALANCE CIRCUIT LOADS AS CLOSELY AS POSSIBLE.
2. DIV 26 SHALL REFER TO ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS FOR ALL SCOPE OF WORK OF DIVISION 26 WHICH ARE RELATED TO OTHER TRADES.
3. PROVIDE AND INSTALL EACH ITEM MENTIONED OR INDICATED OF QUALITY AND SUBJECT TO QUALIFICATIONS NOTED. PERFORM ACCORDING TO CONDITIONS STATED EACH OPERATIONS STATED, EACH OPERATION PRESCRIBED. PROVIDE THEREFORE ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTALS AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION.
4. SCHEDULE AND COORDINATE ALL WORK WITH OTHER TRADES.
5. EXAMINE THE SITE, EXISTING EQUIPMENT AND THE LOCAL CONDITION AFFECTING THE WORK UNDER THIS CONTRACT. NO EXTRAS WILL BE PAID SUBSEQUENTLY FOR ANY OBVIOUS CONSIDERATIONS MISSED OR OVERLOOKED BY THE CONTRACTOR.
6. REFER TO MECHANICAL DRAWINGS AND COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION OF EQUIPMENT AND DEVICES PRIOR TO ROUGH IN.
7. RE–ROUTE AS REQUIRED TO MAINTAIN CONTINUITY FOR ALL SYSTEMS TO REMAIN WHICH ARE AFFECTED BY THE ADDITION/ALTERATION.
8. ANY INTERRUPTION TO THE POWER SUPPLY TO THE EXISTING BUILDING SHALL BE CO–ORDINATED WITH THE SCHOOL BOARD/ARCHITECT ON SITE.
9. PROVIDE AND INSTALL STAINLESS STEEL BLANK COVER PLATES WHERE OUTLETS ARE REMOVED FROM EXISTING WALLS THAT ARE TO REMAIN.
10. ALL ELECTRICAL WIRING AND LOW VOLTAGE WIRING SHALL BE RUN IN CONDUITS. FREE AIR CABLES ARE NOT PERMITTED ON THIS PROJECT.
11. PROVIDE AND INSTALL NEW FIRE ALARM DEVICES AS SHOWN ON THE DELIVERED DRAWINGS TO MATCH EXISTING AND CONNECT TO EXISTING RESPECTIVE FIRE ALARM ZONES AND CIRCUITS WITH SUFFICIENT CAPACITY, VERIFY ON SITE FOR MORE DETAILS. THE EXISTING FIRE ALARM PANEL SHALL BE RECONFIGURED, MODIFIED, PROGRAMMED AND UPDATED TO SUIT INCLUDING NEW BOOSTER POWER SUPPLY, NEW ZONE CARDS, NEW MODULES, NEW RELAYS ETC TO HANDLE THE INSTALLATION OF NEW FIRE ALARM DEVICES. PROVIDE 3/4" CONDUIT FOR FIRE ALARM WIRING, BACK BOXES, ETC AND ALL ACCESSORIES AS REQUIRED FOR A FULLY OPERATIONAL FIRE ALARM SYSTEM, ALLOW FOR TESTING AND VERIFICATION.
12. ALL ELECTRICAL INSTALLATIONS SHALL BE RECESSED/CONCEALED INSTALLATIONS WHEREVER POSSIBLE; OTHERWISE PROVIDE WIREMOLD STEEL SURFACE MOUNTED RACEWAY C/W SURFACE MOUNTED OUTLETS. CO–ORDINATE WITH CONSULTANTS PRIOR TO INSTALLATION.
13. IDENTIFY THE SCOPE OF WORK FOR REMOVAL OF THE CEILING TILES TO GENERAL CONTRACTOR FOR PRICING PURPOSE. DURING TENDER PERIOD, ELECTRICAL CONTRACTOR SHALL CO–ORDINATE AND INFORM THE GENERAL CONTRACTOR FOR THE REMOVAL OF EXISTING CEILING AND FLOORS FOR THE SAKE OF EXTENDING/REMOVING ELECTRICAL SERVICES FROM THE EXISTING BUILDING AND FOR ALL THE RENOVATION/UPGRADATION WORK REQUIRED IN THE EXISTING BUILDING.
14. MODIFY/EXTEND/REPLACE EXISTING CONDUITS/WIRING/BACKBOXES AS REQUIRED FOR THE RELOCATED AND EXISTING TO REMAIN EQUIPMENT/DEVICES FOR FULLY OPERATIONAL SYSTEM.
15. CONTRACTOR SHALL PERFORM VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS (LIGHT AS WELL AS POWER) AND SHALL MAINTAIN VOLTAGE DROP WITH PERMISSIBLE LIMITS AS PER OESC REQUIREMENTS AND PROVIDE PROPER WIRE SIZES ACCORDINGLY PRIOR TO COMMENCING OF ROUGH–IN INSTALLATION. THE VOLTAGE DROP CALCULATIONS SHALL BE BASED ON MAXIMUM CURRENT AMPACITY.
16. MODIFY PANEL DIRECTORIES OF RESPECTIVE PANELS TO ADD NEW CIRCUITS TO SUIT.
17. PROVIDE SINGLE HEAD J–HOOKS OF 2" DIA. SUSPENDED FROM SLAB IN THE CEILING SPACE OF ALL ROOMS UNDER SCOPE OF WORK. PROVIDE J–HOOKS EVERY 2 FEET AND SUSPENDED BELOW ANY PIPING, MECHANICAL DUCTS ETC. NO RUN OF LOOSE CABLE FROM CONDUIT STAB UP SHALL EXCEED 10 FEET TO FIRST J–HOOK. PROVIDE QUANTITY OF J–HOOKS TO SUIT FOR FULL COVERAGE THROUGHOUT FLOOR AREA OF NEW ADDITION/RENOVATION.
18. WHEREVER NEW BREAKERS/DISCONNECT SWITCHES ARE REQUIRED TO BE ADDED IN EXISTING SWITCHBOARDS/DISTRIBUTION PANELS/PANELS AS INDICATED ON THE DRAWINGS, ELECTRICAL CONTRACTOR SHALL MODIFY, EXTEND BUS, PROVIDE BRACKETS, RETROFIT AND TO ALLOW FOR THE INSTALLATION OF THE NEW REQUIRED/INDICATED CIRCUIT BREAKERS/DISCONNECT SWITCHES WITHIN THE EXISTING ELECTRICAL PANEL. CONTRACTOR SHALL VERIFY ON SITE FOR THE SCOPE AND EXTENT OF WORK AND SHALL CO–ORDINATE WITH PANEL MANUFACTURER FOR MORE DETAILS AND THEN PROCEED ACCORDINGLY. CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS (INCLUDING BUT NOT LIMITED TO : CUSTOM MADE PARTS, BUS ASSEMBLY, HARDWARE ETC.). LABOR ETC. FOR FULLY OPERATIONAL SYSTEM. THE NEW BREAKERS/DISCONNECT SWITCHES TO BE ADDED SHALL BE FROM THE SAME MANUFACTURER AS EXISTING. KA RATING OF THE NEW BREAKERS/DISCONNECT SWITCHES SHALL MATCH EXISTING OR NEXT HIGHER AVAILABLE VALUE.
19. PROVIDE NEW PANEL DIRECTORIES FOR ALL THE NEW PANELS INDICATING ALL CIRCUITS FED FROM THE RESPECTIVE PANELS. NAME HE UNUSED BREAKERS AS 'SPARE'.
20. IN CASE OF NON–ACCESSIBLE CEILING. ALL WIRING UPTO ELECTRICAL DEVICES SHALL BE DONE IN CONDUITS TO SUIT APPLICATION TO FACILITATE MAINTENANCE.
21. PROVIDE CONDUITS AND BACK BOXES FOR LIGHTING CONTROL DEVICES TO SUIT APPLICATIONS AND AS PER MANUFACTURER'S RECOMMENDATIONS.
22. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING MECHANICAL/ELECTRICAL FIXTURES WHEN ENCOUNTERED IN ORDER TO FACILITATE LOCATION OF NEW ELEVATOR AND MAKE ALL NECESSARY ARRANGEMENTS. FOR DISCONNECTING / RE–ROUTING / RELOCATING AS REQUIRED.
23. PRIOR TO THE CONSULTANT RELEASING THE COMPLIANCE LETTER, THE WORK MUST BE COMPLETE AND SAFE. AND THE FOLLOWING DOCUMENTATION MUST BE SUBMITTED WITH NO DEFICIENCIES:
    a. ESA INSPECTION CERTIFICATE
    b. FIRE ALARM VERIFICATION REPORT (WITHOUT EXCEPTIONS)
    c. FIRE ALARM AUDIBILITY REPORT (WITHOUT EXCEPTIONS)
    d. EMERGENCY LIGHTING TESTING REPORT

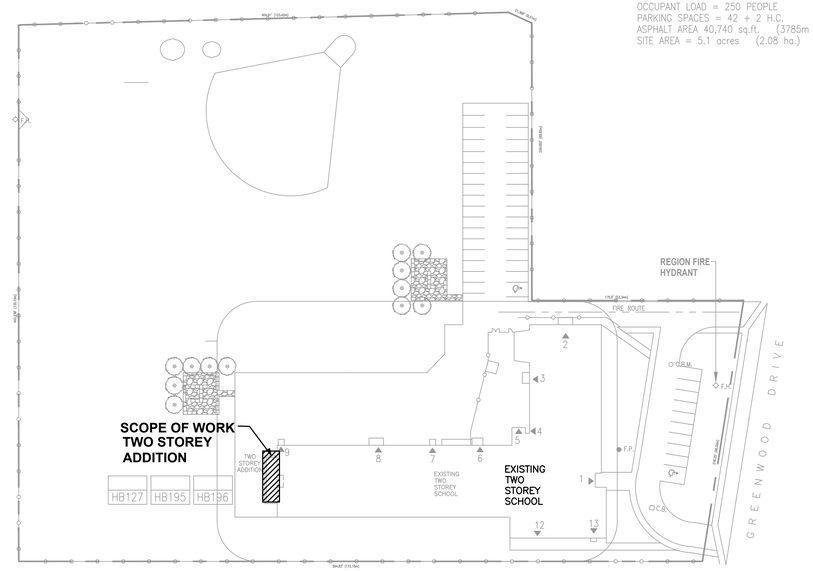
ELECTRICAL DRAWING LIST

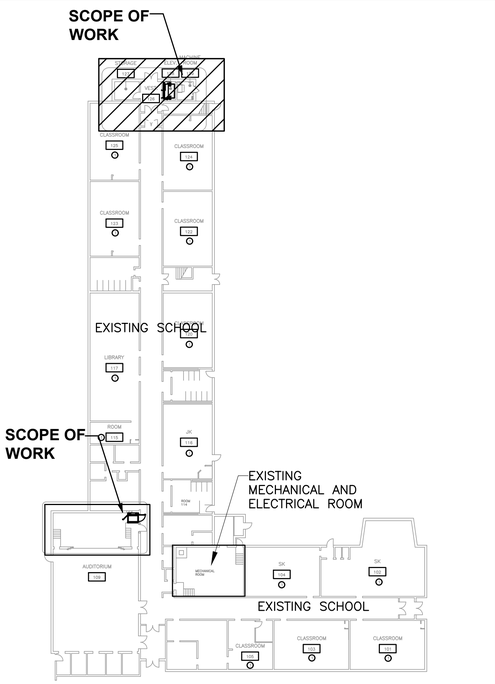
PROPOSED LIGHTING FIXTURE SCHEDULE

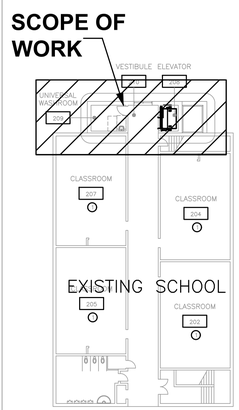
TYPE	DESCRIPTION	LAMP/FIXTURE MAKE/MODEL	VOLT	LUMENS	LAMP			MOUNT
					WATT	TYPE	COL.	
M	1'X4' SURFACE FIXTURE	PEERLESS ELECTRIC LXHL–14–32–40K–12–05–MV EQUALS: VISIONEERING, LITHONIA AND GE	120–277	4000	29	LED	4000	SURFACE MOUNTED
A2	2'X4' RECESSED FIXTURE	LITELINE LEDP–24–WH–40–40 EQUALS: PEERLESS–ELECTRIC AND LITHONIA	120–277	4860	40	LED	4000	CEILING RECESSED
MA	LED FULL CUT OFF WALL PACK, DIE CAST ALUMINIUM HOUSING AND DOOR	EXO OUTDOOR LIGHTING LNC2–48L35–4K7–3–UNV EQUIVALENT BY COOPER, CANLYTE OR GE	120–277		35	LED	4000	WALL MOUNTED

LEGAL DESCRIPTION: CON BF PT LOT 1, City of Burlington

OCCUPANT LOAD = 250 PEOPLE
PARKING SPACES = 42 + 2 H.C.
ASPHALT AREA 40,740 sq.ft. (3785m)
SITE AREA = 5.1 acres (2.08 ha.)







1 / E1.0 KEY PLAN
N.T.S

The Contractor shall verify all dimensions prior to commencement of the work.
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No.	Description	Date
1	ISSUED FOR 50% CD	Feb 11, 2026
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6		
7		
8		

PROJECT:
KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
ELECTRICAL LEAD SHEET,DETAILS, KEY PLAN AND PANEL SCHEDULES

RCEI
REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
208 Wyecroft Road, Suite 200, Oakville, ON L6K 3S3
PHONE: (905)844–3913
www.regal–eng.com

DATE : December 2025
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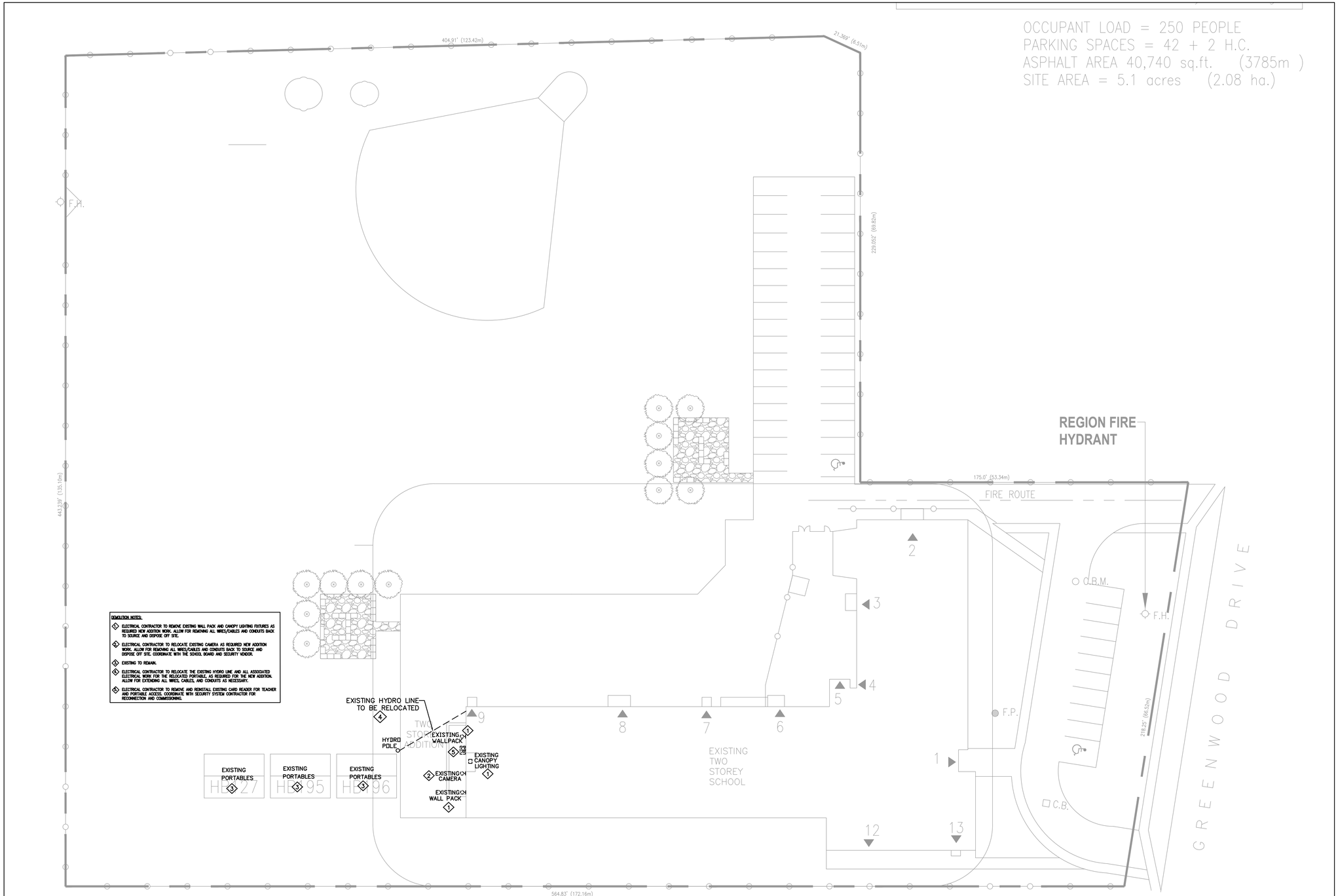
DRAWN BY: AS
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : E1.0
REVISION



1 / E2.0 DEMOLITION SITE PLAN
1:50

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PROJECT:
KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
DEMOLITION SITE PLAN

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REGAL CONSULTING ENGINEERS INC.
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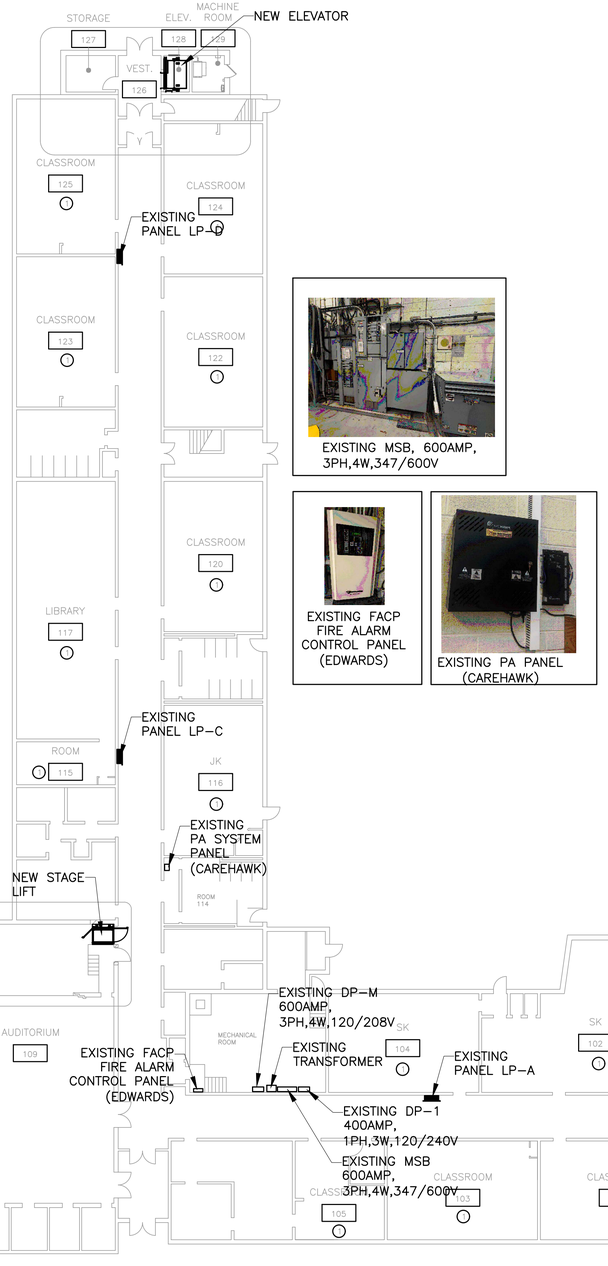


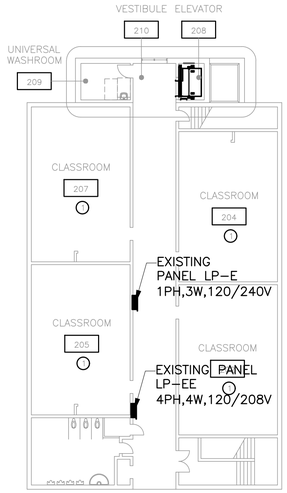
EXISTING MSB, 600AMP, 3PH,4W,347/600V

EXISTING FACP FIRE ALARM CONTROL PANEL (EDWARDS)

EXISTING PA PANEL (CAREHAWK)

1 / E2.1 EXISTING GROUND FLOOR ELECTRICAL PANEL LOCATION

1:50



2 / E2.1 EXISTING SECOND FLOOR ELECTRICAL PANEL LOCATION

1:50

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PROJECT:

KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT

660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :

EXISTING ELECTRICAL PANEL LOCATION PLAN

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PROJECT No. :	2025-502
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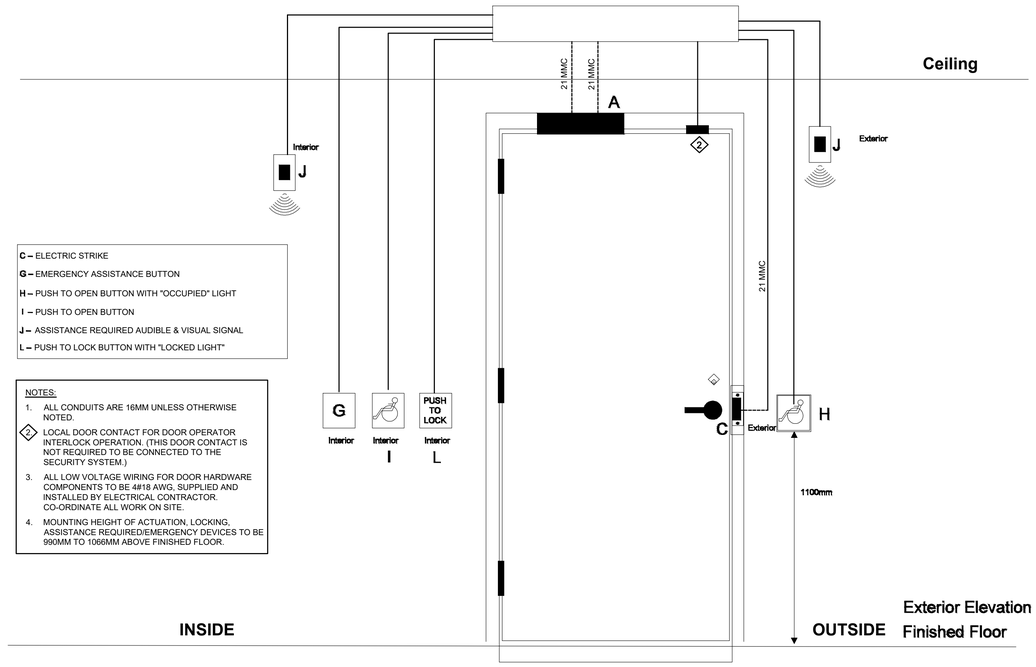


NOTES:

1. ALL CONDUITS ARE 16MM UNLESS OTHERWISE NOTED.
2. LOCAL DOOR CONTACT FOR DOOR OPERATOR INTERLOCK OPERATION. (THIS DOOR CONTACT IS NOT REQUIRED TO BE CONNECTED TO THE SECURITY SYSTEM.)
3. ALL LOW VOLTAGE WIRING FOR DOOR HARDWARE COMPONENTS TO BE 4#18 AWG, SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. CO-ORDINATE ALL WORK ON SITE.
4. MOUNTING HEIGHT OF ACTUATION, LOCKING, ASSISTANCE REQUIRED/EMERGENCY DEVICES TO BE 990MM TO 1066MM ABOVE FINISHED FLOOR.

UNIVERSAL WASHROOM DOOR OPERATOR SCHEMATICS (TYPICAL)

EMERGENCY RESPONSE SYSTEM FOR WASHROOMS

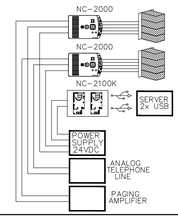
1. CONTRACTOR TO PROVIDE AND INSTALL EMERGENCY RESPONSE SYSTEM FOR THE WASHROOMS.
2. BASIS OF DESIGN IS MIRCOM, EQUIVALENT PRODUCT BY OTHER MANUFACTURERS ACCEPTABLE BASED ON SHOP DRAWING REVIEW.

MICARE SYSTEM CONSIST OF THE FOLLOWING:

CO-ORDINATOR BUNDLE	NC-2100K 1 EACH
SOFTWARE	NC-2100SW 1 EACH
4 LED MULTIDOME LIGHT	NC-4LED 4 EACH
PATIENT UNIT	NC-2000 4 EACH
SERVER	1 EACH
ROUTER	1 EACH
3 GANG ELECTRICAL BOX	3-FYWSW-UPC 4 EACH
ELECTRICAL BOX	1XW-PS24BB 1 EACH
24V POWER SUPPLY	RB-MD-990 1 EACH
CABLE 1 FOOT	200'
EOL-103	END OF LINE RESISTOR (10K)

3. ELECTRICAL CONTRACTOR SHALL INSTALL THE SYSTEM AS PER MANUFACTURER'S INSTRUCTIONS.
4. PROVIDE AND INSTALL COMPLETE SYSTEM TO MEET THE CODE REQUIREMENTS. CO-ORDINATE WITH MIRCOM AND INSTALL SYSTEM AS PER MANUFACTURER'S INSTRUCTIONS.
5. ONCE SYSTEM IS INSTALLED AND TESTED, PROVIDE REQUIRED TRAINING TO THE MAINTENANCE STAFF.

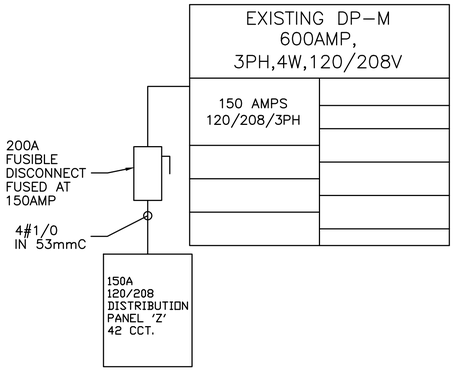
TYPICAL FLOOR PLAN FOR EACH WASHROOM



NOTE:

1. SERVER TO BE LOCATED IN CHANGE ROOM. ELECTRICAL CONTRACTOR TO PROVIDE POWER REQUIRED (B-xx & B-XX) FOR THE EMERGENCY RESPONSE SYSTEM.

SINGLE LINE DIAGRAM



ELECTRICAL PANEL:
120/208V-3Ø-60HZ,
150 AMP MAIN BREAKER

NEW PANELBOARD Z SCHEDULE

DESCRIPTION	BRKR SIZE (A)	WATTS PER PHASE A	B	C	CR NO	BUS ABC	CR NO	WATTS PER PHASE A	B	C	BRKR SIZE (A)	DESCRIPTION
ELEVATOR MOTOR	30				01		02				30	LIFT CONTROL PANEL
					03		04				20	LIFT RECEPTACLE *
					05		06				20	LIFT RECEPTACLE *
UH-1	20				07		08				20	EH-2
	2P				09		10				2P	
LIFT RECEPTACLE *	20				11		12				15	EXHAUST FAN 2
LIGHTING	15				13		14				15	BATTERY UNIT BU-1
STAGE LIFT MOTOR	30				15		16				20	LIFT RECEPTACLE *
STAGE LIFT CONTROLLER	15				17		18				15	BATTERY UNIT BU-1
STAGE LIFT LIGHT	15				19		20				15	LIGHTING
RECEPTACLE GFI	20				21		22				15	EXHAUST FAN 1
DOOR OPERATOR	20				23		24				20	DOOR OPERATOR
EMERGENCY RESPONSE SYSTEM	20				25		26				20	DOOR OPERATOR
RECEPTACLE	15				27		28				15	HAND DRIYER
EH-3	20				29		30				2P	
	2P				31		32				20	EH-1
					33		34				2P	
					35		36				15	LOUVER
					37		38					
					39		40					
					41		42					
(*) GROUND FAULT INTERRUPTER CIRCUIT BREAKER												
(**) C/W LOCK-OFF DEVICES												

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PROJECT:
KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED SINGLE LINE DIAGRAM AND ELECTRICAL DETAILS

REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
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DATE : December 2025
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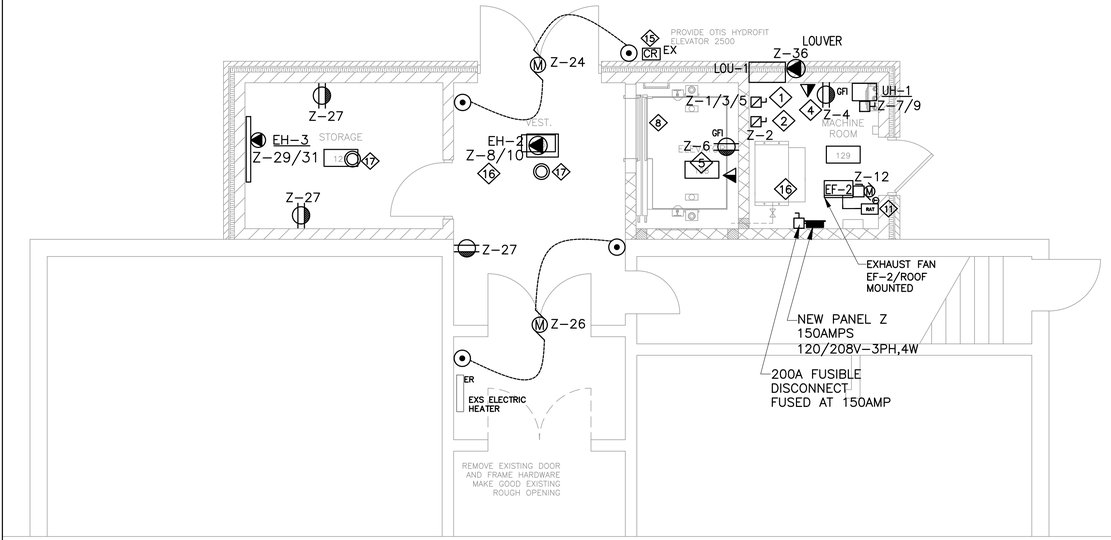
DRAWN BY: AS
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : E2.2
REVISION

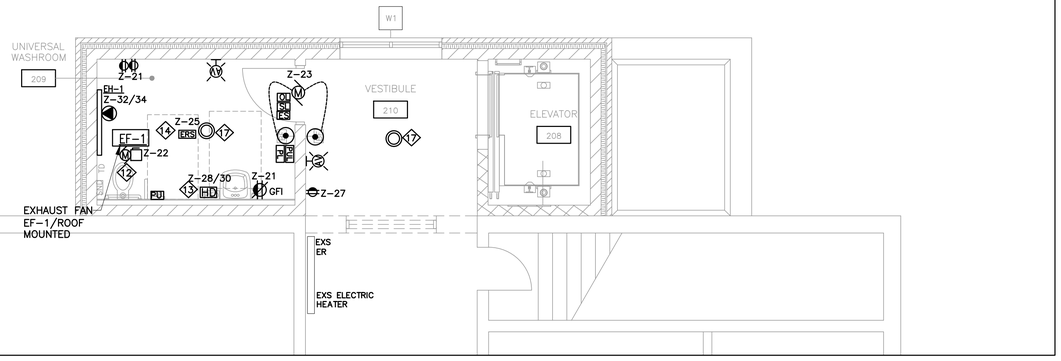


ENLARGED ELEVATOR, MACHINE ROOM AND STORAGE PLAN

1:50

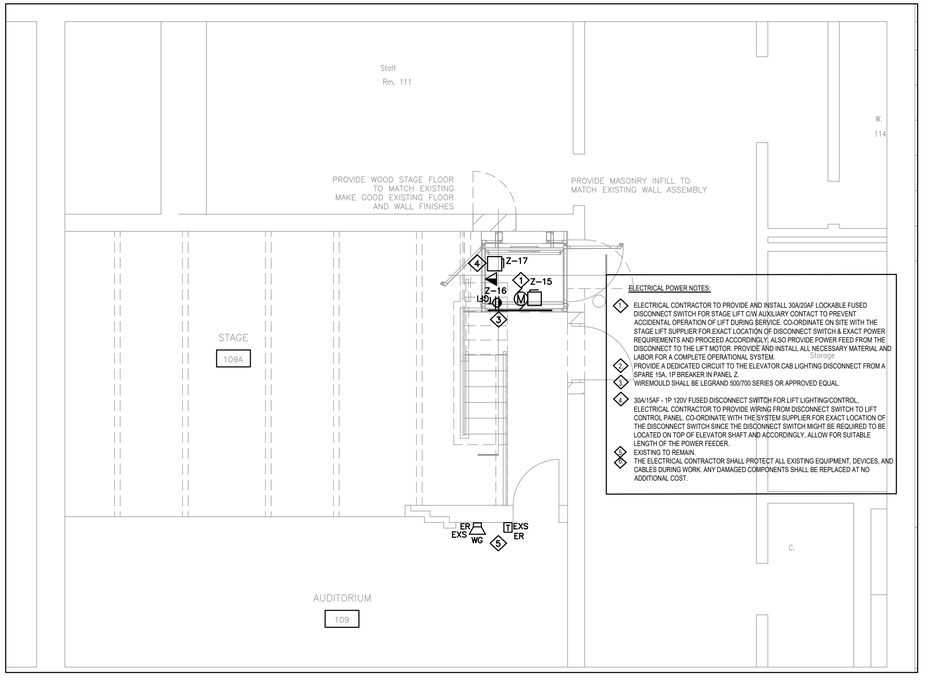
ELECTRICAL POWER NOTES:

1. 30A/30AF - 3P 208V LOCKABLE FUSED (FUSE TO MANUFACTURERS REQUIREMENTS) DISCONNECT SHALL BE C/W AN AUXILIARY CONTACT FOR BATTERY LOWERING THAT IS POSITIVELY OPENED MECHANICALLY. THE OPENING NOT BEING SOLELY DEPENDENT ON SPRINGS, AND IN THE CONTROL CIRCUIT TO PREVENT THE MOVEMENT OF THE CAR WHEN THE DISCONNECT SWITCH IS OPEN FOR LIFT. ELECTRICAL CONTRACTOR TO PROVIDE WIRING FROM DISCONNECT SWITCH TO ELEVATOR MOTORS VIA CONTROL PANEL. CO-ORDINATE WITH THE SYSTEM SUPPLIER FOR THE EXACT LOCATION OF THE DISCONNECT SWITCH SINCE THE DISCONNECT SWITCH MIGHT BE REQUIRED TO BE LOCATED ON TOP OF ELEVATOR SHAFT AND ACCORDINGLY, ALLOW FOR SUITABLE LENGTH OF THE POWER FEEDER.
2. 30A/15AF - 1P 120V FUSED DISCONNECT SWITCH FOR LIFT LIGHTING/CONTROL, ELECTRICAL CONTRACTOR TO PROVIDE WIRING FROM DISCONNECT SWITCH TO LIFT CONTROL PANEL. CO-ORDINATE WITH THE SYSTEM SUPPLIER FOR EXACT LOCATION OF THE DISCONNECT SWITCH SINCE THE DISCONNECT SWITCH MIGHT BE REQUIRED TO BE LOCATED ON TOP OF ELEVATOR SHAFT AND ACCORDINGLY, ALLOW FOR SUITABLE LENGTH OF THE POWER FEEDER.
3. NIL
4. PROVIDE A BUILDING GROUND WITH A DEDICATED CONDUCTOR, WIRED TO THE ELEVATOR CONTROLLER AND SIZED ACCORDING TO THE APPLICABLE ELECTRICAL CODE.
5. GFI RECEPTACLE & HEAT DETECTOR SHALL BE PROVIDED IN THE PIT OF LIFT.
6. NIL.
7. EXISTING CONDUITS AND WIRING PASSING THROUGH THE AREA OF WORK IN RELOCATED POSITION. CO-ORDINATE ON SITE FOR EXACT LOCATION AND LENGTH PRIOR TO ROUGH IN.
8. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR TO INSTALL A DRAIN IN THE PIT AND CONNECT TO THE EXISTING DRAIN LINE.
9. NIL.
10. 24"X24" JUNCTION BOX IN THE CEILING SPACE IN CORRIDOR AT FIRST FLOOR.
11. REVERSE ACTING THERMOSTAT.
12. EXHAUST FAN SHALL INTERLOCK WITH THE LIGHTING FIXTURES,OCCUPANCY SENSOR SHALL CONTROL THE LIGHTING FIXTURES AND THE EXHAUST FAN.
13. HAND DRYER SHALL BE PROVIDED BY THE SCHOOL BOARD. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER CONNECTION FOR THE HAND DRYER.
14. CONTRACTOR TO INSTALL CONTROLLER FOR NURSES CALL IN THE CEILING SPACE OF B/F WASHROOM. POWER TO THE CONTROLLER FROM PANEL Z AS SHOWN.
15. EXISTING CARD READER FOR TEACHER AND PORTABLE ACCESS SHALL BE REINSTALLED. COORDINATE WITH SECURITY SYSTEM CONTRACTOR FOR RECONNECTION.
16. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL POWER FOR THE NEW ELECTRICAL UNIT HEATER AS SHOWN. ELECTRICAL UNIT HEATERS WILL BE PROVIDED BY MECHANICAL CONTRACTOR.
17. PROVIDE NEW PA,SPEAKERS AND CONNECT TO THE EXISTING P.A CIRCUITS. EXISTING MAIN P.A. CONTROL CONSOL IS LOCATED IN ROOM 114. ALLOW FOR TESTING AND TO MAKE THE SYSTEM FULLY FUNCTIONAL.
18. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, DEVICES, AND CABLES DURING WORK. ANY DAMAGED COMPONENTS SHALL BE REPLACED AT NO ADDITIONAL COST.
19. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR ALL RELATED ELECTRICAL WORK. ENSURE ALL CONNECTIONS TO MECHANICAL EQUIPMENT ARE INSTALLED PER MANUFACTURER REQUIREMENTS.



1 E3.0 PROPOSED GROUND AND SECOND FLOOR POWER PLAN

1:50



ELECTRICAL POWER NOTES:

1. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL 30A/20AF LOCKABLE FUSED DISCONNECT SWITCH FOR STAGE LIFT C/W AUXILIARY CONTACT TO PREVENT ACCIDENTAL OPERATION OF LIFT DURING SERVICE. CO-ORDINATE ON SITE WITH THE STAGE LIFT SUPPLIER FOR EXACT LOCATION OF DISCONNECT SWITCH & EXACT POWER REQUIREMENTS AND PROCEED ACCORDINGLY, ALSO PROVIDE POWER FEED FROM THE DISCONNECT TO THE LIFT MOTOR. PROVIDE AND INSTALL ALL NECESSARY MATERIAL AND LABOR FOR A COMPLETE OPERATIONAL SYSTEM.
2. PROVIDE A DEDICATED CIRCUIT TO THE ELEVATOR CAB LIGHTING DISCONNECT FROM A SPARE 15A, 1P BREAKER IN PANEL Z.
3. WIREMOULD SHALL BE LEGRAND 500/700 SERIES OR APPROVED EQUAL.
4. 30A/15AF - 1P 120V FUSED DISCONNECT SWITCH FOR LIFT LIGHTING/CONTROL, ELECTRICAL CONTRACTOR TO PROVIDE WIRING FROM DISCONNECT SWITCH TO LIFT CONTROL PANEL. CO-ORDINATE WITH THE SYSTEM SUPPLIER FOR EXACT LOCATION OF THE DISCONNECT SWITCH SINCE THE DISCONNECT SWITCH MIGHT BE REQUIRED TO BE LOCATED ON TOP OF ELEVATOR SHAFT AND ACCORDINGLY, ALLOW FOR SUITABLE LENGTH OF THE POWER FEEDER.
5. EXISTING TO REMAIN.
6. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, DEVICES, AND CABLES DURING WORK. ANY DAMAGED COMPONENTS SHALL BE REPLACED AT NO ADDITIONAL COST.

2 E3.0 PROPOSED GROUND FLOOR-STAGE LIFT POWER PLAN

1:50

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PROJECT :

KING'S ROAD PS, ACCESSIBILITY UPGRADES PROJECT

660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :

PROPOSED POWER FLOOR PLAN

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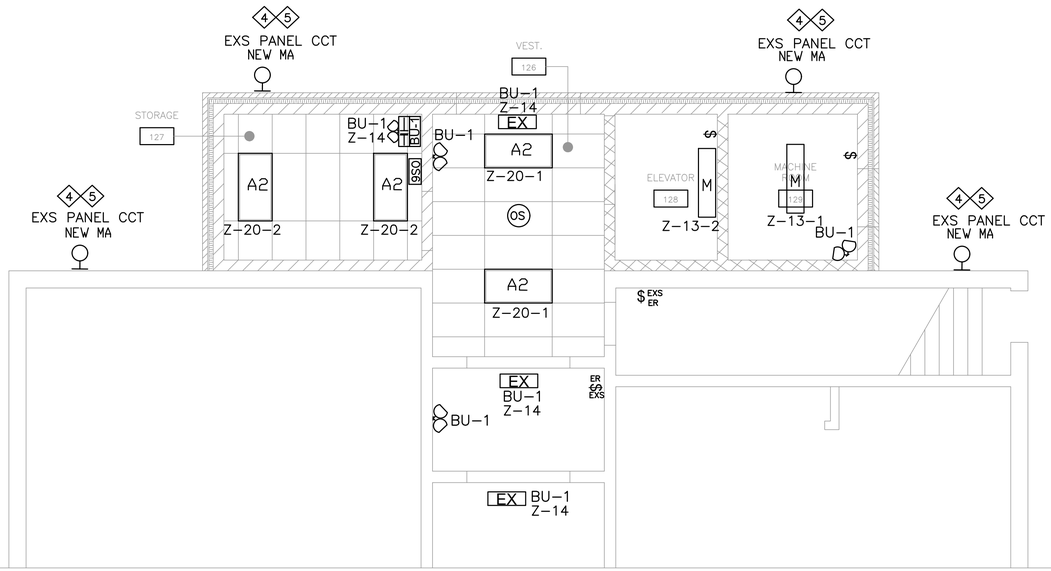
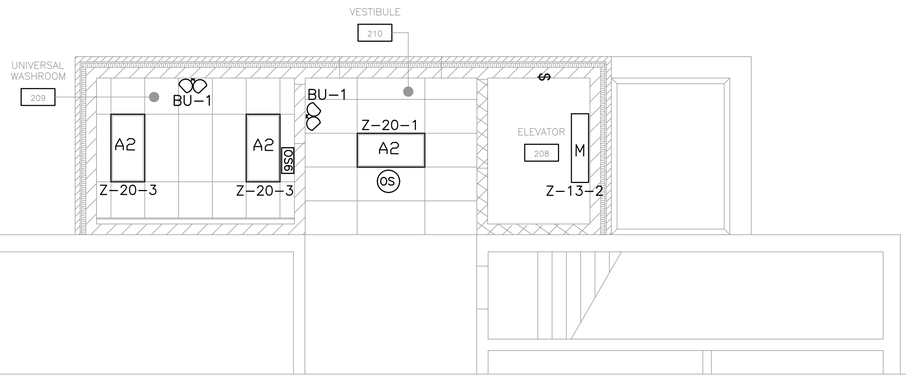


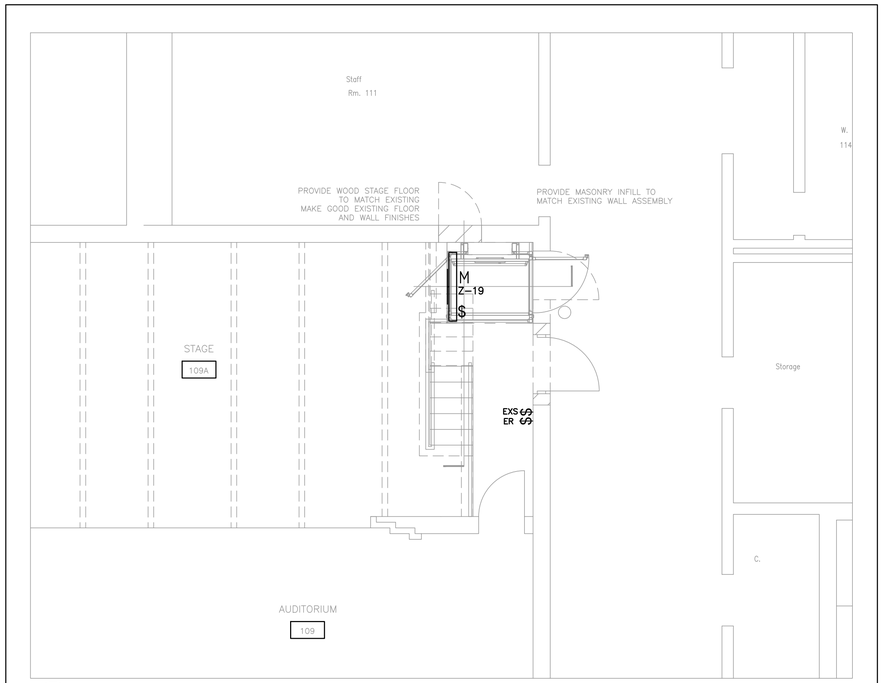
1 / A1 ENLARGED ELEVATOR, MACHINE ROOM AND STORAGE REFLECTED CEILING PLAN



2 / A1 ENLARGED ELEVATOR AND UNIVERSAL WASHROOM REFLECTED CEILING PLAN

1 / E4.0 PROPOSED GROUND AND SECOND FLOOR LIGHTING PLAN

1:50



3 / A1 ENLARGED STAGE LIFT PLAN

1:50

2 / E4.0 PROPOSED GROUND FLOOR-STAGE LIFT LIGHTING PLAN

1:50

LIGHTING NOTES:

1. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW LIGHTING FIXTURES AS SHOWN ON THE DRAWINGS. PROVIDE POWER TO THE NEW LIGHTING FIXTURES FROM NEW PANEL Z AS SHOWN.
2. PROVIDE AND INSTAL NEW WIRING, CONDUIT AND ACCESSORIES AS REQUIRED TO CONNECT THE NEW LIGHTING FIXTURES.
3. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL EXIT SIGN AS SHOWN ON THE DRAWINGS.
4. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL MA TYPE LIGHTING FIXTURES AS SHOWN. CONNECT TO THE EXISTING EXTERIOR LIGHTING CIRCUIT . ALLOW FOR EXTENDING WIRING CONDUIT AND ACCESSORIES AS REQUIRED TO CONNECT THE NEW LIGHTING FIXTURES.
5. ALL EXTERIOR LIGHTS TO BE CONTROLLED THROUGH PHOTOCELL.
6. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, DEVICES, AND CABLES DURING WORK. ANY DAMAGED COMPONENTS SHALL BE REPLACED AT NO ADDITIONAL COST.

BATTERY UNIT SCHEDULE

LOCATION	UNIT UNMBER	EXIT SIGNS	DOUBLE HEADS	SINGLE HEADS	CONNECTED LOAD (WATT)	CAPACITY (WATT)			
						30 MIN	1H00	1H30	2H00
STORAGE ROOM	BU-1	3	6	0	84	720	420	300	240
REFER TO ELECTRICAL SPECIFICATION									

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KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED LIGHTING FLOOR PLAN

REGAL CONSULTING ENGINEERS INC.
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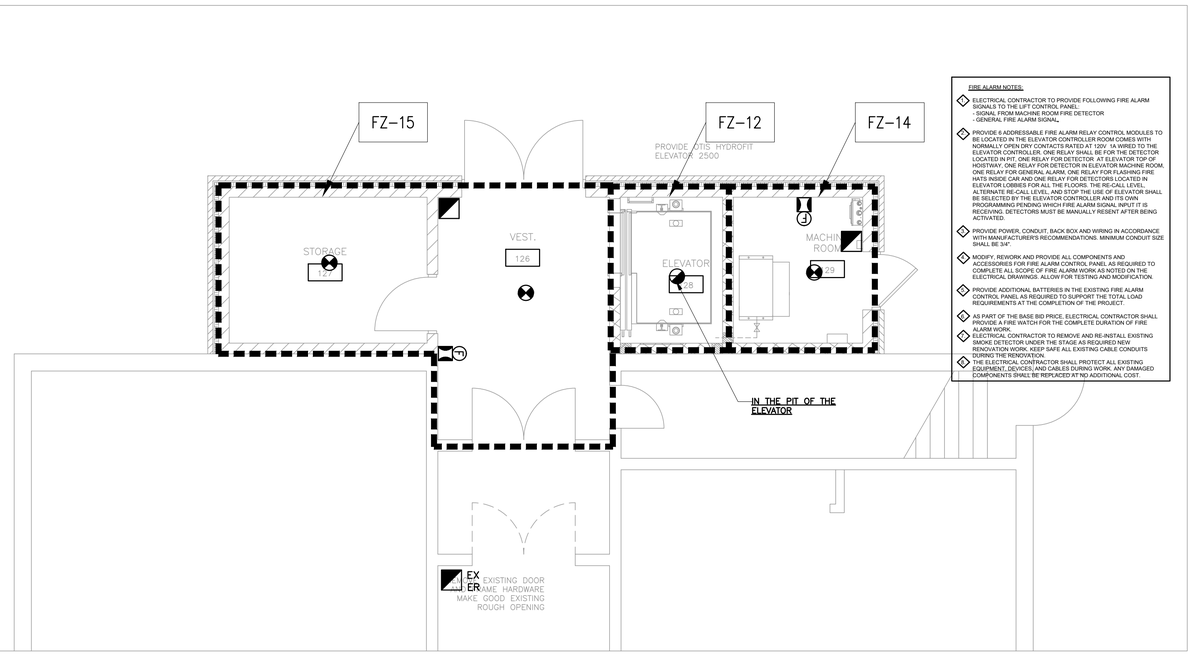
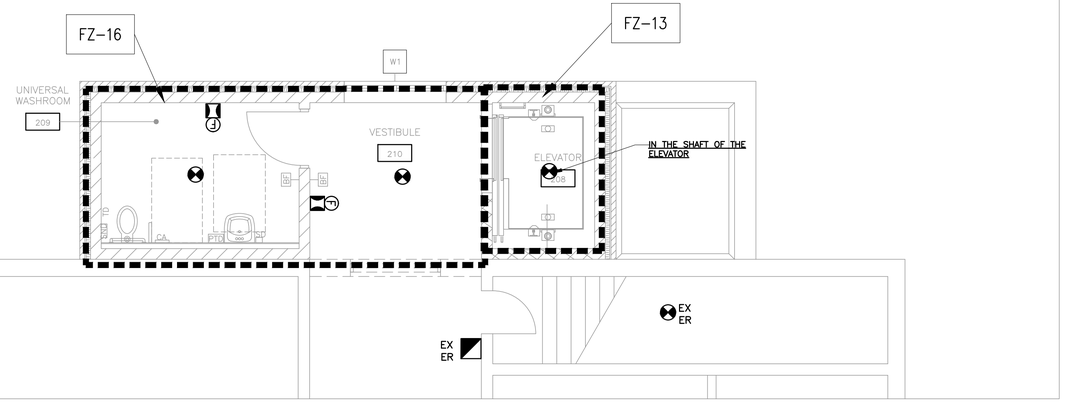


FIRE ALARM NOTES:

1. ELECTRICAL CONTRACTOR TO PROVIDE FOLLOWING FIRE ALARM SIGNALS TO THE LIFT CONTROL PANEL:
   - SIGNAL FROM MACHINE ROOM FIRE DETECTOR
   - GENERAL FIRE ALARM SIGNAL.
2. PROVIDE 6 ADDRESSABLE FIRE ALARM RELAY CONTROL MODULES TO BE LOCATED IN THE ELEVATOR CONTROLLER ROOM COMES WITH NORMALLY OPEN DRY CONTACTS RATED AT 120V 1A WIRED TO THE ELEVATOR CONTROLLER. ONE RELAY SHALL BE FOR THE DETECTOR LOCATED IN PIT, ONE RELAY FOR DETECTOR AT ELEVATOR TOP OF HOISTWAY, ONE RELAY FOR DETECTOR IN ELEVATOR MACHINE ROOM, ONE RELAY FOR GENERAL ALARM. ONE RELAY FOR FLASHING FIRE HATS INSIDE CAR AND ONE RELAY FOR DETECTORS LOCATED IN ELEVATOR LOBBIES FOR ALL THE FLOORS. THE RE-CALL LEVEL, ALTERNATE RE-CALL LEVEL, AND STOP THE USE OF ELEVATOR SHALL BE SELECTED BY THE ELEVATOR CONTROLLER AND ITS OWN PROGRAMMING PENDING WHICH FIRE ALARM SIGNAL INPUT IT IS RECEIVING. DETECTORS MUST BE MANUALLY RESENT AFTER BEING ACTIVATED.
3. PROVIDE POWER, CONDUIT, BACK BOX AND WIRING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. MODIFY, REWORK AND PROVIDE ALL COMPONENTS AND ACCESSORIES FOR FIRE ALARM CONTROL PANEL AS REQUIRED TO COMPLETE ALL SCOPE OF FIRE ALARM WORK AS NOTED ON THE ELECTRICAL DRAWINGS. ALLOW FOR TESTING AND MODIFICATION.
5. PROVIDE ADDITIONAL BATTERIES IN THE EXISTING FIRE ALARM CONTROL PANEL AS REQUIRED TO SUPPORT THE TOTAL LOAD REQUIREMENTS AT THE COMPLETION OF THE PROJECT.
6. AS PART OF THE BASE BID PRICE, ELECTRICAL CONTRACTOR SHALL PROVIDE A FIRE WATCH FOR THE COMPLETE DURATION OF FIRE ALARM WORK.
7. ELECTRICAL CONTRACTOR TO REMOVE AND RE-INSTALL EXISTING SMOKE DETECTOR UNDER THE STAGE AS REQUIRED NEW RENOVATION WORK. KEEP SAFE ALL EXISTING CABLE CONDUITS DURING THE RENOVATION.
8. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, DEVICES, AND CABLES DURING WORK. ANY DAMAGED COMPONENTS SHALL BE REPLACED AT NO ADDITIONAL COST.

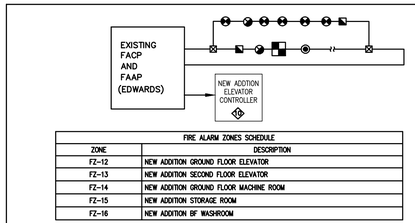
1 / A1 ENLARGED ELEVATOR, MACHINE ROOM AND STORAGE PLAN

1:50



2 / A1 ENLARGED ELEVATOR AND UNIVERSAL WASHROOM PLAN

1:50



FIRE ALARM ZONES SCHEDULE	
ZONE	DESCRIPTION
FZ-12	NEW ADDITION GROUND FLOOR ELEVATOR
FZ-13	NEW ADDITION SECOND FLOOR ELEVATOR
FZ-14	NEW ADDITION GROUND FLOOR MACHINE ROOM
FZ-15	NEW ADDITION STORAGE ROOM
FZ-16	NEW ADDITION BF WASHROOM

FIRE ALARM LEGEND	
	EXISTING TO REMAIN
	NEW PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR
	AUTOMATIC FIXED TEMPERATURE HEAT DETECTOR AT 157° F
	FLUSH WALL OR CEILING MOUNTED FIRE ALARM HORN
	FLUSH WALL OR CEILING MOUNTED FIRE ALARM HORN & STROBE
	PHOTOELECTRIC TYPE SMOKE DETECTOR UNLESS NOTED OTHERWISE
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
	PULL STATION

EXISTING FIRE ALARM CONTROL PANEL (EDWARDS)

EXISTING FIRE ALARM ANNUNCIATOR PANEL (EDWARDS)

NOTES:

1. REFER TO FLOOR PLANS FOR EXACT LOCATION AND QUANTITIES OF DEVICES.
2. CONTRACTOR IS CONFIRM WIRE SIZE (BASED UPON LENGTH OF CIRCUIT RUN AND QUANTITY OF SIGNALS) FOR SIGNAL CIRCUIT WITH MANUFACTURER.
3. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW FIRE ALARM DEVICES AND FIRE ALARM HORNS/STROBES TO THE NEW ADDITION AREA. EC TO PROVIDE AND INSTALL NEW CONDUITS CABLES FOR NEW FIRE ALARM DEVICES.
4. ELECTRICAL CONTRACTOR TO CONNECT NEW FIRE ALARM DEVICES TO EXISTING FIRE ALARM PANEL LOCATED IN THE EXISTING MECHANICAL ROOM. EXISTING FIRE ALARM SYSTEM IS EDWARDS. ELECTRICAL CONTRACTOR SHALL VERIFY THE CONDITION AND CAPACITY OF THE EXISTING FIRE ALARM PANEL PRIOR TO INSTALLATION OF NEW DEVICES. PROVIDE AND INSTALL NEW MODULE OR EXPANSION COMPONENTS AS REQUIRED TO ACCOMMODATE THE NEW DEVICES.
5. CONTRACTOR TO MAKE SURE THE SOUND OF NEW FIRE ALARM HORN SYNCHRONIZES WITH EXISTING FIRE ALARM HORNS.
6. ELECTRICAL CONTRACTOR TO MODIFY THE EXISTING FIRE ALARM SYSTEM AS REQUIRED. ALLOW FOR TESTING AND VERIFICATION.
7. ELECTRICAL CONTRACTOR TO PROVIDE VERIFICATION AND TESTING OF ALL NEW FIRE ALARM DEVICES AND EXISTING FIRE ALARM DEVICES. CERTIFY THE FIRE ALARM SYSTEM.
8. ELECTRICAL CONTRACTOR TO MAINTAIN EXISTING FIRE ALARM SYSTEMS AND ALL OTHER LIFE SAFETY SYSTEMS IN FULL OPERATION DURING CONSTRUCTION.
9. ELECTRICAL CONTRACTOR TO PROVIDE NEW FIRE ALARM ZONES IN EVERY FIRE SEPARATION.
10. CONTACTS WITHIN THE CONTROLLER WILL BE PROVIDED BY THE ELEVATOR SUPPLIER. CO-ORDINATE AND CONNECT ACCORDINGLY.
11. ELECTRICAL CONTRACTOR MUST BE COORDINATED WITH THE SCHOOL BOARD FOR ANY POWER OR LIFE SAFETY SYSTEM SHUTDOWNS. CONTRACTOR TO NOTIFY MINIMUM 7 (SEVEN) DAYS ADVANCE NOTICE REQUIRED.
12. UPON COMPLETION OF THE FIRE ALARM INSTALLATION THE CONTRACTOR SHALL PROVIDE TO THE SCHOOL BOARD A CLEAN UPDATED PASSIVE GRAPHICS SOFT COPY WITH NO WATERMARKS FOR THEIR RECORDS.
13. ELECTRICAL CONTRACTOR TO SHALL ALLOW FOR CAN / ULC S1001 INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS. (THIRD PARTY)
14. WHERE FIRE PROTECTION AND LIFE SAFETY SYSTEMS, AND SYSTEMS WITH FIRE PROTECTION AND LIFE SAFETY FUNCTIONS, ARE INTEGRATED OR INTERFACED WITH OTHER BUILDING SYSTEMS, THESE SYSTEMS SHALL BE TESTED AS A COMPLETE SYSTEM IN ACCORDANCE WITH CAN/ULC-S1001 – INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS TO VERIFY PROPER OPERATION. TESTING SHALL BE COMPLETED AND CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO AND CERTIFIED BY ULC TO PERFORM THIS TYPE OF WORK.

1 / E5.0 PROPOSED GROUND AND SECOND FLOOR FIRE ALARM PLAN

1:50

ISSUE OR REVISION

No.	Description	Date
1	ISSUED FOR 50% CD	Feb 11, 2026
2	ISSUED FOR 95% CD	March 11, 2026
3	ISSUED FOR 95% CD - M	March 19, 2026
4	ISSUED FOR COMMENTS	April 24, 2026
5	ISSUED FOR TENDER	June 4, 2026
6		
7		
8		

PROJECT :

KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT

660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
PROPOSED FIRE ALARM FLOOR PLAN

REGAL CONSULTING ENGINEERS INC.
CONSULTING MECHANICAL & ELECTRICAL ENGINEERS
208 Wyecroft Road, Suite 200, Oakville, ON L6K 3S3
PHONE: (905)844-3913
www.regal-eng.com

DATE : December 2025
SCALE : AS NOTED
DRAWN BY: AS
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : E5.0
REVISION

ELECTRICAL SPECIFICATION

SCOPE OF WORK

1. SUPPLY LABOUR, TOOLS, SERVICES, EQUIPMENT AND PROVIDE MATERIALS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH THIS SPECIFICATION AND DRAWINGS. COMPLY WITH LAWS, REGULATIONS AND CODES OF AUTHORITIES HAVING JURISDICTION. CONFORM TO REQUIREMENTS OF BIDDING DOCUMENTS AND DIVISION 1.

EXAMINATION OF SITE AND DOCUMENTS

1. PROVIDE TO SUBMITTING BID, CAREFULLY EXAMINE CONDITIONS AT SITE WHICH WILL OR MAY AFFECT WORK, DRAWINGS AND SPECIFICATION AND BECOME FAMILIAR WITH BUILDING CONSTRUCTION, FINISHES AND OTHER WORK ASSOCIATED WITH WORK IN ORDER THAT BID INCLUDES FOR EVERYTHING NECESSARY FOR COMPLETION OF WORK.

PERMITS, CERTIFICATES AND FEES

1. PAY FOR AND OBTAIN PERMITS TO COMPLETE WORK. WHEN WORK IS COMPLETE, SUPPLY AND TURN OVER INSPECTION CERTIFICATES FROM GOVERNING AUTHORITIES TO CONSULTANT. PAY FEES AND CHARGES LEVIED BY MUNICIPALITY AND OTHER GOVERNING AUTHORITIES FOR PERMITS. INSPECTIONS AND CERTIFICATES. KEEP COPY OF SUCH PERMITS AND CERTIFICATES, ETC. ON JOB SITE.

CO-ORDINATION AND CO-OPERATION

1. ELECTRICAL CONTRACTOR TO CO-ORDINATE HIS WORK WITH WORK OF ALL TRADES TO ENSURE A PROPER AD COMPLETE INSTALLATION. NOTIFY ALL TRADES CONCERNED OF REQUIREMENT FOR OPENINGS, SLEEVES, INSERTS AND OTHER HARDWARE NECESSARY IN THEIR WORK FOR INSTALLATION OF HIS WORK AND WHERE HIS WORK IS TO BE INTEGRATED WITH WORK OF OTHER TRADES OR IS TO BE INSTALLED IN CLOSE PROXIMITY WITH WORK OF OTHER TRADES. CAREFULLY CO-ORDINATE WORK PRIOR TO AND DRIVING INSTALLATION.
2. EXACT LOCATIONS AND ROUTING OF SERVICES MUST BE PROPERLY PLANNED CO-ORDIANTED AND ESTABLISHED WITH ALL AFFECTED TRADES PRIOR TO INSTALLATION SUCH THAT THEY WILL CLEAR EACH OTHER AS WILL AS ANY OBSTRUCTIONS. GENERALLY, PIPING REQUIRING UNIFORM PITCH SHALL BE GIVEN RIGHT OF WAY WITH OTHER SERVICE LOCATED AND ARRANGED TO SUIT.

NOISE CONTROL

1. WORK WHICH MAY CAUSE NOISE DISTURBANCES MUST BE SCHEDULED AT TIMES APPROVED BY CONSULTANT. CO-ORDINATE WORK WITH TPADES TO MINIMIZE NOISE DISTURBANCES.

CLEAN UP

1. DURING CONSTRUCTION, KEEP SITE REASONABLY CLEAR OF RUBBISH AND WASTE MATERIAL RESULTING FORM WORK ON DAILY BASIS. AFTER COMPLETION OF WORK, REMOVE RUBBISH AND DEBRIS, ARRANGE AND PAY FOR REPAIR OF DAMAGES CAUSED AND LEAVE PREMISES AND WORK IN GOOD ORDER.

PROTECTION OF EQUIPMENT

1. PROPERLY PROTECT AND STORE ALL EQUIPMENT AND MATERIAL ON SITE FROM DAMAGE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE STORAGE OF ALL EQUIPMENT AND GOODS TO BE RELOCATED AND SHALL REPAIR OR REPLACE DAMAGED EQUIPMENT AND GOODS AT DISCRETION OF OWNER..

INSPECTION OF WORK

1. CONSULTANT SHALL AT ALL TIMES HAVE ACCESS TO WORK AND SHALL BE NOTIFIED AT AGREED UPON TIMES OF STAGES OF WORK.
2. CONTRACTOR SHALL GIVE CONSULTANT TIMELY NOTICE OF DATE (WITHIN 48 HOURS AFTER PERFORMANCE) WHEN FOLLOW STAGES OF WORK HAVE BEEN PERFORMED:
   WHEN 33% OF WORK HAS BEEN COMPLETED:
   WHEN 66% OF WORK HAS BEEN COMPLETED:
   WHEN 95% OF WORK HAS BEEN COMPLETED:
   UPON SUBSTANTIAL PERFORMANCE OF WORK.
3. WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH PERFORMANCE SPECIFIED OR IMPLIED . SUCH DEFICIENCY SHALL BE CORRECTED AS DIRECTED BY CONSULTANT. ANY SUBSEQUENT TESTING TO VERIFY PERFORMANCE SHALL BE DOWN AT CONTRACTORS/ EXPENSE. AND CHARGE FOR OWNER'S STAFF CONSULTANT OR OTHER PERSONNEL RELATED TO SUCH RE-TESTING SUCH ALSO BE AT EXPENSE OF CONTRACTOR.

PRODUCTS

1. PRODUCTS LISTED AND/OR SPECIFIED ON CONTRACT DOCUMENTS ARE SELECTED TO ESTABLISH DESIGN STANDARDS. IN MOST CASES, ACCEPTABLE MANUFACTURERS ARE LISTED. BASE YOUR BID PRICE ON BASE SPECIFIED PRODUCTS OR PRODUCTS SUPPLIED FROM ACCEPTABLE MANUFACTURERS. ENSURE PRODUCTS SUPPLIED FROM MANUFACTURERS OTHER THAN BASE SPECIFIED MANUFACTURERS ARE EQUIVALENT TO SPECIFIED PRODUCTS. PROPOSED SUBSTITUTIONS OF MANUFACTURERS OF PRODUCTS MAY BE PROPOSED TO CONSULTANT FOR ACCEPTANCE, LISTING IN EACH CASE CORRESPONDING CREDIT. CONSULTANT HAS SOLE DISCRETION IN ACCEPTING ANY PROPOSED SUBSTITUTION. INCLUDE IN BID PRICE ANY ADDITIONAL PRODUCTS SUPPLY BY MANUFACTURER OTHER THAN BASE SPECIFIED MANUFACTURER.

WARRANTY

1. WARRANT WORK TO BE IN STRICT ACCORDANCE WITH CONTRACT DOCUMENTS AND FREE FROM DEFECTS FOR 1 YEAR PERIOD FROM DATE OF WRITTEN ACCEPTANCE BY CONSULTANT. REFER AND/OR REPLACE ANY SUCH DEFECTS WHICH APPEAR IN WORK WITHIN WARRANTY PERIOD, ORDINARY WEAR AND EAR AND WILFUL DAMAGE BY, OR CARELESSNESS OF OWNER'S STAFF OR AGENTS EXCEPTED, WITHOUT ADDITIONAL COSTS INCURRED IN MAKING DEFECTIVE WORK GOOD, INCLUDES REPAIR OR REPLACEMENT OF BUILDING FINISHES, OTHER MATERIALS OR DAMAGE TO OTHER EQUIPMENT CAUSED BY SUCH DEFECTS, OR BY SUBSEQUENT REPLACEMENT OR REPAIRS.

INTERRUPTIONS TO AND SHUTDOWNS OF EXISTING SERVICES AND SYSTEMS

1. CO-ORDINATE AND PERFORM SHUTDOWNS AND INTERRUPTIONS TO EXISTING SYSTEMS AND SERVICES AT TIMES ACCEPTABLE TO OWNER. OBTAIN WRITTEN APPROVAL IN ADVANCE OF SHUTDOWN OR INTERRUPTION. INCLUDE FOR COSTS OF PREMIUM TIME TIM PERFORM WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE OF NORMAL WORKING HOURS, AS NECESSARY TO MAINTAIN SERVICES IN OPERATION OR WITH MINIMUM INTERRUPTIONS AND TO INTERRUPTION WILL BE CARRIED OUT AS CONTINUOUS OPERATION TO MINIMIZE SHUTDOWN TIME AND TO REINSTATE SYSTEMS AS SOON AS POSSIBLE AND PRIOR TO SHUTDOWN, ENSURE MATERIALS AND LABOUR REQUIRED TO COMPLETE WORK FOR WHICH SHUTDOWN IS REQUIRED ARE AVAILABLE AT SITE.

CUTTING, PATCHING AND CORE DRILLING

1. DO CUTTING, PATCHING AND CORE DRILLING OF EXISTING BUILDING REQUIRED FOR INSTALL OF WORK. PERFORM CUTTING TO NEAT AND TRUE FASHION, WITH PROPER TOOLS AND EQUIPMENT TO OWNER'S APPROVAL.
2. IN FIRE RATED CONSTRUCTION PACK AND SEAL VOID BETWEEN OPENING AND CONDUIT FOR LENGTH OF OPENING WITH ASBESTOS-FREE ELASTOMERIC ULC LISTED AND LABELED MATERIALS. INSTALL FIRE-STOP AND SMOKE SEAL MATERIALS IN ACCORDANCE TO ULC CERTIFICATION AND MANUFACTURER'S REQUIREMENTS TO PROVIDE FIRE-STOP RATINGS OF OPENINGS IN ACCORDANCE WITH GOVERNING BUILDING CODE REQUIREMENTS.
3. DO NOT CUT OR DRILL EXITING WORK WITHOUT PRIOR OWNER'S APPROVAL. IN CONSULTATION WITH OWNER AND BY USE OF X-RAY WITH OWNER'S APPROVAL, DETERMINE PRESENCE OF EXISTING SERVICES AND PERFORMING ROD CONCEALED BEHIND SURFACE TO BE CUT, NOTE: ELECTRICAL CONTRACTOR WILL BE HELD RESPONSIBLE FOR DAMAGE DONE TO EXISTING BUILDING AND SERVICES CAUSED BY CUTTING OR DRILLING.

DISCONNECTION, REMOVAL AND RELOCATION

1. WHERE INDICATED ON DRAWINGS AND DETERMINED BY SITE VISIT, DISCONNECT AND REMOVE ITEMS OF EXISTING OBSOLETE ELECTRICAL WORK AND RELOCATE DEVICES, WHERE FIXTURES, SWITCHES, RECEPTACLES AND OTHER DEVICES AND/OR EQUIPMENT IS REMOVED. DISCONNECT AT POINT OF ELECTRICAL SUPPLY, REMOVE OBSOLETE WRING AND MAKE SYSTEM SAFE. WHERE EXISTING OBSOLETE CONDUIT AND SIMILAR RACEWAY MATERIAL CANNOT BE REMOVE. CUT BACK AND CAP OBSOLETE CONDUITS OR RACEWAYS. REVISE PANELBOARD DIRECTORIES ACCORDINGLY, IF AFFECTED BY WORK.
2. UNLESS OTHERWISE NOTED, OBSOLETE MATERIALS WHICH ARE DISCONNECTED AND ARE NOT TO BE RELOCATED OR REUSED WILL BECOME THE PROPERTY OF THE ELECTRICAL CONTRACTOR REMOVE FROM SITE AND DISPOSE. OBTAIN FORM OWNER, LIST OF EXISTING ITEMS TO BE CAREFULLY REMOVED AND TURNED OVER TO OWNER. SAID ITEMS WILL REMAIN PROPERTY OF OWNER.
3. PROVIDE JUNCTION BOXES, OUTLET BOXES, WIRING, PLATES, ETC., AS NECESSARY FOR COMPLETE RELOCATION OF DEVICES. CLEAN AND RE-LAMP RELOCATED LUMINARIES. REPLACE FAULTY BALLASTS. WHEN RELOCATION WORK IS COMPLETE, CONFIRM RELOCATED DEVICES ARE IN PROPER ORDER.
4. WHERE EXISTING SERVICES PASS THROUGH OR ARE IN AN AREA TO SERVE ITEMS WHICH ARE TO REMAIN, MAINTAIN SERVICES. INCLUDE FOR RE-ROUTING EXISTING SERVICES CONCEALED BEHIND FINISHES AND WHICH BECOME EXPOSED DURING RENOVATION WORK, SO AS TO BE CONCEALED BEHIND FINISHES.
5. IN AREAS WHICH ARE NOT BEING ARCHITECTURALLY RENOVATED AND WHICH DIVISION 16 MUST RUN SERVICES THROUGH, BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF ARCHITECTURAL CEILINGS, MECHANICAL EQUIPMENT, SPRINKLERS, ETC., AS REQUIRED FOR INSTALLING OF ELECTRICAL CONTRACTOR'S WORK. PATCH AND MAKE GOOD (INCLUDING PAINTING) SURFACES TO MATCH EXITING.

HAZARDOUS MATERIALS

1. AT ANY TIME DURING COURSE OF WORK ASBESTOS MATERIALS ARE ENCOUNTERED OR SUSPECTED, CEASE WORK IN AREA IN QUESTION AND IMMEDIATELY REPORT IN ACCORDANCE WITH ONTARIO REGULATION 654/85 (SECTION 7) TO CONSULTANT. DO NOT RESUME WORK IN AFFECTED AREA WITOUT APPROVAL FROM CONSULTANT.

RECORD DRAWINGS (AS-BUILTS)

1. WHEN WORK BEGINS AT SITE, CLEARLY AND ACCURATELY MARK ON A BOUND SET OF WHITE PRINTS OF CONTRACT DRAWINGS ON A DAILY BASIS ALL CHANGES AND DEVIATION FROM ROUTING OF AND LOCATIONS OF EQUIPMENT SHOWN ON CONTRACT DRAWINGS CHANGE AND DEVIATION INCLUDING THOSE MADE BY ADDENDA, CHANGE ORDERS AND SITE INSTRUCTION, AND DEVIATIONS INCLUDING THOSE MADE BY ADDENDA, CHANGE ORDERS AND SITE INSTRUCTIONS, AND CHANGES AND DEVIATIONS INDICATED ON SUPPLEMENTAL DRAWINGS ISSUED WITH ADDENDA, CHANCE ORDERS AND SITE INSTRUCTIONS. MAINTAIN "AS-BUILT" WITH PRINTS AT SITE FOR PERIODIC INSPECTION BY CONSULTANT THROUGHOUT DURING OF WORK. PAY PARTICULAR ATTENTION TO ACCURATELY DIMENSIONING LOCATION OF ALL CONCEALED SERVICES TERMINATED FOR FUTURE EXTENSION, ALL BURIED WORK AND SERVICES AND WORK CONCEALED WITHIN BUILDING IN INACCESSIBLE LOCATIONS.
2. WHEN WORK ENDS AT SITE, UPDATE A COPY OF CONTRACT DOCUMENT DRAWING DIS SET SO THAT IT REFLECTS ALL DEVIATIONS FROM ORIGINAL CONTRACT DOCUMENT DRAWIGNS,THUS FORMING A TRUE "AS-BUILT" DRAWING DIS SET. PROVIDE A SET OF REPRODUCIBLE MYLAR PRINTS OF CONTRACT DRAWINGS PRODUCED FROM TRUE "AS-BUILT" MYLAR PRINTS TO CONSULTANT. ALL SUBMITTED DRAWINGS SHALL BE OF THE SAME QUALITY AS ORIGINAL CONTRACT DOCUMENT DRAWINGS.
3. UPDATE OWNER'S DISTRIBUTION RISER DIAGRAMS POSTED IN ELECTRICAL ROOM.

SHOP DRAWINGS AND OPERATING & MAINTENANCE INSTRUCTION MANUALS

1. SUBMIT SHOP DRAWINGS AND OPERATION & MAINTENANCE INSTRUCTION MANUALS FOR THE FOLLOWING:
   1.1 SPECIAL RECEPTACLES AND SWITCHES;
   1.2 LUMINARIES;
   1.3 TRANSFORMERS:
   1.4 DIMMERS:
   1.5 EMERGENCY LIGHTING BATTERY UNITS;
   1.6 FIRE ALARM SYSTEM COMPONENTS;
   1.7 PIPE TRACING AND ACCESSORIES;
   1.8 SURFACE METAL RACEWAY;
   1.9 ELECTRIC HEATING UNITS;
   1.10 LOW VOLTAGE LIGHTING CONTROL COMPONENTS;
   1.13 FLOOR FITTINGS;
   1.14 DATA COMMUNICATION SYSTEM;
   1.17 SECURITY SYTEM;
   1.18 NET WORK CABLING SYSTEM.
2. PROPERLY IDENTIFY SHOP DRAWING FOR REVIEW AND SHOW IN DETAIL EQUIPMENT AND MATERIALS. ENDORSE EACH DRAWING, INCLUDE COMPANY NAME AND SUBMITTAL DATE. PROVIDE MANUALS AS INDEXED, IDENTIFIED HARD, COVER 3-RING BINDERS COMPLETE WITH:
   2.1 A COPY OF EACH 'REVIEWED' SHOP DRAWING;
   2.2 EXPLANATIONS OF OPERATING PRINCIPLES AND SEQUENCES;
   2.3 PART LISTS WITH NUMBERS;
   2.4 RECOMMEND MAINTENANCE PRACTICES AND PRECAUTIONS;
   2.5 COPIES OF INSPECTION CERTIFICATES ISSUED BY GOVERNING AUTHORITIES;
   2.6 COPIES OF PANELBOARD DIRECTORIES.
3. PROVIDE 2 SETS OF MANUALS. CONFIRM EXACT QUANTITY AND METHOD OF SUBMISSION WITH CONSULTANT.

GENERAL CONDUIT AND CONDUCTOR INSTALLATION REQUIREMENTS

1. INSTALL CONDUIT AND CONDUCTORS CONCEALED TO DEGREE MADE POSSIBLE BY FINISHES AND PROVED INSTALLATIONS IN ACCORDANCE WITH ELECTRICAL SAFETY CODE AND LOCAL GOVERNING AUTHORITIES. PLAN AND CO-ORDINATE LOCATIONS AND ROUTING OF SERVICES WITH TRADES PRIOR TO INSTALLATION. IN AREAS WHERE A MULTIPLICITY OF SERVICES OCCURS, PREPARE DETAIL DRAWINGS AND SUBMIT TO CONSULTANT FOR REVIEW PRIOR TO START OF AFFECTED WORK.
2. WHERE CONDUIT AND/OR CONDUCTORS ARE EXPOSED, ARRANGE SAME TO AVOID INTERFERENCE WITH OTHER WORK AND PARALLEL TO BUILDING LINES. WHERE HORIZONTAL CONDUITS AND/OR CONDUCTORS ARE EXPOSED, INSTALL AS HIGH AS POSSIBLE. DO NOT INSTALL CONDUIT AND/OR CONDUCTORS WITHIN 6" (150MM) OF 'HOT' PIPES OR EQUIPMENT UNLESS CONDUIT AND/OR CONDUCTORS ARE ASSOCIATED WITH EQUIPMENT. UNDEPENDABLY RUN CONDUIT AND CONDUCTORS MUST BE SUPPORTED FROM THE CEILING OR WALL STRUCTURE, NOT FROM CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS ETC.
3. IDENTIFY CONDUIT RUNS (IE. TAG BOTH ENDS OF CONDUIT RUNS)

CONDUITS

1. PROVIDE CONDUIT FOR CONDUCTORS. CONDUIT TO BE EMT (THIN WALL) GALVANIZED,ELECTICAL METALLIC TUBING TO CSA C222 NO. 83, COMPLETE WITH FACTORY MAD BENDS WHERE SITE BENDING IS NOT POSSIBLE AND JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS, FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND TRANSFORMERS (MINIMUM LENGTH 18" (450MM), MAXIMUM LENGTH 24" (600MM) WITH 180 DEGREE LOOP WERE POSSIBLE)-GALVANIZED STEEL FLEXIBLE FLUID - TIGHT METALLIC CONDUIT TO CSA C222 NOT. 56, COMPLETE WITH IDEAL 'STEEL TOUGH' LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AT TERMINATIONS. FOR CONDUIT GREATER THAN 2" (1200MM), PROVIDE RIGID GALVANIZED STEEL TO CSA C222 NO. 45 COMPLETE WITH FITTINGS, CONNECTORS AND RIGID COUPLINGS.)
2. SUPPORT AND SECURE CONDUIT AT SPACING IN ACCORDANCE WITH CODE REQUIREMENTS BY MEANS OF GALVANIZED PIPE STRAPS, CONDUIT CLIPS, RING BOLT TYPE HANGERS OR BY OTHER PROPER MANUFACTURER DEVICES. PROVIDE CONDUIT FITTINGS CONSTRUCTED OF SAME MATERIALS AS CONDUIT AND SUITABLE FOR APPLICATION. SQUARE AND PROPERLY REAM ENDS OF SITE CUT CONDUIT. GENERALLY CONDUIT IS SIZED ON DRAWINGS. SIZE CONDUIT NOT SIZED ON DRAWING IN ACCORDANCE WITH CODE. BEND CONDUIT AT FULL CONDUIT DIAMETER WITH NO KINKS AND N OOFLAKING R CRACKING OF FINISHES.

CONDUCTORS

1. PROVIDE CONDUCTORS. REFER TO DRAWINGS FOR SIZING OF CONDUCTORS. GENERALLY BRANCH CIRCUIT CONDUCTOR SIZES ARE INDICATED ON CONSULTANT'S DRAWINGS. SUCH SIZES ARE MINIMUM REQUIREMENTS AND MUST BE INCREASED TO SUIT LENGTH OF RUN AND VOLTAGE DROP IN ACCORDANCE WITH SCHEDULE OBTAINED FORM CONSULTANT. CONDUCTORS NOT SIZED ON DRAWINGS SHALL BE SIZED IN ACCORDANCE WITH CODE. PROVIDE CABLE SUPPORT SYSTEM ACCESSORIES WHICH ARE NOT SPECIFIED HEREIN OR SHOWN ON DRAWINGS BUT ARE REQUIRED FOR PROPER INSTALLATION.
2. CONDUCTORS TO BE 'T90 NYLON' SINGLE CONDUCTOR TO CSA C222 NO. 75, COLOUR CODED 194 DEGREES F. (90 DEGREES C), PVC INSULATED AND NYLON COVERED.
3. BRANCH CIRCUIT CONDUCTORS IN ACCESSIBLE SUSPENDED CEILING SPACES, IN STUB WALL CONSTRUCTION TO SUSPENDED CEILING SPECES (MAXIMUM 20' (6MI RUN PERMITTED MAY BE 'BX' TYPE AC-90 FLEXIBLE ARMORED CABLE WITH 'RW-90' CONDUCTORS AND BARE COPPER GROUND CONDUCTORS TO CSA C22 NO. 51 (BULLETIN NO.994) PROVIDE PROPER SQUEEZED TYPE CONNECTORS AND PLASTIC ANTO-SHORT BUSHINGS AT TERMINATIONS. SUPPORT 'BX' IN CEILING SPACES AND IN STUD WALL CONSTRUCTION WITH STEEL 2 HOLE CABLE STRAPS TO 'CODE' REQUIREMENTS.
4. BRANCH CIRCUIT CONDUCTORS UP TO AND INCLUDING NO. 10 AWG SHALL BE SOLID CONDUCTORS IN SIZES LARGER THAN NO. 12 AWG UNLESS OTHERWISE NOTED.
5. PROVIDE IDI ELECTRIC 'IDEAL' NO. 451, NO. 452 AND NO. 453 'WING-NUT' CSA CERTIFIED 600V RATED PRESURE TYPE CONNECTORS.
6. COLOUR CODE CONDUCTORS IN ACCORDANCE WITH CODE, THROUGHOUT TO IDENTIFY PHASES, NEUTRALS AND GROUND BY MEANS OF SELF-LAMINATING COLOURED TAPE, COLOURED CONDUCTOR INSULATION OR PROPERLY SECURED COLOURED PLASTIC DISCS.
7. WHEN PULLING WIRES INTO CONDUIT, USE IDI ELECTRIC 'IDEAL YELLOW 77' LUBRICANT. ENSURE WIRES ARE KEPT STRAIGHT AND ARE NOT TWISTED OR BRAISED.

OUTLET BOXES, PULL BOXES AND JUNCTION BOXES

1. PROVIDE CSA APPROVED STAMPED GALVANIZED STEEL OUTLET BOX FOR EACH LUMINARIES, FIRE ALARM DEVICE, ETC. REFER TO DRAWINGS FOR LOCATIONS OF OUTLETS. CONFIRM EXACT LOCATIONS PRIOR TO ROUGH-IN.
2. PROVIDE PULL BOXES AND JUNCTION BOXES WHEREVER NECESSARY TO FACILITATE CONDUCTOR & CONDUIT INSTALLATIONS. GENERALLY, PROVIDE CONDUIT RUNS EXCEEDING 100' (30M) IN LENGTH OR WITH MORE THAN 3, 90 DEGREE BENDS WITH PULL BOX INSTALLED AT CONVENIENT AND SUITABLE INTERMEDIATE ACCESSIBLE LOCATION. PROVIDE JUNCTION BOXES AND PULL BOXES SIZED IN ACCORDANCE WITH CODE TO SUIT NUMBER AND SIZE OF CONDUITS AND CONDUCTORS. BOXES TO BE GALVANIZED OR PRIME COATED PLATED STEEL COMPLETE WITH SCREW-ONN OR HINGED COVERS AND KNOCKOUTS. BOXES MUST BE ACCESSIBLE AFTER WORK IS COMPLETE.
3. .SIZE, ARRANGEMENT AND TYPE OF BOXES MUST BE SUITABLE FOR APPLICATION. PROVIDE BLANK COVER PLATES ON EXISTING OBSOLETE BOXES WHICH ARE TO REMAIN. CLEARLY IDENTIFY MAIN PULL OR JUNCTION BOXES BY SPRAY PAINTING COVERS IN ACCORDANCE WITH FOLLOWING COLOUR SCHEDULE:
   3.1 LIGHTING - YELLOW
   3.2 NORMAL POWER - BLUE
   3.3 ESSENTIAL POWER - ORANGE
   3.4 FIRE ALARM - RED
4. WHERE REQUIRED, SUPPLY ACCESS DOORS OF MINIMUM NO. 23 GAUGE. PRIME COATED STEEL COMPLETE WITH HINGES AND FRAMES TO GIVE ACCESS TO BOXES AND CONDUCTOR JOINTS AND OTHER SIMILAR ELECTRICAL WORK WHICH MAY NEED MAINTENANCE OR REPAIR, BUT WHICH IS CONCEALED IN IN ACCESSIBLE CONSTRUCTION. CONFIRM FINISHES WITH OWNER.

RECEPTACLES, SWITCHES AND FACE PLATES

1. PROVIDE HUBBELL CANADA CSA APPROVED SPECIFICATION GRADE AC QUIET ACTION TOGGLE TYPE, 20A, 120V-277V SWITCHES AND SPECIFICATION GRADE PREMIUM QUALITY DUPLE NYLON CONSTRUCTION U-GROUND 12A-125V, 3W RECEPTACLES. DEVICES SHALL BE BACK AND SIDE WIRED. PROVIDE GRADE 18-8 TYPE 302.304 0.041" (1MM) THICK STAINLESS STEEL FACE PLATES WITH MATCHING SCREWS. CONFIRM TYPE AND FINISH OF DEVICES WITH OWNER PRIOR TO ORDERING.
2. WHERE SHOWN, PROVIDE HUBBELL NO. IG5262. 15A-125V, ULC LISTED, 2-POLE 3W, ORANGE COLOURED, SPECIFICATION GRADE ISOLATED GOUND DUPLEX RECEPTACLE COMPLETE WITH STAINLESS STEEL COVER PLATE AND MATCHING SCREWS.
3. WHERE SHOWN, PROVIDE HUBBELL NO. GF5252, 15A-125V ULC LISTED CLASS A, GROUP ONE, 2-POLE, 3IVORY COLOURED SPECIFICATION GRADE, GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, COMPLETE WITH STAINLESS STEEL COVER PLATE AND MATCHING SCREWS.
4. PROVIDE PERMANENTLY LABELED, SELF ADHESIVE IDENTIFICATION TAPE ON INSIDE AND OUTSIDE OF EACH DEVICE OUTLET FACE PLATE IDENTIFYING LOCATION FROM WHERE EACH DEVICE IS FED.
5. ACCEPTABLE MANUFACTURES INCLUDE LEVITON, PASS AND SEYMOUR, ARROW-HEAR AND BRYANT.

FASTENING AND SECURING HARDWARE

1. PROVIDE PROPER FASTENERS AND SIMILAR HARDWARE REQUIRED FOR CONDUIT CONDUCTORS AND FOR EQUIPMENT HANGER AND/OR SUPPORT MATERIAL UNLESS OTHERWISE NOTED. EXPLOSIVE POWER ACTUATED FASTENERS WILL NOT BE PERMITTED UNLESS SPECIFIC WRITTEN APPROVAL FOR US AND TYPE HAS BEEN OBTAINED FROM CONSULTANT. UNDER NO CIRCUMSTANCES US CEILING SUSPENSION HANGERS OR GRIDS FOR SUSPENSION OF CONDUIT AND CONDUCTORS.

IDENTIFICATION NAMEPLATES

1. FOR EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT FROM ELECTRICAL SOURCE OF SUPPLY UP TO AND INCLUDING PLANELOADS, PROVIDE ENGRAVED LAMACOID IDENTIFICATION NAMEPLATES SECURED TO APPARATUS WITH.
2. PROVIDE LAMACOID LABELS (3-PLY) WHITE LETTERED ON BLACK BACKGROUND- 1/4" HIGH LETTERING ON ALL ELECTRICAL EQUIPMENT SUPPLIED, MOUNTED AND/OR CONNECTED BY THIS CONTRACT.
2. PROVIDE BRADY LABELING ON ALL RECEPTACLE COVER PLATES INDICATING PANEL AND CIRCUITING NUMBER CONNECT BY THIS CONTRACT.

FUSES

1. PROVIDE COMPLETE SET OF FUSES FOR EACH FUSIBLE DISCONNECT OR SIMILAR FUSIBLE EQUIPMENT. FUSES TO BE FORM 1 , CLASS 'J' HRC FUSES FOR CONSTANT RUNNING EQUIPMENT AND FOR 11 CLASS 'C' FUSES FOR MOTOR EQUIPMENT THAT CYCLES 'ON' AND 'OFF'. ACCEPTABLE MANUFACTURERS ARE ENGLISH ELECTRIC, BUSSMAN AND GOULD.

DISCONNECT SWITCHES

1. PROVIDE DISCONNECT SWITCHES, CUTLEROHAMMER CANADA, HEAVY DUTYM, CSA APPROVED RONT OPERATED TYPE. FUSIBLE UNITS TO BE COMPLETE WITH FUSE CLIPS SUITABLE FOR HRC FUSES, UNLESS OTHERWISE NOTED. ENCLOSURES TO BE SPINKLER-PROOF. AMP RATING, NUMBER OF POLES AND FUSE REQUIREMENTS ARE AS INDICATED ON DRAWINGS. ACCEPTABLE MANUFACTURERS INCLUDE SIEMENS ELECTRIC, FEDERAL PIONEER AND SQUARE 'D' CANADA.

CIRCUIT BREAKERS FOR EXISTING PANELBOARDS

1. PROVIDE BREAKERS IN EXISTING PANELBOARDS OF TYPE TO MATCH EXISTING DEVICES. QUALITY AND STANDARDS OF BREAKERS SHALL MATCH EXISTING. CONFIRM REQUIREMENTS ON SITE PRIOR TO ORDERING. PROVIDE FOR ALL MODIFICATIONS TO PANELBOARDS FOR BREAKERS AND FEEDER INSTALLATIONS. PROVIDE REPLACEMENT BRANCH CIRCUIT DIRECTORY CARDS NEATLY TYPEWRITTEN TO INCORPORATE ADDITIONAL AND EXISTING CONNECTED LOADS TO CONSULTANTS DIRECTIONS. DIRECTORIES SHALL USE OWNERS ACTUAL ROOM NAMES & NUMBERS AND NOT CONTRACT DRAWINGS NAMES & NUMBERS. PROVIDE ENGRAVED LAMACOID I.D. NAMEPLATES FOR DISTRIBUTION PANELBOARDS TO CONSULTANTS DIRECTION.

PANELBOARDS

1. PROVIDE CUTLER-HAMER CANADA TYPE 'POW-R-LINE 1' FACTORY ASSEMBLED DEAD FRONT PANELBOARDS, 120/208V 3 PHASE 4 WIRE MANUFACTURED TO CSA STANDARD C22 NO 29 AND ELECTRICAL SAFETY AUTHORITY CODE AND DESIGNATED FOR AN INTERRUPTING CAPACITY OF 10KA SYMMETRICAL AT 208V.
2. INSTALL PANEL BOARDS WHERE SHOWN COMPLETE WITH:
   2.1 EEMAC 2 SPRINGLER-PROOF ENCLOSURE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH REMOVABLE BOX ENDS, WIRING GUTTER SPACE ON SIDES AND A ASA-61 GREY BAKED ACRYLIC ENAMEL FINISH.
   2.2 TRIM FOR RECESSED OR SURFACE WALL MOUNTING AS SHOWN CONSTRUCTED CODE GAUGE STEEL, BOWDLERIZED. FINISHED WITH ASA-61 GREY BAKED ACRYLIC ENAMEL AND COMPLETE WITH CONCEALED FASTENER, CONCEALED HINGE, CHROME PLATED DOOR, LATCH AND KEYED ALIKE LOCK WITH KEY, STEEL FRAME HOLDER AND CIRCUIT DIRECTORY BACK OF DOOR AND MYLAR CIRCUIT BREAKER IDENTIFICATION STRIPS.
   2.3 DRIP SHIELD FOR SURFACE MOUNTED PANELBOARDS.
   2.4 HARD DRAWN ELECTRICAL GRADE COPPER BUS AND GROUND BUS
   2.5 HIGH STRENGTH SET SCREW TYPE ANTI_TURNING WIRE CONNECTORS.
   2.6 BOLT ON MOULDED CASE CIRCUIT BREAKERS.
   2.7 MAIN BREAKER AND GREEN POWER 'ON' INDICATOR LIGHT, WHERE SCHEDULED.
   2.8 200% CAPACITY NEUTRALS FOR PANELBOARDS AS SCHEDULED.
3. PROVIDE DOUBLE LUGGING TO EXISTING PANELBOARDS AS SHOWN.
4. SUPPORT CABINET INDEPENDENT OF CONNECTING CONDUIT. TURN OVER TO CONSULTANT PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE OF WORK QUANTITY OF 2 PANELBOARD CABINET KEYS FOR PANELBOARD. IDENTIFY PANELBOARD BREAKERS IN PERMANENT MANNER AND COMPLETE TYPED CIRCUIT DIRECTORY TO OWNER'S APPROVAL.
5. ACCEPTABLE MANUFACTURERS INCLUDE SIMENS ELECTRIC. FEDERAL PIONEER AND SQUARE 'U' CANADA.
6. PROVIDE PANEL LABELS AND NEATLY TYPEWRITTEN PANEL DIRECTORY INSIDE DOOR IN PLASTIC SLEEVE.

GENERAL ELECTICAL WORK TESTING

1. IN ADDITION TO TESTS REQUIRED BY GOVERNING AUTHORITIES AND REGULATIONS, TEST WORK TO ENSURE THERE ARE NO LEAKS, GROUNDS OR CROSSES. ENSURE DEVICES ARE COMMISSIONED AND OPERABLE. COONECT CIRCUITS TO PANEL BOARDS SO AS TO BALANCE ACTUAL LOADS (WATTAGE) WITHIN 5%. IF REQUIRED TRANSPOSE CIRCUITS WHEN WORK IS COMPLETE TO MEET THIS REQUIREMENT.

LUMINARIES :

LED LIGHTING
1. GENERAL

PROVIDE LED LIGHTING FIXTURES AS SHOWN ON DRAWINGS AND LIGHTING SCHEDULE.
ALL FIXTURES SHALL BE CSA CERTIFIED AND ULC LISTED WHERE REQUIRED.
COORDINATE ALL INSTALLATION WITH ARCHITECTURAL AND SITE CONDITIONS PRIOR TO ROUGH-IN.

2. PRODUCTS

ALL LUMINAIRES SHALL BE COMPLETE LED TYPE WITH INTEGRAL LED DRIVERS.
COLOUR TEMPERATURE: 3500K UNLESS NOTED OTHERWISE.
MINIMUM CRI: 80-85.
FIXTURES SHALL PROVIDE UNIFORM LIGHT DISTRIBUTION AND BE SUITABLE FOR COMMERCIAL USE.
LED DRIVERS SHALL BE HIGH EFFICIENCY, FLICKER-FREE, AND CSA APPROVED.
MINIMUM 5-YEAR WARRANTY ON FIXTURES AND DRIVERS.

PROVIDE LIGHTING FIXTURE TYPES AND ACCEPTABLE MANUFACTURERS AS INDICATED ON THE ELECTRICAL DRAWINGS AND LIGHTING FIXTURE SCHEDULE. ALL FIXTURES SHALL BE SELECTED STRICTLY IN ACCORDANCE WITH THE APPROVED FIXTURE SCHEDULE UNLESS OTHERWISE APPROVED BY THE CONSULTANT.

3. INSTALLATION

INSTALL ALL FIXTURES AS PER MANUFACTURER'S INSTRUCTIONS AND DRAWINGS.
CONFIRM EXACT LOCATIONS PRIOR TO ROUGH-IN.
DO NOT SUPPORT FIXTURES FROM DUCTWORK, PIPING, OR CEILING SYSTEMS.
COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
ENSURE PROPER ALIGNMENT AND NEAT INSTALLATION IN FINISHED AREAS.
CLEAN ALL FIXTURES AFTER INSTALLATION.

4. COORDINATION / INSTALLATION REQUIREMENTS

THOROUGHLY REVIEW CEILING TYPES, FINISHES, AND CONSTRUCTION DETAILS WITH OWNER AND ARCHITECT PRIOR TO ORDERING LUMINARIES AND ENSURE ALL REQUIRED MOUNTING ACCESSORIES, FRAMES, RINGS, AND TRIMS ARE INCLUDED.

INCLUDE ALL NECESSARY COMPONENTS FOR COMPLETE INSTALLATION INCLUDING WIRING, CONNECTIONS, SUPPORTS, HANGERS, ALIGNMENT DEVICES, BOX COVERS, AND ACCESSORIES REQUIRED FOR A COMPLETE, SAFE, AND FULLY FUNCTIONAL INSTALLATION.

OCCUPANCY SENSORS

1. DUAL-TECHNOLOGY CEILING AND WALL-MOUNTED OCCUPANCY SENSORS SHALL BE PROVIDED AND INSTALLED AS INDICATED ON THE DRAWINGS.
2. SENSORS SHALL DETECT AN AVERAGE-SIZE PERSON WITH A MINIMUM MOTION SENSITIVITY OF 2 INCHES AND SHALL MAINTAIN LIGHTING IN THE "ON" STATE WHILE OCCUPANCY IS DETECTED. EACH SENSOR SHALL INCLUDE AN INTEGRAL BYPASS SHUNT SWITCH TO ALLOW FOR SERVICE MODE AND MANUAL OVERRIDE OPERATION.
3. MULTIPLE SENSORS SHALL BE WIRED IN PARALLEL TO PROVIDE FULL COVERAGE AS INDICATED ON THE DRAWINGS.
4. TIME DELAY TO "OFF" SHALL BE ADJUSTABLE BETWEEN 5 AND 30 MINUTES. SENSORS SHALL INCLUDE WALK-THROUGH AND TEST MODES.
5. SENSORS SHALL BE PROVIDED WITH A MINIMUM 5-YEAR MANUFACTURER WARRANTY.
6. SENSORS SHALL BE COMPATIBLE WITH POWER PACKS/RELAY PACKS SUPPLIED BY THE SAME MANUFACTURER FOR CONTROL OF CONNECTED LIGHTING LOADS AS INDICATED ON THE DRAWINGS. CEILING-MOUNTED OCCUPANCY SENSORS SHALL PROVIDE A MINIMUM COVERAGE AREA OF 2,000 SQUARE FEET, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

WALL BOX DIMMERS

1. PROVIDE LUTRON ELECTRONICS CO. 'NOVA' SERIES, VOLTAGE STABILIZED, SOLID STATE SQUARE LAW DIMMING PRINCIPLE SIZE TO SUIT LOADS, INCANDESCENT WALL BOX DIMMERS, EACH COMPLETE WITH CALIBRATED LINEAR SLIDE CONTROL WITH SILVER CONTACTS AND SILENT POSITIVE ON/OFF, FACE PLATE, EMI AND RFI FILTERING. CONFIRM FINISH WITH CONSULTANT PRIOR TO ORDERING.
2. INSTALL FLUSH WALL BOX DIMMERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS WHERE SHOWN AND CONNECT TO CONTROL LIGHTING AS INDICATED. CONFIRM EXACT LOCATIONS PRIOR TO ROUGH-IN EQUIPMENT. EACH DIMMER WITH FACE PLATE, CONFIRM FACE PLATE COLOUR PRIOR TO ORDERING. WHEN INSTALLATION IS COMPLETE, CHECK AND TEST OPERATION OF EACH DIMMER AND ADJUST AS REQUIRED. ENSURE EACH DIMMERS IS PROPERLY SIZED TO SUIT CONNECTED LOAD. ACCEPTABLE MANUFACTURERS INCLUDE HUBBELL CANADA.

SURFACE METAL RACEWAYS

1. WIREMOLD CANADA 'G-4000 SERIES' CSA APPROVED, SURFACE METAL RACEWAYS SHALL CONSIST OF 2 PIECE STEEL RACEWAY WITH DIVIDER AND SNAP ON COVER COMPLETE WITH PRE-WIRED RECEPTACLES, GROMMETTED TELEPHONE AND & DATA OUTLETS. CLAMPS, FITTINGS ELBOW, ETC. TO MAKE A COMPLETE SYSTEM AS SHOWN ON DRAWINGS. CONFIRM FINISH WITH CONSULTANT PRIOR TO ORDERING.
2. ACCEPTABLE MANUFACTURERS INCLUDE CANADIAN ELECTRICAL RACEWAYS.

EMERGENCY LIGHTING BATTER UNITS

1. PROVIDE LONG LIFE SEALED LEAD BATTERY UNITS. UNITS SHALL BE COMPLETE WITH SOLD SATE CHARGER, AC LINE CORD AND PLUG SET NO. 18 GAUGE STEEL CABINET AND WHERE SHOWN. CONNECT REMOTE LIGHTING HEADS COMPLETE, BACK TO BATTERY UNIT. CHARGE TO RESTORE BATTERIES TO FULL CHARGE WITHIN 12 HOURS. SYSTEM TO HAVE OBC REQUIRE DURATION OF OUTPUT CAPACITY FOR LOAD OF SYSTEM (BOUT MINIMUM OF 30 MINUTES). MOUNT UNIT IN AREA AS SHOWN ON DRAWINGS AND PLUG UNIT INTO ADJACENT RECEPTACLE. PROVIDE REMOTE LAMP HEADS WHERE SHOWN AND PROVIDE WIRING IN CONDUIT TO BATTER UNIT. CONFIRM EXACT LOCATION . CIRCUIT RUN WIRING SIZES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS FOR VOLTAGE DROP PROTECTION TEEST CHECK AND ADJUST AS REQUIRED. ACCEPTABLE MANUFACTURERS INCLUDE EMERGI-LITE AND DUAL-LITE.

FLOOR FITTINGS

1. HUBBELL CANADA FULLY ADJUSTABLE, POKE-THROUGH ASSEMBLY FLOOR FITTING. 2 HOUR FIRE RATED , 2PIECE DESIGN, CONTOURED DIE-CAST ALUMINUM, SATIN CHROME FINISHED COVER, SERRATE ABOVE FLOOR FITTING, WITH CARPET FLANGE LIFT COVER ASSEMBLY, FIRE STOPS, COLD SMOKE BARRIER, JUNCTION BOX AND AS REQUIRED KNOCKOUTS.
2. PROVIDE SEPARATE FLOOR FITTING ASSEMBLIES WITH EACH OF THE FOLLOWING:
   2.1 TWO SPECIFICATION GRADE DUPLEX 15A 125 RECEPTACLES;
   2.2 TWO TELEPHONE & DATA COVER PLATES WITH GARMENTED OPENINGS;
   2.3 TWO SPECIFICATION GRADE ISOLATED GROUND DUPLEX 15A 125V RECEPTACLES.
3. PROVIDE POKE-THROUGH ASSEMBLY IN LOCATIONS SHOWN ON DRAWINGS. PROVIDE WIRING IN CONDUIT IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. INSTALL AND MOUNT DEVICES THROUGH SLAB IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. NOTE: INSTALL CONDUCTORS CONNECTED TO FLOOR FITTING G IN CEILING SPEC OF FLOOR BELOW.
4. ACCEPTABLE MANUFACTURERS INCLUDE WIREMOLD CANDIA AND THOMAS AND BETTS.

CABLE TRAY

1. PURSLEY INC. TOTALLY ENCLOSED 6" (150MM) WIDE X 6" (150MM) HIGH CABLE TRAY MANUFACTURED FROM MINIMUM NO.16 GAUGE GALVANIZED STEEL AND SUPPLIED IN 10' (3M) LENGTHS, COMPLETE WITH TWO (2) 5' (1.5M) LENGTH HINGED COVER. EACH LENGTH OF TRAY SHALL BE COMPLETE WITH COUPLING TO 1 END PREPUNCHED TO ALIGH WITH HOLES PRE-PUNCHED IN OTHER END OF THE ADJACENT SECTION OF THE TRAY. 2 SECTIONS SHALL BOLT TOGETHER TOP, BOTTOM AND SIDE OPPOSITE COVERS SHALL BE PROVIDE WITH TEN (10) 1/2" (13MM) DIAMETER KNOCKOUTS, SPACED 1' (300MM) APART FOR A TOTAL 30 KNOCKOUTS PER LENGTH OF TRAY.
2. INSTALL AND HANG TRAY AT MAXIMUM 5' (1.5M) CENTERS IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED LITERATURE EMPLOYING UNISTRUT HANGERS. TERMINATE CONDUITS AT OR IN TRAY WITH PROPER GROMMETTED AND BUSHED TERMINATIONS. THE CABLE TRAY ROUTING SHOWN ON FLOOR PLANS IS GENERAL ONLY AND SHALL BE CAREFULLY CIO-ORDINATED WITH WORK OF OTHER TRADE. ADJUST LOCATION OR ROUTING AS MAY BE REQUIRED AND INCLUDE FOR ALL OFFSETS NECESSARY FOR CO-ORDINATION. PROPERLY SECURE ADEQUATELY SUPPORT AND NEATLY HARNESS CONDUCTORS IN TRAY. SEAL CABLE TRAY PENETRATION OF BUILDING FIRE BARRIERS BY MEANS OF ULC LISTED AN LABELED PACKING MATERIAL.
3. ACCEPTABLE MANUFACTURERS INCLUDE ELECTROTRAY, PILGRAM TECHNICAL PRODUCES LTD. AND CANSTRUT INC.

LADDER TYPE CABLE TRAY

1. PURSLEY INC. OPEN LADDER CABLE TRAY MANUFACTURED FOR MINIMUM NO. 16 GAUGE GALVANIZED STEEL. TRAY SHALL HAVE MINIMUM CSA CASS C1 LOAD RATING. RUNG SPACING SHALL BE MAXIMUM 6" (150MM). TRAY SHALL BE COMPLETE WITH MOUNTING ANGLE BRACKETS, SUPPORTS ETC. TO PROVIDE SYSTEM AS DETAILED ON DRAWINGS.
2. INSTALL AND SUPPORT TRAY IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED LITERATURE EMPLOYING UNISTRUT HANGERS. TERMINATE CONDUITS AT OR IN TRAY WITH PROPER GROMMETTED AND BUSHED TERMINATION. THE CABLE TRAY ROUTING SHOWN ON FLOOR PLANS IS GENERAL ONLY AND SHALL BE CAREFULLY CO-ORDINATED WITH WORK OF OTHER TRADES. ADJUST LOCATION OR ROUTING AS MAY BE REQUIRED AND INCLUDE FOR ALL OFFSETS NECESSARY FOR CO-ORDINATION. PROPERLY SECURE, ADEQUATELY SUPPORT AND NEATLY HARNESS CONDUCTORS IN TRAY. SEAL CABLE TRAY PENETRATIONS OF BUILDING FIRE BARRIERS BY MEANS OF ULC LISTED AND LABELLED PACKING MATERIAL.
3. ACCEPTABLE MANUFACTURERS INCLUDE ELECTROTARY, PILGARM TECHNICAL PRODUCTS LETD., CANSTRUT AND NEPCO.

EMERGENCY LIGHTING SYSTEM

1. PROVIDE EMERGENCY LIGHTING UNITS AND WIRING SYSTEMS AS NOTED.
2. EMERGENCY BATTERY UNITS SHALL BE DESIGNED TO PROVIDE EMERGENCY LIGHTING FOR AT LEAST 30 MINUTES AUTOMATICALLY UPON FAILURE OF A NORMAL POWER SOURCE. UPON RESTORATION OF THE NORMAL POWER, THE BATTERY UNIT SHALL BE RESTORED AUTOMATICALLY TO A CHARGING CONDITION. THE CHARGING CYCLE SHALL RAISE THE BATTERY TO AN EQUALIZED VOLTAGE AND THEN ELECTRONICALLY SENSE THE FULL STATE OF CHARGE IN THE BATTERY AND RETURN THE BATTERY TO A LOWER FLOAT VOLTAGE.THE CHARGER SHALL BE REGULATED TO A PLUS OR MINUS 20 MV OUTPUT FOR PLUS OR MINUS 10% INPUT VOLTAGE FLUCTUATION. IN ORDER TO EXTEND BATTERY LIFE AT AMBIENCE OTHER THAN ROOM TEMPERATURE, THE CHARGER SHALL REDUCE THE BATTERY VOLTAGE BY 4 MV PER CELL PER OC RISE IN TEMPERATURE AND SHALL RAISE THE BATTERY VOLTAGE BY 4 MV PER CELL PER OC REDUCTION IN TEMPERATURE FROM A 200C REFERENCE TEMPERATURE. THE UNIT SHALL BE EQUIPPED WITH A PHASE LOSS AND BROWN OUT PROTECTION CIRCUIT WHICH SHALL TURN ON EMERGENCY LIGHTS WHEN INPUT VOLTAGE TO THE UNIT FALLS BELOW 90 VOLTS OR 75% FULL VOLTAGE. THE UNIT SHALL INCLUDE A TEST SWITCH, CHARGE AND ON PILOT LIGHTS WHICH SHALL BE LIGHT OMITTING DIODES. THE UNIT SHALL INCLUDE A LOW VOLTAGE DISCONNECT CIRCUIT.
3. BATTERY UNITS SHALL BE LUMACELL OF THE TYPES NOTED, COMPLETE MAINTENANCE-FREE, SEALED PURE LEAD MODEL NO. RG24S SERIES RATED AS INDICATED ON THE DRAWINGS WITH DESIGN LIFE OF 10 YEARS, 24 VOLT. THE UNIT SHALL BE PERFORMANCE CERTIFIED AND CARRY C.S.A. C22.2 NO. 141 APPROVAL FOR THE WATTAGE NOTED.
4. WALL MOUNTED UNIT SHALL BE PROVIDED WITH RECESSED BACK BOX AND MOUNTING TEMPLATE TO ALLOW PRE-INSTALLATION FEEDS OF A.C. INPUT AND D.C. OUTPUT. BOTH A.C. INPUT AND D.C. OUTPUT SHALL ENTER UNIT THROUGH BACK FACE WITHOUT ANY VISIBLE CABLE OR CONDUIT FEEDS. PROVIDE WALL MOUNTED SHELF FOR EACH BATTERY UNIT.
5. PROVIDE A 120 VOLT INPUT CIRCUIT FOR EACH UNIT WIRED TO UNSWITCHED CIRCUIT INDICATED. WIRE TO EXIT SIGNS FROM BATTERY UNITS. SIZE CONDUCTORS TO ALL REMOTE LAMPS TO PROVIDE MAXIMUM VOLTAGE DROP OF FIVE PERCENT.
6. EMERGENCY EQUIPMENT TYPES:
   TYPE 1 - SHALL COMPRISE A MODEL LD14 CEILING MOUNTED ADJUSTABLE MR16 REMOTE LIGHTING UNIT 6 WATT 24 VOLT.
   TYPE 2 - SAME AS TYPE 1 EXCEPT DOUBLE HEAD, MODEL LD14, 6W 24V.
7. EMERGENCY LIGHTING LEVEL MEASUREMENT
   7.1. INCLUDE FOR SERVICES TO MEASURE AND PLOT LIGHTING LEVELS ON FLOOR PLANS UPON COMPLETION OF WORK. PROVIDE COPIES FOR REVIEW BY CONSULTANT AND FIRE DEPARTMENT.
8. EXIT SIGNS
   8.1. SHALL BE LUMACELL LA SERIES OR EQUAL, LED PANEL, EXTRUDED ALUMINUM PICTOGRAM EXIT SIGNS, DIRECTION ARROWS AS REQUIRED, HAVING LESS THAN 2.5 WATTS WHITE LED PANEL FOR UNIVERSAL AC/DC CONNECTION. WEATHERPROOF EXIT SIGNS SHALL BE LUMACELL # LN SERIES AS PICTOGRAM EXIT SIGNS
9. INCLUDE FOR THE SUPPLY, INSTALLATION AND WIRING (TO NEAREST NORMAL & EMERGENCY LIGHTING CIRCUIT) OF 3 ADDITIONAL EXIT SIGNS AT LOCATIONS LATER DIRECTED ON SITE.
10. ACCEPTABLE EMERGENCY EQUIPMENT MANUFACTURERS ARE:
    - LUMACELL
    - LUXNET
    - EMERGI-LITE
    - BAGHELLLI

PUBLIC ADDRESS SYSTEM

1. ALL DEVICES SHALL BE COMPATIBLE WITH THE EXISTING PUBLIC ADDRESS SYSTEM. PROVIDE ALL REQUIRED DEVICES, WIRING, JUNCTION BOXES, EMT CONDUITS, AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL INSTALLATION.
2. PROVIDE RECESSED CEILING-MOUNTED OR WALL-MOUNTED PUBLIC ADDRESS SPEAKERS WHERE INDICATED ON THE ELECTRICAL DRAWINGS. PROVIDE ALL REQUIRED BACK BOXES, SUPPORT BRACKETS, WIRING, AND ACCESSORIES FOR A COMPLETE INSTALLATION. CONNECT ALL NEW DEVICES TO THE EXISTING PUBLIC ADDRESS/ANNUNCIATION SYSTEM AND EXISTING CAREHAWK PA PANEL.
3. PROVIDE ALL REQUIRED WIRING, JUNCTION BOXES, DEVICES, AND ACCESSORIES FOR A COMPLETE PUBLIC ADDRESS SYSTEM INSTALLATION. ALL WIRING SHALL BE INSTALLED IN EMT CONDUIT UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL VERIFY COMPATIBILITY OF ALL NEW EQUIPMENT WITH THE EXISTING PUBLIC ADDRESS SYSTEM PRIOR TO PROCUREMENT AND INSTALLATION. PROVIDE ALL REQUIRED INTERFACE MODULES, POWER SUPPLIES, AND ANCILLARY COMPONENTS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
5. CONTRACTOR SHALL COORDINATE ALL CONNECTIONS, PROGRAMMING, TESTING, AND COMMISSIONING REQUIREMENTS WITH THE EXISTING CAREHAWK PUBLIC ADDRESS SYSTEM. PROVIDE A COMPLETE OPERATIONAL SYSTEM AT PROJECT COMPLETION.

FIRE ALARM SYSTEM

1. GENERAL

1.1 ALL FIRE ALARM WORK SHALL BE PERFORMED BY LICENSED AND QUALIFIED FIRE ALARM TECHNICIANS EXPERIENCED IN THE INSTALLATION, VERIFICATION, TESTING, AND SERVICING OF FIRE ALARM SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND THE AUTHORITY HAVING JURISDICTION.

1.2 THE EXISTING FIRE ALARM SYSTEM IS EDWARDS. ALL NEW DEVICES, MODIFICATIONS, AND ADDITIONS SHALL BE FULLY COMPATIBLE WITH THE EXISTING SYSTEM.

1.3 THE CONTRACTOR SHALL MAINTAIN CONTINUOUS OPERATION OF ALL EXISTING FIRE ALARM AND LIFE SAFETY SYSTEMS DURING CONSTRUCTION.

2. CODES AND STANDARDS

2.1 ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING:

ONTARIO BUILDING CODE (OBC)
CANADIAN ELECTRICAL CODE (CEC)
NFPA 70 -NATIONAL ELECTRICAL CODE
NFPA 72 -NATIONAL FIRE ALARM AND SIGNALING CODE
NFPA 101 -LIFE SAFETY CODE
REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION
UNDERWRITERS LABORATORIES OF CANADA (ULC)

2.2 ALL WORK SHALL ALSO COMPLY WITH THE FOLLOWING CAN/ULC STANDARDS (LATEST EDITIONS):

CAN/ULC-S524 -INSTALLATION OF FIRE ALARM SYSTEMS
CAN/ULC-S537 -VERIFICATION OF FIRE ALARM SYSTEMS
CAN/ULC-S1001 -INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS
CAN/ULC-S527 -CONTROL UNITS FOR FIRE ALARM SYSTEMS
CAN/ULC-S529 -SMOKE DETECTORS FOR DUCT APPLICATIONS
CAN/ULC-S531 -SMOKE ALARMS
CAN/ULC-S530 -HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
CAN/ULC-S525 -AUDIBLE SIGNALING APPLIANCES
CAN/ULC-S526 -VISUAL SIGNALING APPLIANCES
CAN/ULC-S528 -MANUALLY ACTUATED SIGNALING BOXES
CAN/ULC-S548 -WATER FLOW INDICATORS
CAN/ULC-S541 -SPEAKERS FOR FIRE ALARM SYSTEMS

3. PRODUCTS

3.1 PROVIDE ALL NEW FIRE ALARM DEVICES INCLUDING HORNS, STROBES, INITIATING DEVICES, MODULES, BACK BOXES, JUNCTION BOXES, WIRING, AND ALL REQUIRED ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.

3.2 PROVIDE ALL REQUIRED EXPANSION MODULES, POWER SUPPLIES, RELAYS, AND ANCILLARY EQUIPMENT REQUIRED TO ACCOMMODATE NEW DEVICES AND SYSTEM MODIFICATIONS.

4. EXECUTION

4.1 INSTALL ALL FIRE ALARM DEVICES IN LOCATIONS INDICATED ON THE CONTRACT DRAWINGS.

4.2 PROVIDE ALL REQUIRED WIRING, EMT CONDUITS, BOXES, AND ACCESSORIES FOR A COMPLETE INSTALLATION.

4.3 CONTRACTOR SHALL VERIFY FIRE ALARM CIRCUIT WIRE SIZING WITH THE MANUFACTURER BASED ON CIRCUIT LENGTH AND QUANTITY OF DEVICES PRIOR TO INSTALLATION.

4.4 CONNECT ALL NEW DEVICES TO THE EXISTING FIRE ALARM PANEL LOCATED IN THE MECHANICAL ROOM. CONTRACTOR SHALL VERIFY PANEL CONDITION, COMPATIBILITY, AND AVAILABLE CAPACITY PRIOR TO COMMENCEMENT OF WORK.

4.5 MODIFY EXISTING FIRE ALARM SYSTEM AS REQUIRED INCLUDING PROGRAMMING, ZONING, AND SYSTEM CONFIGURATION.

4.6 FIRE ALARM HORN/STROBE DEVICES SHALL BE FULLY SYNCHRONIZED WITH THE EXISTING BUILDING SYSTEM.

4.7 PROVIDE FIRE ALARM ZONING AS REQUIRED FOR FIRE SEPARATION AND CODE COMPLIANCE.

4.8 ELEVATOR FIRE ALARM INTERFACE CONTACTS SHALL BE PROVIDED BY THE ELEVATOR SUPPLIER. CONTRACTOR SHALL COORDINATE AND COMPLETE FINAL CONNECTIONS.

5. TESTING, VERIFICATION, AND COMMISSIONING

5.1 PROVIDE COMPLETE TESTING, VERIFICATION, AND CERTIFICATION OF ALL NEW AND MODIFIED FIRE ALARM DEVICES.

5.2 ALL FIRE ALARM SYSTEM WORK SHALL BE TESTED AND VERIFIED IN ACCORDANCE WITH CAN/ULC-S537 AND ALL APPLICABLE CODES.

5.3 ALLOW FOR THIRD-PARTY CAN/ULC-S1001 INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS.

5.4 ALL INTERFACED LIFE SAFETY SYSTEMS SHALL BE TESTED AS A COMPLETE INTEGRATED SYSTEM IN ACCORDANCE WITH CAN/ULC-S1001. TESTING SHALL BE PERFORMED AND CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN ONTARIO AND ULC-CERTIFIED FOR SUCH WORK.

6. ADMINISTRATIVE REQUIREMENTS

6.1 CONTRACTOR SHALL COORDINATE ALL SHUTDOWNS WITH THE SCHOOL BOARD. MINIMUM SEVEN (7) DAYS WRITTEN NOTICE IS REQUIRED.

6.2 PROVIDE CONTINUOUS MAINTENANCE OF ALL EXISTING LIFE SAFETY SYSTEMS DURING CONSTRUCTION.

6.3 UPON COMPLETION, PROVIDE UPDATED FIRE ALARM GRAPHICS IN CLEAN DIGITAL FORMAT WITHOUT WATERMARKS FOR OWNER RECORDS.

ISSUE OR REVISION

No.	Description	Date
1	ISSUED FOR 50% CD	Feb 11, 2026
2	ISSUED FOR 95% CD	March 11, 2026
3	ISSUED FOR 95% CD - M	March 19, 2026
4	ISSUED FOR COMMENTS	April 24, 2026
5	ISSUED FOR TENDER	June 4, 2026
6		
7		
8		

PROJECT :
KING'S ROAD PS,
ACCESSIBILITY UPGRADES PROJECT
660 GREENWOOD ROAD, BURLINGTON, ONTARIO, L7T 3P3
HALTON DISTRICT SCHOOL BOARD

PROFESSIONAL SEAL :

DWG TITLE :
ELECTRICAL SPECIFICATION

REGAL CONSULTING ENGINEERS INC.
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DATE : December 2025
SCALE : AS NOTED
DRAWN BY: AS
CHECKED BY : MA
DWG STATUS : REVIEW
PROJECT No. : 2025-502
DRAWING No. : E6.0
REVISION