

Specifications:

Item 1 Added Specifications – COMMISSIONING Section 01 91 00 (16 Pages) – attached

Item 2 Commission Plan from CFMS-West Consulting Inc. (14 pages) – attached

Item 3 Hardware schedule from Knell’s Door and Hardware (16 pages) - attached

Item 4 Section 08800 Glazing

Part 2 - Materials

2.1.4 Fire Rated Glass

Clarification: Delete 5.0mm thick FireLite – Premium and Replace with 5.0mm thick FireLite NT or 8mm thick Firelite Plus.

Approved Equal: Add Pyron Platinum 5mm by Glassopolis

Item 5 Section 00011 Instructions to Bidders

1.1 Invitation

.1 Registered Suppliers/Bidders

Revise: Tender Closing Date to Thursday May 14, 2026 on or before 2:00:00pm

(See attached Form of Tender and Supplementary Form of Tender)

Item 6 Section 01020 Cash Allowance

Revise: 1.2 Cash Allowance

13. Include in the Stipulated Price Quoted, a Cash Allowance to be \$535,000 + HST (Five hundred and thirty five thousand dollars).

Question 1

RE: Specification section 07 27 36 Spray Foam Insulation: Is Genyk ‘Boreal Nature Elite’ (CCMC #14140-L) an acceptable product? See attached.

Answer 1

Add Genyk Boreal Natural Elite as acceptable equivalent spray foam insulation.

Question 2

Drawing A2.10 Exterior Wall Types calls for 100mm Closed Cell Spray Foam Insulation, whereas drawing A4.20 Typical Wall Assembly stipulates 100mm Rigid Insulation. Please clarify.

Answer 2

Delete reference to 100mm Rigid Insulation at exterior wall assembly.

Question 3

Limestone granular are specified in the specification; is this required or are local granular sufficient?

Answer 3

Local granular are acceptable.

Question 4

Confirming anything incomplete from the City's road/sidewalk work is not to be included in our scope and cut off is property line?

Answer 4

Refer to site plan to show work required at new driveway entrance. The existing asphalt multi-use path has been constructed and will need to be maintained at the new driveway.

Question 5

Can you advise if the intent is to put wire mesh reinforcing in the second floor topping as per note 4.6 on S0.01? There's no mention of the wire mesh on the plans.

Answer 5

Yes, wire mesh will be required as reinforcement for the second floor concrete topping. Refer to the attached update Structural Drawings S0.3.

Question 6

The sprinkler tender drawing shows new pipe running from the sprinkler room to supply the new addition. Please confirm what the hours of work will be in the existing school to complete this portion of the work?

Answer 6

The intent is for this portion of the work to be done between 8 am and 4 pm Monday to Friday during the months of July and August.

Question 7

Who will be responsible for taking down the ceiling tiles and grids in the existing corridor to allow for the installation of the new sprinkler pipe?

Answer 7

The General Contractor will remove and reinstall ceiling tiles and grides.

Question 8

In the sprinkler specification section 15510 subsection 3.8 As-built Drawings, it mentions there will be a fee associated with receiving AutoCAD drawings. Could you please confirm what this fee will be?

Answer 8

There will be no fee charged for the AutoCAD drawings.

Question 9

What will the working hours be to work in the addition?

Answer 9

8 am to 4 pm, Monday to Friday.

Question 10

Is the sprinkler quote being submitted to the mechanical contractor or to the general contractor directly?

Answer 10

Mechanical contractor.

Question 11

Please confirm if seismic bracing is required for the sprinkler system?

Answer 11

Seismic bracing is required.

Question 12

We respectfully request your consideration of the mechanical items listed below as equal to those specified:

1. Section 15813 ERV-1 – Request for Equal: Aaon
2. Section 15700 CH-1,2 – Request for Equal: Rosemex
3. Section 15700 RP-1 - Request for Equal: Armstrong
4. Section 15700 WF-1 - Request for Equal: Rosemex
5. Section 15952 FCU-1/CU-1 - Request for Equal: Midea

Answer 12

See Individual Section/Requests:

Section 15813 ERV-1 - Request for Equal: Aaon - Not Approved

Section 15700 CH-1,2 - Request for Equal: Rosemex

See Amendments to Specifications

Section 15700 RP-1 - Request for Equal: Armstrong

- See Amendments to Specifications

Section 15700 WF-1 - Request for Equal: Rosemex

- See Amendments to Specifications

Section 15952 FCU-1/CU-1 - Request for Equal: Midea

- See Amendments to Specifications

Section 15700 - Liquid Heat Transfer

- .1 **Refer to Item 2.2.2.5: ADD** Item 2.2.2.5.4, to read:
".4 Rosemex"
- .2 **Refer to Item 2.2.3.5: ADD** Item 2.2.3.5.4, to read:
".4 Rosemex"
- .3 **Refer to Item 2.3.7: ADD** Item 2.3.7.4, to read:
".4 Armstrong"

Section 15952 - Refrigeration - Air Conditioning Equipment

- .4 **Refer to Item 2.1.1.2, ADD** Item 2.1.1.2.6, to read:
".6 Midea"

Question 13

Typically, WRDSB standard millwork is provided with interior and exterior Hardrock Maple melamine on particle board. Could you please confirm if this is acceptable for this project?

Answer 13

Please submit as specified. This is not a WRDSB

Question 14

Masonry Specification #04200, Section 2.1.1 (Materials), specifies 20 MPa concrete blocks, while the structural drawings in the "Concrete Block Wall Schedule" indicate 15 MPa blocks. Which do we follow?

Answer 14

Refer to the Structural drawings Concrete "Block Wall Schedule". Strength to be 15 MPa and only (SW1 and SW1a) shear walls to be 20MPa

Question 15

Confirm if the asphalt paving depths for heavy and medium duty paving are to follow the details on the architectural – Site Details Plan – or per the depths provided in spec. section 02600? The details show the medium-duty paving with an additional 10mm of top-course asphalt.

Answer 15

Refer to the depths provided in the specifications section 02600.

Question 16

Confirm if the driveway entrance off Connaught Street is to be asphalt or concrete paving? The site plan calls for a new asphalt driveway entrance whereas the grading plan calls for a concrete driveway entrance.

Answer 16

The work on the driveway is to be completed by the General Contractor and this work should include restoration of all line paintings, asphalt markings. Delete references to a concrete driveway. Add at the boulevard a new concrete curb between the street curb and asphalt walkway at the sodded edges on both sides of the new driveway. Follow curb detail to match curb detail at new driveway.

Question 17

Please confirm if the municipal walkway along Connaught Street is asphalt paving pathway or a concrete sidewalk path? The site plan shows asphalt whereas the grading plan calls out a concrete walkway.

Answer 17

The work on the driveway is to be completed by the General Contractor and this work should include restoration of all line paintings, asphalt markings. Delete references to a concrete driveway. Add at the boulevard a new concrete curb between the street curb and asphalt walkway at the sodded edges on both sides of the new driveway. Follow curb detail to match curb detail at new driveway.

Drawings:

Item 1. Replace structural drawings S0.3 with attached updated drawing.

STRUCTURAL: Updated Typical Details Drawing S0.3 (attached)

Clarification: The change: Masonry is built first and structural topping is poured later. Dowels are crossing walls right above the PC slabs to splice topping WWF reinforcement on both sides of the walls.

Item 2 See attached SK-01 Front Elevation Brick Cross Detail

Item 3 See attached SK-02 Transformer Location Partial Site Plan

Electrical Addendum

Amendments to Drawings

1. **Note:** The Owner has elected to proceed with nLight controls for all addition and renovation spaces, as well as tie-in of selected lighting to the building's BAS system. The Contractor is to disregard the controls layout for pricing purposes; a cash allowance for lighting controls will be specified by the Architect, and a site instruction will be issued after contract award to detail the controls layout updates.

2. **Refer to Existing Ground Floor Power & Systems (Drawings NOT issued with this change)**

- .1 Remove the existing UPS panel located in Classroom 102. The Contractor shall coordinate the removal scope of work with the Owner prior to commencing work.
- .2 Following removal of the existing UPS panel noted above, re-work circuits serving receptacles in the existing west wing classrooms (2 circuits per classroom, 6 classrooms total) and extend them to the new UPS panel (UPS-1) located in IT Closet [150]. Provide additional conduit and wiring as required.
- .3 Re-work circuits (total of 3 circuits) serving receptacles in existing Main Office to UPS panel (UPS-1) located in IT Closet [150] in school addition. Provide additional conduit/wiring as required.
- .4 Re-work circuit service receptacles in existing VP's Office to UPS Panel (UPS-1) located in IT Closet [150] in school addition. Provide additional conduit/wiring as required.
- .5 Re-work circuit serving receptacle for data rack in existing Seminar Room [119] to UPS panel (UPS-1) located in IT Closet [150] in school addition. Provide additional conduit/wiring as required.
- .6 Relocate phone system in existing Boiler Room to IT Closet [150] in school addition. Refer to Drawing E5.01 for new location.
- .7 Add one (1) 15A, 1-pole circuit for the Security (SEC) panel located in the existing Boiler Room. Circuit shall be fed from UPS-1.
- .8 Add two (2) 15A, 1-pole circuits for the access control panels (ACP) in the existing Boiler Room. Circuits shall be fed from UPS-1.

3. **Refer to Drawing E4.01 'Partial Ground Floor Plan Addition – Lighting Plan'**
(Drawings issued with this change)

- .1 Revise circuit serving north entrance canopy lighting to circuit LP-1-18 as shown. Circuit LP-1-21 shall remain as spare.

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4. **Refer to Drawing E4.02 'Partial Second Floor Plan Addition – Lighting Plan' (Drawings issued with this change)**
 - .1 Revise circuit serving staircase [2S1] lighting to circuit LP1-19 as shown. Circuit LP-2-11 shall remain as spare.
 - .2 Revise circuit serving staircase [2S2] lighting to circuit LP-1-18 as shown. Circuit LP-2-12 shall remain as spare.

 5. **Refer to Drawing E5.01 'Partial Ground Floor Plan Addition – Power & Systems (1 of 2) (Drawings issued with this change)**
 - .1 Add drawing note #27.
 - .2 Add callout detail #3 "150 I.T. Closet – Power & Systems"
 - .1 Add one (1) 15A, duplex receptacle for relocated phone system and wire as shown. Coordinate exact location requirements with Owner prior to rough-ins.

 6. **Refer to Drawing E7.01 'Demon & Proposed Single Line Diagram (Drawings issued with this change)**
 - .1 Remove ground wiring from incoming secondaries, conduit/cable tag #2 as shown.

 7. **Refer to drawing E9.01 'Panel Schedules' (Drawings issued with this change)**
 - .1 Revise panelboards LP-1 and LP-2 as shown.
 - .2 Revise panelboard UPS-1 from a 12-circuit board to 30-circuit board and add circuits as shown.

 8. **Note:** Enova Power Corp's Hydro Design Drawing and details have been appended to this addendum for definition/delineation of Electrical Contractor and Utility scope of work and requirements. A site instruction shall be issued post-award to update details currently shown on electrical plans to reflect these updates.

End of Addendum 2

1.1 TENDER INFORMATION

NAME OF BIDDER: _____

TENDER CLOSE: Thursday May 14th 2026 at 2:00:00p.m.

SUPPLEMENTAL TENDER FORM CLOSE:

Thursday May 14th 2026 at 4:00:00p.m.

NAME OF PROJECT: St. Aloysius CES Addition and Renovations

PROJECT NUMBER: RFT 2026-02

ELECTRONIC BID SUBMISSIONS ONLY, shall be received by the Bidding System.

Supplementary Form of Tender to be emailed to Stephen.butterworth@wcdsb.ca

1.2 ACKNOWLEDGEMENT RE EXAMINATION OF TENDER DOCUMENTS

- .1 Having carefully examined all of the drawings (Architectural, Structural, Mechanical, Electrical, Site Servicing and Landscape) and having carefully examined the Instructions to Bidders, the requirements of the *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary Conditions, as attached*, and all of the attached Specifications; (Architectural, Structural, Mechanical, Electrical, Site Servicing and Landscape) including Addenda numbered as follows:

Addenda #.....to/and including Addenda
#.....

and, having visited the sites, investigated and examined all conditions affecting the Work, including soil reports and surveys, and other reports as included in the Tender Documents, the undersigned Bidder makes the offers set out below.

1.3 CASH ALLOWANCES

- .1 All allowances specified under Section [01020] only amended as provided hereunder.

The Tender Amount includes the total Cash Allowance of \$535,000 not including Harmonized Sales Tax (HST). (*HST on Cash Allowance is not to be included in the Tender Amount*)

1.4 TENDER AMOUNT

- .1 The undersigned Bidder hereby offers to furnish all materials, labour, plant and equipment and to perform all duties and services called for by the ENTIRE WORK INCLUDING ALL TRADES for the Project named above for the stipulated sum of:

.....
(Written Value)

\$.....
(Numeric Value)

in lawful money of Canada, excluding Harmonized Sales Tax, but including all other applicable Excise Taxes, Custom Duties, Insurance's, Freight, Exchange and all other charges.

ALTERNATIVE PRICES:

1. TO UPGRADE FROM DOUBLE GLAZED TO TRIPLE GLAZED WINDOWS

.1 Fixed window – typical unit:

- .1 E.g. Alumicor – RainBlade 2900 Series TrueLine, 146mm System Depth-
Triple Glazed Units.
- .2 Typical for punched openings fixed windows.
- .3 Acceptable – Old Castle

.2 Horizontal Slider Operators: - 100mm wide main frame depth, thermally broken frame and sash, **triple glazed**, side slider thermal break, 25mm insulating glass unit glazing. Maximum allowable air leakage of 0.06 (m3/hr) m-1 @75 Pa and 23.30C (crack length = 3.20). CSA/CAN-440 Ratings-A3,B7, C5. AAMA Rating-HC-55

.3 Curtain wall:

- .1 Alumicor ThermaWall 2600 Series min. 160mm deep. **Triple Glazed Units**
- .2 Old Castle Curtain Wall Systems

EXTRA COSTS: _____ +HST

1.5 TENDER VALIDITY

- .1 The undersigned Bidder is hereby submitting a valid Tender and will enter into the *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary*

Conditions, as attached, if we are notified in writing of our Tender acceptance by THE BOARD within sixty (60) calendar days from the closing of the Tender.

1.6 BONDING

- .1 The undersigned Bidder encloses a Bid Bond in the amount of [10]% made out in the name of WATERLOO CATHOLIC DISTRICT SCHOOL BOARD.
- .2 It is a condition of this Agreement that if the above mentioned Tender is accepted, application for a 50% Performance Bond and a 50% Labour and Material Payment Bond must be completed with undersigned within ten (10) days of acceptance of the tender related thereto, otherwise this Agreement shall be null and void.

1.7 CONSTRUCTION SCHEDULE

- .1 The undersigned Bidder solemnly undertakes, as an integral part of our proposal and tender to:
 - (a) Have the buildings "Fit for Occupancy" by August 2nd 2027
 - (b) Have all buildings and site work completed by August 20th 2027; and
 - (c) Have the Contract completed in its entirety by August 20th 2027.
- .2 The undersigned Bidder confirms that all appropriate costs, such as but not limited to winter heat, inclement weather protection and all overtime costs for all trades to meet the aforementioned schedule, have been included in our tender price to achieve this date.
- .3 The Bidder acknowledges and agrees that so long as a building permit is obtained and the Bidder is directed to commence Work within the sixty (60) calendar days following the Closing Date, even if such direction does not occur until the fifty-ninth (59th) day following the Closing Date, the Bidder shall not be entitled to a delay claim.
- .4 The undersigned Bidder acknowledges and agrees to comply with the terms and conditions of the Project Occupancy Requirements as outlined in the Supplementary Conditions, attached hereto

1.8 REQUIRED DOCUMENTS

- .1 If notified of the acceptance of this Tender via a Letter of Intent issued by the Board, the undersigned Bidder agrees to provide the prerequisite documentation within ten (10) days.

1.9 FEES FOR CHANGES IN THE WORK

- .1 The undersigned Bidder acknowledges and agrees that the fees referred to in *CCDC 2-2020 Stipulated Price Contract, as amended by the Supplementary*

Conditions, as attached, will apply to changes in the Contract not covered by Unit Prices.

1.10 SUPPLEMENTARY FORM OF TENDER

- .1 The undersigned Bidder agrees to submit the *SUPPLEMENTARY FORM OF TENDER*, as attached, at Tender close, which shall include the following:
- BID AND COST BREAKDOWN
 - LIST OF SUBCONTRACTORS / SUPPLIERS / INSTALLERS
 - SEPARATE PRICES - REQUESTED BY CONSULTANTS
 - UNIT PRICES
 - ITEMIZED PRICES - REQUESTED BY CONSULTANTS
 - ALTERNATE PRICES TO BASE BID
 - LIST OF ALTERNATIVE BIDS SUBMITTED FOR CONSIDERATION

1.11 DECLARATION OF NO CONFLICT

- .1 The undersigned Bidder hereby declares that this Tender submission is made in good faith and without any connection, knowledge, comparison of figures, or arrangements with any other company, firm, or person making a Tender for the same work and is, in all respects, fair and without collusion with any other bidder for this Contract, and without fraud. The undersigned also represents and warrants that, to the best of the undersigned's knowledge and belief, no actual or potential conflict of interest exists with respect to the submission of the Tender or performance of the Contract other than those disclosed hereunder. The undersigned confirms that, where the Board discovers that the undersigned has failed to disclose all actual or potential conflicts of interest, the Board may disqualify the undersigned or terminate any Contract awarded to the undersigned pursuant to this Tender process. The undersigned understands that, for the purposes hereof, "conflict of interest" also includes:
- (a) in relation to the Tender process, the undersigned has an unfair advantage or engages in conduct, directly or indirectly, that may give the undersigned an unfair advantage, including:
- (i) having or having access to information in the preparation of the undersigned's proposal that is confidential to the Board and not available to other bidders;
communicating with any person with a view to influencing preferred treatment in the Tender process; or,
engaging in conduct that compromises or could be seen to compromise the integrity of the open and competitive process and render that process non-competitive and unfair; or,
- (b) in relation to the performance of its contractual obligations in a Board contract, the undersigned's other commitments, relationships or financial interests:

- (i) could or could not be perceived to exercise an improper influence over the objective, unbiased and impartial exercise of the Board's independent judgment; or,
- (ii) could or could not be perceived to compromise, impair or be incompatible with the effective performance of the undersigned's contractual obligations.

1.12 MUNICIPAL FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

- .1 This Tender and supporting documentation shall become the property of the Board. Information in a Tender is subject to potential disclosure to third parties after the award, in accordance with the provisions of the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990 ("MFOIPOP"). The Bidder acknowledges that any personal or confidential information which Bidders provide is being collected and will be used exclusively for the purposes of analyzing, evaluating and assessing Tenders submitted. Any information a Bidder wishes to identify as proprietary and have maintained as confidential, excluding unit pricing information as well as the total dollar value of the Tender, must be clearly identified as such, and any proposed restrictions on disclosure specified. For the purposes of a report to the Trustees of the Board, pricing information as well as the total dollar value of the Tender may be reported in a public report and will not be considered confidential. In addition, the Board may be ordered by the Information & Privacy Commissioner under the provisions of MFOIPOP to disclose additional information identified by a Bidder as proprietary and confidential.

1.13 LIMITATION OF LIABILITY

- .1 By submitting a Tender, the undersigned Bidder acknowledges and agrees that the Board will have no liability or obligation to any Tender except only that of the successful Bidder, if any, awarded the Contract by the Board, in its sole discretion. The Bidder also agrees that if the undersigned is not awarded the Contract, the Board shall be fully and forever released and discharged of all liability and obligations relating to this Request for Tender and all its submission procedures. All Bidders responding to this Request for Tender shall accept the decision of the Board as final and binding.

1.14 SIGNING OF TENDER

The undersigned Bidder is hereby submitting this Stipulated Sum Tender under a Corporate Seal or witnessed by an Individual.

PRINT COMPANY NAME: _____

PRINT ADDRESS OF COMPANY: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

CONTACT PERSON'S EMAIL: _____

PHONE NUMBER OF COMPANY: _____

SIGNATURE OF SIGNING OFFICER: _____

DATE: _____

PRINT NAME OF SIGNING OFFICER: _____

PRINT TITLE OF SIGNING OFFICER: _____

SIGNATURE OF WITNESS: _____

PRINT NAME OF WITNESS: _____

AFFIX CORPORATE SEAL (If no individual Witness):

END OF SECTION

Submit this Supplementary Form of Tender at the close of General Tenders.

1.1 TENDER INFORMATION

TENDER CLOSE: Thursday May 14th 2026 at 2:00:00pm

SUPPLEMENTAL TENDER FORM CLOSE:

Thursday May 14th 2026 at 4:00:00pm

NAME OF PROJECT: St. Aloysius CES Addition

PROJECT NUMBER: RFT 2026-02

Submission Email Address: stephen.butterworth@wcdsb.ca

1.2 SUPPLEMENTARY LIST OF SUBCONTRACTORS

.1 I/We, the undersigned, propose to use the following Subcontractors and/or suppliers to perform work of this Contract, and I/we confirm that all have been investigated to confirm their reliability and competence to carry out the Work in accordance with the Contract Documents; and I/we agree that no changes from this may be made without the express written approval of the Board.

Extra costs to the Contract will not be considered for a Subcontractor/supplier substitution, regardless of the reason, except where a substitution is requested by the Owner.

Site Services _____

Asphalt Paving _____

Masonry _____

Structural Steel _____

Metal Fabrications _____

Cabinetwork _____

Sprayed Fireproofing _____

Roofing _____

Glazing _____

Gypsum Board and Acoustical Ceilings _____

Ceramic Tile _____

Resilient Flooring _____

Painting _____

Whiteboards and Tackboards _____

Gymnasium Equipment _____

Accessibility Lift _____

Electrical _____

Mechanical _____

1.3 ELECTRICAL SUB-CONTRACTORS

The Contractor shall state below the name of the Public Address, Security, Coordination Study, Computer Network, Life Safety Systems Commissioning Agent Sub-contractor he intends to use, which shall not be changed without the consent of the Consultant.

Co-ordination Study _____

Life Safety Systems Commissioning Agent _____

1.4 ELECTRICAL UNIT PRICES:

.1 I/We enclose herewith Unit Prices, exclusive of applicable taxes, which are an integral part of the Bid. Unit prices are, in effect, for the duration of this Project's construction period, unit prices are exclusive of applicable taxes.

.2 The following unit costs will apply to all additional or deleted work from the Contract and should include their proportionate share of all labour equipment, materials, accessories, profits, overhead and taxes for a job completely installed. Applications of unit prices will be to the net difference of quantities of individual products and materials in each Proposed Change or Change Order.

.3 The unit prices will be used for additions and deletions. Credit rate for deletions shall be at 80% of original rates listed under sections 1.4, 1.5, 1.6, 1.7, 1.8, 1.9.

.4 Conduit and Cable:

Supply and install the following conduit and cables including fastenings, clips, connectors, coupling boxes, etc. as required based on length as shown.

MORE WORK

.1 25MM EC/3500mm Length \$ _____

.2 2 #12-12mm C/3500mm Length \$ _____

.3 3 #12-12mm C/3500mm Length \$ _____

.4 2 #10-19mm C/3500mm Length \$ _____

.3 Supply and installation of one type
'C' fixture \$ _____

.4 Supply and installation of one type
'E' fixture \$ _____

1.5 LABOUR RATES

I/We enclose herewith Labour Rates which are an integral part of the Tender. Labour rates are in effect for the duration of this Project's construction period. The Owner is not obligated to accept Labour rates indicated.

.1 Mechanical Labour Rates

Labour at the following rates should be applied for additions or deletions to the work not covered by unit prices. The prices consist of salary, all agreed local union benefits. The rate quoted represents the net cost to the Contractor, exclusive of overhead and profit and applicable taxes.

.1 Plumbing & Drainage Tradesmen \$ _____ Per Hour

.2 HVAC Piping Tradesman \$ _____ Per Hour

.3 Insulation Tradesmen \$ _____ Per Hour

.4 Sheet Metal Tradesmen

.1 Shop \$ _____ Per Hour

.2 Field \$ _____ Per Hour

.5 (Other) \$ _____ Per Hour

.6 Sprinkler Pipefitter & Installer \$ _____ Per Hour

.7 Sprinkler Work Office/Engineer \$ _____ Per Hour

1.6 SPRINKLER SUB-CONTRACTOR CASA MEMBERSHIP

Sprinkler Contractor shall be a paid member, and in good standing at time of Tender, of the Canadian Automatic Sprinkler Association. Attach membership certificate to this Supplementary Form of Tender.

.1 Labour at the following rates shall be applied for additions or deletions to the work not covered by unit prices. The prices consist of salary, all agreed local union benefits. The rate quoted represents the net cost to the Contractor, exclusive of overhead and profit and applicable taxes.

- .1 Journeyman \$ _____ Per Hour
- .2 Foreman \$ _____ Per Hour

1.7 MECHANICAL MANUFACTURERS AND SUPPLIERS:

I/We enclose herewith a list of Manufacturers and Suppliers to the Mechanical Building Services which is an integral part of the Tender. We hereby agree that the Owner may select from any substitutes that we have offered in our Tender. Our Tender Price is based on the equipment/manufacturers indicated hereunder and we hereby agree that we will not alter the indicated equipment/manufacturers unless specifically authorized by the Owner.

I/We, the undersigned, have inserted below proposed substitutions and prices for the Owner's consideration.

I/We agree that:

- .1 all prices submitted take into consideration and allow for changes and adjustments in other work as may be necessary to provide a finished and functional result, unless specifically indicated otherwise;
- .2 alternative prices are for work which is not included in the Tender price listed on Form of Tender but which may be substituted by the Owner for work which is included (no price listed shall mean no change in cost);
- .3 and that the Board reserves the right to accept or reject any of the prices proposed hereunder;
- .4 prices listed hereunder do not include HST

<u>Product/Equipment Specified</u>	<u>Proposed Substitution</u>	<u>Reduction in Contract Price</u>
.1 _____		\$ _____
.2 _____		\$ _____
.3 _____		\$ _____
.4 _____		\$ _____
.5 _____		\$ _____
.6 _____		\$ _____

Attach additional sheets and supporting documentation, if necessary.

1.8 STANDARDS OF MECHANICAL MATERIALS

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Pipe Hangers	Grinnell	Crane, Flamco, Unistrut
Mechanical Grooved Joints	Victaulic	Coupcoc, Gruvlok
Unions	Crane	Grinnell, Dart
Expansion Joints	Flexonics	Amtrol, Hydroflex Tube Turn
Gate, Globe & Ball Valve	Crane	Jenkins, Toyo/R+W Kitz
Check Valves	Crane	Jenkins, Toyo/R+W Kitz
Plug Valves	DeZurick	NEO
Circuit Balancing Valves	Tour and Andersson	
Butterfly Valves	Crane	Jenkins, Centerline, Kitz, Toyo
Thermal Insulation	Fiberglas Canada	Manson, Knauf Johns-Manville
Pumps & Circulators (Except as noted)	S.A. Armstrong	ITT Fluids
Extended Shaft Coupling VIL Pumps	S.A. Armstrong	ITT Fluids
Strainers	Sarco	Crane, McAvity, Morrison Brass, Braukmann
Suction Guides	S.A. Armstrong	ITT Fluids, Victualic
Automatic Air Vents	Sarco	Amtrol, Braukmann S.A. Armstrong Terice

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Backflow Preventors	Watts	Braukmann, Zurn-Wilkins
Make-Up Assemblies	Watts	S.A. Armstrong, Bell & Gossett, Mueller, Singer
Gauges, Thermometers	Trerice	Ashrcroft, Weiss Weksler, Winters, Wika
Finned Tube Radiation and Convectors	Sigma	Dunham-Bush, Trane Engineered Air
Hot Water Unit Heaters and Cabinet Heaters	Sigma	Dunham-Bush, McQuay, Trane, Engineered Air
Steam Humidifiers	Engineered Air	Dri Steem
Hot Water Boilers	Boderus	
Prefabricated Chimneys	Van-Packer	Metal-Fab, Selkirk, ICC
Water Treatment	Aqurian	Alchem, Mogul, Culligan, Finnan
Fire Dampers	Controlled Air	Air Balance, Canadian Advanced Air, Ruskin
Louvre Insulated Blank-off Panels	Construction Specialties	
Air Terminal Devices (Diffusers, Registers, Grilles By-Pass Boxes)	E.H. Price	Nailor, Kruger, Carnes, Titus Tuttle & Bailey
Air Handling Unit	Engineered Air	McQuay, Trane, Haakon

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Heat Recovery Unit	Engineered Air	McQuay, Trane, Haakon
Fan Coil Units	Enviro-Tech	Trane, York
Misc. Fans	Cook	Carnes, Greenheck, ACME, Jenn-Air
Air Filters	Farr	Cambridge, Airguard, Vibron, A.A.F.
Filter Gauges	Dwyer	Airflow Developments (Canada) Ltd.
Dampers (Except low leakage)	Tamco	Johnson, Powers, Kerr Hunt, Honeywell, Barber-Coleman
Low Leakage Dampers	Tamco Series 9000	
Electrical Starters, Disconnects, MCC's, Alternator Panels	Square 'D'	Allen-Bradley, Klockner-Moeller
Noise and Vibration Control	Vibron	Korfund-Sampson, Vibro-Acoustics, Coolbreeze J.P. Environmental
Electric Pipe Tracing	Raychem	Serge-Baril
Trap Primers	PPP	
Plumbing Fixtures	American Standard	Crane, Kohler, Eljer
Floor Drains, Roof Drains, Cleanouts, Drainage Specialties	Zurn	Ancon J.R. Smith Mifab
Plumbing Trim	Chicago Faucets, Symmons	American Standard, Crane, Cambridge Brass

BASE BID ITEM	ACCEPTABLE BASIS OF DESIGN	ALTERNATE
Toilet Seats	Centoco	Beneke, Moldex, Olsonite
Domestic Water Heaters	Bradford-White	A.O. Smith, John Wood
Fire Extinguishers & Cabinets	National Fire Equipment	Wilson & Cousins
Washfountains	Bradley, Acorn	
S.S. Sinks	Aristaline	Kindred, Architectural Metal
Drinking Fountains	Haws	Sunroc
Emergency Eyewash	Haws	Bradley, Speakman
Mixing Valves	Symmons	Powers
Alarm Valves And Trim	Grinnell, Central	Reliable, Viking, Automatic, Victaulic
Siamese Connections	National Fire Equipment	Wilson & Cousins, Stelpro
Sprinkler Heads	Grinnell, Central	Reliable, Viking, Automatic, Victaulic
Equipment Cabinets	National Fire Equipment	Wilson & Cousins, Stelpro
Excess Pressure Pump	Albany	

1.9 ITEMIZED PRICES

These Itemized Prices will be used to identify the cost of components within the total Bid Sum required for the Owner's own internal auditing, exclusive of HST.

- .1 Supply and installation of Fire Alarm System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$_____)

- .2 Supply and installation of Dimming System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$_____)

- .3 Supply and installation of Security System complete with associated components, conduit and wiring as shown on drawing and described in specification.

_____ Dollars (\$_____)

- .4 Installation of Lighting Controls system (supply of Lighting Controls system is carried under the Cash Allowances)

_____ Dollars (\$_____)

1.10 SIGNING OF SUPPLEMENTARY FORM OF TENDER

PRINT COMPANY NAME: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

PRINT ADDRESS OF COMPANY: _____

PHONE NUMBER OF COMPANY: _____

PRINT NAME OF CONTACT PERSON
REGARDING THIS TENDER: _____

CONTACT PERSON'S EMAIL: _____

EMAIL ADDRESS SIGNING OFFICER: _____

SIGNATURE OF SIGNING OFFICER: _____

DATE: _____

PRINT NAME OF SIGNING OFFICER: _____

PRINT TITLE OF SIGNING OFFICER: _____

SIGNATURE OF WITNESS: _____

PRINT NAME OF WITNESS: _____

AFFIX CORPORATE SEAL (If no individual Witness):

END OF SECTION

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PART 1 - GENERAL

1.1. GENERAL INSTRUCTIONS

- 1.1.1 Comply with Section 15 “Mechanical General Provisions” & Section 16 “Electrical Basic Materials Methods”.
- 1.1.2 Contractor shall be responsible for proper performance of Work.
- 1.1.3 Provide all labor, materials, products, equipment and services for commissioning all building systems to ensure building is operating according to requirements of Contract Documents.
- 1.1.4 Refer to the Commissioning Team Responsibilities for more details.
- 1.1.5 The Commissioning Authority (CxA) shall develop a Commissioning Plan.

1.2. RELATED SECTIONS

- 1.2.1. Refer to the following sections:
 - Section 15 Mechanical Specifications
 - Section 16 Electrical Specifications

1.3. REFERENCES

- 1.3.1. CSA Z320-11: Building Commissioning
- 1.3.2. ASHRAE Standard 202-2024: Commissioning Process for Buildings & Systems
- 1.3.3. ASHRAE Guideline 0-2019: The Commissioning Process
- 1.3.4. ASHRAE Guideline 1: Guidelines for Commissioning of HVAC Systems
- 1.3.5. ASHRAE Guideline 1.1-2007: HVAC&R Technical Requirements for the Commissioning Process
- 1.3.6. ASHRAE Guideline 4-2019: Preparation of O&M Documentation for Building Systems

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1.4. DEFINITIONS and ACRONYMS

- 1.4.1. Commissioning (Cx): Is a systematic process of ensuring that all building systems designed, installed, functionally tested, performs and capable of being operated and maintained according to the design intent & owner's operational needs.
- 1.4.2. Commissioning Authority (Cx A): Owner's appointed commissioning professional.
- 1.4.3. Commissioning Consultant: (See Commissioning authority).
- 1.4.4. Consultant (Design Team): Member of the professional design team.
- 1.4.5. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources and documentation requirements of the commissioning process.
- 1.4.6. ME Contractor: refers to mechanical and /or electrical contractor.
- 1.4.7. Commissioning team: consist of various participants involved in the commissioning process. The commissioning documentation and tasks of each team member will be coordinated through the Commissioning Authority
- 1.4.8. Contractor Start-up: Contractor start-up and verification activities are conducted by the contractors and/or their sub-trades and equipment vendors. Contractor / vendor checking of the physical installation of the work and equipment and reviewing the completion of system installation and readiness, is completed prior to the CxA functional performance testing and verification activities.
- 1.4.9. TAB: Testing, Adjusting and Balancing.
- 1.4.10. BAS: Building Automation System.
- 1.4.11. FPT: Functional Performance Test
- 1.4.12. PFT: Pre-functional test
- 1.4.13. Pre-Functional & Functional Performance Testing (PF / FPT): Pre-Functional & Functional Performance Tests are specific hands-on tests, used to verify that the equipment and associated systems meet the specified design parameters and operate as fully integrated components or systems through its respective level of automation. This testing also confirms each systems capability of operating to the requirements of the facility and the Owner's Project Requirements.
- 1.4.14. Sampling: Performing observation, review, testing or other verification on only a fraction of the total number of identical or near identical pieces of equipment, drawings, events, etc. Sampling techniques include random statistical sampling and less formal professional judgment methods
- 1.4.15. Seasonal testing: Performance tests that are deferred until the system(s) will experience conditions closer to their design criteria based on weather conditions.

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1.5. CONSULTANT TEAM

1.5.1. The Consultant Team for the Project is responsible for developing a set of performance objectives and providing a design that meets those objectives. The Consultant Team will be required to assist with developing and witnessing the system tests and integrated systems tests. Consultants are to advise the Contractor as to which tests require witnessing.

1.6. COMMISSIONING TEAM

1.6.1. Members of the team should include the followings:

- Owner Representative(s)
- CxA
- Mechanical Engineer
- Electrical Engineer
- General Contractor
- BAS Contractor/Vendor
- Mechanical Contractor
- Electrical Contractor
- TAB Contractor
- Manufacturer's Representatives

1.7. COMMISSIONING TEAM RESPONSIBILITIES

1.7.1. Owner Representatives:

- Attending commissioning meetings (as required).
- Receive commissioning reports and final commissioning report.
- Engaging a Commissioning Authority that does not include individuals directly responsible for project design or construction management.
- CxA reports directly and receive directions from the Owner representatives.
- Supporting the commissioning process.

1.7.2. Design Team:

- Prepare the contractors' M & E drawings and specifications.
- Reviewing shop drawings.
- Reviewing test reports from the contractors and verifying testing results.
- Inspecting the installations for general conformance with the contract documents, Codes and Standards.
- Review operating and maintenance manuals.
- Witnessing selected contractor's acceptance/demonstration tests.
- Review as-built documentation.
- Review performance testing results for general conformance with the contract documents.

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1.7.3. CxA:

- Prepare the commissioning specification section.
- Review of the mechanical and electrical drawings and specifications.
- Develop and implement the commissioning plan
- Review equipment shop drawing submittals
- Chairs the commissioning meetings and records/ distributes meeting minutes.
- Assisting with the commissioning schedule.
- Conducting selected installation reviews as they pertain to commissioning and issuing deficiency reports.
- Review and monitor equipment start-up process.
- Receiving and evaluating the contractors' test forms.
- Preparing FPT forms for contractor (s) use.
- Issuing commissioning progress reports.
- Witness and verify contractor's performance verification tests (sampling technique)
- Co-ordinating with the TAB, BAS contractors and M&E Contractors.
- Reviewing O&M manuals.
- Review training schedule and agenda.
- Final commissioning reporting.
- Verifying seasonal performance during the opposite season of original performance testing.

1.7.4. General Contractor:

- Cooperate fully with CxA in execution of the Commissioning Process and Commissioning Plan.
- Incorporate all commissioning related activities and milestones in the construction schedule.
- Schedule all related commissioning activities in coordination with the CxA, subcontractors and vendors.
- Participating in commissioning meetings.
- Distribute contractors issued shop drawings.
- Include the CxA in all correspondences that affect the commissioning process and activities (e.g. schedules, site instructions, change orders, meeting minutes, etc.)
- Provide CxA with a copy of the ME O&M manuals for their review.
- Coordinates owner training with subcontractors and CxA.
- Ensure that sub-contractors and OEMs (Original Equipment Manufacturers) have completed all system start-ups and documentation as required by individual specification sections.
- Ensures the subcontractors perform their commissioning responsibilities.
- Collects, assembles and manages commissioning documentation from subcontractors.

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- Works with subcontractors to correct commissioning deficiencies as quickly as possible.
 - Provides support and participate in the functional testing as needed.

1.7.5. ME Contractors:

- Cooperate fully with CxA in execution of the Commissioning process
- Coordinates with the GC to confirm commissioning responsibilities at bid time.
- Review the commissioning plan and provided comments.
- Coordinates with GC on scheduling of commissioning tasks.
- Demonstrates proper system installation and operation.
- Corrects system deficiencies in a timely fashion.
- Preparing equipment start-up and testing schedules.
- Conducting all tests as identified in the mechanical and electrical specifications.
- Notifying all parties of scheduled test dates.
- Completing and sign off all PFT (Pre-Functional Test) forms and make it ready for CxA review and approval.
- Arranging for the CxA and the consultants to attend and witness tests.
- Support CxA with the necessary resources (individuals and equipment) for completing all commissioning testing activities.
- Issuing test forms and progress reports to the CxA on a regular basis.
- Coordinates with vendors for the proper equipment start-up, documentations and report issuing.
- Provide declaration in writing to the CxA that installation is complete and ready for the CxA pre- functional check review and Functional Performance Testing as per the Commissioning Plan.
- ME contractor (s) and vendor(s) shall perform a complete 100% functional performance test for all equipment and systems and provide completed and signed off FPT sheets.
- Cooperate with CxA to assist with implementing all seasonal and deferred commissioning activities.
- Contractor (s)to submit valid calibration certificate for all instruments to be used;
- Preparing operating and maintenance (O&M) manuals.
- Preparing training schedules in coordination with the General Contractor.
- Preparing as-built drawings.
- Conducting acceptance/demonstration tests.

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1.7.6. Building Automation System Vendor:

- The BAS Contractor will install, commission, and demonstrate their system to the requirements of the specification.
- BAS contractor to submit valid calibration certificate for all testing instruments to be used
- Provide BAS point to point and other verifications report for CxA and consultants' review.
- The BAS Contractor will coordinate closely with the mechanical contractor, electrical contractor, the TAB Contractor, and the CxA.
- The BAS contractor to provide work progress to the commissioning team.
- Completing and sign off all FPT (Functional Performance Test) forms and make it ready for CxA review and approval.
- Provides detailed operations & maintenance manuals for all aspects related to the Building Automation system.
- Provide list of all schedules and set points
- Coordinates control system functional checks with the CxA and demonstrates the sequences of operation to the CxA as required in the functional check sheets.
- The BAS vendor in cooperation with other contractors and vendors shall perform a complete 100% functional performance test for all equipment and systems related to the BAS and provide completed and signed off FPT sheets.
- Prepare training materials as defined in section 1.4 for operational staff training.
- The BAS Contractor will participate in the CxA performance tests and the seasonal performance tests.
- The BAS will attend selected commissioning /construction meetings.

1.7.7. TAB Contractor:

- Complete an initial project review prior to start any TAB activity to attempt to identify any construction issues preventing proper balancing of the systems.
- Performs a job walk prior to start balancing to identify any construction issues preventing proper balancing.
- The TAB contractor will test and balance the mechanical systems to the requirements of the project specification and in line with TAB standards.
- TAB contractor will prepare a schedule for their work and coordinate with the construction manager to include these activities with in the construction schedule.
- Provides all TAB documentation and associated reports.
- Reports on operation and programming issues discovered in the field while balancing.
- Issue report for the initial project review to the construction manager /mechanical contractor and copied CxA and mechanical engineer.
- The TAB contractor will attend selected commissioning /construction meetings.

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- TAB contractor to submit valid calibration certificate for all instruments to be used;
- Coordinate with the CxA to witness selective percentage of the water and air balancing process.

1.7.8. Equipment Vendors

- Provides all documentation on furnished equipment, including complete submittals, equipment data, installation manuals, O&M manuals, start-up procedures, and warranties.
- Performs factory start-up when required.
- Provides support for troubleshooting systems issues.
- Provides technical training services for equipment as supplied, based on outline training program prepared by CxA.
- Conducting acceptance/demonstration tests.
- Contractor will submit completed test forms and attend selected construction meetings when required.

1.8. **PRODUCTS**

- 1.8.1. The contractor shall provide all material, equipment and instrumentation to complete the contractors' commissioning process identified in this section and the mechanical and electrical specification sections.

1.9. **SUBMITTALS**

- 1.9.1. Submittal Drawings and Equipment Data - to be submitted by contractor – refer to related specification section (s). The Commissioning Authority will review submittals to ensure the systems and equipment being supplied is consistent with the required commissioning test procedures, and if not, that the variances are acceptable to the Team, and that commissioning checklists are revised accordingly.
- 1.9.2. As- Built Record Drawings- related specification section (s) the various trades shall mark-up the consultants' drawings to clearly indicate the approved changes in the design or layout that took place during construction.
- 1.9.3. O&M Manuals - related specification section (s). The contractor shall compile as specified in the contract documents. O & M manuals shall be reviewed by the commissioning Authority (CxA).
- 1.9.4. Training Agenda and training materials, Contractor, through the manufacturers, will provide training agenda and training materials for each system.

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1.10. MANUFACTURER'S INSTRUCTIONS

- 1.10.1. Unless otherwise indicated in the specifications, operate Products in accordance with manufacturer's instructions. Obtain written instructions directly from manufacturers.
- 1.10.2. Notify the Consultant in writing, of conflicts between the specifications and manufacturer's instructions, so that the Consultant may establish the course of action.
- 1.10.3. Improper operation of Products, due to failure in complying with these requirements, authorizes the Consultant to require removal and re-installation at no change in Contract Price or Contract Time.

1.11. REPORTS

- 1.11.1. Submit field test reports for the Project's electrical and mechanical equipment /systems, including but not limited to; boilers, chemical treatment, Rooftop Units, pumps, Switchboards, Panel boards, Transformers, BAS point to point verification, BAS field panels and devices. Also, system's megger test, piping flushing, piping cleaning and piping pressurization test reports.
- 1.11.2. The Commissioning Authority (CxA) will issue commissioning reports following all commissioning activities on site. The Contractor is responsible for completion of deficiencies as listed in the Commissioning Reports and shall return signed- off copies of issued commissioning reports noting action taken on items.
- 1.11.3. All commissioning deficiencies will be tracked to resolve and final sign-off by the Commissioning Consultant.
- 1.11.4. Contractors to feedback on items listed in the commissioning issue log developed by the Commissioning Consultant.

1.12. QUALITY ASSURANCE

- 1.12.1. Contractors to feedback on items listed in the commissioning issue log developed by the Commissioning Consultant.
- 1.12.2. Use personnel for starting, equipment and starting procedures who have experience in electrical and mechanical equipment and systems commissioning and are able to interpret results of readings and tests and report state of systems in a clear and concise manner.
- 1.12.3. Major electrical and mechanical equipment to be started and checked by OEM as defined in section 1.4 certified personnel.
- 1.12.4. Maintain a file for all PFT and FPT sheets and make it ready for CxA review and approval.
- 1.12.5. Contractors to submit valid calibration certificate for all testing instruments to be used.

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1.13. OPERATION AND MAINTENANCE MANUALS

- 1.13.1. Provide additional requested documentation, prior to normal O&M manual submittals, to the Commissioning Authority for development of start-up and functional testing procedures. Typically, this will include detailed manufacturer installation and start-up, operating, troubleshooting and maintenance procedures, full details of any Owner-contracted tests, fan and pump curves, full factory testing reports, if any, and full warranty information, including all responsibilities of the Owner to keep the warranty in force clearly identified. In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the Commissioning Authority. These documents will also be included in the O&M manuals.
- 1.13.2. The Commissioning Authority may request further documentation necessary for the commissioning process. This data request may be made prior to normal submittals.

PART 2 - EXECUTION

2.1. OVERVIEW

- 2.1.1. In general terms, commissioning (Cx) is the process of assuring and verifying that all building systems designed, installed, functionally tested, performs and capable of being operated and maintained according to the design intent & owner's operational needs
- 2.1.2. Contractor shall be responsible for proper performance of work.
- 2.1.3. The Commissioning Authority (CxA) shall plan, organize and implement the commissioning process.

2.2. COMMISSIONING PROCESS

- 2.2.1. Commissioning process can be defined as a series of actions and activities by the project participants at various times over the complete life cycle of the project. These actions and activities can be regarded as fundamental to a sound commissioning program and are included in the following phases of the commissioning process shall be responsible for proper performance of work.
- 2.2.2. Pre-Construction /Design Phase:
 - Developing initial outline for the commissioning plan
 - Developing Commissioning –Focused design review.
 - Review ME drawings and specifications.
 - Develop Commissioning Requirements for the Specifications.
- 2.2.3. Construction Phase:
 - Update and implement the commissioning plan.
 - Conducting commissioning meetings.
 - Commissioning schedule incorporated into the project master schedule
 - Reviewing shop drawing submittals for the commissioning related equipment
 - Conducting installation inspections
 - Reviewing equipment start-up reports
 - Reviewing operation and maintenance manuals
 - Complete verification checklists
 - Issuing site commissioning reports
 - Conduct sample functional /performance testing on BAS and mechanical system(s).

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-
- Assist with the coordination and delivery of the training activities. Receive completed attendance sheets and report on the completion of the training requirements.

2.2.4. Occupancy and Operation Phase

- Cx A Develop final commissioning report
- Help resolve outstanding commissioning issues
- Perform seasonal testing in the opposite season of the original performance testing.

2.3. **STARTUP AND TESTING COST**

- 2.3.1. Contractors (s) pay costs associated with starting, testing/ re testing, adjusting, preparation for balancing and cleaning, including supply of calibrated instruments, equipment, supplies and consumable materials.

2.4. **MANUFACTURER'S RECOMMENDATIONS**

- 2.4.1. Prior to starting equipment or systems, obtain and review manufacturer's installation, starting and operating instructions. Read in conjunction with procedures specified herein.
- 2.4.2. Use manufacturers' and supplier's trained personnel where necessary to maintain validity of manufacturer's warranty.
- 2.4.3. Compare actual installation with manufacturer's recommended installation. Record discrepancies. Correct deviations detrimental to equipment performance prior to starting equipment.

2.5. **TESTING INSTRUMENTS AND EQUIPMENT**

- 2.5.1. Provide calibrated testing instruments and equipment, and ancillary equipment such as two-way radios and ladders required to perform starting of mechanical equipment and systems.
- 2.5.2. Instruments used in equipment start-up must be calibrated and accurate. Provide valid calibration certificates if requested by the Commissioning Authority.

2.6. **TOLERANCE**

- 2.6.1. As specified by the mechanical engineer, otherwise refer to the below table of acceptable variations from the design value that will be acceptable for the performance verification.

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Sensor	Tolerances (±)
Cooling coil, chilled and condenser water temperature	0.4 F
AHU wet bulb or dew point	2F
Hot water coil and boiler water temperature	1.5F
Outside air, space air, duct air temperature	0.4 F
Watt hour, voltage and amperage	1% of design
Pressure (air water and gas)	3% of design
Flow rate. Air	10% of design
Flow rate, water	4% of design
Relative humidity	4% of design
CO sensor	0.01 % pts
Natural gas and oil flow rate	1% of design
Steam flow rate	3% of design

2.7. BUILT-IN CONTROLS

2.7.1. The built-in controls of all equipment will be tested by the respective Supplier/Contractor to prove its intended sequence of operation in presence of the CxA/Consultant. This testing will be carried out in appropriate weather condition as specified access to all system equipment being commissioned.

2.8. BAS CONTROLS TESTING

2.8.1. The Controls Contractor will submit a point-to-point checklist and calibration verification to CxA for review. CxA may suggest addition/changes to the checklists and the reviewed checklist will be utilized by the Contractor to complete the control's testing.

2.8.2. Contractor will test and record results for each equipment and component of the building automation system. On completion of the test, Contractor will submit a detailed test and calibration report to the Consultant and CxA for verification. CxA will physically verify the test report for at least one of each type of system/equipment commissioned. The non-conformities will be corrected by the Contractor and the test and verification procedure will be repeated for that system.

2.8.3. The controls contractor will test the sequence of operation for all HVAC equipment and devices and submit test reports accordingly. Complete sequence of operation shall be submitted as part of the complete controls shop drawings for engineer's approval and the review of the commissioning authority.

2.8.4. BAS contractor shall submit complete system shop drawings including graphics, system structure, sequence of operation, point list for each equipment/device, controls valves, sensors, etc.

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2.9. COMMISSIONING REVIEW

- 2.9.1. Provide access to all system equipment being commissioned.
- 2.9.2. Do not conceal or cover equipment or systems prior to scheduling commissioning reviews.

2.10. PRE-FUNCTIONAL AND FUNCTIONAL CHECK SHEETS

- 2.10.1. Record all data gathered on site on a PFT sheets (start-up report forms) and commissioning check sheets.
- 2.10.2. Make copies of all starting and testing data before equipment and system start-up personnel leave site. Maintain one copy of all data taken during starting on site.
- 2.10.3. Maintain one copy of all final starting, testing, adjusting and balancing reports on site up to Substantial Completion of the Work for reference purposes.
- 2.10.4. Make copies of all red-line record drawings available for Commissioning Agents to review.
- 2.10.5. Complete and Sign off all PFT and FPT sheets and make it ready for CxA review and approval.

2.11. COMMISSIONING SCHEDULE

- 2.11.1. The Commissioning Authority will prepare commissioning schedule milestones to be incorporated in the approved project construction schedule by the general contractor.
- 2.11.2. General contractor will ensure all commissioning related activities and milestones are inserted in the project schedule, including all critical path activities.
- 2.11.3. The Contractor shall provide schedule for equipment start-up in coordination with the general contractor.
- 2.11.4. During construction phase, commissioning meetings will be scheduled by the Commissioning Authority on site for coordination of commissioning activities and schedule.
- 2.11.5. Prior to commencement of each particular testing procedure, coordinate all sub-trades, manufacturers, suppliers and other specialties to ensure all phases of work are properly completed. Establish necessary manpower requirements.

2.12. START-UP

- 2.12.1. The installing contractor shall under their own direction, plan, execute and document the installation verification and perform start up and checkout (Major systems /equipment start-up by OEM personnel). The contractor needs to verify that other building systems being installed will not compromise the operation and functional performance of the commissioned systems. Notify the Cx A minimum of 5 days in advance of equipment and system start up and/or installation verification testing. The CxA verifies the completed checklists and the startup checks.

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2.12.2. Complete and sign off all start up test sheets and make it ready for Cx A review and approval.

2.13. PERFORMANCE VERIFICATION

2.13.1. The contractor(s) and vendor(s) shall be fully responsible for 100% actual system(s) functional performance tests and documentation of this testing. Changes to approved test procedures must be approved by the Cx A. The Cx A will conduct sample verification on tested systems after the Contractor and Controls Vendor have completed their complete Functional Performance Test (FPT).

2.13.2. Provide skilled technicians to execute starting of equipment and to execute the functional performance tests.

2.13.3. Contractor's testing shall include all system and equipment.

2.13.4. Contractor's testing shall include 100% BAS point to point verification, programming, sequence of operation, calibration, scheduling, trending, graphics, commands and any other required test deemed necessary to complete the FPT process.

2.13.5. Contractor(s) and BAS vendor(s) to provide completed and signed off FPT sheets and make it ready for CxA review and approval.

2.14. RE TEST

2.14.1. Deficiency Resolution & Warranty Review: Items of non-compliance in material, installation or setup are corrected at the contractor's expense and the system retested. Failed tests will be repeated as required. Deficiencies, once identified are to be corrected expeditiously. Warranty issues will be identified and resolved by the contractor with the Owner.

2.14.2. Contractor (s) and vendor (s) shall bear all required costs for deficiency correction and retesting.

2.15. TRAINING OF OWNER STAFF

2.15.1. Training is to be led by an OEM factory trained technician directly involved and familiar with the site. Training materials, agenda and O+M manuals are to be provided at least 5 business days prior to training. Training sessions are to occur prior to substantial. Time to be used at owner's discretion.

2.15.2. Provide on-site training sessions including classroom and terminal hands on, half day each, for personnel designated by the owner/owner's service provider prior to and at substantial completion or when system starts affecting conditions in tenant spaces that owner/owners service provider must respond to.

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- 2.15.3. Train the designated staff of owner's representative and owner to enable them to do the following:
- a. Day-to-day Operators
 - b. Proficiently operate the system
 - c. Understand control system architecture and configuration
 - d. Operate the BAS workstation, peripherals and other interface terminals

 - e. System troubleshooting
 - f. Conduct routine maintenance
 - g. Understand system drawings and Operation and Maintenance manual
 - h. Now start-up, normal operation, shut down, unoccupied operation, seasonal changeover, manual operation, controls set-up and programming, troubleshooting and alarms

2.16. TESTING, ADJUSTING AND BALANCING

- 2.16.1. Comply with the TAB Specification and related sections in the contract document.
- 2.16.2. Contractor will submit a TAB process schedule.
- 2.16.3. Contractor will submit a preliminary TAB report and correct all deficiencies prior to start the balancing process.
- 2.16.4. Contractor to submit a final balancing report for all water and air systems.

2.17. COMPLETION OF COMMISSIONING REQUIREMENTS

- 2.17.1. Upon completion of commissioning, the Independent Commissioning Authority shall ensure the contractor leaves all systems in normal operating mode.
- 2.17.2. Except for identified seasonal commissioning activities to be conducted during the first year of operation, all commissioning shall be complete prior to Substantial performance of the work.
- 2.17.3. Commissioning shall be considered complete only when the final Commissioning Report has been received and approved by the client.

ST. ALOYSIUS ELEMENTARY SCHOOL - ADDITION
504 CONNAUGHT ST, KITCHENER ON N2C 1C2
COMMISSIONING

Commissioning Specifications

Section 01 91 00
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2.18. SYSTEMS TO BE COMMISSIONINED

2.18.1. Mechanical

- Energy Recovery Ventilator
- Perimeter Heating Panel
- Cabinet Unit Heaters
- Exhaust Fan
- Hot Water Boiler
- Pumps
- Split AC Unit
- Building Automation System

2.18.2. Testing, Adjusting & Balancing work

- Air and Water Balancing

2.18.3. Building Automation System (BAS)

- Controllers
- Field devices
- Networking
- Sequence of operation
- System Graphics
- Hardware systems
- Operator Interface

2.18.4. Electrical

- Lighting Control

END OF SECTION

COMMISSIONING PLAN

ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION

CFMS-West Consulting Inc.

2 Pelham Town Square
Fonthill, Ontario L0S 1E0

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PARTNERING TO PROVIDE QUALITY CONTROL

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1. INTRODUCTION & CONTENT

When implemented effectively, a thorough Commissioning Program contributes towards reducing facility life cycle costs, facilitates the establishment of measurable benchmark standards for all energy related systems, and validates that the project's mechanical, electrical and other building systems have been installed, operated, calibrated and are capable of performing as intended and stated in the Owners Project Requirements.

The Commissioning Plan document has been prepared for the St. Aloysius Catholic Elementary School Addition project. hereby titled the Commissioning Authority (CxA), to provide the owner with a detailed description of the building systems commissioning process and the responsibilities of the commissioning team.

The CxA will update the document several times throughout the commissioning process and provide the team with information in a timely manner. As the plan evolves, information to be added will include definitions of commissioning terms, descriptions of project commissioning processes, a comprehensive team directory, detailed information on roles & responsibilities, project and system descriptions, lists of documents related to commissioning, details of commissioning documents, commissioning schedule milestones, detailed commissioning forms, and coordination, communications and resolution pathways.

The commissioning plan will be completed and delivered to the owner with the final commissioning report. This final report will contain a history of all test results and will provide a valuable reference to the owner.

2. COMMISSIONING OBJECTIVES & GOALS

The commissioning process is a quality control program which will be implemented on the project during the Construction and Occupancy & Operation phases.

The commissioning process is conducted by the commissioning team which is made up of the design team, the construction team, CxA, and the Owner's project team. The process is managed by the CxA who will also conduct tasks within the commissioning process.

The commissioning process will begin at the Pre-Construction Phase (Planning & Design) and continues through the first year of operation. The objective is to verify the design intent performance during the heating and cooling seasons and under varying load conditions.

The overall benefits of the commissioning process include:

- Additional control over quality.
- Additional control over construction costs
- Additional control over the construction schedule
- Smooth turnover process.
- Building systems that work.
- Well trained operating staff
- Proper and useful O&M manuals
- Reduced number of problems and complaints

The commissioning plan that follows outlines the process to achieve these objectives and goals.

3. PROJECT INFORMATION AND DESCRIPTION

Refer to the below fact sheet for the building information:

Project Name	St. Aloysius Catholic Elementary School Addition
Project Address	504 Connaught St., Kitchener, Ontario
Owner /Client	Waterloo Catholic District School Board

4. DOCUMENTATION PROGRESS UPDATE

Refer to the table below for the status of documents pertaining to the project:

	DOCUMENT	STATUS
1	Commissioning Plan	March 22, 2026
2	Commissioning Kickoff Meeting	TBA
3	Shop Drawing Review Reports	TBA
4	Construction Checklists	TBA
5	Equipment Startup Reports	TBA
6	O & M Manuals Review Report	TBA
7	Training Matrix	TBA
8	Functional Performance Test Reports	TBA
9	Final Commissioning Report	TBA

5. COMMISSIONING TEAM & RESPONSIBILITIES

The commissioning team consists of representatives from the owner, the design team, the construction (contractors) team, and the CxA. The CxA will manage the commissioning team and the commissioning process and reporting directly to the owner.

Owner Representative

The owner has overall responsibility for this project and has engaged a Commissioning Authority (CxA) that does not include individuals directly responsible for project design or construction management. The CxA reports directly to the owner and takes direction from project team.

Commissioning Team

Key members of the integrated commissioning team are listed below. These individuals will be extended invitations to all commissioning meetings, as well as testing and training:

Role	Primary Contact	Company	Contact (Email, Cell)
Owner			
Project Manager			
Design Team			
Consultant Representative			
Consultant Representative			
Architect Representative			
Cx Team			
Commissioning Agent	Kevin Pellerin	CFMS-W	kevinpellerin@cfmswest.ca
General Contractor and Subcontractors			
Project Manager			
Site Superintendent			
Mechanical Representative			
Electrical Representative			
BAS/Controls			

Responsibilities

The Owner

The owner's responsibilities consist of:

- Engaging a Commissioning Authority that does not include individuals directly responsible for project design or construction management
- CxA reports directly and receive directions from the Owner /representatives(s) team.
- Attending commissioning meetings (as required)
- Receive commissioning reports and final commissioning report
- Supporting the commissioning process

The Design Team

The design team consists of ME Consultants. Their responsibilities in the commissioning process include:

- Prepare project specifications, including testing requirements
- Providing the design brief for mechanical, electrical and other building systems
- Reviewing shop drawings
- Reviewing test reports from the contractors and verifying results
- Receiving commissioning reports from the CxA
- Inspecting the installations for general conformance with the contract documents, codes and standards
- Review operating and maintenance manuals
- Witnessing selected contractor's acceptance/demonstration tests
- Review/approve as-built documentation
- Review performance testing results for general conformance with the contract documents

The Building Commissioning Authority (CxA)

- Develop and implement the commissioning plan
- Prepare and issue the team responsibility matrix
- Review equipment and systems submittals
- Chairs the commissioning meetings and records/ distributes meeting minutes
- Assisting with the commissioning schedule
- Conducting select installation reviews and issuing deficiency reports
- Review and monitor equipment start-up process
- Receiving and evaluating the contractors' test forms
- Preparing FPT forms for contractor (s) use
- Issuing commissioning progress reports
- Witness and verify contractor's performance verification tests (sampling technique)
- Co-ordinating with the TAB, BAS contractors and M&E Contractors
- Reviewing O&M manuals
- Review training schedule and agenda.
- Final commissioning reporting
- Verifying seasonal performance during the opposite season of original performance testing

Building Automation System Contractor:

- Cooperate fully with CxA in execution of the Commissioning Plan.
- Incorporate all commissioning related activities and milestones in the construction/project schedule
- Directs all subcontractors to provide resolution to constructions issues
- Schedule all related commissioning activities in coordination with subcontractors and vendors
- Participating in commissioning meetings
- Distribution of shop drawings
- Include the CxA in all correspondences that affect the commissioning process and activities (e.g. schedules, site instructions, change orders, meeting minutes, etc.)
- Collects, assembles and manages commissioning documentation
- Provides support and participate for functional testing as needed
- Corrects any installation deficiencies in a timely manner with cooperation with other related contractors
- Provide the CxA with a copy of the O&M manuals for review
- Coordinates owner training with CxA
- The BAS Contractor will install, commission, and demonstrate their system to the requirements of the specification.
- The BAS Contractor will coordinate closely with the mechanical contractor, electrical contractor, the TAB Contractor, and the CxA
- Completing and sign off all PFT (Pre-Functional Test) forms for CxA review and approval
- Provides detailed O&M manuals for all aspects related to Building Automation system
- Provide list of all schedules and set points
- Coordinates control system functional checks with the CxA and demonstrates the sequences of operation to the CxA as required in the functional check sheets
- The BAS contractor and in cooperation with other contractors and vendors shall perform a complete 100% functional performance test for all equipment and systems related to the BAS and provide completed and signed off FPT sheets

Testing Adjusting & Balancing Contractor:

- Complete an initial project review prior to start any TAB activity to attempt to identify any construction issues preventing proper balancing of the systems
- The TAB contractor will test and balance the mechanical systems to the requirements of the project specification and in line with TAB standards
- TAB contractor will prepare a schedule for their work and coordinate with the GC to include these activities with in the construction schedule
- Provides all TAB documentation and associated reports
- Reports on operation and programming issues discovered in the field while balancing
- Issue report for the initial project review to the general contractor/mechanical contractor and copied CxA and mechanical engineer
- The TAB contractor will attend selected commissioning/construction meetings
- TAB contractor to submit valid calibration certificate for all instruments to be used
- Coordinate with CxA to witness selective percentage of water and air balancing process

Responsibility Matrix

Product	Description	Responsibility of:							
		CxA	OR	A/E	GC	MC	EC	BAS	TAB
System design and schematics	Single line diagram, flow diagram and other design considerations, floor plans indicating location of equipment and configuration of system installation.	R		P					
Commissioning Plan	Document includes, commissioning process, team, responsibilities and deliverables.	P	R/A	R/I	R/I	R	R	R	R
Commissioning schedule	Commissioning schedule included in the project work schedule. Including all milestones, other M&E activities.	I/R	R	R	P	P	I	I	I
Commissioning meetings	Cx meetings will be scheduled as needed or on regular basis.	Pe	At	At	At	At	At	At	At
Shop Drawings /Submittals	Reviewing the shop drawings for all equipment under the commissioning scope. Review will be conducted after final approval of the EOR.	R		R		S	S	S	
Pre-Functional Test Forms	Static and dynamic test forms. Will not replace the OEM test sheets.	R		R		Pe	Pe	P/Pe	Pe
Functional test Forms	Performance verification test forms used by the Cx A to verify system operation with the BAS.	P/A				Pe		Pe	
Static testing	Includes, pipe pressure tests, air duct pressure test, flushing and cleaning	R				Pe	Pe		
Installation & above ceiling inspections	Reviewing equipment installation and above ceiling M/E services inspections	R		Pe					
Dust free environment (Clean building)	Achieving a dust free environment is a key step to start air moving devices (AMD)/Equipment.	A			Pe	Pe			
Equipment Start-up and start-up plans, check sheets	This is the OEM starting-up mechanical /electrical equipment and issue report.	R		R		P/Pe			Pe
BAS Programming, Point to point verification and Graphics	This is a process by the BAS vendor to verify all equipment are communicating to BAS	R/W						Pe	
System Air and Water balancing	Process to balance the air and water volume and set the correct designed pressure in the system. Verify the outlet and terminals air quantities.	R		R				Pe	Pe
Functional Performance testing	Complete verification and testing of the system and individual components and as integrated systems.	Pe/W/A		W		Pe		Pe	
Final Commissioning report	Report will outline the commissioning activities and the outcome of this process, listing of all concerns and pending issues.	P/A	R/A						
O & M manuals	This is the equipment and systems operating and maintenance manuals as per technical specifications.	R				P/S	P/S	P/S	I
Training Program	Topics to be covered during the training session	R	At	Pe /W	Pe	Pe	Pe	Pe	
Seasonal Testing	Opposite season test	Pe	At	W	At	At	At	Pe	

Legend:

A	Responsible to Approve	Pe	Responsible to Perform	I	Responsible to give Input	S	Responsible to Submit
At	Responsible to Attend	R:	Responsible for Review	P	Responsible to Prepare	W:	Responsible to Witness

6. BUILDING COMMISSIONING PROCESS

Building Commissioning is the process of bringing the project from a static state to a dynamic operating condition to meet the intended use. More specifically, commissioning includes bringing the project to a working and fully operational condition in compliance with the design intent and project documents. Therefore, commissioning involves those actions and activities that convert the buildings mechanical & electrical components into a fully functioning facility.

Design Phase (Pre-Construction Phase)

Development of Design Documents:

The Design Team shall generate several phases of design documents, including schematics, design development, and various levels of construction documents.

The Construction Phase

Development of the Commissioning Plan:

The Commissioning Plan will be developed for the Cx Team to review. The Commissioning Plan provides an overview of the commissioning process and responsibilities. The Commissioning Plan includes preliminary project specific information on the team, systems to be commissioned, and project schedule milestones. The team shall review the plan and provide comments to the CxA. This plan will continue to be developed and refined through the commissioning process.

Commissioning Kick-off Meeting:

The CxA will schedule a kick-off meeting with the entire Commissioning Team to introduce the players, review commissioning scope, review the commissioning process, discuss team responsibilities, and develop a team specific approach to commissioning.

Submittal Review:

A review encompassing aspects from a commissioning perspective shall be conducted to the submittals of all systems to be commissioned. CxA review of submittals does not relieve the design team of their submittal review responsibilities.

Review of Contractor and Vendor Startup Forms:

The contractor shall provide any standard forms wished to be used during the commissioning process of the project such as contractor standard pressure test documentation, equipment starts-up forms, etc. The CxA will review/approve the forms and incorporate them into the Commissioning Plan. Startup forms can be provided by the contractor or equipment manufacturer. In cases where forms do not exist but are required, the CxA shall provide start-up forms.

Static Test Forms and Reports include:

- Pipe pressure testing
- Flushing and cleaning reports
- Chemical treatment sign off

Dynamic Test Forms are required for all systems identified under submittal review:

- Mechanical Equipment Startup
- BAS Point to Point and Functional Testing Report

Managing the Construction Schedule:

The general contractor develops the project schedule for the project and the CxA shall provide list for commissioning milestones and testing. The CxA also reviews the schedule to look for potential conflicts and to ensure there is sufficient time for testing towards the end of the project.

The CxA will work with the project team to help in preparing contractors commissioning schedules. The schedules will identify equipment and systems by area and the various commissioning tasks. The schedules will include key starting dates such as ‘power availability’ and ‘clean building’. Each Contractor’s schedule will be reviewed, and updated as required, at the construction meetings or the commissioning meetings.

Preliminary Commissioning Schedule milestones for the project:

Commissioning Activity	Duration	Estimated Start Date	Estimated Completion Date
Document design intent and basis of design			
Commissioning Plan			
Preliminary Commissioning Plan			
Scoping Meeting			
Final Commissioning Plan			
Submittals and test writing			
Review mechanical submittals			
Write Startup and PF checklists			
DDC program review meeting			
Write FPT Tests			
Construction Observation			
Site observations			
Equipment PF checklist completion			
Equipment startup			
Startup documentation			
Controls system checkout			
Test and Balance			
TAB air side			
TAB water side			
HVAC functional performance testing			
Substantial Completion			
Post Acceptance Phase			
Short-term diagnostic monitoring			
O&M, training, reporting, warranty			
O&M Manuals submitted			
Review O&M manuals			
Review as-built documentation			
Seasonal testing			
Final commissioning report			

Functional Test Sheets:

The functional performance test (FPT) sheets will be developed by the CxA – CFMS West Consulting and to be used with the contractors to fully test the sequences of operation of all commissioned systems. The test forms will include the test procedure and expected results of each test point. The contractors shall review the forms and confirm functional tests can be performed in a manner that does not compromise the safety of the equipment or personnel performing the test. FPT sheets shall be prepared for all systems identified under submittal review.

Commissioning Meetings:

During the early stages of the construction process, the CxA will integrate the first commissioning discussions at the regular site meetings; attendance as required. The initial meetings will deal with the commissioning process, responsibilities, and the reporting methodology.

During the construction process, commissioning issues, scheduling, pre-functional test forms, functional test forms and results will be discussed as required at the construction meetings; attendance as required. During the dynamic testing process and the time leading up to substantial performance, separate commissioning meetings shall be held if required.

On-going Construction Observations & Installation Checks:

The CxA will conduct periodic jobsite visits. During these visits the CxA will perform site inspections, commenting on installation quality and attend site meetings to remain informed on construction progress and to update parties involved in commissioning process. A written jobsite inspection report shall be provided and distributed to the contractors, owner and other team members as determined during the kick-off meeting.

The following list of activities will be performed by the CxA during a visit to the jobsite:

- Attending jobsite meeting
- Complete equipment installation check and above ceiling inspections
- Witness static and dynamic activities
- Verify site cleanness and dust free environment
- Complete required checklists;(PFT)
- Conduct Functional performance test (FPT)

Static & Dynamic Testing:

The CxA will review the static and dynamic testing reports and report on any items of concern from a commissioning or operations point of view.

Air and Water Balancing:

The CxA will co-ordinate with the Balancing Contractor to ensure that a balancing plan and schedule are prepared and reports are submitted. The TAB contractor shall visit the site and issue a report for the visit listing any comments, concerns or requirements for the balancing process. CxA will review the final balancing report and comment.

Functional Performance Test:

The FPT is to verify that equipment, systems, and sub-systems functions and perform to meet the OPR and project documents. They are means to determine that different systems interact as required to achieve an overall operating and functioning facility.

The FPT typically involve forcing the system into a series of operating modes, and observing the system's response. The CxA will accurately record all their activities and observations on the FPT sheets and then ensure all systems returned to a "normal" state. The CxA will use the Issue list to log any performance issues might arise during the test and their resolutions.

If desired, it is possible to have the current or future building operators attend the Functional Performance Testing. *“Having the building operators participate in testing enhances the process and is a unique opportunity to deepen their understanding of the systems and controls”.*

Prior to conducting FPT, the following must be satisfied:

- All static and dynamic start-up reports completed successfully;
- Controls system with all its graphics, verifications, calibrations, schedules, alarms and programs are completed and relevant reports and check sheets completed
- Air and water balancing process completed and reports submitted
- All corrections and re starting of start-ups completed successfully
- Maintaining a dust free environment in the building
- Availability of an experienced BAS contractor personnel during the test time
- Test requirements and BAS sequence of operation is provided for FPT form generation
- Occupancy and other schedules are provided
- Set points provided
- Ensuring the FPT can be performed in a manner that does not compromise the safety of the equipment or personnel performing the test or witnessing it

Development of the Commissioning Issues List:

The Cx A will manage, distribute and review a Commissioning Issues of Concern List (IOC) with the team. The Commissioning Issues Log will document all issues impacting the successful completion of the commissioning process. The CxA will assist the commissioning team to bring resolution to commissioning issues in a timely manner.

Operator Training Program:

Operations and maintenance documentation and training are vital to the long-term operational health of the facility. The Commissioning Authority (CxA) reviews agenda with the owner’s representative(s) -operators- to ensure that training agendas meet the specifications in the contract documents and the OPR.

The following steps will help the development and implementation of the training program

- The GC shall develop and submit a Training Plan to the project team for review and approve.
- The training plan shall identify systems requiring training, required instructor (s), time period for training, and location of training;
- Technical content for the training exercises shall be provided by a combination of the equipment manufacturers, Sub-trade contractors, and design team personnel;
- The GC shall coordinate with the relevant personnel – including at minimum the OR, A/E, CxA to schedule required training exercises and confirm appropriate personnel to receive training;
- Detailed training agendas will be issued to the commissioning team prior to the scheduled sessions;
- Training Agenda will include at the minimum the following:
 - Review of drawings to demonstrate the relationship between the installed devices and the drawings
 - Provide walk through outlining the major components associated with the training session
 - Overview of the operation of system/component, and its interface with the Building Automation System
 - Preventative maintenance procedures & routines. (Dealing with alarms and trends)
 - Review the SOO and describe the adjustments that can be made by an operator
 - Review system adjustment and calibration
 - Troubleshooting procedure and system diagnostic
 - Review of BAS graphics, programs and trends
 - Attendees Q & A

O&M Manuals Review:

The CxA will review the submitted O&M manuals for commissioned systems to verify compliance with the OPR and contract document. CxA - CFMS West Consulting – will review the O&M manuals for warranty certificates, availability of all reports, maintenance requirements, single line diagrams, valve charts, TAB reports, BAS point list and check sheets, sequence of operation, required contact information and warranties.

The O & M manuals shall include at the minimum the following sections:

- Basis of design document as issued by the EOR
- Warranties and applicable to the project
- Contractors contact list
- Equipment start up reports
- Test reports (Authority test Reports)
- Shop drawings, troubleshooting and PM literatures for all equipment and systems
- Air and water balancing reports and single line diagrams
- Building Automation System shop drawings and sequence of operation

Commissioning Report:

The CxA- CFMS West Consulting will provide a Final Commissioning Report upon completion of all commissioning activities. The final commissioning report will contain the executive summary, summary of the design review process, summary of the submittal review process, the current copy of the Commissioning Plan, completed commissioning issues list, meeting minutes, completed check forms, and O&M documentation and training process.

Occupancy and Operation Phase

The following activities will be performed during the Occupancy and Operation Phase of the project:

Completion of Seasonal and Deferred Systems tests:

The CxA may determine that certain sequences may not be thoroughly tested unless the ambient conditions are correct. These functional tests may be deferred until the appropriate conditions are available. The BAS and mechanical contractors will be conducting this test along with the CxA.

7. SYSTEM INCLUDED IN THE COMMISSIONING

Refer to below list for a full list of the equipment included in the project:

Equipment
Energy Recovery Ventilator
Perimeter Heating Panel
Cabinet Unit Heaters
Exhaust Fan
Hot Water Boiler
Pumps
Split AC Unit
Building Automation System
Lighting Controls

8. COMMUNICATIONS PROTOCOL

CFMS West Consulting as the Commissioning Authority, our primary focus is to act as an advocate for the owner ensuring that modern methods of construction and leading-edge commissioning are successfully delivered. Essential to this process is the establishment of a communications protocol – prepared for and reviewed during the commissioning kick-off session. Below is the communications protocol:

Issue	Communication Protocol
Requests for information (RFI) or formal documentation requests	The CxA goes first: through OR and copied GC, A/E
Minor or verbal information and clarifications:	The CxA goes direct to the GC, with correspondence copied to the OR/ A/E
Notifying contractors of noted Cx issues	The CxA documents issues through the OR & GC, but may not discuss issues with contractors prior to notifying the GC and A/E. Issues Logs are issued regularly to the Commissioning Team.
Scheduling functional tests	The CxA may provide input for and coordination of testing through the OR & GC, but does not directly schedule contractors or subs.
Scheduling commissioning meetings	The CxA with GC selects the date and schedules the meetings with the Owner and Design Team
Making requests for significant changes:	The CxA has no authority to issue change orders or direct the contactors or their subs as it pertains to design related modifications. Design Team issues instructions.
Making small changes in specified sequences of operations	The CxA may not make small sequences of operations changes to improve efficiency or control or to correct issues, through the responsible contractor. The CxA shall document the change and provide all information of specified sequences to the OR, GC and A/E. The CxA may not make changes to specified sequences without approval from the A/E.
Contractors or Subs disagreeing with requests, findings or interpretations by the CxA:	Contractors or Subs will not try and resolve with the CxA first. Contractors or Subs will work through the GC who will work with the CxA directly. The OR will be included in the correspondence /discussion as needed.
Witnessing systems and equipment training	The CxA may provide input for and assistance in the coordination of training and testing through the GC, but does not directly schedule contractors or subs.
Weekly site reports and updates	The CxA issues site reports and update documents through the OR, with copy to the, GC and A/E.
Suspected design issues found during the Cx process	The CxA documents issues first through the GC and A/E, but may not discuss design issues with contractors or subs prior to notifying the OR and GC.

9. NEXT STEP

The Commissioning plan is a live document that will be updated throughout the project. The OR, A/E, contractors and other project team shall be responsible for providing updates for the information in this document. CFMS West Consulting will review the updates and issue revisions accordingly.

Revision No.	Date Issued	Issued By
ROO	March 22, 2026	CFMS-West Consulting



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Schedule of Finish Hardware

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STONE CREEK ON L8G 1J8
PHONE - 905-664-8735
FAX - 905-664-8737

CONTRACTOR:

PHONE -
FAX -

PROJECT: WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET
KITCHENER ON
7648

PROJECT CONSULTANT: VISHAL KACHCHHI

PREPARED: February 09, 2026

REVISED: February 09, 2026
February 25, 2026

SUBMITTAL
REVISION 01



Scan to check
out our website

DOOR INDEX

Mark	Heading #	Mark	Heading #	Mark	Heading #
C100A	C100A	155B	155B		
1S1A	1S1A	2S1A	2S1A		
1S1B	1S1B	2S2A	2S2A		
1S2A	1S2A	201A	201A		
1S2B	1S2B	202A	202A		
141A	141A	203A	203A		
142A	142A	203B	203B		
142B	142B	204A	204A		
143A	143A	205A	205A		
144A	144A	206A	206A		
145A	145A	207A	207A		
145B	145B	210A	210A		
146A	146A	210B	210B		
147A	147A				
148A	148A				
149A	149A				
150A	150A				
153A	153A				
154A	154A				
154B	154B				
155A	155A				



KNELLS DOOR & HARDWARE

WCDSB - ST. ALOYSIUS CES ADDITION

2090 SHIRLEY DRIVE

KITCHENER

ON

N2B 0A3

Tel: 519-578-1000


Fax: 519-578-3262

Control No.7648

7648

Hardware Finishes

Finish	Description
26D	SATIN CHROMIUM PLATED
32D	SATIN STAINLESS STEEL, 300 SERIES
626	SATIN CHROMIUM
630	SATIN STAINLESS STEEL
689	POWDER COAT, ALUMINUM
ALUMINUM	ALUMINUM
C.A.	CLEAR ANODIZED
C26D	SATIN CHROMIUM
C32D	STAINLESS STEEL, SATIN
CL	CLEAR
PC	PRIME COAT
US26D/US32D	STAINLESS STEEL - SATIN
US32D	STAINLESS STEEL - SATIN

	KNELLS DOOR & HARDWARE	WCDSB - ST. ALOYSIUS CES ADDITION
	2090 SHIRLEY DRIVE	Control No.7648
	KITCHENER	7648
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WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 141A

1 SGL DOOR 141A EXST. CORRIDOR E100 TO EX. CLASSROOM 141

90° LH

900 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 142A

1 SGL DOOR 142A EXTERIOR FROM EX. CLASSROOM

90° LHR

955 x 2186 x 44 ALD Door/ ALF Frame

NON-RTD Door/NON-RTD Frame

1	CONTINUOUS HINGE	SL27 CL LL X 2159MM X SDTF	CL	SEL
1	RIM EXIT DEVICE	CD-98EO X 299 X 4-0	US32D	VON
1	MORTISE CYLINDER	10T0500-26-DBS-Z34 1-1/4 MORTISE CYLINDER WITH SCHLAGE CAM	626	G&A
1	OVERHEAD STOP, CONCEALED	104S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	DOOR SWEEP	W-38S X 950MMW	C.A.	KNC
1	THRESHOLD	CT-75 X 950MM	ALUMINUM	KNC

INTEGRAL WEATHERSTRIPPING BY DOOR SUPPLIER.

Heading # 142B

1 SGL DOOR 142B EXST. CORRIDOR E100 FROM EXST. CLASSROOM 142

90° LHR

915 x 2150 x 45 EXST Door/ EXST Frame

NON-RTD Door/NON-RTD Frame

1	RIM EXIT DEVICE	98L-BE-F X 996L-BE(#06) X 299F X 4-0	US26D/US32 D	VON
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN

EXISTING DOOR TO BE EQUIPPED WITH NEW EXIT HARDWARE AND CLOSER.

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 143A

1 SGL DOOR 143A CORRIDOR C100 TO CLASSROOM			90°	LH
950 x 2150 x 44 HMD Door/ HMF Frame			NON-RTD Door/NON-RTD Frame	
3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 144A

1 SGL DOOR 144A CORRIDOR C100 TO CLASSROOM			90°	RH
950 x 2150 x 44 HMD Door/ HMF Frame			NON-RTD Door/NON-RTD Frame	
3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 145A

1 SGL DOOR 145A CORRIDOR C100 TO CLASSROOM			90°	RH
950 x 2150 x 44 HMD Door/ HMF Frame			NON-RTD Door/NON-RTD Frame	
3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 145B

1 SGL DOOR 145B CLASSROOM 144 TO CLASSROOM 145

90° RH

950 x 2150 x 44 WD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INSTITUTION LOCK	195DW X G3 X KD	26D	MRK
2	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	SMOKE SEAL	W-66 X 17-2		KNC
1	AUTO DOOR BOTTOM, SURFACE	CT-50 X 950MMOA	C.A.	KNC

Heading # 146A

1 SGL DOOR 146A CORRIDOR C100 TO CLASSROOM

90° LH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 147A

1 SGL DOOR 147A CORRIDOR C100 TO CLASSROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 148A

1 SGL DOOR 148A CORRIDOR C100 TO WORK ROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 149A

1 SGL DOOR 149A CORRIDOR C100 FROM MACHINE ROOM

90° RHR

950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	DROP PLATE	4040XP-18G.689	689	LCN

Heading # 150A

1 SGL DOOR 150A CORRIDOR C100 FROM I.T. CLOSET

90° RHR

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	DROP PLATE	4040XP-18G.689	689	LCN

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 153A

1 SGL DOOR 153A CORRIDOR C100 TO STAFF WASHROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	INDICATOR DEADBOLT	D271 X 30-253 X 10-094	626	FAL
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

INSTALL DEADLOCK AT 6" C/L ABOVE 161.

Heading # 154A

1 SGL DOOR 154A CORRIDOR C100 TO FILES

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	ENTRY LOCK	175AB X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL

Heading # 154B

1 SGL DOOR 154B FILES FROM MECHANICAL ROOM

90° RHR

950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	DROP PLATE	4040XP-18G.689	689	LCN

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 155A

1 SGL DOOR 155A EXTERIOR FROM EX. CLASSROOM

90° LHR

955 x 2186 x 44 ALD Door/ ALF Frame

NON-RTD Door/NON-RTD Frame

1	CONTINUOUS HINGE	SL27 CL LL X 2159MM X SDTF	CL	SEL
1	RIM EXIT DEVICE	CD-98EO X 299 X 4-0	US32D	VON
1	MORTISE CYLINDER	10T0500-26-DBS-Z34 1-1/4 MORTISE CYLINDER WITH SCHLAGE CAM	626	G&A
1	OVERHEAD STOP, CONCEALED	104S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	DOOR SWEEP	W-38S X 950MMW	C.A.	KNC
1	THRESHOLD	CT-75 X 950MM	ALUMINUM	KNC

INTEGRAL WEATHERSTRIPPING BY DOOR SUPPLIER.

Heading # 155B

1 SGL DOOR 155B EXST. CORRIDOR E100 FROM EXST. CLASSROOM 155

90° LHR

915 x 2150 x 45 EXST Door/ EXST Frame

NON-RTD Door/NON-RTD Frame

1	RIM EXIT DEVICE	98L-BE-F X 996L-BE(#06) X 299F X 4-0	US26D/US32 D	VON
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN

EXISTING DOOR TO BE EQUIPPED WITH NEW EXIT HARDWARE AND CLOSER.

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 1S1A

1 PR DOORS 1S1A EXTERIOR FROM STAIR 1S1

90° RHR,LHR

950/950 x 2150 x 44 ALD Door/ ALF Frame

NON-RTD Door/NON-RTD Frame

2	CONTINUOUS HINGE	SL27 CL LL X 2159MM X SDTF	CL	SEL
1	MULLION	EL980 X 86	PC	SAR
2	RIM EXIT DEVICE	CD-98EO X 299 X 4-0	US32D	VON
1	CYLINDER	10J0400-26-DQM (RIM CYLINDER FOR ALL NON-SARGENT EXITS)	626	G&A
2	MORTISE CYLINDER	10T0500-26-DBS-Z34 1-1/4 MORTISE CYLINDER WITH SCHLAGE CAM	626	G&A
1	CYLINDER	10J0200-26-DQM-Z20 (1-1/8 CYLINDER W/ SARGENT T CAM)	626	G&A
1	ELECTRIC STRIKE	9600-12/24D-630	630	ES-CD
2	PULL	GSH 1180-1 X #2	C32D	GAL
2	OVERHEAD STOP, CONCEALED	104S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT INSTALL INTO ADO HEADER	689	LCN
1	AUTO OPERATOR	MICOM KIT 25318 DOUBLE HEADER WIRED ADO (SW800 DOUB HEAD ADO, 1 ACTIVE & 2 BUTTONS-INSTL)	AL	G&A
2	DOOR SWEEP	W-38S X 950MMW	C.A.	KNC
1	THRESHOLD	CT-75 X 1900MM	ALUMINUM	KNC
1	DROP PLATE	4040XP-18G.689	689	LCN

120VAC TO HEADER, ALL CONDUIT AND LOW VOLTAGE WIRING BY ELECTRICAL.
INTEGRAL WEATHERSTRIPPING BY DOOR SUPPLIER.
CARD READER BY SECURITY.

Heading # 1S1B

1 PR DOORS 1S1B STAIR 1S1 FROM CORRIDOR C100

90° RHR,LHR

950/950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

6	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
2	SVR EXIT DEVICE	9827L-BE-F X 996L-BE(#06) X 499F X 4-0 X 2150MMH X LBR	US26D/US32 D	VON
2	CLOSER	4040XP.RWPA.689.SRT	689	LCN
2	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
2	WALL STOP	GSH 240	C26D	GAL
2	ELECTROMAGNETIC HOLDER	EM 508-24120	689	DKB

120VAC TO MAG HOLDER BY ELECTRICAL.

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 1S2A

1 PR DOORS 1S2A EXTERIOR FROM STAIR 1S2

90° RHR,LHR

950/950 x 2150 x 44 ALD Door/ ALF Frame

NON-RTD Door/NON-RTD Frame

2	CONTINUOUS HINGE	SL27 CL LL X 2159MM X SDTF	CL	SEL
2	RIM EXIT DEVICE	CD-98EO X 299 X 4-0	US32D	VON
2	MORTISE CYLINDER	10T0500-26-DBS-Z34 1-1/4 MORTISE CYLINDER WITH SCHLAGE CAM	626	G&A
1	CYLINDER	10J0400-26-DQM (RIM CYLINDER FOR ALL NON-SARGENT EXITS)	626	G&A
1	ELECTRIC STRIKE	9600-12/24D-630	630	ES-CD
2	PULL	GSH 1180-1 X #2	C32D	GAL
2	OVERHEAD STOP, CONCEALED	104S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
		INSTALL INTO ADO HEADER		
1	AUTO OPERATOR	MICOM KIT 25318 DOUBLE HEADER WIRED ADO (SW800 DOUB HEAD ADO, 1 ACTIVE & 2 BUTTONS-INSTL)	AL	G&A
2	DOOR SWEEP	W-38S X 950MMW	C.A.	KNC
1	THRESHOLD	CT-75 X 1900MM	ALUMINUM	KNC
1	DROP PLATE	4040XP-18G.689	689	LCN

120VAC TO HEADER, ALL CONDUIT AND LOW VOLTAGE WIRING BY ELECTRICAL.
INTEGRAL WEATHERSTRIPPING BY DOOR SUPPLIER.
CARD READER BY SECURITY.
FIXED MULLION BY ALUMINUM.

Heading # 1S2B

1 PR DOORS 1S2B STAIR 1S2 FROM CORRIDOR C100

90° RHR,LHR

950/950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

6	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
2	RIM EXIT DEVICE	98L-BE-F X 996L-BE(#06) X 299F X 4-0	US26D/US32 D	VON
1	ELECTRIC STRIKE	9500-12/24D-630	630	ES-CD
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
		INSTALL INTO ADO HEADER		
1	AUTO OPERATOR	MICOM KIT 25318 DOUBLE HEADER WIRED ADO (SW800 DOUB HEAD ADO, 1 ACTIVE & 2 BUTTONS-INSTL)	AL	G&A
2	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
2	ELECTROMAGNETIC HOLDER	EM 508-24120	689	DKB
1	DROP PLATE	4040XP-18G.689	689	LCN

120VAC TO HEADER, ALL CONDUIT AND LOW VOLTAGE WIRING BY ELECTRICAL.
FIXED MULLION BY HM.

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 201A

1 SGL DOOR 201A CORRIDOR C200 TO CLASSROOM

90° LH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 202A

1 SGL DOOR 202A CORRIDOR C200 TO CLASSROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 203A

1 SGL DOOR 203A CORRIDOR C200 TO CLASSROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 203B

1 SGL DOOR 203B CORRIDOR C200 TO CLASSROOM

90° RH

950 x 2150 x 44 WD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INSTITUTION LOCK	195DW X G3 X KD	26D	MRK
2	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	SMOKE SEAL	W-66 X 17-2		KNC
1	AUTO DOOR BOTTOM, SURFACE	CT-50 X 950MMOA	C.A.	KNC

Heading # 204A

1 SGL DOOR 204A CORRIDOR C200 TO CLASSROOM

90° LH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 205A

1 SGL DOOR 205A CORRIDOR C200 TO CLASSROOM

90° RH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 206A

1 SGL DOOR 206A CORRIDOR C200 TO WORK ROOM

90° LH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	INTRUDER LOCK	195DB X G3	26D	MRK
2	CYLINDER	20J200V0-26-DQM (DB,S)	626	G&A
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

Heading # 207A

1 SGL DOOR 207A CORRIDOR C200 TO STAFF WASHROOM

90° LH

950 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	INDICATOR DEADBOLT	D271 X 30-253 X 10-094	626	FAL
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
1	WALL STOP	GSH 240	C26D	GAL

INSTALL DEADLOCK AT 6" C/L ABOVE 161.

Heading # 210A

1 SGL DOOR 210A CORRIDOR C200 FROM CUSTODIAN ROOM

90° LHR

1100 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

3	HINGE, 5, HVY WT	MPB68 127MM X 114MM	26D	MCK
1	STOREROOM LOCK	175F X E7 X G3	26D	MRK
1	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 1062MM	C32D	GAL
1	DROP PLATE	4040XP-18G.689	689	LCN

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # 210B

1 SGL DOOR 210B EXTERIOR/ROOF FROM CUSTODIAN ROOM

90° LHR

1100 x 2150 x 44 HMD Door/ HMF Frame

NON-RTD Door/NON-RTD Frame

3	HINGE, 5, HVY WT	MPB99 127MM X 114MM NRP	32D	MCK
1	INSTITUTION LOCK	195DW X G3 X KD	26D	MRK
2	CYLINDER	20J200V1-26-DQM (AB,F)	626	G&A
1	OVERHEAD STOP	904S	US32D	GLY
1	CLOSER	4040XP.RWPA.689.SRT	689	LCN
1	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 1062MM	C32D	GAL
1	WEATHER STRIPPING	W-52S X 1100MM X 2150MM	C.A.	KNC
1	DOOR SWEEP	W-38S X 1100MMW	C.A.	KNC
1	THRESHOLD	CT-75 X 1100MM	ALUMINUM	KNC
1	DROP PLATE	4040XP-18G.689	689	LCN

Heading # 2S1A

1 PR DOORS 2S1A STAIR 2S1 FROM CORRIDOR C200

90° RHR,LHR

950/950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

6	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
2	RIM EXIT DEVICE	98L-BE-F X 996L-BE(#06) X 299F X 4-0	US26D/US32 D	VON
2	CLOSER	4040XP.RWPA.689.SRT	689	LCN
2	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
2	WALL STOP	GSH 240	C26D	GAL
2	ELECTROMAGNETIC HOLDER	EM 508-24120	689	DKB

120VAC TO MAGHOLDER BY ELECTRICAL.
FIXED MULLION BY HM.

Heading # 2S2A

1 PR DOORS 2S2A STAIR 2S2 FROM CORRIDOR C200

90° RHR,LHR

950/950 x 2150 x 44 HMD Door/ HMF Frame

45 MIN Door/45 MIN Frame

6	HINGE, 4 1/2, HVY WT	MPB68 114MM X 114MM	26D	MCK
2	RIM EXIT DEVICE	98L-BE-F X 996L-BE(#06) X 299F X 4-0	US26D/US32 D	VON
2	CLOSER	4040XP.RWPA.689.SRT	689	LCN
2	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 912MM	C32D	GAL
2	WALL STOP	GSH 240	C26D	GAL
2	ELECTROMAGNETIC HOLDER	EM 508-24120	689	DKB

120VAC TO MAGHOLDER BY ELECTRICAL.
FIXED MULLION BY HM.

HARDWARE SCHEDULE - CODE # 7648

WCDSB - ST. ALOYSIUS CES ADDITION
504 CONNAUGHT STREET

Heading # C100A

1 PR DOORS C100A EXISTING CORRIDOR E100 FROM CORRIDOR C100

90° RHR,LHR

1100/1100 x 2150 x 44 HMD Door/ HMF Frame

90 MIN Door/90 MIN Frame

6	HINGE, 5, HVY WT	MPB68 127MM X 114MM	26D	MCK
2	SVR EXIT DEVICE	9827L-BE-F X 996L-BE(#06) X 499F X 4-0 X 2150MMH X LBR	US26D/US32 D	VON
2	CLOSER, REGULAR ARM	4040XP.RWPA.689.SRT	689	LCN
2	KICK PLATE	GSH 80A X 2-SIDED TAPE X 203MM X 1062MM	C32D	GAL
2	WALL STOP	GSH 240	C26D	GAL
2	ELECTROMAGNETIC HOLDER	EM 508-24120	689	DKB
1	WEATHER STRIPPING	W-66 X 25		KNC

120VAC TO MAGHOLDER BY ELECTRICAL.

Heading # LOOSE1

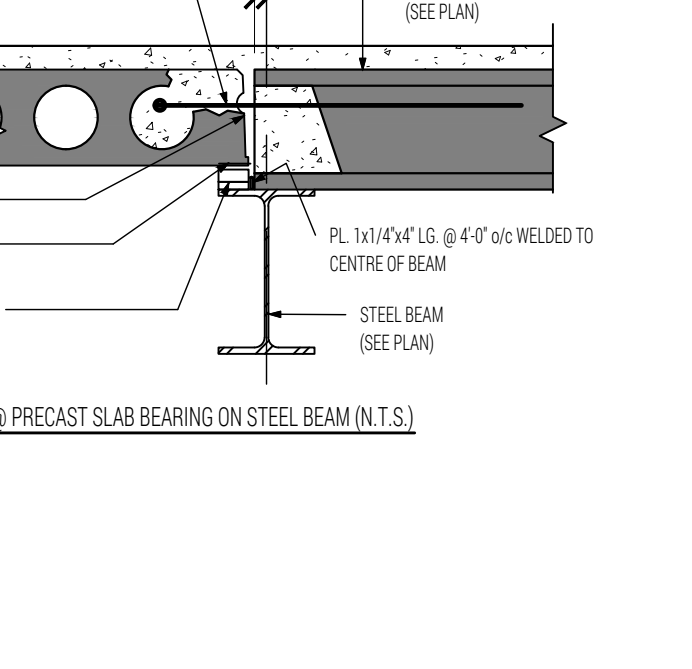
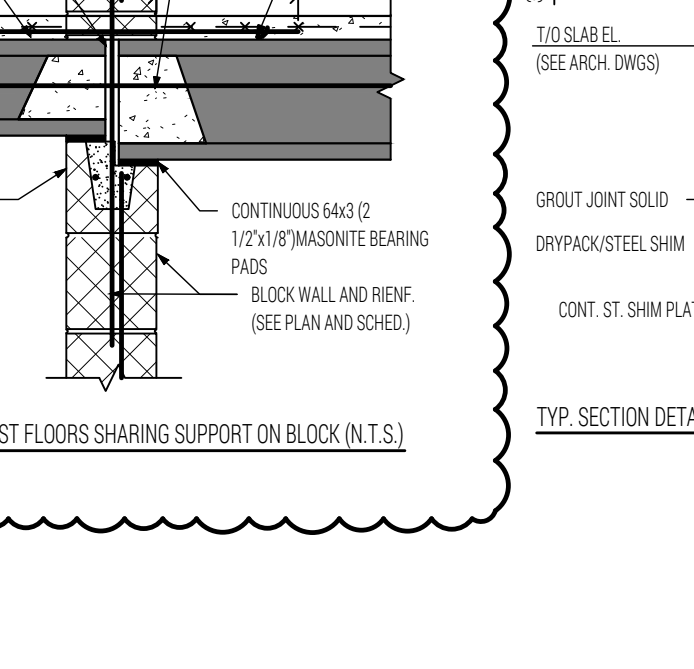
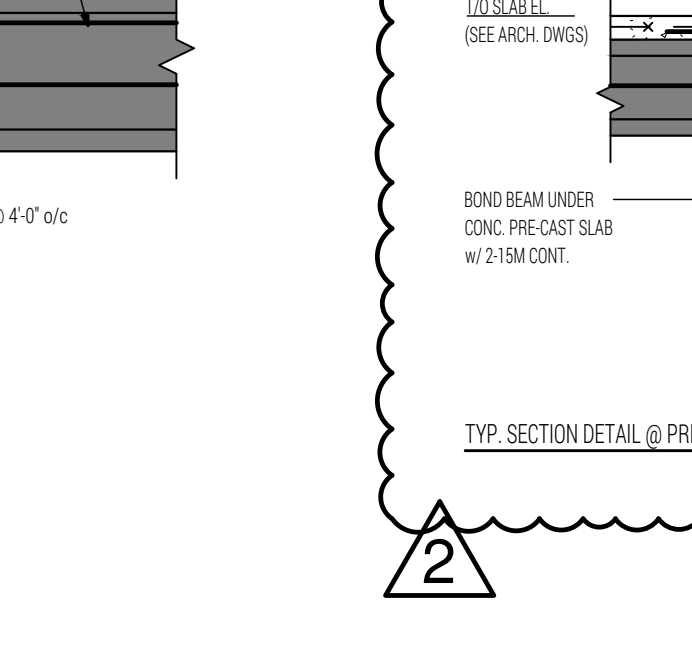
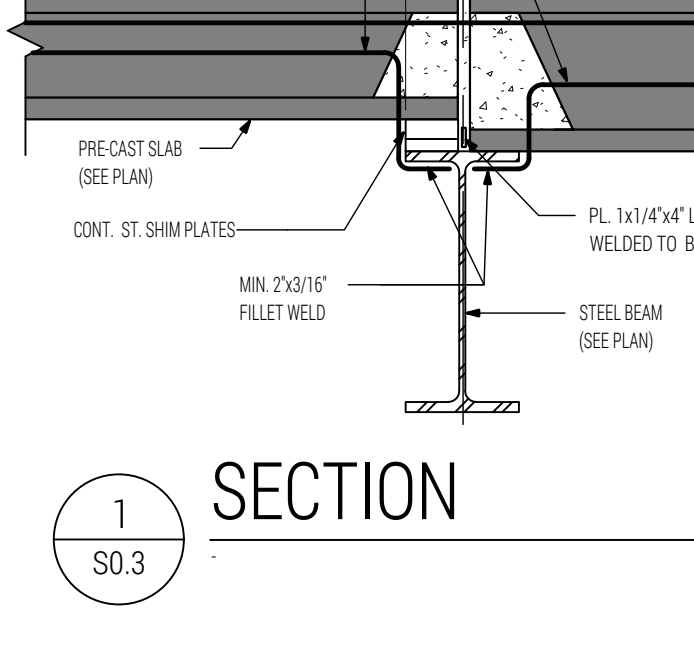
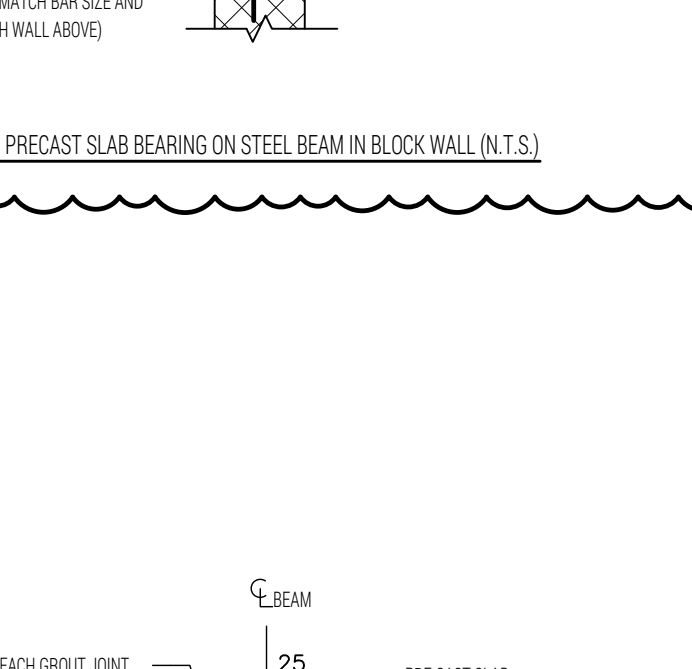
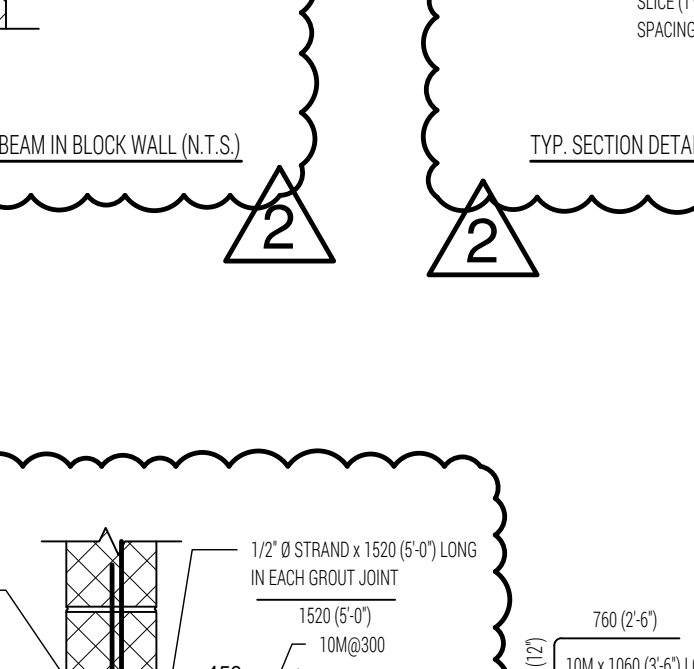
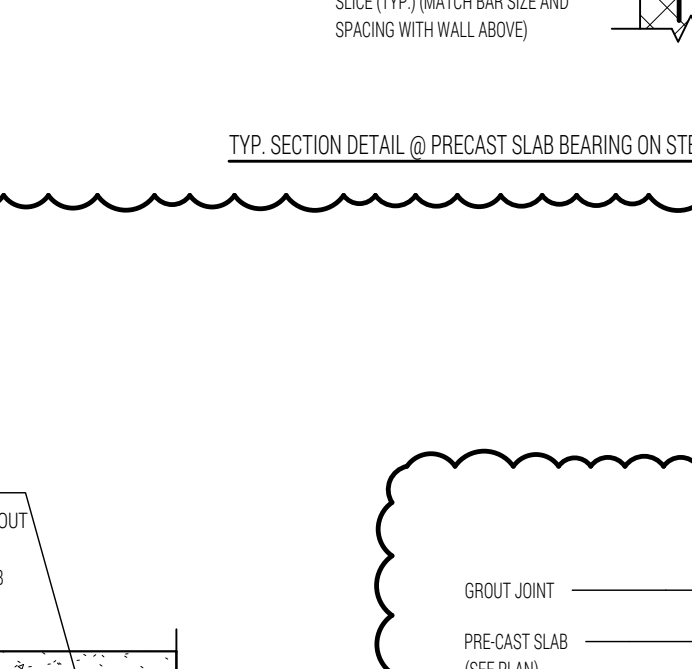
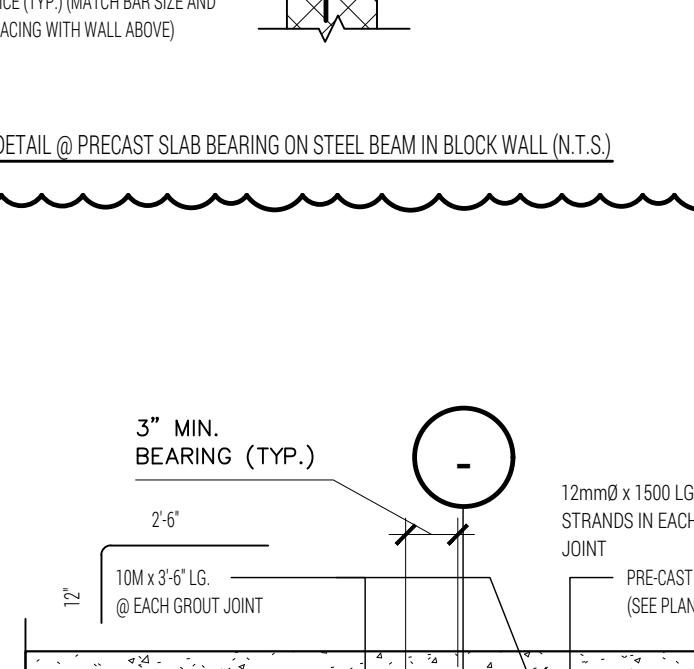
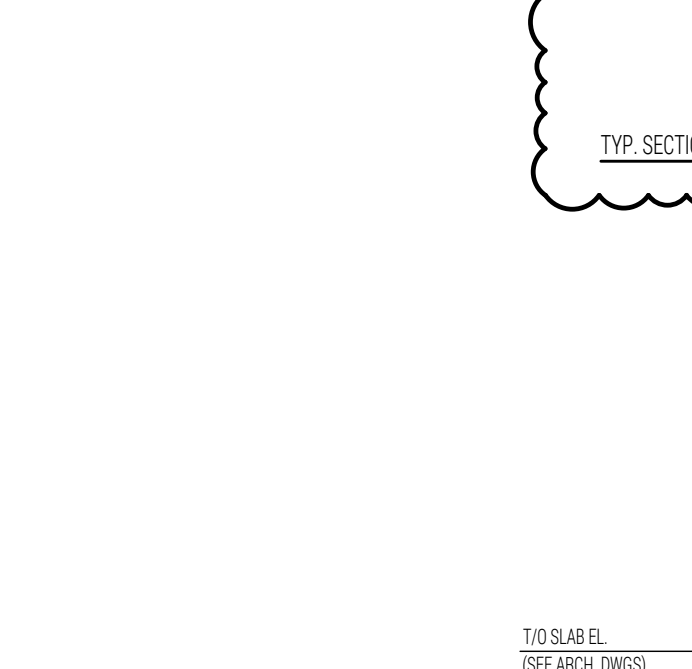
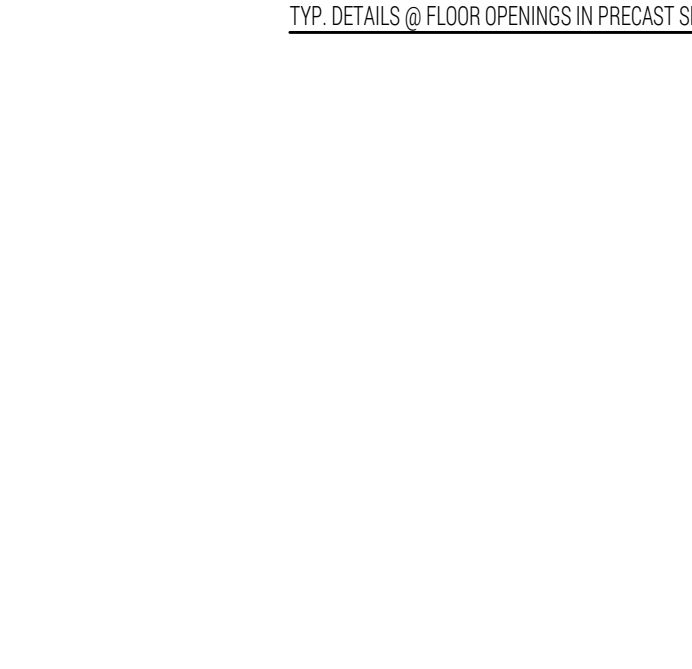
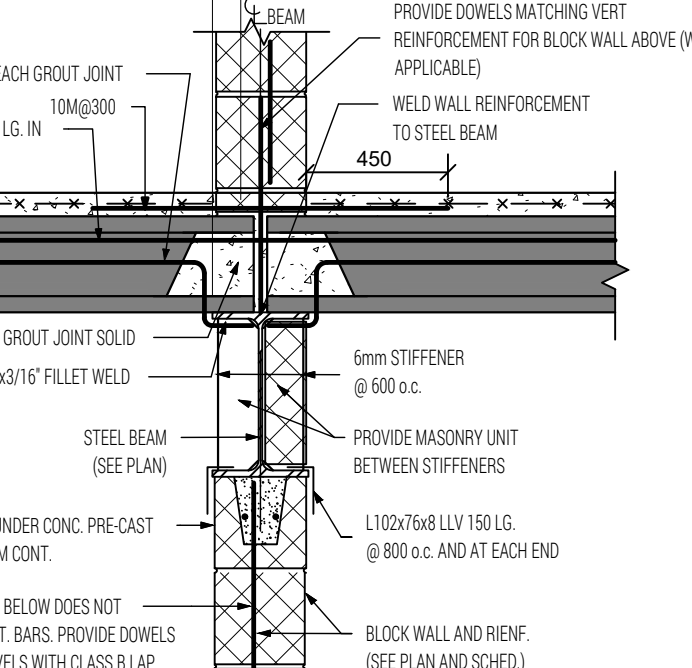
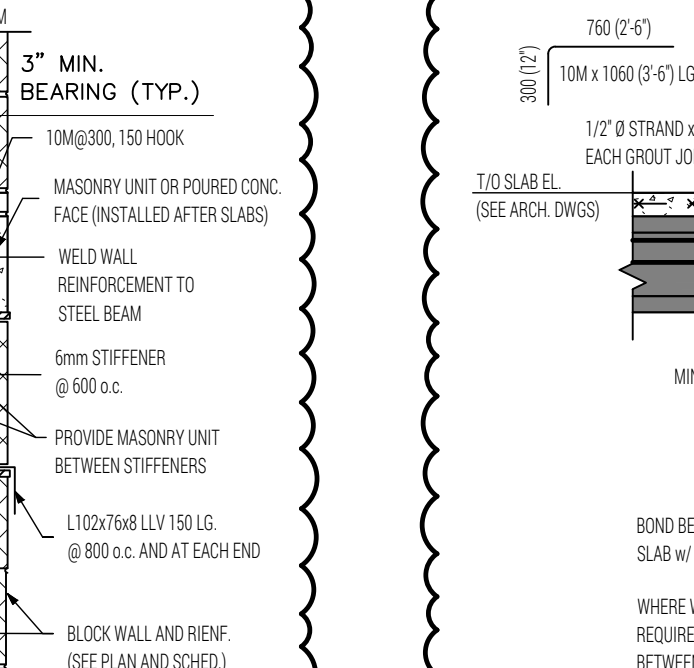
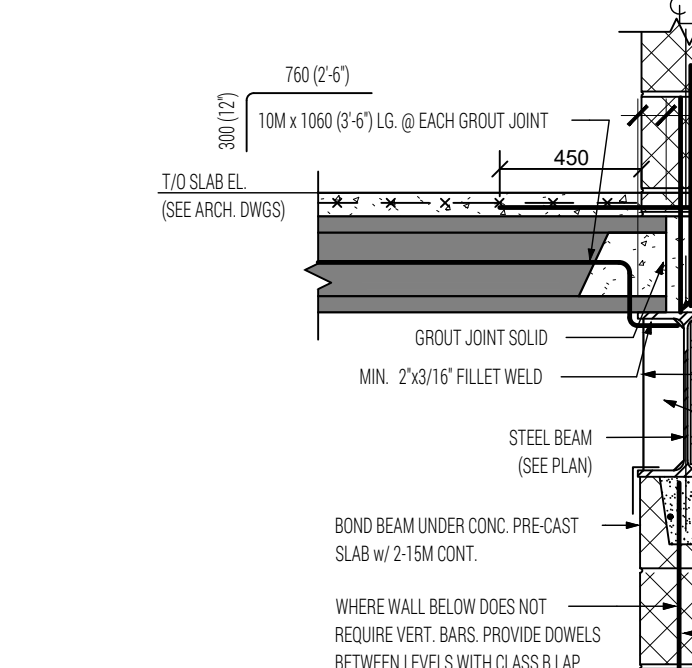
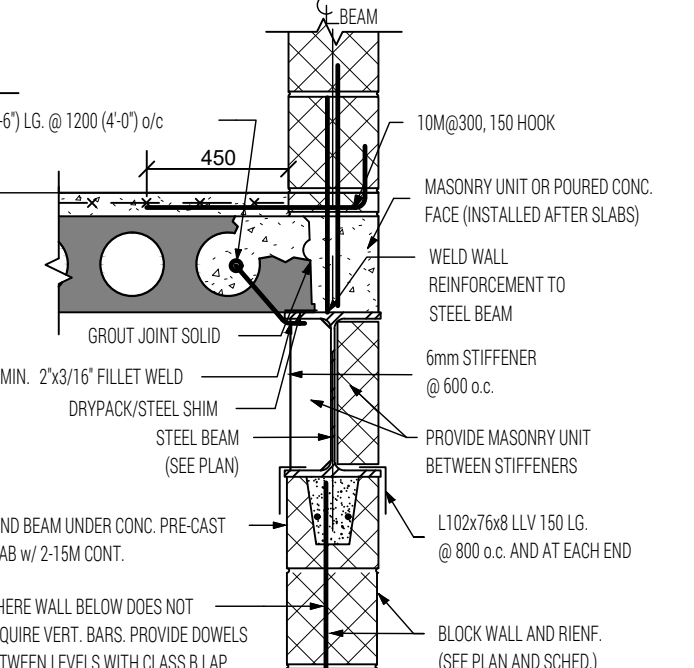
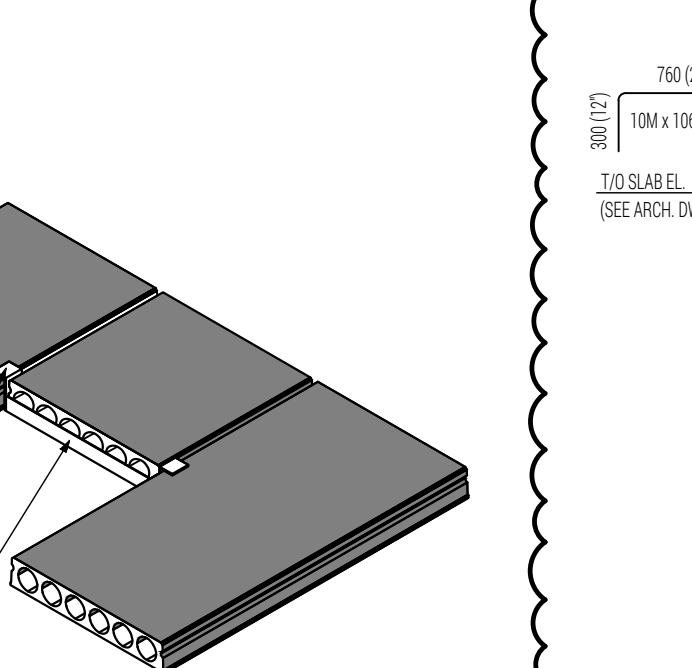
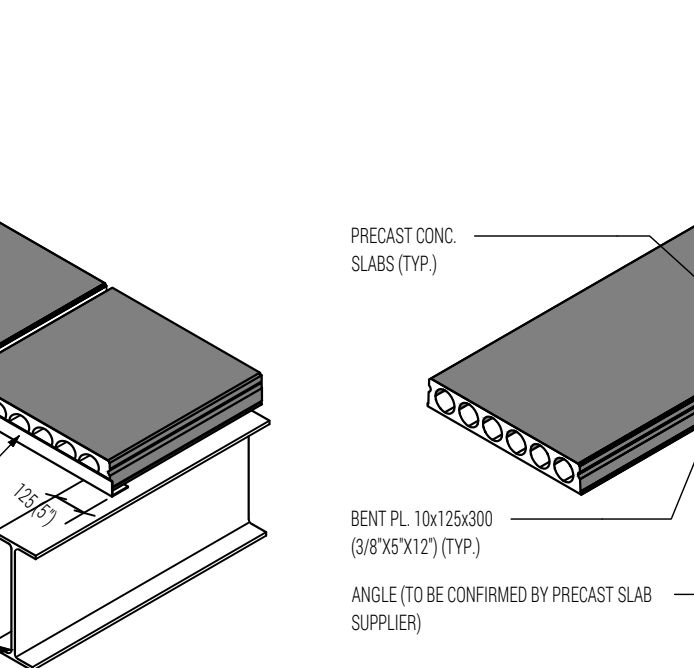
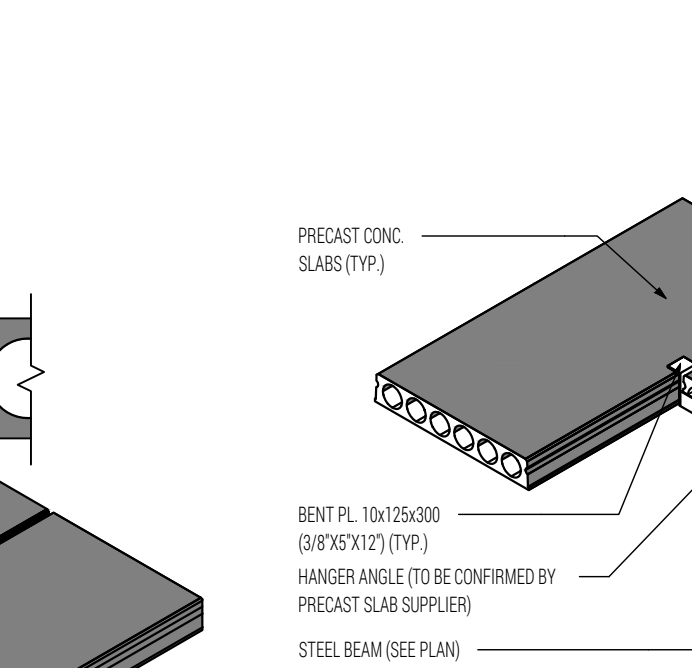
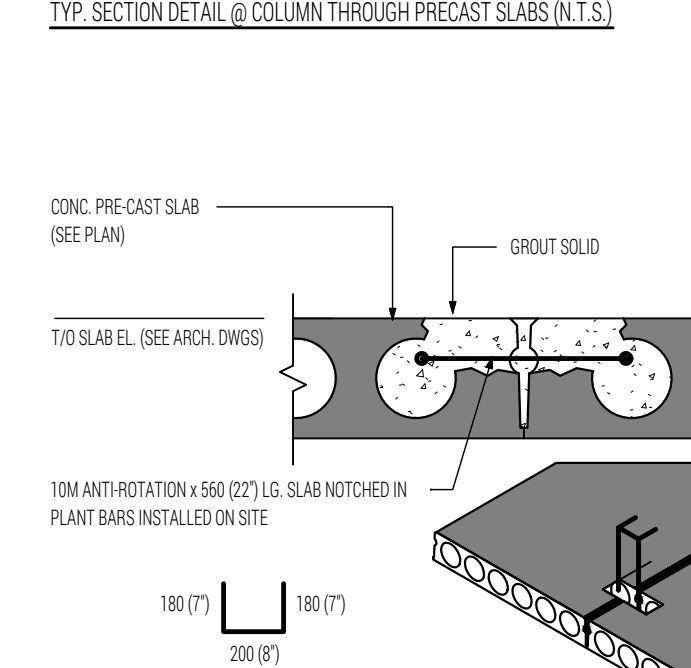
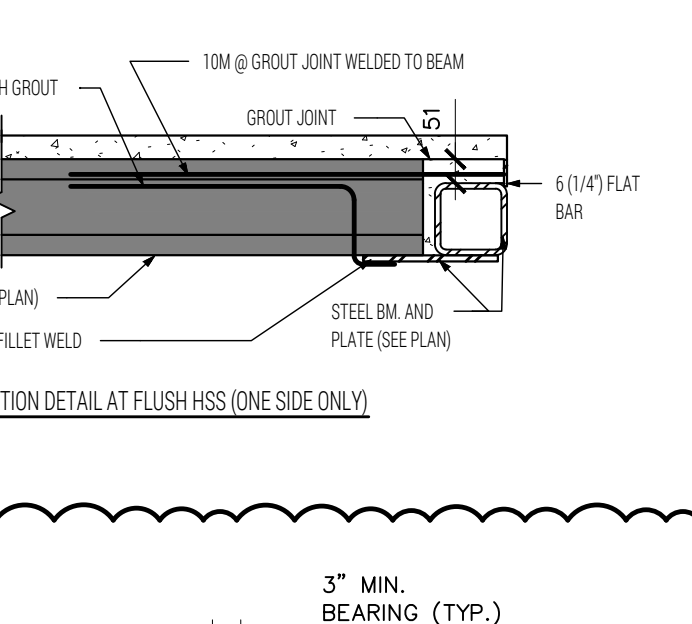
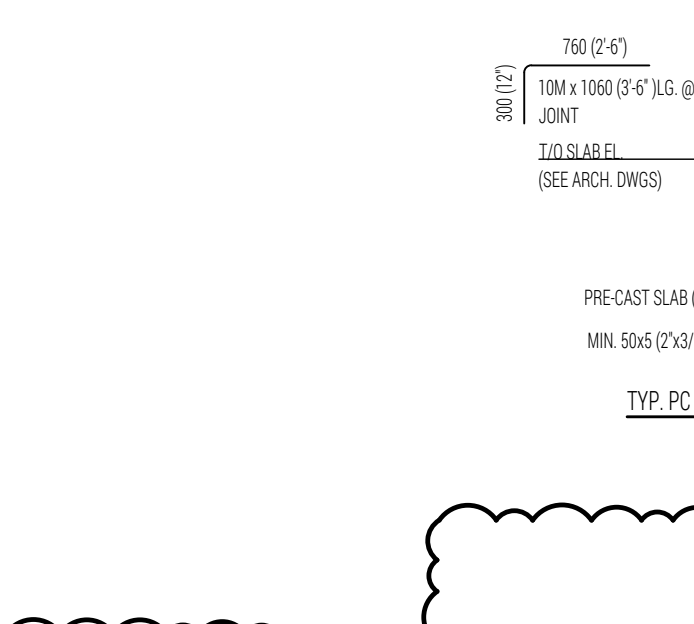
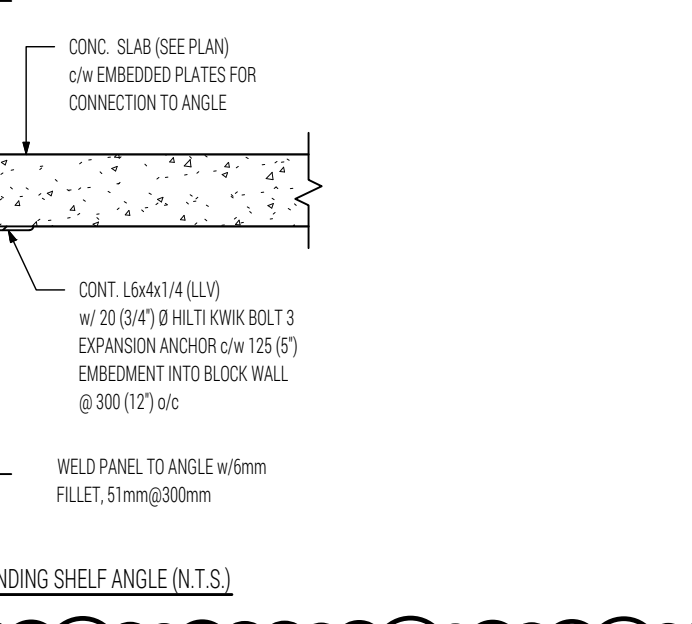
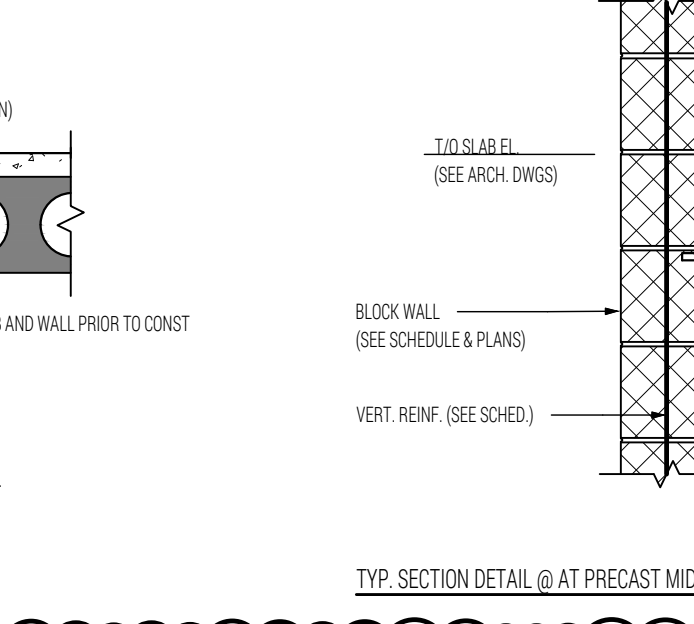
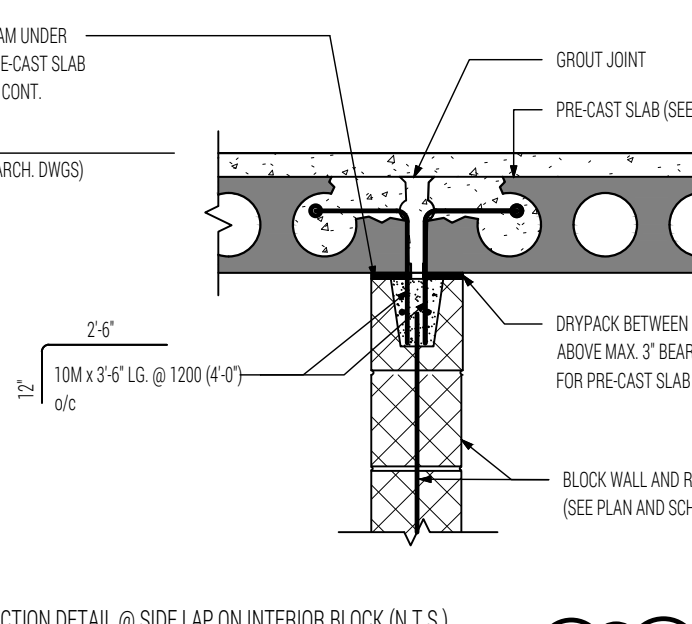
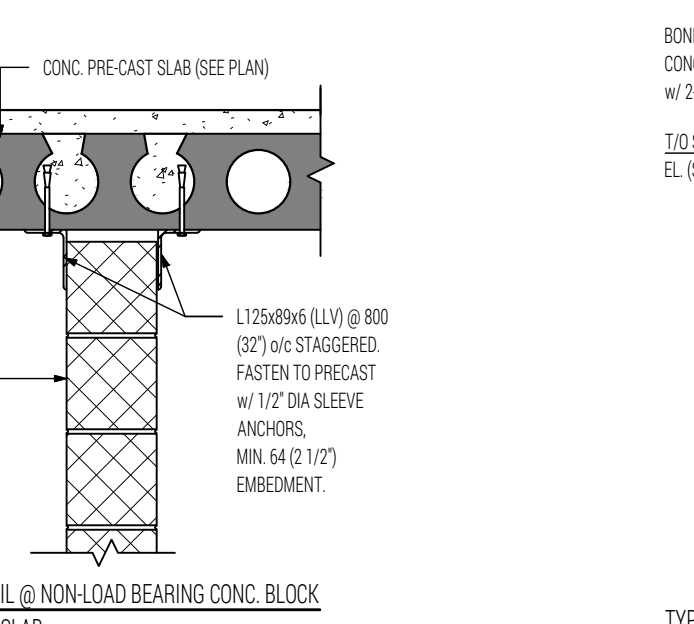
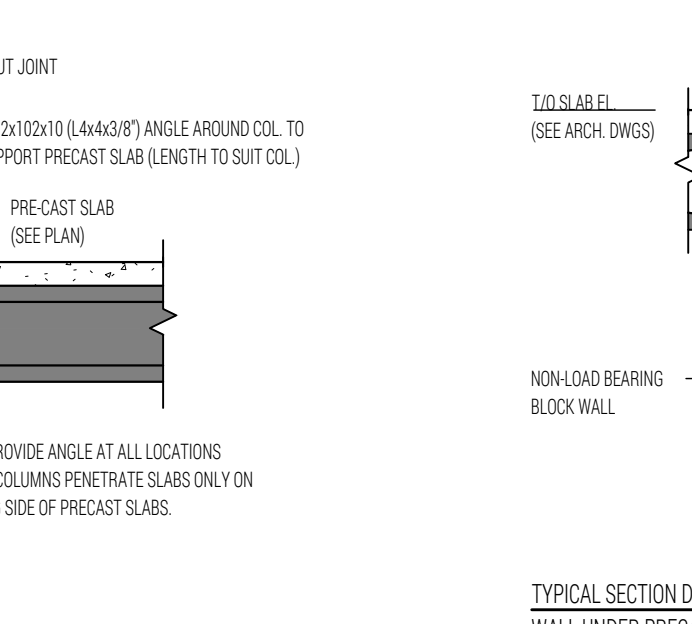
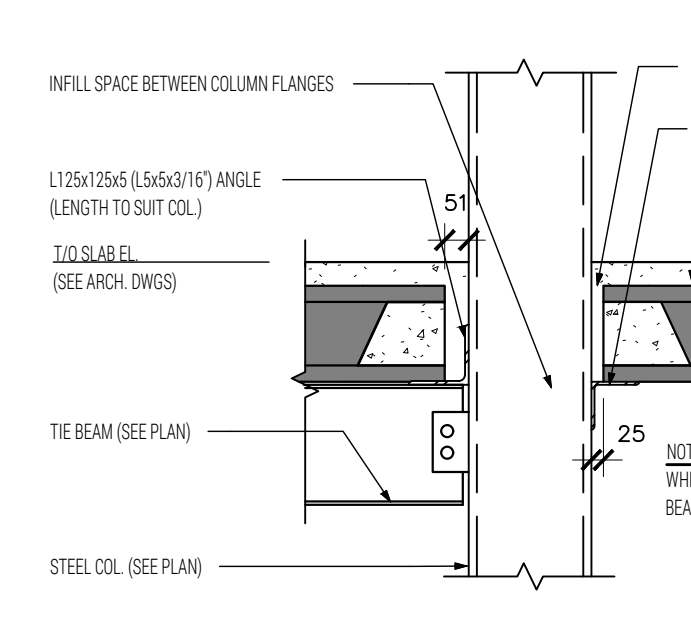
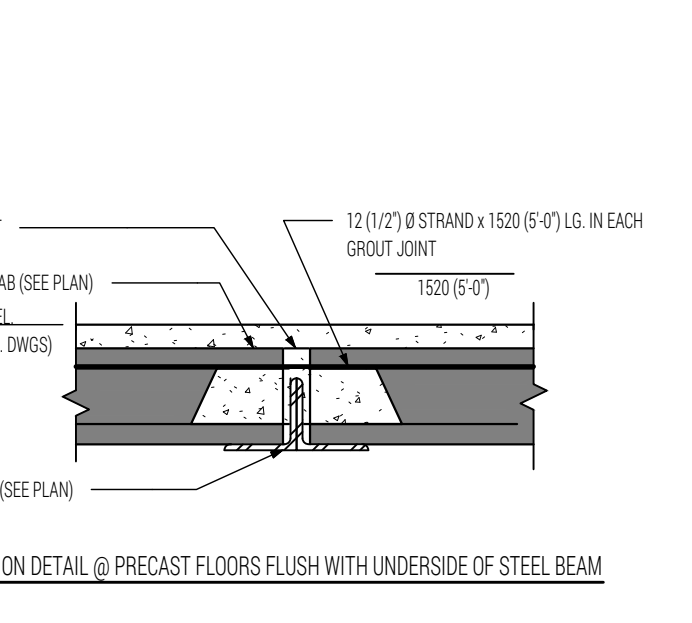
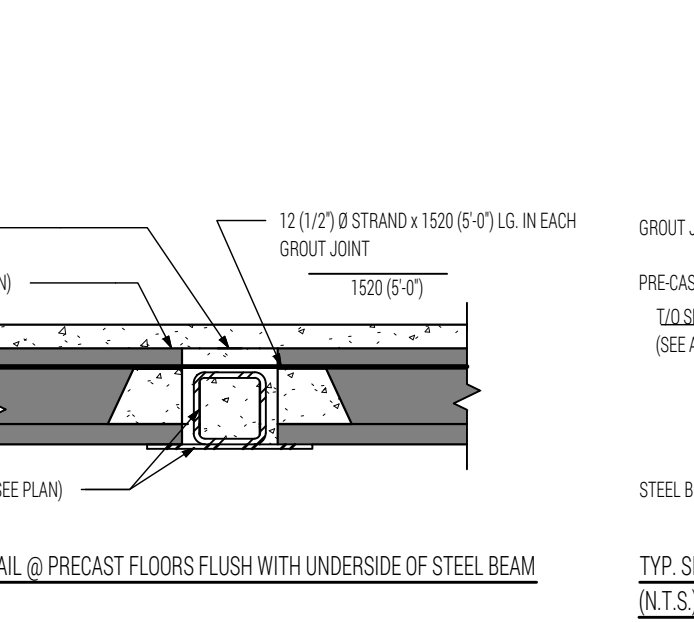
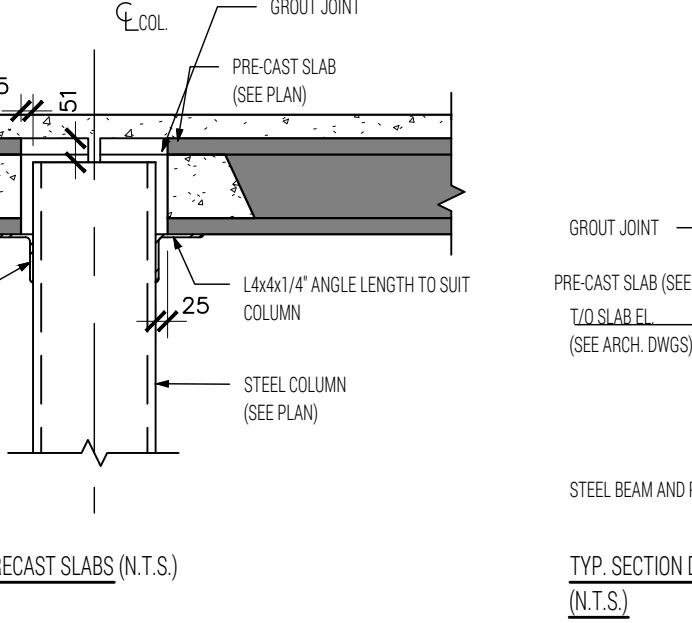
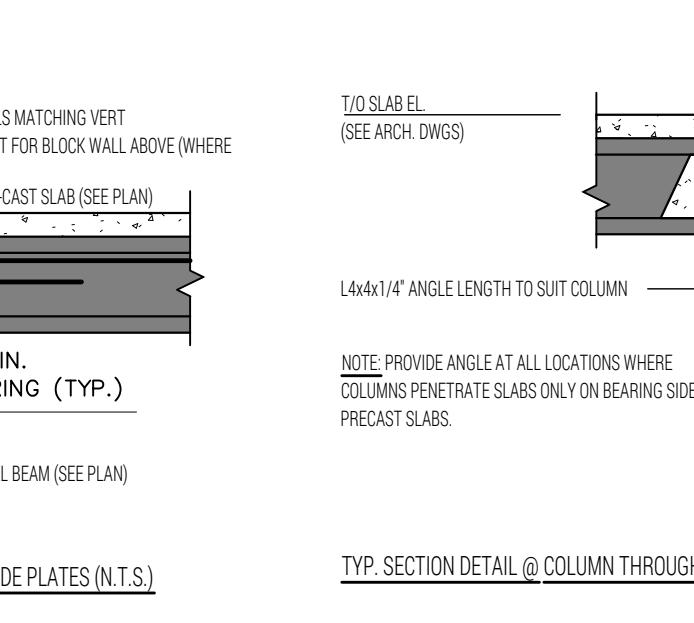
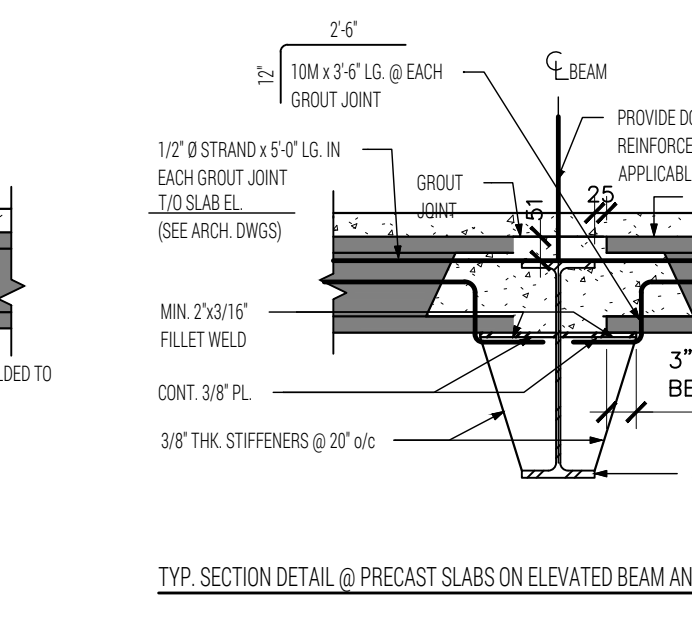
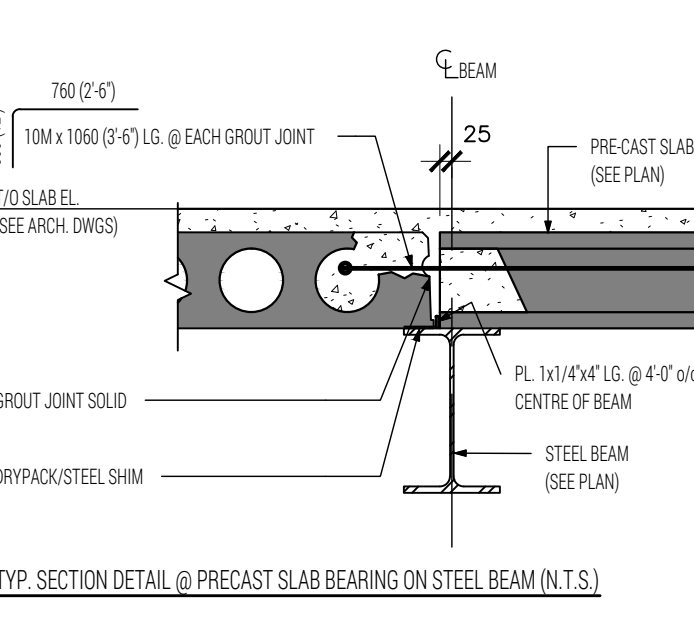
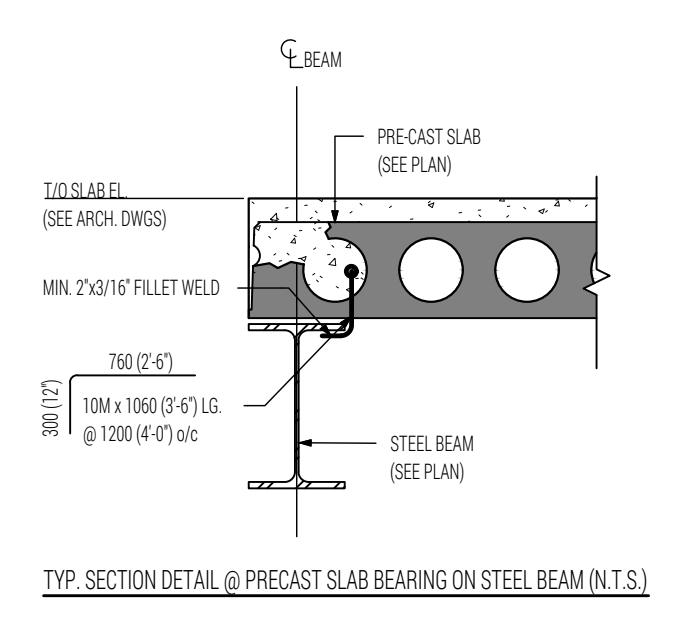
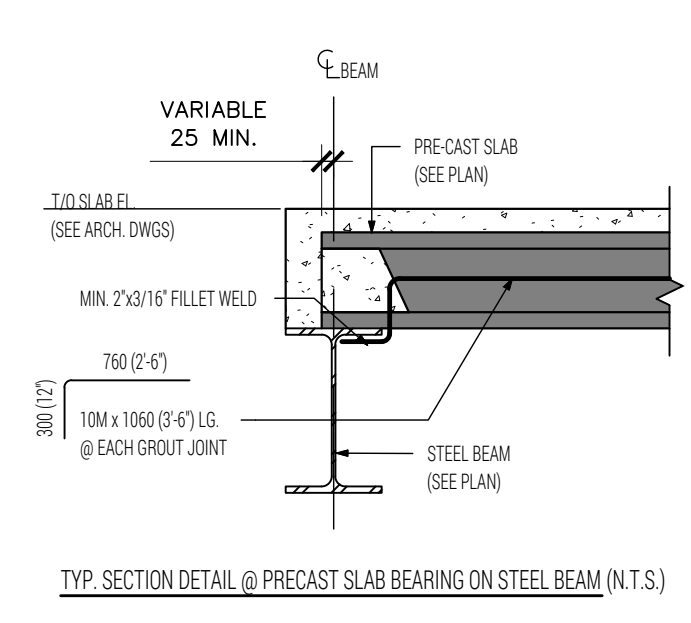
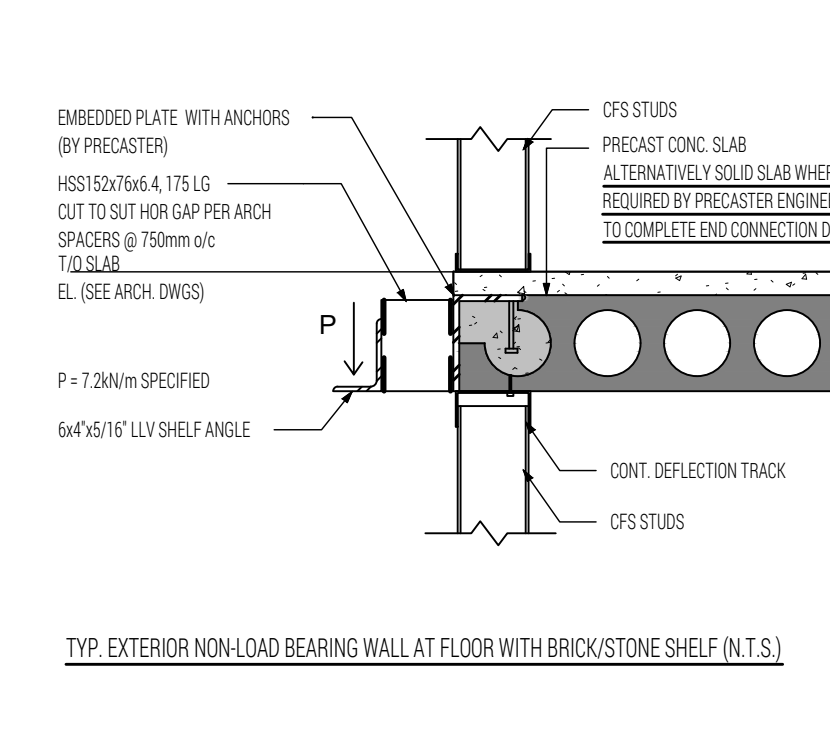
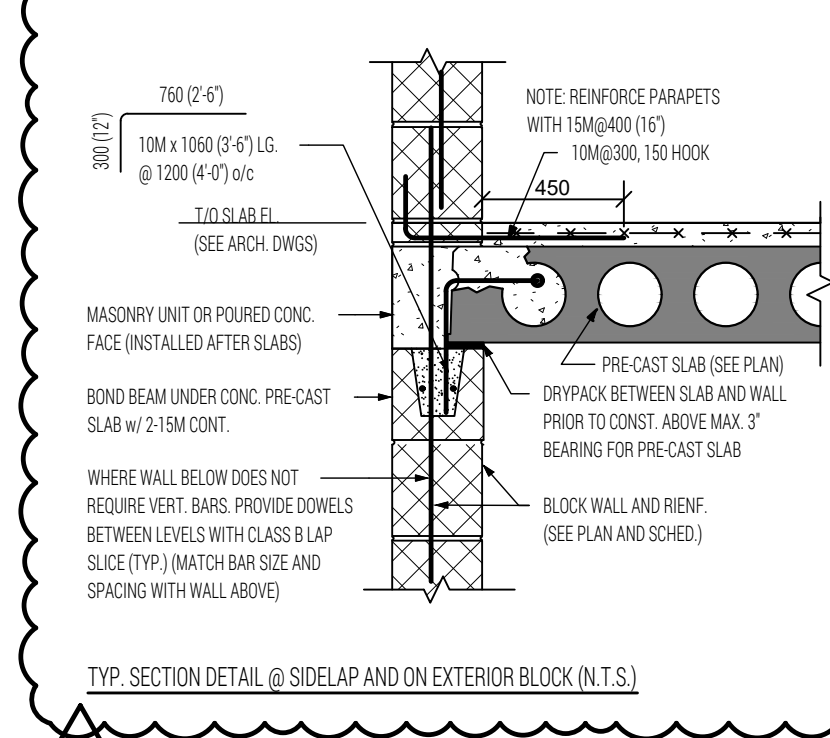
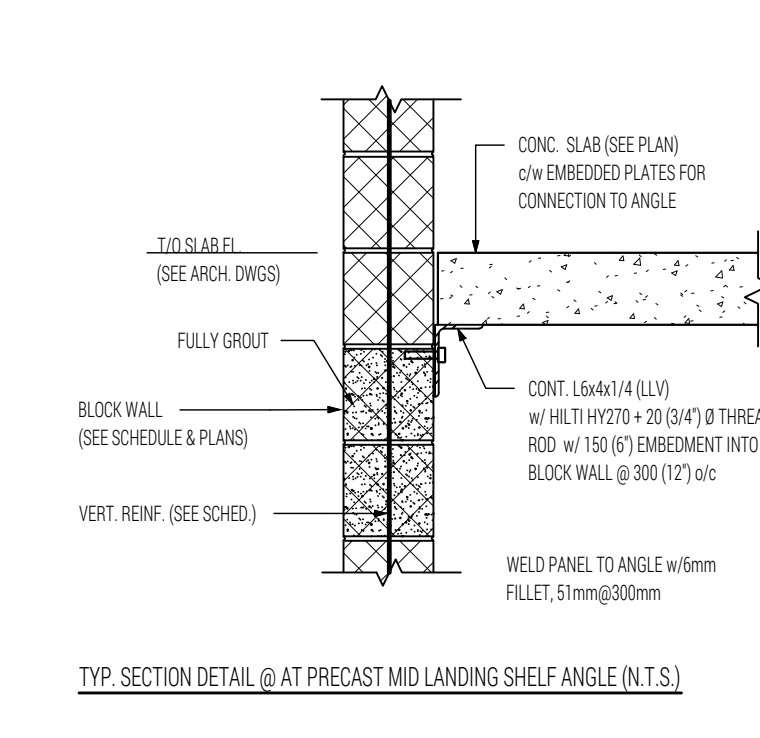
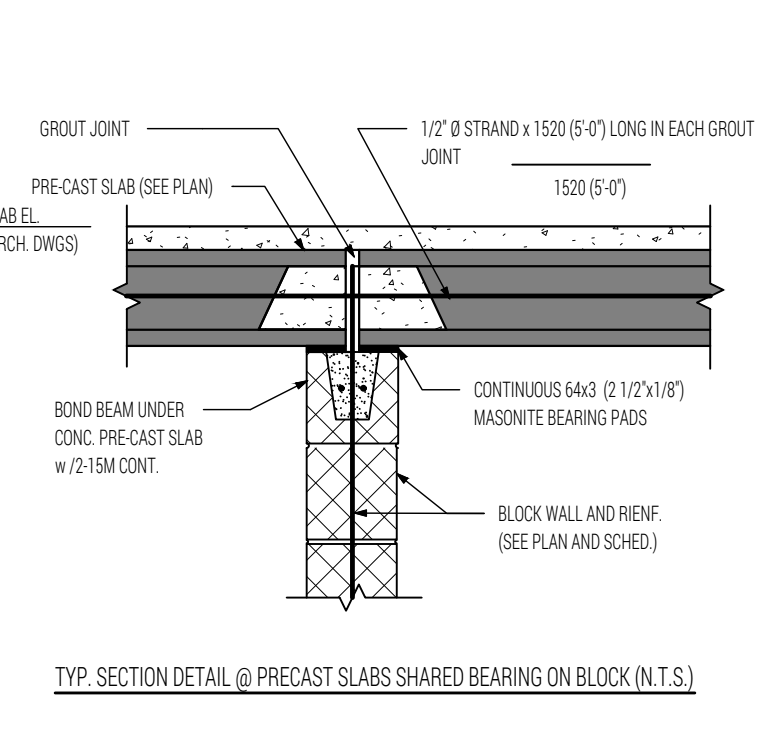
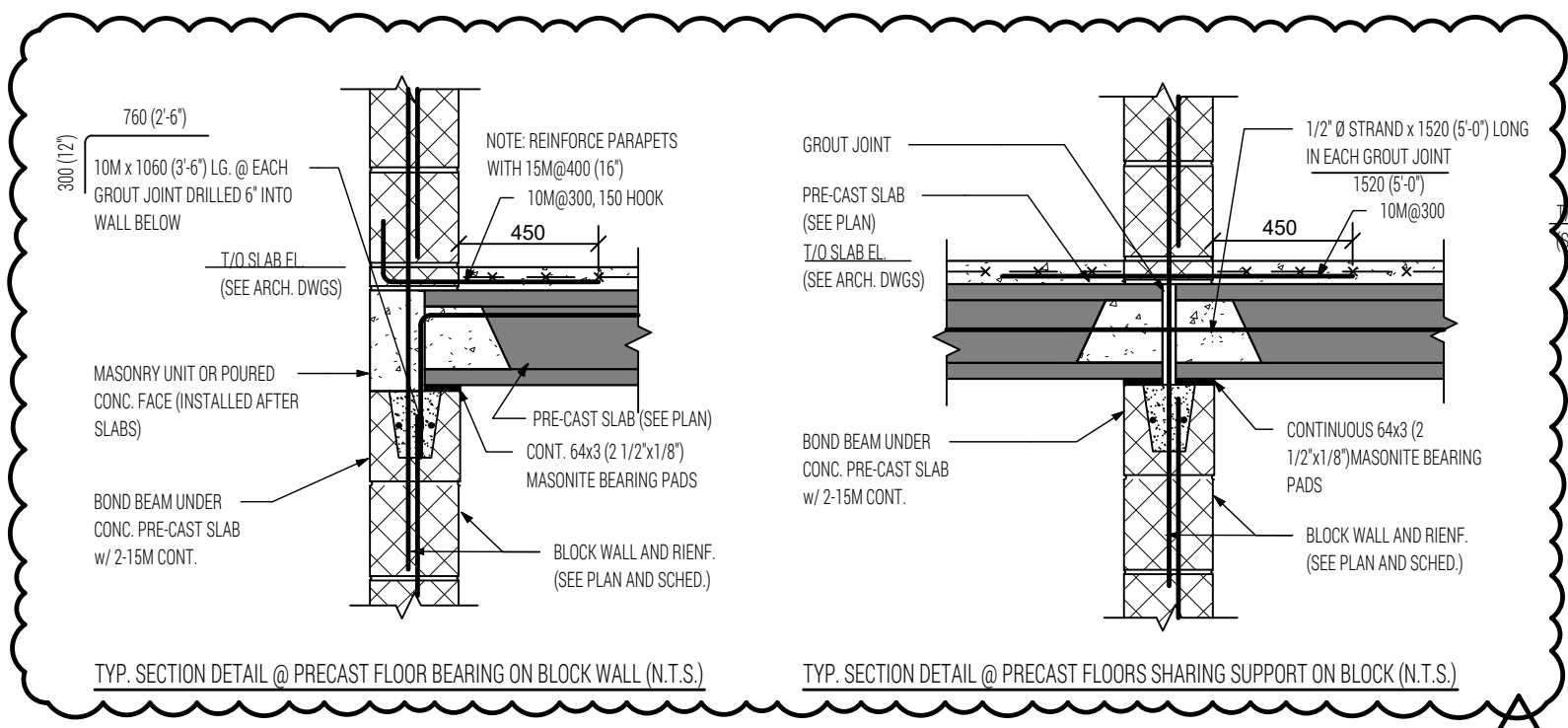
1 LOOSE1

o

x x Door/ Frame

10	CYLINDER	20J009S4-26-DQM	26D	MED
10	CABINET LOCK - 1-T1	MED-OL-700LCM-26D		G&A

CABINET LOCK TO BE INSTALLED ON TEACHERS CABINET WITH CLOSET ROD.
COORDINATE WITH MILLWORK.



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 D.F. ENGINEERING INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY D.F. ENGINEERING INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.

ISSUED PER ADDENDUM	2	2026-04-21
ISSUED FOR BUILDING PERMIT	1	2025-10-06

DFE
DOYCH & FILO ENGINEERING INC.
Structural Engineers
Phone: (647) 836-4805 • (905) 719-1482

PROJECT
ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON
DRAWING
TYPICAL DETAILS

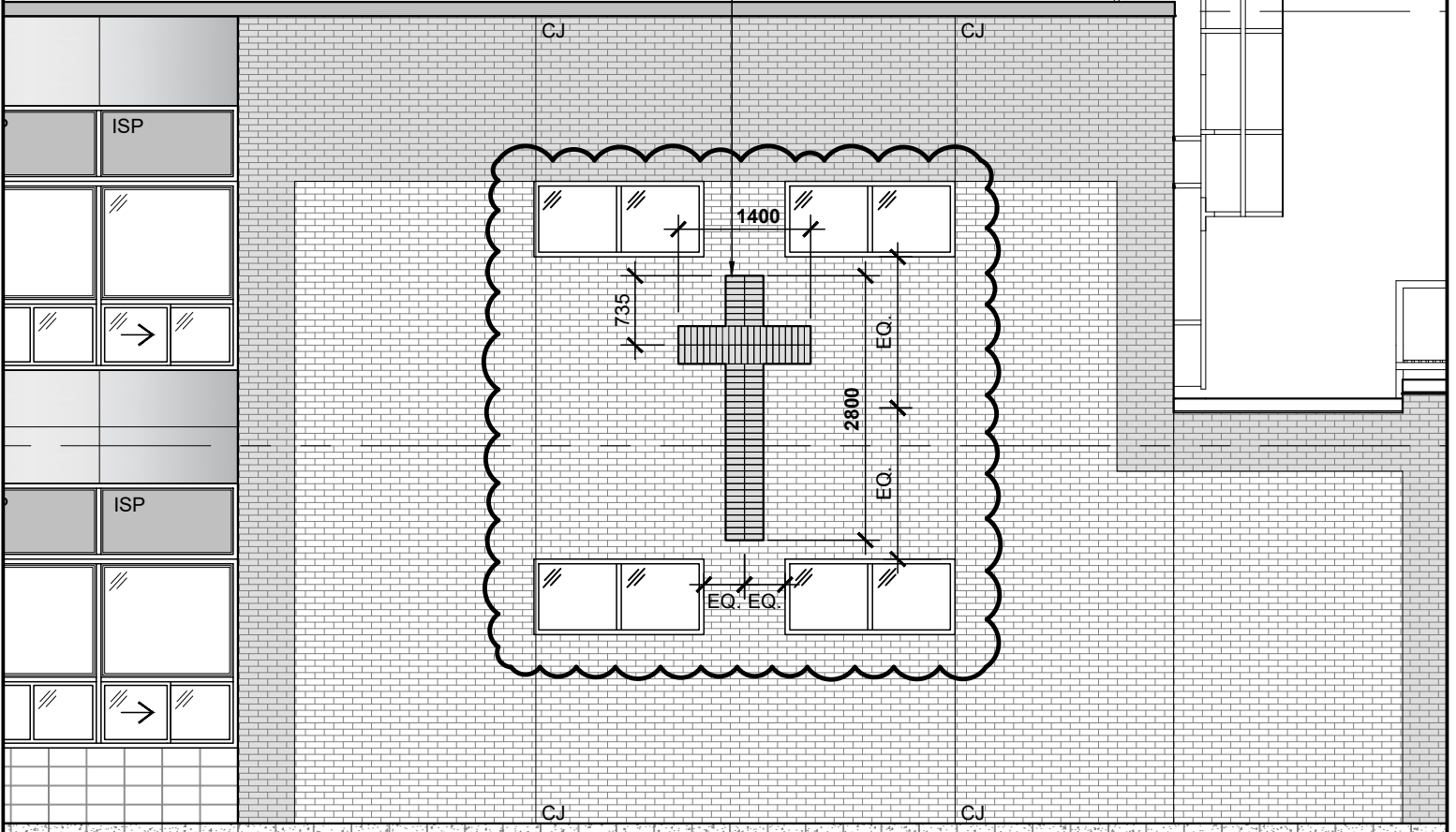
Design By:	TD/AF	Date:	2025-07-08
Drawn By:	AF	Project No.:	25032601
Scale:	AS NOTED	Drawing No.:	S0.3

SECTION
1
S0.3

SECTION
2

SECTION
2

INSTALL BRICK VENEER TYPE-2 ACCENT IN A SOLDIER
 COURSE BRICK PATTERN (DOUBLE WIDE)
 TO CREATE CROSS AS SHOWN. MAINTAIN 1:3 RATIO FOR
 CROSS AND KEEP CENTRED BETWEEN
 THE FOUR WINDOWS. KEEP ALIGNED
 WITH ADJACENT BRICK COURSING HEIGHTS.
 INSTALL 13mm PROJECTION FROM
 FACE OF ADJACENT BRICK FACE.
 - ADJUST / ADD CONTROL JOINT LOCATION AS SHOWN.



SOUTH ELEVATION

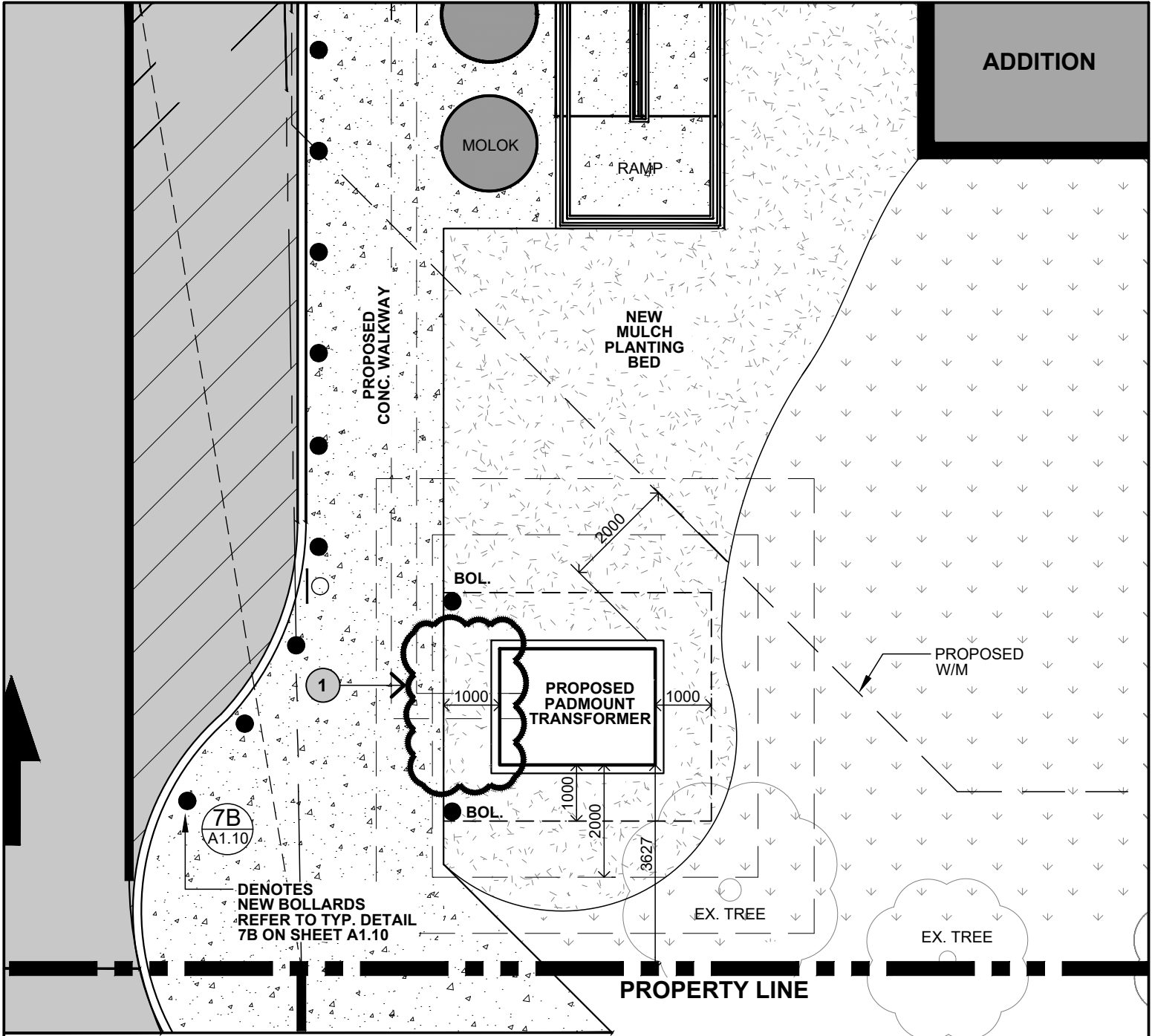
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ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL:
ADDITION
 504 CONNAUGHT STREET, KITCHENER, ON.
CROSS BRICK DETAIL
 (REFERENCE DRAWING A3.00)

PROJ: 2025-06
 SCALE: AS NOTED
 DRAWN: R.P.
 DATE: 2026-04-30

**GRGURIC
 ARCHITECTS
 INCORPORATED**
 Web: www.2gai.com

**ADD
 NO.2
 SK-01**



ADDITION

MOLOK

RAMP

PROPOSED CONC. WALKWAY

NEW MULCH PLANTING BED

PROPOSED PADMOUNT TRANSFORMER

PROPOSED W/M

DENOTES NEW BOLLARDS REFER TO TYP. DETAIL 7B ON SHEET A1.10

PROPERTY LINE

EX. ASPHALT MULTI-USE PATH

NOTES:

- 1 -DELETE CONCRETE WALKWAY / PAD IN FRONT OF TRANSFORMER.
- INSTALL MULCH BED IN PLACE OF WALKWAY AND KEEP AREA CLEAR.
- TRANSFORMER SHIFTED 1000mm FROM EDGE OF CONC. WALK AS SHOWN.
- ADJUST BOLLARD AND PLANTING LOCATIONS SLIGHTLY TO SUIT
- NOTE: BOLLARD INSTALLATION AT TRANSFORMER BY OTHERS

PARTIAL SITE PLAN

SCALE: 1:100

ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL:
ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

TRANSFORMER LOCATION
(REFERENCE DRAWING A1.00)

PROJ:	2025-06
SCALE:	AS NOTED
DRAWN:	R.P.
DATE:	2026-04-30

GRGURIC ARCHITECTS INCORPORATED
Web: www.2gai.com

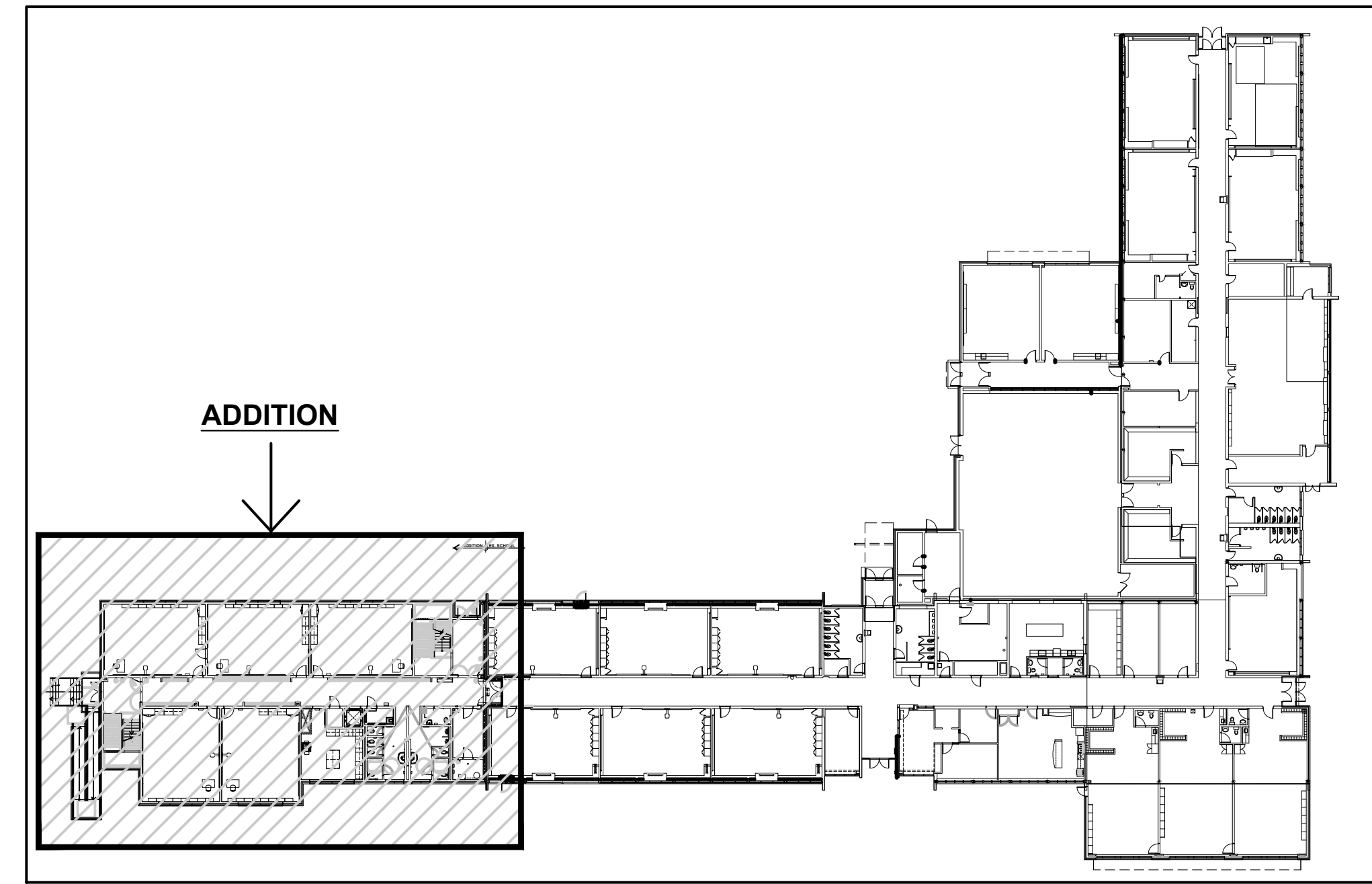
ADD NO.2 SK-02

ELECTRICAL GENERAL LIGHTING NOTES

- DRAWINGS ILLUSTRATE AND DO NOT NECESSARILY REPRESENT ALL REQUIRED CONTROL COMPONENTS, FINAL WIRING METHODS OR FIXTURE MOUNTING LOCATIONS. DETERMINE THE FINAL SYSTEM WIRING METHODS OR FIXTURE MOUNTING LOCATIONS. DETERMINE THE FINAL SYSTEM INSTALLATION BASED ON THE PRODUCT MANUFACTURER'S SHOP DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR PRECISE MOUNTING LOCATION OF LUMINAIRES.
- EXIT SIGNS SHALL BE MOUNTED SO THEY ARE VISIBLE UPON APPROACH. NO HIGHER THAN 3000mm AFF. AND NO LOWER THAN 2100mm AFF. EXIT SIGNS SHALL BE ON THE EGRESS PATH LINE OF SIGHT.
- STRIP LIGHTS ARE TO BE CHAIN HUNG OR SURFACED MOUNTED NO HIGHER THAN 3000mm AFF. MOUNTING HEIGHT SHALL BE CONSISTENT WITHIN ANY GIVEN SPACE.
- EMERGENCY REMOTE HEADS SHALL BE MOUNTED NO LOWER THAN 2100mm AFF.
- CIRCUITS USED FOR CIRCUITING PURPOSES ONLY. CONNECT NEW FIXTURES AND EXIT SIGNS TO LOCAL NORMAL AND EMERGENCY POWER LIGHTING CIRCUITS AS INDICATED. LIGHTING IN EXISTING SPACES SHALL BE RE-CONNECTED TO THE SAME POWER PANEL(S) AS THEY WERE PRIOR TO THE START OF DEMOLITION.
- ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURE OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN THE CEILING SPACE. AFTER INSTALLATION, RE-INSTATE ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES.
- REFER TO DRAWING E8.01 FOR LIGHTING CONTROL LAYOUTS.
- PROVIDE FIXTURES WITH FIELD SELECTABLE LUMEN OUTPUT. SET OUTPUT TO MEDIUM LEVEL DURING INSTALLATION.

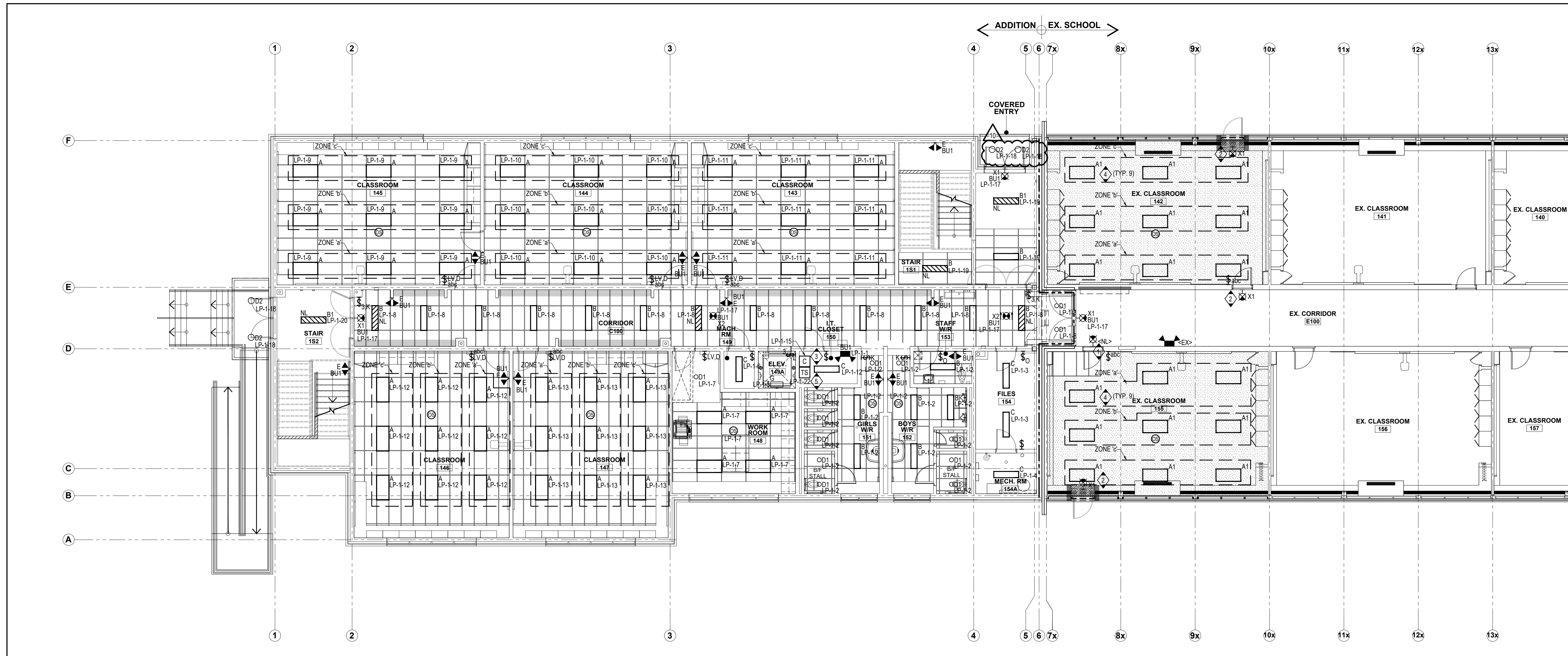
DRAWING NOTES

- PROVIDE ADDITIONAL CONDUIT/WIRING AS REQUIRED TO REWORK EXISTING EXIT SIGN CIRCUIT TO NEW DEVICE LOCATION. EXIT SIGN TO BE REMOVED ONCE CONSTRUCTION IS COMPLETE AS THESE EXITS WILL BE REMOVED.
- PROVIDE WIRING AND CONDUIT AS REQUIRED TO TIE NEW EXIT SIGN TO NEAREST EXISTING LOCAL EXIT/EMERGENCY LIGHTING CIRCUIT. EXIT SIGN TO BE REMOVED ONCE CONSTRUCTION IS COMPLETE AS THESE EXITS WILL BE REMOVED.
- MOUNT LIGHTING CONTACTOR ABOVE PANEL LP-1. REFER TO CONTROL SCHEMATICS ON DRAWING E8.01 FOR DETAILS.
- PROVIDE ADDITIONAL CONDUIT/WIRING AS REQUIRED TO CONNECT NEW LIGHTING FIXTURES TO EXISTING LIGHTING CIRCUIT.
- MOUNT ELECTRONIC ASTRONOMIC TIMER SWITCH ADJACENT TO LIGHTING PANEL. LP-1. ASTRONOMIC TIMER SWITCH SHALL BE CONTROLLED VIA BAS PANEL. REFER TO CONTROL SCHEMATICS ON DRAWING E8.01 FOR DETAILS.



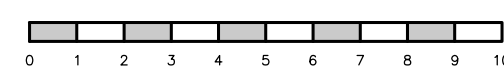
KEY PLAN - GROUND FLOOR

SCALE: 1:500

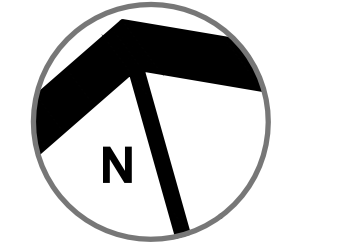


PARTIAL GROUND FLOOR PLAN ADDITION - LIGHTING PLAN

SCALE: 1:100



Waterloo Catholic District School Board
Quality, Inclusive, Faith Based Education



10	ISSUED FOR TENDER ADDENDUM NO. 1	2026-05-01
9	RE-ISSUED FOR SPA	2026-03-17
8	ISSUED FOR TENDER	2026-02-13
7	RE-ISSUED FOR BUILDING PERMIT	2026-01-27
6	RE-ISSUED FOR BUILDING PERMIT	2026-01-08
5	RE-ISSUED FOR SPA	2025-12-19
4	ISSUED FOR BUILDING PERMIT	2025-10-16
3	ISSUED FOR SPA	2025-08-20
2	ISSUED FOR 80% CONTRACT DOCUMENTS	2025-08-11
1	ISSUED FOR 50% CD	2025-07-10
NO	REVISIONS	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.

EXP Services Inc.
1-800-525-6068 / 905-526-7310
1205 South Service Road, Suite C1-1
Stoney Creek, ON L8E 5R9
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ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

PARTIAL GROUND FLOOR PLAN ADDITION - LIGHTING PLAN

GRGURIC ARCHITECTS INCORPORATED

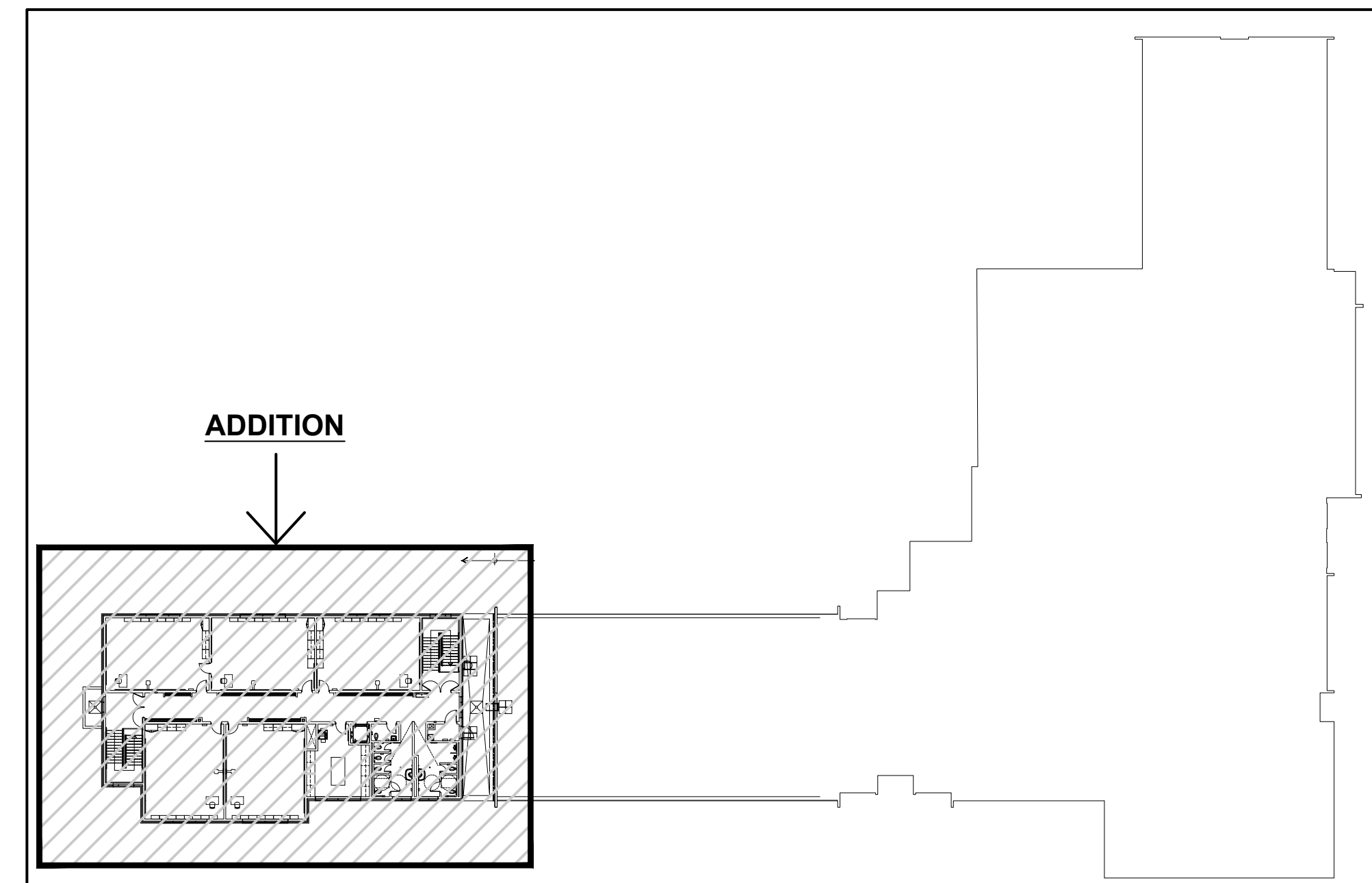


28 KING STREET EAST, UNIT B
STONEY CREEK, ONTARIO, L8G 1J8
Tel. 905-664-8735 Fax. 905-664-8737
Web: www.2gai.com

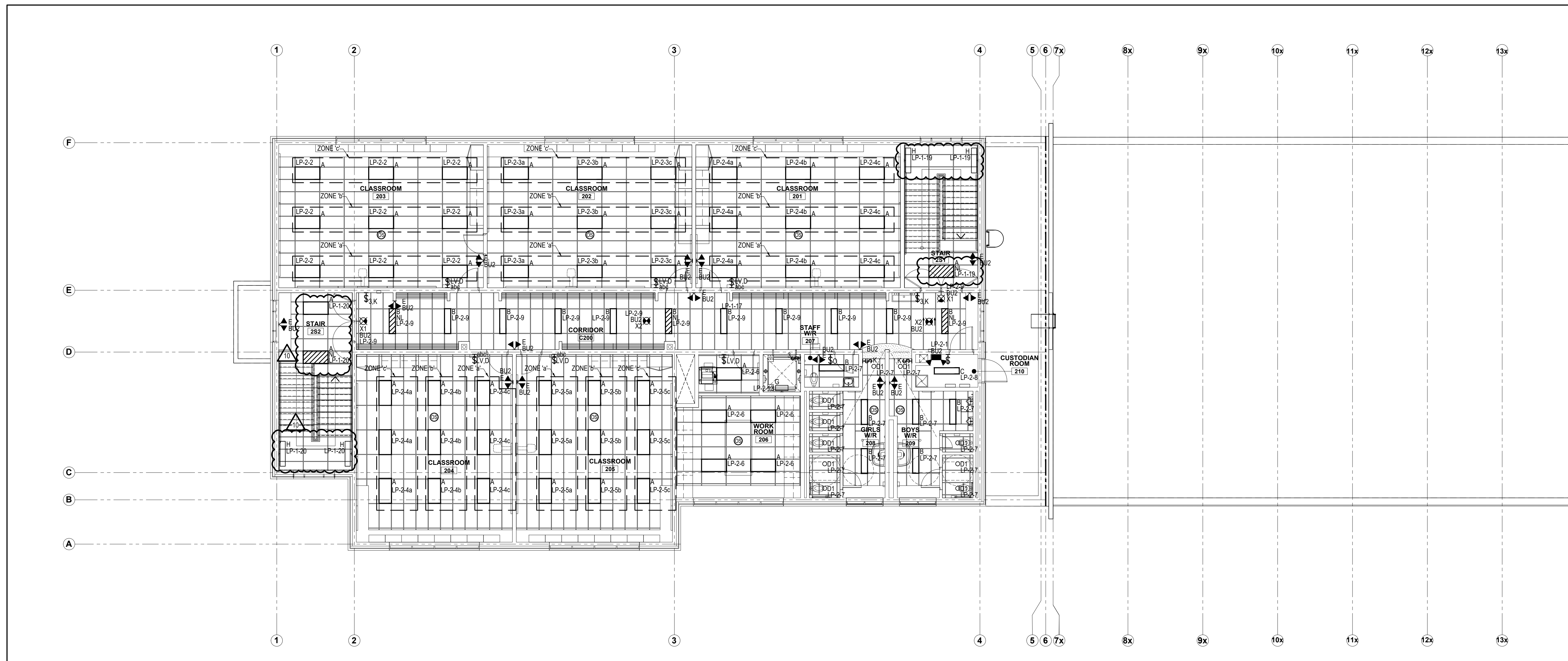
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START DATE: MAY 2025	
DRAWN: RJ	DRAWING: E4.01
CHECKED: CB	
PRINT DATE: 05/01/26	

ELECTRICAL GENERAL LIGHTING NOTES

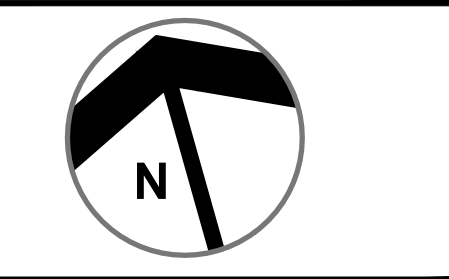
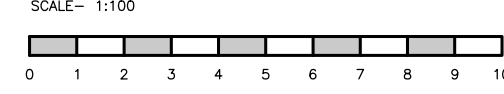
- DRAWINGS ILLUSTRATE AND DO NOT NECESSARILY REPRESENT ALL REQUIRED CONTROL COMPONENTS, FINAL WIRING METHODS OR FIXTURE MOUNTING LOCATIONS. DETERMINE THE FINAL SYSTEM WIRING METHODS OR FIXTURE MOUNTING LOCATIONS. DETERMINE THE FINAL SYSTEM INSTALLATION BASED ON THE PRODUCT MANUFACTURER'S SHOP DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR PRECISE MOUNTING LOCATION OF LUMINAIRES.
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- ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURE OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN THE CEILING SPACE. AFTER INSTALLATION, RE-INSTATE ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES.
- REFER TO DRAWING EB.01 FOR LIGHTING CONTROL LAYOUTS.
- PROVIDE FIXTURES WITH FIELD SELECTABLE LUMEN OUTPUT. SET OUTPUT TO MEDIUM LEVEL DURING INSTALLATION.



KEY PLAN - SECOND FLOOR
SCALE - 1:500



PARTIAL SECOND FLOOR PLAN ADDITION - LIGHTING PLAN
SCALE - 1:100



10	ISSUED FOR TENDER ADDENDUM NO. 1	2026-05-01
9	RE-ISSUED FOR SPA	2026-03-17
8	ISSUED FOR TENDER	2026-02-13
7	RE-ISSUED FOR BUILDING PERMIT	2026-01-27
6	RE-ISSUED FOR BUILDING PERMIT	2026-01-08
5	RE-ISSUED FOR SPA	2025-12-19
4	ISSUED FOR BUILDING PERMIT	2025-10-16
3	ISSUED FOR SPA	2025-08-20
2	ISSUED FOR 80% CONTRACT DOCUMENTS	2025-08-11
1	ISSUED FOR 50% CD	2025-07-10
NO	REVISIONS	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.



ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

PARTIAL SECOND FLOOR PLAN ADDITION - LIGHTING PLAN

GRGURIC ARCHITECTS INCORPORATED



28 KING STREET EAST, UNIT B
STONEY CREEK, ONTARIO, L8G 1J8
Tel. 905-664-8735 Fax. 905-664-8737
Web: www.2gai.com

SCALE:	PROJECT:
AS NOTED	ALL-25004500-A0
START DATE:	
MAY 2025	
DRAWN:	DRAWING:
RJ	E4.02
CHECKED:	
CB	
PRINT DATE:	05/01/26

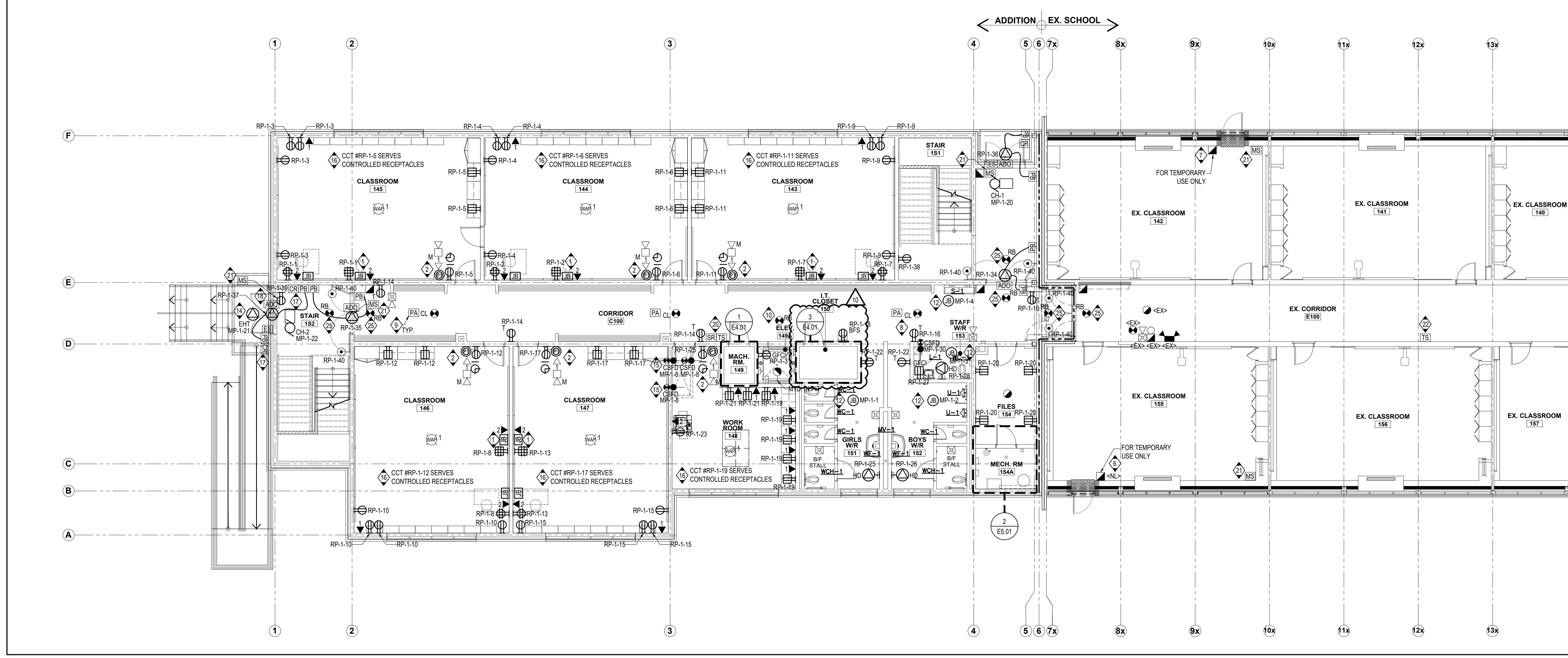
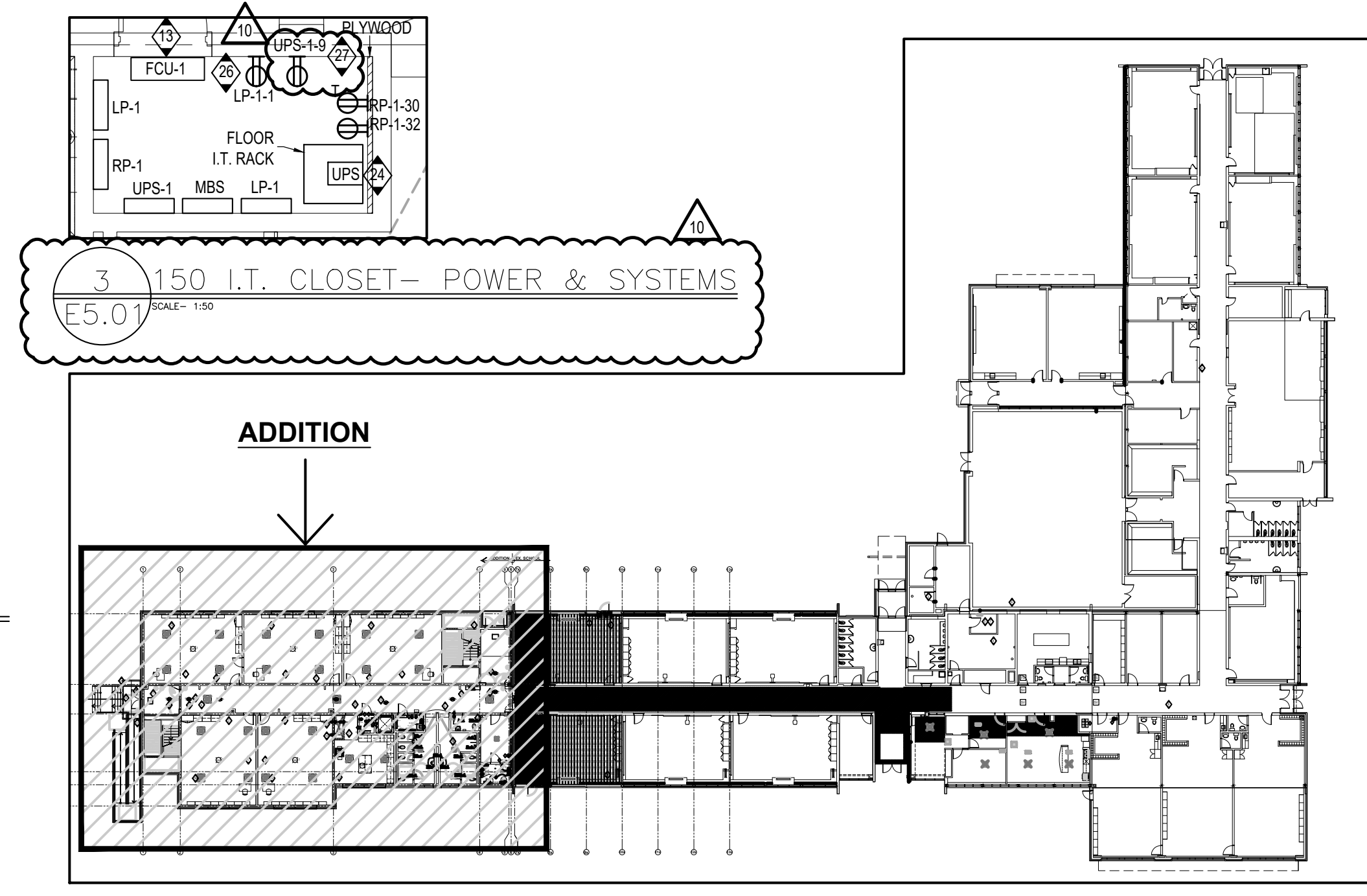
ELECTRICAL GENERAL POWER & SYSTEMS NOTES

- PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.
- ALL CONDUIT ROUTES SHOWN ON DRAWINGS ARE APPROXIMATE AND NOT FINAL. CONTRACTOR SHALL VERIFY ROUTES AND DO A WALKTHROUGH BEFORE BID. CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO EXISTING AND LIGHT FIXTURES. ALL MAIN CONDUIT RUNS SHALL BE IN CORRIDOR SPACE.
- EXTEND/PROVIDE NEW WIRING/CONDUIT FOR ALL DEVICES THAT ARE RELOCATED.
- ALL NEW RECEPTABLES IN THE SCHOOL SHALL BE TAMPER RESISTANT TYPE.
- REMOVE AND RE-INSTATE ALL REQUIRED T-BAR OR DRY TYPE CEILING TO FACILITATE ELECTRICAL INSTALLATIONS. ANY DAMAGES TO T-BAR SHALL BE RE-INSTATED.
- UNLESS OTHERWISE NOTED WITH A CIRCUIT NUMBER, RE-USE EXISTING CIRCUIT BREAKERS THAT HAD BECOME SPARE FROM THE DEMOLITION TO FEED NEW RECEPTABLES. MAXIMUM SIX (6) DUPLEX RECEPTABLES PER CIRCUIT UNLESS OTHERWISE NOTED.
- ALL I.T. CABLES SHALL BE PLENUM RATED.
- CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO CEILING TILES FOR CONDUIT RUNS FROM PANELS TO NEW ELECTRICAL DEVICES.
- CIRCUIT NUMBERS SHOWN ON THIS PLAN ARE FOR CIRCUITING PURPOSE ONLY.

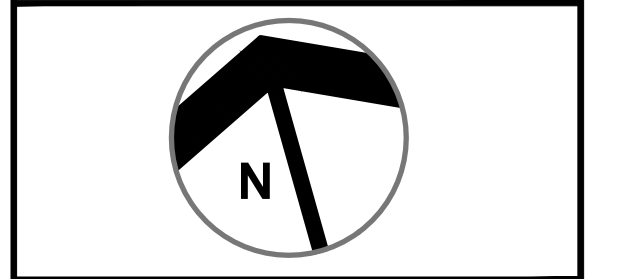
DRAWING NOTES

- QUAD RECEPTACLE, GANG BOX, AND DATA PORT SHALL BE MOUNTED AT HIGH LEVEL. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-INS. REFER TO SMARTBOARD DEVICE DETAIL ON DRAWING EB.01.
- DEVICES ARE TO BE MOUNTED IN MODULAR CONTROL PANEL. REFER TO TYPICAL MODULAR CONTROL PANEL DETAIL ON DRAWING EB.01.
- PROVIDE ONE (1) 250V, 3PH, 125A FUSED DISCONNECT SWITCH FOR ELEVATOR CONTROLLER. REFER TO SINGLE LINE DIAGRAM FOR FEEDER SIZE. COORDINATE INSTALLATION REQUIREMENTS WITH ELEVATOR CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ONE (1) 250V, 1PH, 20A/15AT FUSED DISCONNECT SWITCH FOR ELEVATOR LIGHTING. COORDINATE INSTALLATION REQUIREMENTS WITH ELEVATOR CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE RECEPTACLE IN ELEVATOR PIT. COORDINATE INSTALLATION REQUIREMENTS WITH ELEVATOR CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ADDITIONAL CONDUIT/WIRING AS REQUIRED TO REWORK EXISTING FIRE ALARM PULL STATION CIRCUIT TO NEW DEVICE LOCATION.
- PROVIDE WIRING AS REQUIRED TO TIE NEW FIRE ALARM PULL STATION TO EXISTING FIRE ALARM SYSTEM. PULL STATION TO BE REMOVED ONCE CONSTRUCTION IS COMPLETE AS THESE EXITS WILL BE REMOVED.
- PROVIDE FIREPROOFED PLYWOOD COMMUNICATIONS BACKBOARD ON WALL. PROVIDE #6 AWG BARE COPPER GROUND CONNECTION FROM SERVICE GROUND. PROVIDE 2X1" CONDUITS FROM COMMUNICATIONS BACKBOARD TO FLOOR MOUNTED I.T. RACK IN GROUND FLOOR I.T. CLOSET.
- PROVIDE ADDITIONAL CONDUIT/WIRING TO CONNECT NEW RECESSED CEILING MOUNTED PA SPEAKERS TO EXISTING PA SPEAKER CIRCUIT.
- SMOKE DETECTOR COMPLETE WITH RELAY BASE TO BE TIED INTO ELEVATOR CONTROLLER FOR AUTOMATIC ELEVATOR RECALL.
- PROVIDE DEDICATED TELEPHONE OUTLET AT ELEVATOR CONTROLLER. COORDINATE EXACT LOCATION WITH ELEVATOR SUPPLIER PRIOR TO ROUGH-INS.
- PROVIDE 120V CIRCUIT AND CONNECT MECHANICAL SUPPLIED AND INSTALLED CONTROL TRANSFORMER IN CEILING SPACE FOR (L-1, WC-1, U-1, WF-1, WCH-1, & S-1) LAVATORY FAUCET & FLUSH VALVE. COORDINATE EXACT LOCATION WITH MECHANICAL DIVISION.

- FCU-1, TO BE FED FROM CONDENSER UNIT, CU-1. COORDINATE EXACT LOCATION REQUIREMENTS WITH MECHANICAL CONTRACTOR.
- PROVIDE 15' OF HEAT TRACING FOR THE 3" DIA. ROOF DRAINAGE PIPE. PROVIDE POWER AND CONTROL FOR ELECTRIC HEAT TRACING. HEAT TRACING SYSTEM SHALL BE SUITABLE FOR FREEZE PROTECTION AND RATED FOR OUTDOOR/WET CONDITIONS. INCLUDE THERMOSTAT OR AMBIENT TEMPERATURE CONTROLLER FOR AUTOMATIC OPERATION. COORDINATE WITH MECHANICAL DRAWINGS FOR PIPE ROUTING AND HEAT TRACE LAYOUT.
- COMBINATION SMOKE/FIRE DAMPER IS SUPPLIED AND INSTALLED BY MECHANICAL. CONTRACTOR TO PROVIDE 120VAC WIRING FROM REMOTE TEST SWITCH IN CORRIDOR TO SINGLE THERMOSTAT OPERATOR RELEASE AND SMOKE DAMPER (IN SERIES) PROVIDE 120VAC FROM SMOKE DAMPER TO DAMPER ACTUATOR. COORDINATE WORK WITH MECHANICAL TRADE.
- REFER TO TYPICAL CLASSROOM CONTROL SCHEMATIC ON DRAWING EB.01 FOR AUTOMATIC RECEPTACLE SHUTOFF REQUIREMENTS.
- PROVIDE A SINGLE GANG BOX AND ONE (1) 16mm (1/2") EMT CONDUIT FOR CARD READER. CONDUIT SHALL RUN FROM CLOSEST J-HOOK IN CEILING SPACE TO WALL BESIDE POWER DOOR OPERATOR PUSH BUTTON. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ONE (1) 16mm (1/2") EMT CONDUIT OR 10mm (3/8") ARMORED FLEX W/ PULL STRING FOR EXTERIOR POWER DOOR OPERATOR. CONDUIT SHALL RUN FROM CLOSEST J-HOOK IN CEILING SPACE TO POWER DOOR OPERATOR. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ONE (1) 10mm (3/8") ARMORED FLEX CONDUIT FROM POWER DOOR OPERATOR TO CENTRE MULLION FOR DOOR STRIKE WIRING. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE TWO (2) SINGLE GANG BOXES AND TWO (2) 16MM (1/2") CONDUITS, ONE FOR SIREN AND ONE FOR TEMPERATURE SENSOR. CONDUITS SHALL RUN FROM CLOSEST J-HOOK IN CEILING SPACE TO DEVICE LOCATIONS. SINGLE GANG BOXES SHALL BE INSTALLED 200mm BELOW CEILING TILE PLACED HORIZONTAL IN WALL. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ONE (1) 16mm (1/2") EMT CONDUIT FOR WALL MOUNTED MOTION DETECTORS. CONDUIT SHALL RUN FROM J-HOOK IN CEILING SPACE TO DEVICE LOCATION. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE ONE (1) SINGLE GANG BOX AND ONE (1) 16MM (1/2") CONDUITS FOR TEMPERATURE SENSOR. CONDUIT SHALL RUN FROM CLOSEST J-HOOK IN CEILING SPACE TO DEVICE LOCATION. SINGLE GANG BOX SHALL BE INSTALLED 200mm BELOW CEILING TILE PLACED HORIZONTAL IN WALL. COORDINATE EXACT LOCATION REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO ROUGH-INS.
- PROVIDE EMERGENCY SHUT OFF BUTTON COMPLETE WITH COVER FOR BOILER B-1.
- PROVIDE 5kW UPS. COORDINATE EXACT LOCATION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-INS.
- CONTRACTOR TO WIRE DOOR HOLD OPEN DEVICE THROUGH SMOKE DETECTORS (LOCATED CENTER LINE OF DOORWAY BETWEEN 600mm AND 1500mm PERPENDICULAR TO DOOR WAY) ON EITHER SIDE OF THE DOOR.
- RECEPTACLE TO BE MOUNTED ADJACENT TO EMERGENCY BATTERY PACK.
- RELOCATE EXISTING PHONE SYSTEM FROM EXISTING BOILER ROOM TO I.T. ROOM [150]. PROVIDE ONE (1) DUPLEX RECEPTACLE AND ONE (1) DATA OUTLET FOR RELOCATED PHONE SYSTEM. COORDINATE EXACT LOCATION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-INS.



PARTIAL GROUND FLOOR PLAN ADDITION - POWER & SYSTEMS (1 OF 2)
SCALE=1:100



NO	REVISIONS	DATE
10	ISSUED FOR TENDER ADDENDUM NO. 1	2026-05-01
9	RE-ISSUED FOR SPA	2026-03-17
8	ISSUED FOR TENDER	2026-02-13
7	RE-ISSUED FOR BUILDING PERMIT	2026-01-27
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5	RE-ISSUED FOR SPA	2025-12-19
4	ISSUED FOR BUILDING PERMIT	2025-10-16
3	ISSUED FOR SPA	2025-08-20
2	ISSUED FOR 80% CONTRACT DOCUMENTS	2025-08-11
1	ISSUED FOR 50% CD	2025-07-10

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EXP Services Inc.
1:905.526.6068 / 1:905.526.7310
1205 South Service Road, Suite C1-1
Stoney Creek, ON, L8E 5R9
Canada
www.exp.com

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• ROADS • INFRASTRUCTURE • SURVEILLANCE •

ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

PARTIAL GROUND FLOOR PLAN ADDITION - POWER & SYSTEMS (1 OF 2)

GRGURIC ARCHITECTS INCORPORATED

28 KING STREET EAST, UNIT B
STONEY CREEK, ONTARIO, L8G 1J8
Tel. 905-664-8735 Fax. 905-664-8737
Web: www.2gai.com

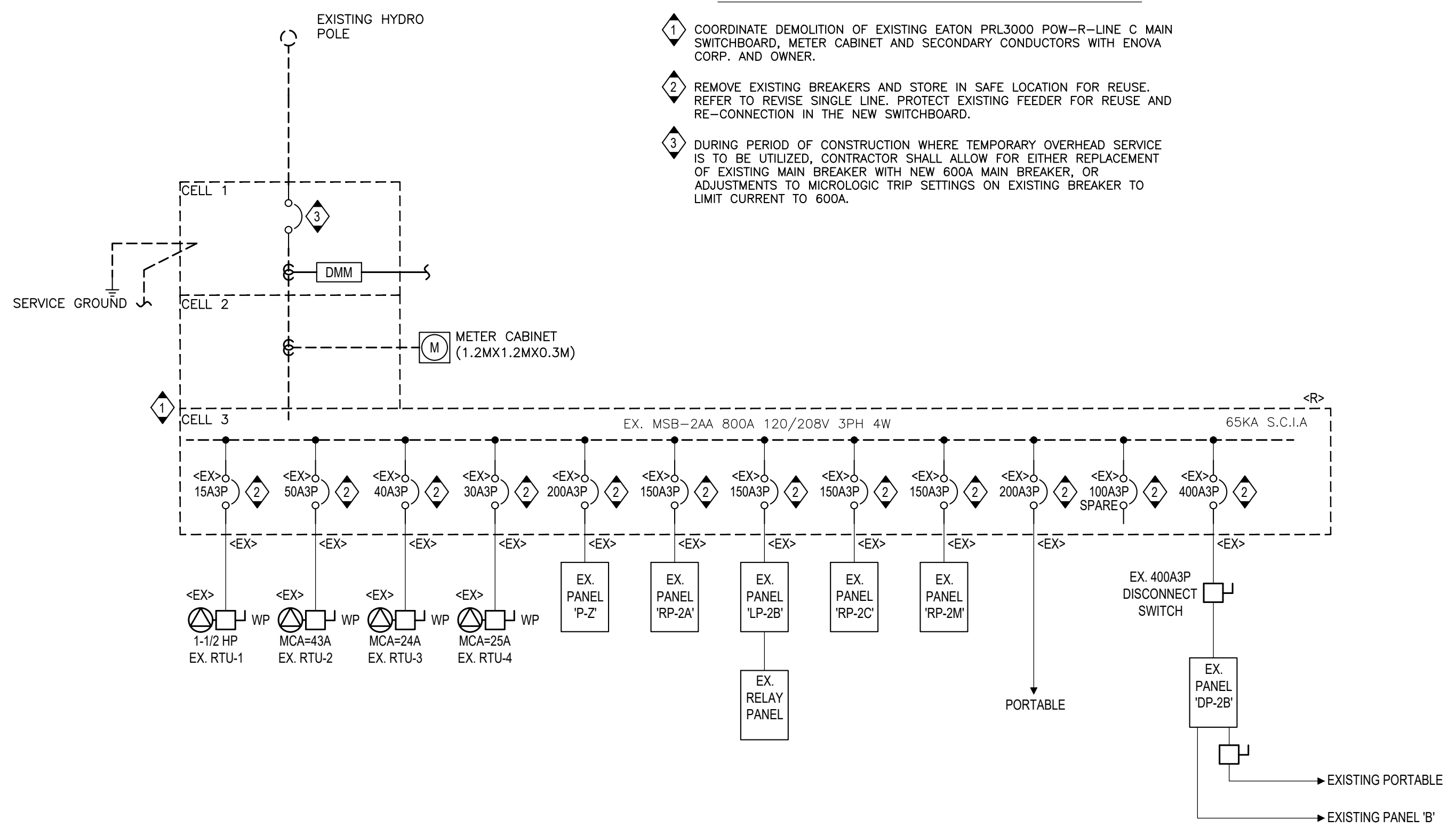
SCALE: AS NOTED	PROJECT: ALL-25004500-A0
START DATE: MAY 2025	
DRAWN: RJ	DRAWING: E5.01
CHECKED: CB	
PRINT DATE: 05/01/26	



Waterloo Catholic District School Board
Quality, Inclusive, Faith Based Education

DEMOLITION DRAWING NOTES

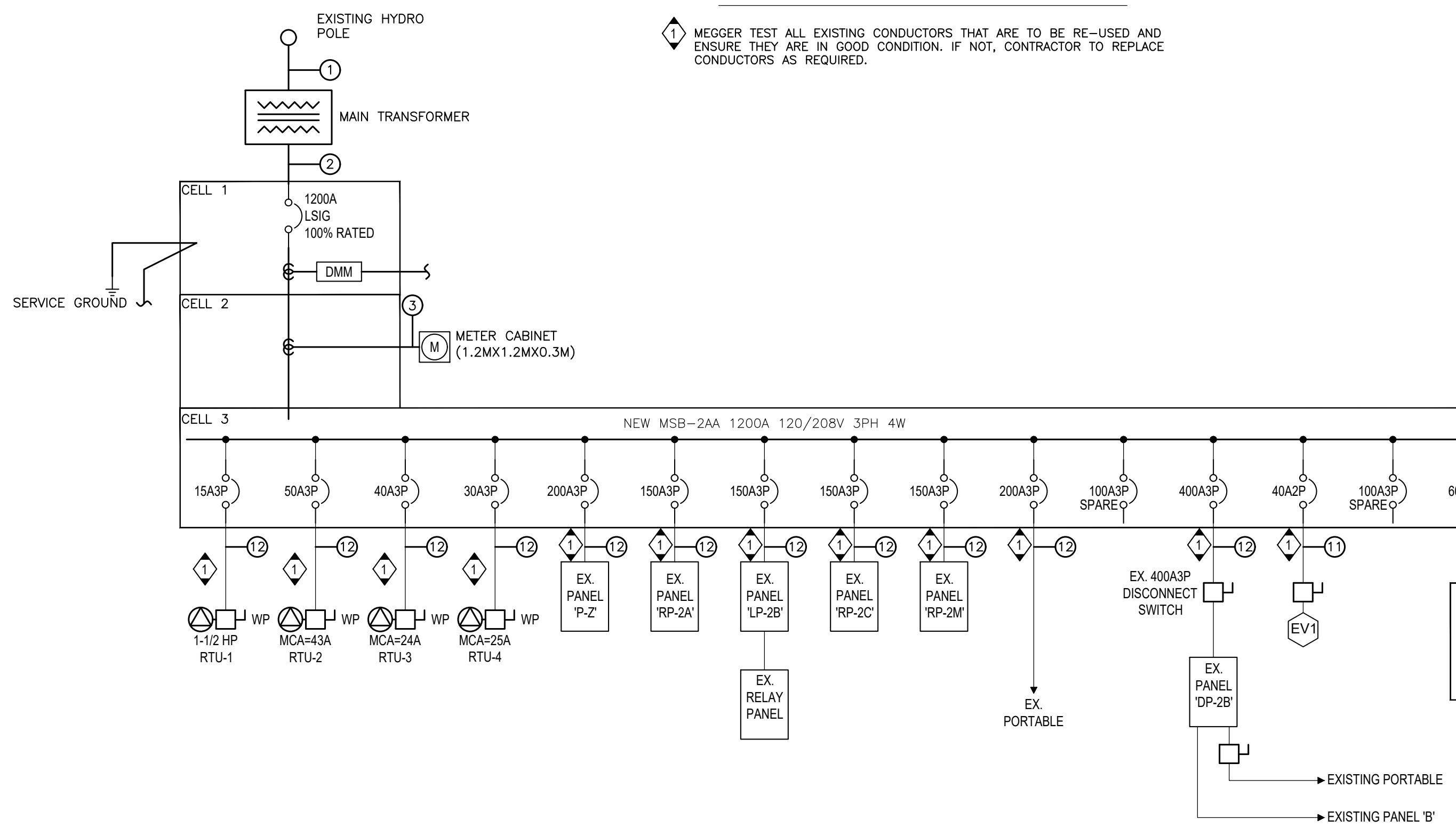
- COORDINATE DEMOLITION OF EXISTING EATON PRL3000 POW-R-LINE C MAIN SWITCHBOARD, METER CABINET AND SECONDARY CONDUCTORS WITH ENOVA CORP. AND OWNER.
- REMOVE EXISTING BREAKERS AND STORE IN SAFE LOCATION FOR REUSE. REFER TO REVISE SINGLE LINE. PROTECT EXISTING FEEDER FOR REUSE AND RE-CONNECTION IN THE NEW SWITCHBOARD.
- DURING PERIOD OF CONSTRUCTION WHERE TEMPORARY OVERHEAD SERVICE IS TO BE UTILIZED, CONTRACTOR SHALL ALLOW FOR EITHER REPLACEMENT OF EXISTING MAIN BREAKER WITH NEW 600A MAIN BREAKER, OR ADJUSTMENTS TO MICROLOGIC TRIP SETTINGS ON EXISTING BREAKER TO LIMIT CURRENT TO 600A.



SINGLE LINE DIAGRAM - DEMO
SCALE: N.T.S.

PROPOSED DRAWING NOTES

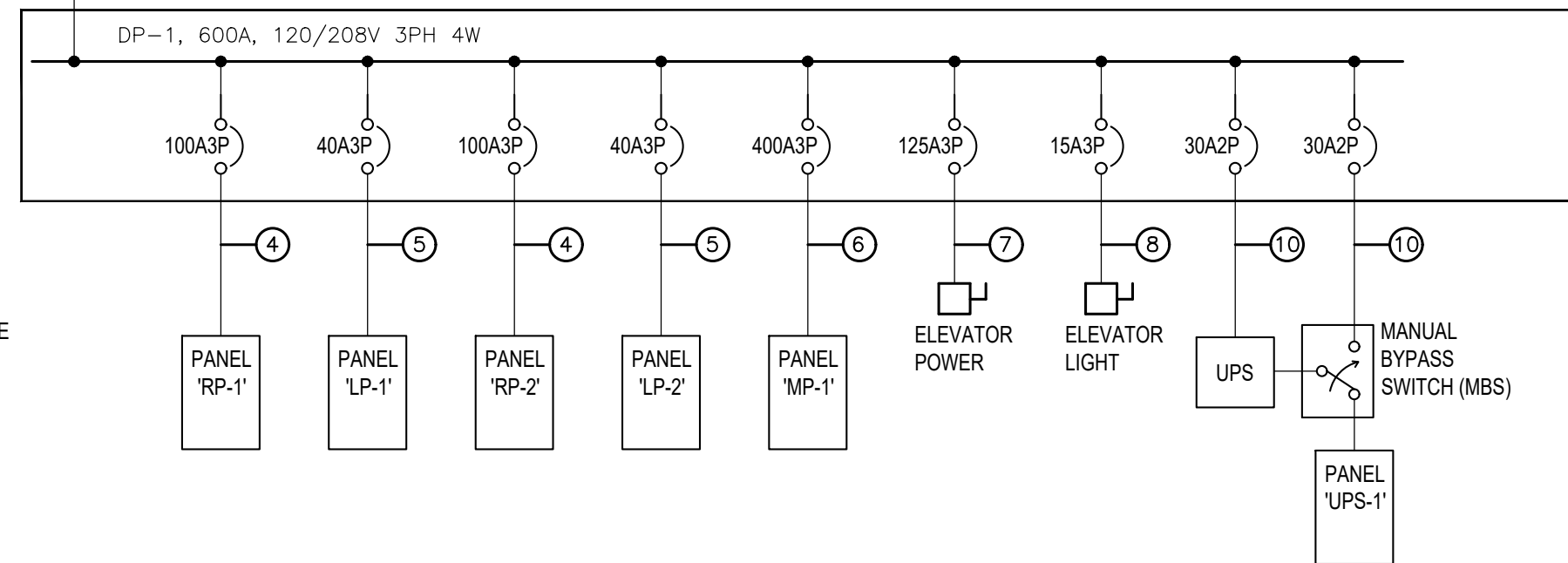
- MEGGER TEST ALL EXISTING CONDUCTORS THAT ARE TO BE RE-USED AND ENSURE THEY ARE IN GOOD CONDITION. IF NOT, CONTRACTOR TO REPLACE CONDUCTORS AS REQUIRED.



SINGLE LINE DIAGRAM - PROPOSED
SCALE: N.T.S.

CABLE & CONDUIT SCHEDULE	
1.	6X 103MM DBII CONCRETE ENCASED DUCTS. HV CABLES BY UTILITY
2.	2X [4C #500 KCMIL CU IN 103mm DBII] CONCRETE ENCASED
3.	WIRING + 1" EMT TO UTILITY METER CABINET
4.	4C-#3 AWG CU+G IN 35 mmC
5.	4C-#8 AWG CU+G IN 27 mmC
6.	2X [4C-#3/0 AWG CU+G IN 63 mmC]
7.	3C-#1 AWG CU+G IN 41 mmC
8.	3C-#12 AWG CU+G IN 16 mmC
9.	3X [4C-#3/0AWG CU + G IN 63mmC]
10.	2C-#10 AWG CU+G IN 21mmC
11.	2C-#8 AWG CU+G IN 21mmC (EMT INSIDE, RIGID PVC OUTSIDE)
12.	EXISTING.

- | NOTES | |
|-------|---|
| 1. | PROVIDE METER CABINET (614X914X305mm) AND CONNECTIONS IN ACCORDANCE WITH ENOVA CORP. CONDITIONS OF SERVICE. |
| 2. | SERVICE GROUND - PROVIDE 2 X 19MM X 3M COPPERWELD ROD OR GROUND PLATE. GROUND RODS SHALL BE INSTALLED MINIMUM 2.1M SEPARATION. TOP OF GROUND ROD MUST BE 245MM BELOW GRADE. |
| 3. | PROVIDE #10 AWG BARE CU. SERVICE GROUND CONTRACTOR. CADWELD CONNECTIONS TO GROUND RODS. PROVIDE MECHANICAL PROTECTION (PVC CONDUIT) FROM THE DISTRIBUTION EQUIPMENT TO THE BUILDING EXTERIOR DOWN TO 254MM BELOW GRADE. |
| 4. | PROVIDE #6 AWG GREEN GROUND CONNECTION TO INCOME WATER PIPE AND NATURAL GAS PIPE AT/NEAR BUILDING SERVICE ENTRANCE. |
| 5. | OUTDOOR LIGHTING PANEL CIRCUITS CONTROLLED BY CONTACTORS. OUTDOOR LIGHTS SHALL BE ON SCHEDULE THROUGH BAS SYSTEM. REFER TO EXTERIOR LIGHTING CONTROL SCHEMATIC FOR REQUIREMENTS. |
| 6. | CONTRACTOR TO COORDINATE EXACT FUSE SIZE WITH ELEVATOR MANUFACTURER. |



NO	REVISIONS	DATE
10	ISSUED FOR TENDER ADDENDUM NO. 1	2026-05-01
9	RE-ISSUED FOR SPA	2026-03-17
8	ISSUED FOR TENDER	2026-02-13
7	RE-ISSUED FOR BUILDING PERMIT	2026-01-27
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ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

DEMO & PROPOSED SINGLE LINE DIAGRAM

GRGURIC ARCHITECTS INCORPORATED
28 KING STREET EAST, UNIT B
STONE CREEK, ONTARIO, L8G 1J8
Tel. 905-664-8735 Fax. 905-664-8737
Web: www.2gai.com

SCALE: AS NOTED	PROJECT: ALL-25004500-A0
START DATE: MAY 2025	
DRAWN: RJ	DRAWING: E7.01
CHECKED: CB	
PRINT DATE: 05/01/26	



Waterloo Catholic District School Board
Quality, Inclusive, Faith Based Education

PANEL NAME: **PANEL RP-1**
MOUNTING: SURFACE
PANEL LOCATION: I.T. CLOSET [150]
MAINS: 100A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

60 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
145 WHITEBOARD RECEPT.	720	1	15A	2	720 144 WHITEBOARD RECEPT.
145 GENERAL RECEPT.	720	3	15A	4	720 144 GENERAL RECEPT.
145 GENERAL RECEPT.	540	5	15A	6	540 144 GENERAL RECEPT.
143 WHITEBOARD RECEPT.	720	7	15A	8	720 146 WHITEBOARD RECEPT.
143 GENERAL RECEPT.	720	9	15A	10	720 146 GENERAL RECEPT.
143 GENERAL RECEPT.	540	11	15A	12	540 146 GENERAL RECEPT.
147 WHITEBOARD RECEPT.	720	13	15A	14	540 C100 GENERAL RECEPT.
147 GENERAL RECEPT.	720	15	15A	16	360 C100 GENERAL RECEPT.
147 GENERAL RECEPT.	540	17	15A	18	200 C100 BOTTLE FILL STATION
148 COUNTER RECEPT.	900	19	15A	20	720 154 GENERAL RECEPT.
148 COUNTER RECEPT.	360	21	15A	22	360 151/152 GENERAL RECEPT.
148 PRINTER RECEPT.	500	23	15A	24	1600 152 HAND DRYER
148 GENERAL RECEPT.	180	25	15A	26	1600 152 HAND DRYER
153 GENERAL RECEPT.	180	27	15A	28	1600 153 HAND DRYER
154A GENERAL RECEPT.	180	29	15A	30	180 150 GENERAL RECEPT.
149A ELEV RECEPT.	180	31	15A	32	180 150 GENERAL RECEPT.
149 GENERAL RECEPT.	180	33	15A	34	300 1S1 A.D.O
1S2 A.D.O	300	35	15A	36	300 COVERED ENTRY A.D.O
EXTERIOR STAIR A.D.O	300	37	15A	38	180 152 GENERAL RECEPT.
1S1 GENERAL RECEPT.	180	39	15A	40	300 GND FLOOR DOOR HOLD OPENS
SPARE		41	15A	42	SPARE
SPARE		43	15A	44	SPARE
SPARE		45	15A	46	SPARE
SPARE		47	15A	48	SPARE
SPARE		49	15A	50	SPARE
SPARE		51	15A	52	SPARE
SPARE		53	15A	54	SPARE
SPARE		55	15A	56	SPARE
SPARE		57	15A	58	SPARE
SPARE		59	15A	60	SPARE
CONNECTED LOAD (L.H.)	11900				12080 CONNECTED LOAD (R.H.)
TOTAL: 23980					

SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

PANEL NAME: **PANEL LP-1**
MOUNTING: SURFACE
PANEL LOCATION: I.T. CLOSET [150]
MAINS: 100A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

42 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
EMERG. BATTERY UNIT, BU1	360	1	15A	2	350 151/152/153 LIGHTING
154 ROOM LIGHTING	100	3	15A	4	100 154A ROOM LIGHTING
149A ELEV. LIGHTING LEVEL 1	100	5	15A	6	100 149 ROOM LIGHTING
148 ROOM LIGHTING	150	7	15A	8	430 C100 CORRIDOR LIGHTING
145 CLASSROOM LIGHTING	350	9	15A	10	350 144 CLASSROOM LIGHTING
143 CLASSROOM LIGHTING	350	11	15A	12	350 146 CLASSROOM LIGHTING
147 CLASSROOM LIGHTING	350	13	15A	14	100 150 ROOM LIGHTING
150 LIGHTING CONTACTOR (C1)	100	15	15A	16	200 EXTERIOR P-FIXTURES
LEVEL 1 EXIT LIGHTING	100	17	15A	18	400 EXTERIOR D2 & F-FIXTURES
1S1 STAIR LIGHTING	100	19	15A	20	100 1S2 STAIR LIGHTING
SPARE		21	15A	22	200 ASTRONOMIC TIMER SWITCH
SPARE		23	15A	24	SPARE
SPARE		25	15A	26	SPARE
SPARE		27	15A	28	SPARE
SPARE		29	15A	30	SPARE
SPARE		31	15A	32	SPARE
SPARE		33	15A	34	SPARE
SPARE		35	15A	36	SPARE
SPARE		37	15A	38	SPARE
SPARE		39	15A	40	SPARE
SPARE		41	15A	42	SPARE
CONNECTED LOAD (L.H.)	2160				2680 CONNECTED LOAD (R.H.)
TOTAL: 4840					

SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

PANEL NAME: **PANEL MP-1**
MOUNTING: SURFACE
PANEL LOCATION: I.T. CLOSET [150]
MAINS: 400A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

42 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
151 WASHROOM AUTO SENSORS	800	1	15A	2	800 152 WASHROOM AUTO SENSORS
153 WASHROOM AUTO SENSORS	200	3	15A	4	200 C100 SINK AUTO SENSOR
154A HOT WATER TANK, HWT-1	2496	5	15A	6	600 SECOND FLOOR SHAFT CSFD'S
2496 7	30A	15A	8	600 GROUND FLOOR SHAFT CSFD'S	
149 MACH. ROOM EF-1	200	9	15A	10	800 207 WASHROOM AUTO SENSORS
208 WASHROOM AUTO SENSORS	800	11	15A	12	200 209 WASHROOM AUTO SENSORS
C200 SINK AUTO SENSOR	200	13	15A	14	26835
ROOF MAINTENANCE RECEPT.	200	15	20A*	16	26835 ROOF ERV-1
ROOF CU-1	988	17	15A	18	26835
HEAT TRACE CABLE	200	19	15A	20	100 LEVEL 1 CABINET HEATER, CH-1
154A BOILER, B-1	960	23	15A	24	250 BAS PANEL
GROUND FLOOR EAST CSFD	200	25	15A	26	400 149 MACH. RM. CSFD'S
GROUND FLOOR EAST CSFD	200	27	15A	28	100 149 MACH. RM. TSP
154A PUMP, P-2	170	31	15A	32	600 210 CUSTODIAN ROOM CSFD'S
DGP PANEL	200	35	15A	36	SPARE
SPARE		37	15A	38	SPARE
SPARE		39	15A	40	SPARE
SPARE		41	15A	42	SPARE
CONNECTED LOAD (L.H.)	11438				85660 CONNECTED LOAD (R.H.)
TOTAL: 97098					

SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

PANEL NAME: **PANEL RP-2**
MOUNTING: SURFACE
PANEL LOCATION: CUSTODIAN ROOM [210]
MAINS: 100A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

42 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
203 WHITEBOARD RECEPT.	720	1	15A	2	720 202 WHITEBOARD RECEPT.
203 GENERAL RECEPT.	720	3	15A	4	720 202 GENERAL RECEPT.
203 GENERAL RECEPT.	540	5	15A	6	540 202 GENERAL RECEPT.
201 WHITEBOARD RECEPT.	720	7	15A	8	720 204 WHITEBOARD RECEPT.
201 GENERAL RECEPT.	720	9	15A	10	720 204 GENERAL RECEPT.
201 GENERAL RECEPT.	540	11	15A	12	540 204 GENERAL RECEPT.
205 WHITEBOARD RECEPT.	720	13	15A	14	360 C200 GENERAL RECEPT.
205 GENERAL RECEPT.	720	15	15A	16	360 C200 GENERAL RECEPT.
205 GENERAL RECEPT.	540	17	15A	18	900 206 COUNTER RECEPT.
206 GENERAL RECEPT.	360	19	15A	20	180 C200 BOTTLE FILL STATION
207 GENERAL RECEPT.	180	21	15A	22	1600 207 HAND DRYER
2ND FLOOR DOOR HOLD OPENS	200	23	20A	24	1600 209 HAND DRYER
SPARE		25	20A	26	1600 209 HAND DRYER
208/209 GENERAL RECEPT.	360	27	15A	28	180 210 GENERAL RECEPT.
2S1 GENERAL RECEPT.	180	29	15A	30	360 2S2 GENERAL RECEPT.
PARAPET GENERAL RECEPT.	360	31	15A	32	SPARE
SPARE		33	15A	34	SPARE
SPARE		35	15A	36	SPARE
SPARE		37	15A	38	SPARE
SPARE		39	15A	40	SPARE
SPARE		41	15A	42	SPARE
CONNECTED LOAD (L.H.)	10780				11100 CONNECTED LOAD (R.H.)
TOTAL: 21880					

SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

PANEL NAME: **PANEL LP-2**
MOUNTING: SURFACE
PANEL LOCATION: CUSTODIAN ROOM [210]
MAINS: 100A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

42 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
EMERG. BATTERY UNIT, BU2	360	1	15A	2	350 203 CLASSROOM LIGHTING
202 CLASSROOM LIGHTING	350	3	15A	4	350 204 CLASSROOM LIGHTING
205 CLASSROOM LIGHTING	350	5	15A	6	195 206 ROOM LIGHTING
207/208/209 ROOM LIGHTING	350	7	15A	8	100 210 CUSTODIAN ROOM LIGHTING
C200 CORRIDOR LIGHTING	430	9	15A	10	100 LEVEL 2 EXIT LIGHTING
SPARE		11	15A	12	SPARE
149A ELEV. LIGHTING LEVEL 2	100	13	15A	14	SPARE
SPARE		15	15A	16	SPARE
SPARE		17	15A	18	SPARE
SPARE		19	15A	20	SPARE
SPARE		21	15A	22	SPARE
SPARE		23	15A	24	SPARE
SPARE		25	15A	26	SPARE
SPARE		27	15A	28	SPARE
SPARE		29	15A	30	SPARE
SPARE		31	15A	32	SPARE
SPARE		33	15A	34	SPARE
SPARE		35	15A	36	SPARE
SPARE		37	15A	38	SPARE
SPARE		39	15A	40	SPARE
SPARE		41	15A	42	SPARE
CONNECTED LOAD (L.H.)	2055				1245 CONNECTED LOAD (R.H.)
TOTAL: 3300					

SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

PANEL NAME: **PANEL UPS-1**
MOUNTING: SURFACE
PANEL LOCATION: I.T. CLOSET [150]
MAINS: 40A 120/208V 3Ø 4W
BUSSING: COPPER
OTHER:

42 CIRCUIT PANELBOARD
ENCLOSURE: TYPE-1
SCCR=14KA

LOAD DESCRIPTION	VA	BRKR	BRKR	VA	LOAD DESCRIPTION
EX. SEMINAR [119] DATA RECEPT	200	1	15A	2	200 EX. MAIN OFFICE RECEPT
EX. MAIN OFFICE RECEPT	200	3	15A	4	200 EX. MAIN OFFICE RECEPT
EX. VP OFFICE RECEPT	200	5	15A	6	200 EX. BOILER ROOM ACP PANEL
EX. BOILER ROOM SEC PANEL	200	7	15A	8	200 EX. BOILER ROOM ACP PANEL
I.T. ROOM [150] PHONE SYSTEM	200	9	15A	10	200 EX. WEST WING CLASS #4 RECEPT
EX. WEST WING CLASS #1 RECEPT	200	11	15A	12	200 EX. WEST WING CLASS #4 RECEPT
EX. WEST WING CLASS #1 RECEPT	200	13	15A	14	200 EX. WEST WING CLASS #5 RECEPT
EX. WEST WING CLASS #2 RECEPT	200	15	15A	16	200 EX. WEST WING CLASS #5 RECEPT
EX. WEST WING CLASS #2 RECEPT	200	17	15A	18	200 EX. WEST WING CLASS #6 RECEPT
EX. WEST WING CLASS #3 RECEPT	200	19	15A	20	200 EX. WEST WING CLASS #6 RECEPT
EX. WEST WING CLASS #3 RECEPT	200	21	15A	22	SPARE
SPARE		23	20A	24	SPARE
SPARE		25	20A	26	SPARE
SPARE		27	20A	28	SPARE
SPARE		29	20A	30	SPARE
CONNECTED LOAD (L.H.)	2200				2000 CONNECTED LOAD (R.H.)
TOTAL: 4200					

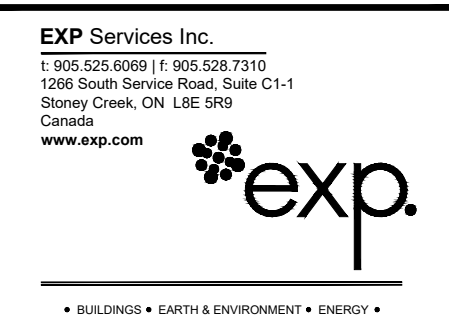
SPD - SURGE PROTECTIVE DEVICE
* - GFCI BREAKER

ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

NOTE:
ALL BREAKERS 200A AND ABOVE SHALL BE WITH ELECTRONIC TRIP UNITS.

NO	REVISIONS	DATE
10	ISSUED FOR TENDER ADDENDUM NO. 1	2026-05-01
9	RE-ISSUED FOR SPA	2026-03-17
8	ISSUED FOR TENDER	2026-02-13
7	RE-ISSUED FOR BUILDING PERMIT	2026-01-27
6	RE-ISSUED FOR BUILDING PERMIT	2026-01-08
5	RE-ISSUED FOR SPA	2025-12-19
4	ISSUED FOR BUILDING PERMIT	2025-10-16
3	ISSUED FOR SPA	2025-08-20
2	ISSUED FOR 80% CONTRACT DOCUMENTS	2025-08-11
1	ISSUED FOR 50% CD	2025-07-10

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.



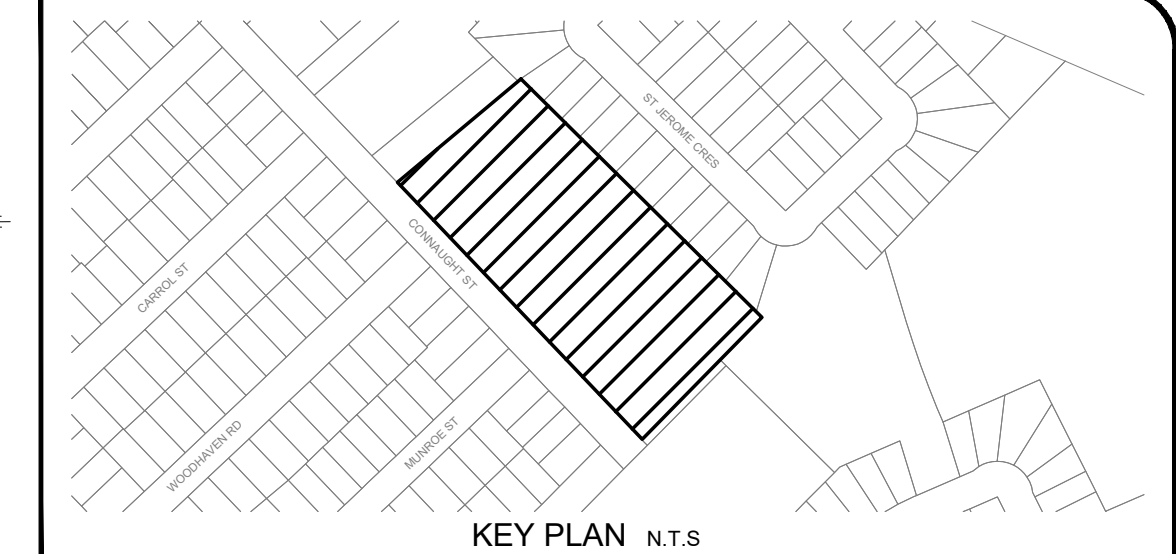
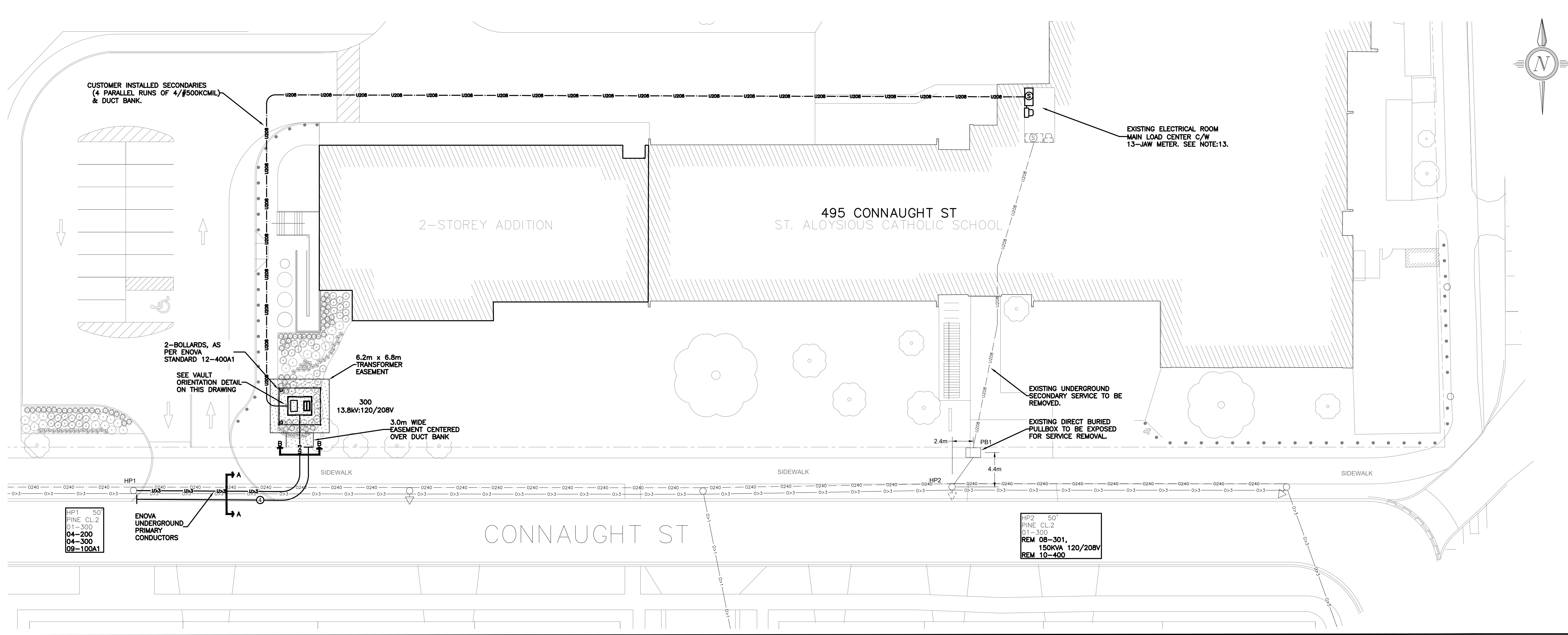
ST. ALOYSIUS CATHOLIC ELEMENTARY SCHOOL ADDITION
504 CONNAUGHT STREET, KITCHENER, ON.

PANEL SCHEDULES

GRGURIC ARCHITECTS INCORPORATED

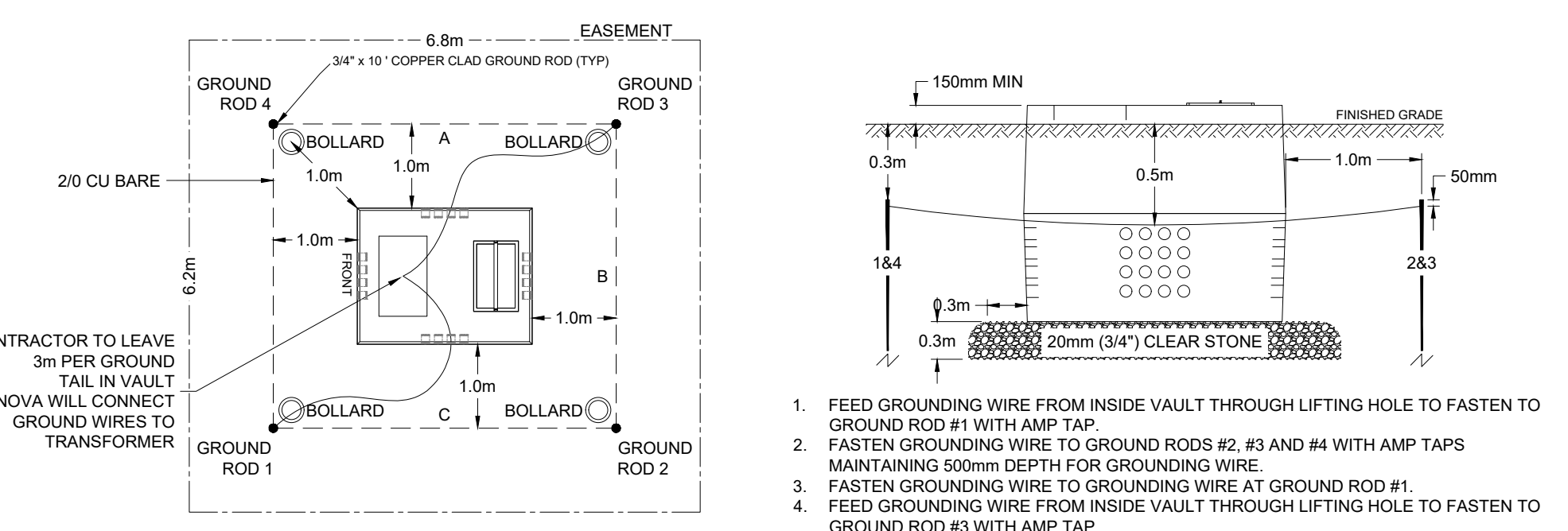
28 KING STREET EAST, UNIT B
STONE CREEK, ONTARIO, L8G 1J8
Tel. 905-664-8735 Fax. 905-664-8737
Web: www.2gai.com

SCALE: AS NOTED	PROJECT: ALL-25004500-A0
START DATE: MAY 2025	
DRAWN: RJ	DRAWING: E9.01
CHECKED: CB	
PRINT DATE: 05/01/26	



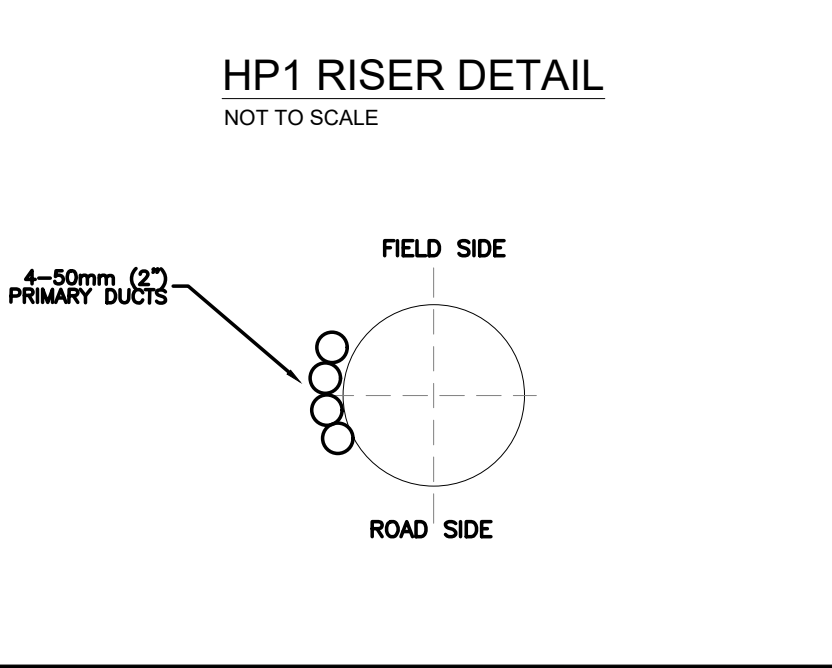
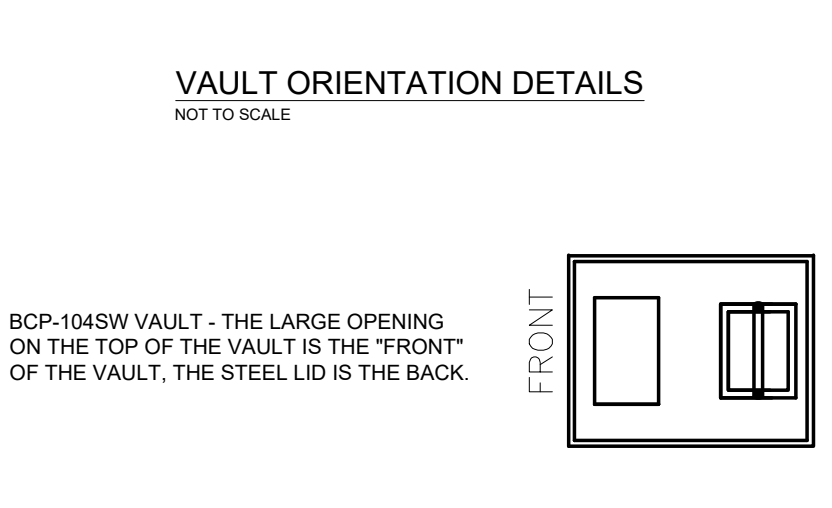
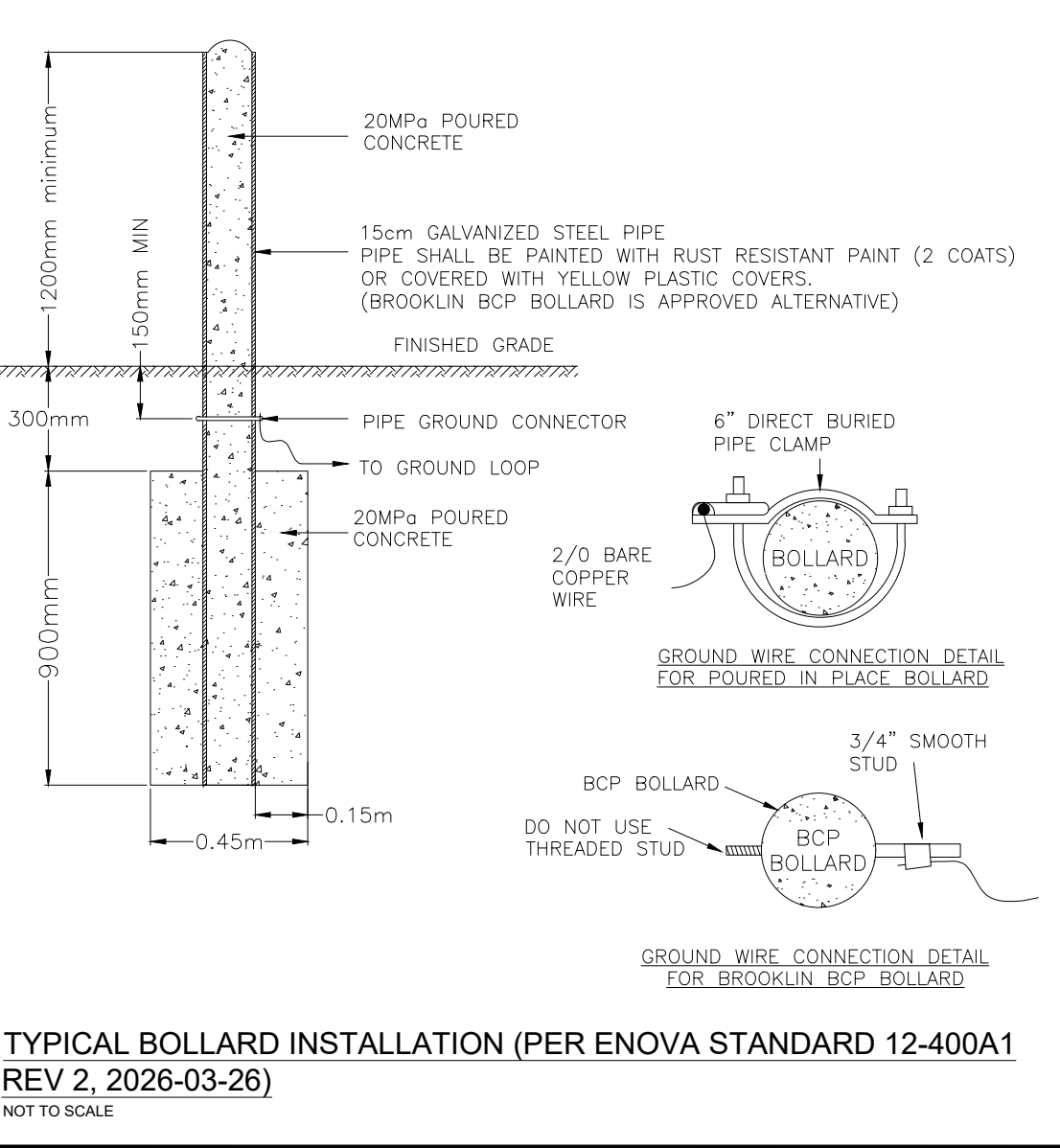
PROJECT NOTES

- NOTES:**
- GENERAL**
- THIS DRAWING IS THE SOLE PROPERTY OF ENOVA POWER CORP. (THE OWNER) AND IS PROVIDED FOR INFORMATION PURPOSES ONLY. THIS DRAWING SHALL NOT BE COPIED, REPRODUCED, OR DISTRIBUTED WITHOUT WRITTEN CONSENT OF THE OWNER.
 - CONTACT THE ENGINEERING DEPARTMENT BEFORE MAKING ANY CHANGES TO THIS DESIGN.
 - ON COMPLETION OF THE PROJECT, RETURN DRAWINGS TO THE ENOVA ENGINEERING DEPARTMENT INDICATING FIELD CHANGES.
 - ALL REFERENCES TO ELEVATIONS AND DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
 - CUSTOMER'S CONTRACTOR IS RESPONSIBLE FOR ALL LOCATES INCLUDING HYDRO.
 - CUSTOMER'S CONTRACTOR TO HAND DIG WITHIN 1.0m OF EXISTING UNDERGROUND SERVICES.
 - MAINTAIN A MINIMUM 1.0m CLEARANCE FROM ALL CATCH BASINS, FIRE HYDRANTS AND OTHER EXISTING SERVICES.
 - CUSTOMER'S CONTRACTOR TO PLACE THE COMMUNICATIONS COMPANIES' PLANT TO THE ROAD SIDE OF THE TRENCH WHEREVER POSSIBLE TO MAINTAIN CLEARANCE FOR FUTURE MAINTENANCE OF ELECTRICAL CONNECTIONS.
- CUSTOMER'S CONTRACTOR**
- SUPPLY AND INSTALL A CONCRETE TRANSFORMER BASE - BCP-104SW, COMPLETE WITH GROUNDING GRID AND BOLLARDS AS SPECIFIED ON THIS DRAWING.
 - SUPPLY AND INSTALL A 2X4 CONCRETE-ENCASED DUCTBANK FROM THE TRANSFORMER BASE TO THE PROPERTY LINE. STOP CONCRETE 300mm FROM PROPERTY LINE. INSTALL DUCT PLUGS IN THE 4 SPARE CONDUITS. CONTRACTOR TO INSTALL 1/2" POLYPROPYLENE PULL ROPE IN EACH DUCT.
 - CONTACT ENOVA'S INSPECTOR (ERIC WILBUR 519-572-2303) AT LEAST 48 HOURS PRIOR TO ENCASED THE DUCT BANK IN CONCRETE AND BEFORE PLACING TRANSFORMER VAULT.
 - SUPPLY SECONDARY CONDUCTORS FROM THE MAIN DISCONNECT SWITCH TO THE TRANSFORMER PLUS LEAVE 8m EXTRA INSIDE THE TRANSFORMER BASE. SUPPLY NEMA TWO-HOLE, 1/2" STUD HOLE WITH A MAXIMUM TONGUE-BARREL WIDTH OF 1/2" LONG BARREL COMPRESSION LUGS FOR EACH SECONDARY CONDUCTOR FOR ENOVA TO CONNECT TO THE TRANSFORMER SPADES WHEN THE PRIMARY CONDUCTORS ARE CONNECTED.
 - SUPPLY AND INSTALL THE METERING EQUIPMENT PER ENOVA'S METERING STANDARD MS-30A.
- ENOVA DISTRIBUTION**
- DISCONNECT & REMOVE EXISTING UNDERGROUND SECONDARY SERVICE TO SCHOOL. W0#26570.
 - CHARGE ALL LABOUR, TRUCKING, MATERIALS AND OUTSIDE CHARGES FOR NEW SERVICE INSTALLATION TO W0#27389.
 - INSTALL A 300kVA, 13.8kV-120/208V PADMOUNTED TRANSFORMER ON THE CUSTOMER-INSTALLED TRANSFORMER BASE C/W ELBOWS AND SURGE ARRESTERS AS PER ENOVA UIG STANDARD 12-301A2.
 - INSTALL NEW PRIMARY RISER AT HP1.
 - INSTALL APPROXIMATELY 40m OF 3-1/4" CU. STRAND FILLED, 15KV, TRXLPEL, 100% INSULATED, 100% CN, PVCJ, PRIMARY CABLES FROM THE RISER POLE HP1 TO THE NEW PADMOUNT TRANSFORMER.
 - NEUTRAL SECONDARY BUS AND SECONDARY SERVICE ATTACHMENTS TO BE INSTALLED AND RE-ATTACHED AS PER USF STANDARDS 01-500, 01-500A, 10-200, 10-200A, 10-201 AND 10-220 UNLESS OTHERWISE NOTED.
 - ALL POLES TO BE SET IN ACCORDANCE WITH USF STANDARD 05-100, 05-101 AND TABLE 05-03.
- ENOVA CIVIL**
- DIG AND EXPOSE EXISTING DIRECT BURIED PB1 FOR THE REMOVAL OF THE EXISTING UNDERGROUND SECONDARY SERVICE TO SCHOOL. W0#26570.
 - REMOVE PB1 AND RESTORE SITE TO ORIGINAL CONDITIONS.
- ENOVA CONTRACTOR:**
- DIRECTIONALLY DRILL FOUR (4) 50mm HDPE CONDUITS FROM HP1 TO CUSTOMER'S CONCRETE-ENCASED CONDUITS AT THE PROPERTY LINE AND INSTALL REDUCER COUPLINGS TO CUSTOMER'S DUCTS. DUCTS TO BE DRILLED AT 1m MINIMUM COVER.
 - INSTALL CONDUITS TO 150mm ABOVE GRADE AT BASE OF HP1 C/W PLUGS.

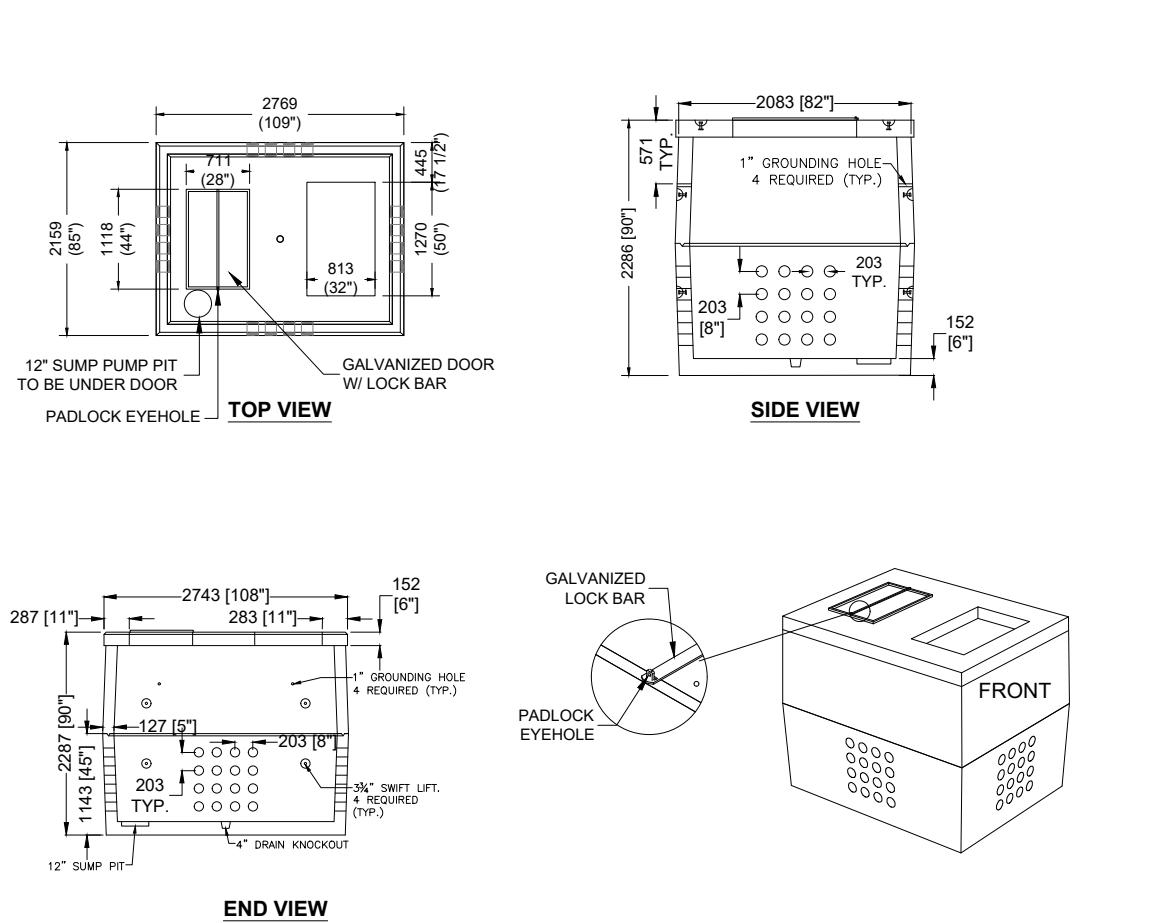


BOLLARDS TO BE PLACED AS NOT TO HINDER EQUIPMENT OPERATION AND MAINTENANCE. **ADDITIONAL BOLLARDS AT LOCATIONS A, B, C MAY BE REQUIRED FOR HIGH TRAFFIC AREAS**

BCP-104SW PADMOUNTED TRANSFORMER INSTALLATION (PER ENOVA STANDARD 12-300A2, REV 2, 2025-02-14)
NOT TO SCALE



Order only Brooklyn Concrete Products Ltd(BCP-104SW) For ENOVA Projects



CONCRETE: 35MPa/5000PSI
AIR ENTRAINMENT: 5-8%
REINFORCEMENT: STEEL TO CSA CAN A23.1/A23.3 G30.18 Fy=400MPa

WEIGHT: LBS/KG
BOTTOM: 10,291/4,668
MIDDLE: 6,237/2,829
TOP: 3,307/1,500
TOTAL: 19,835/8,997

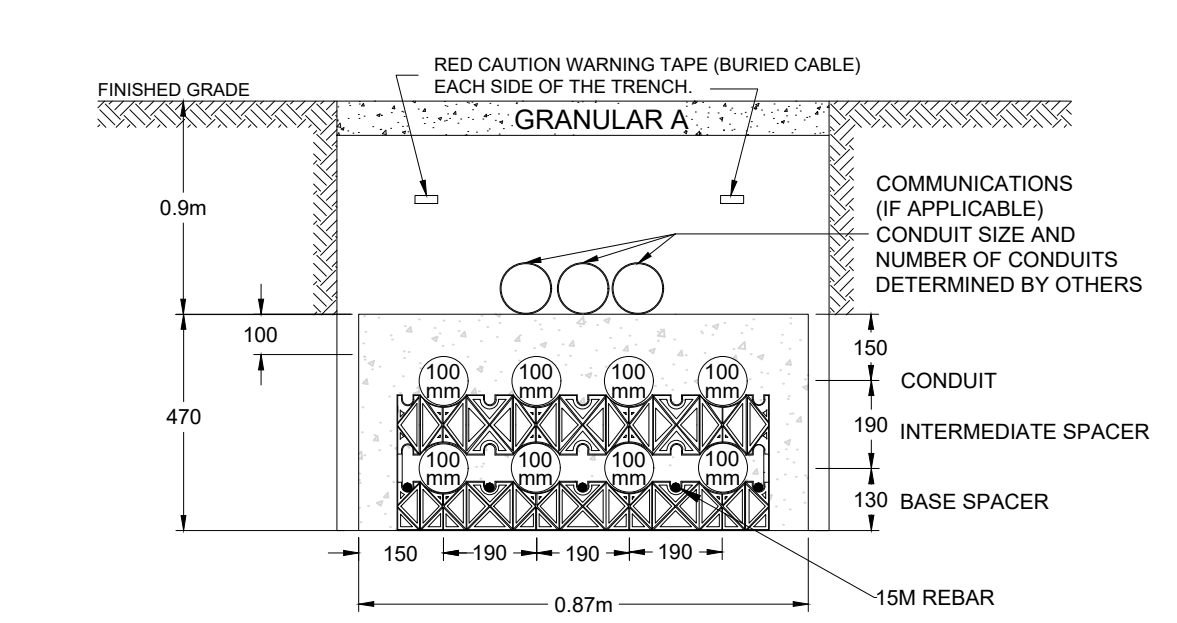
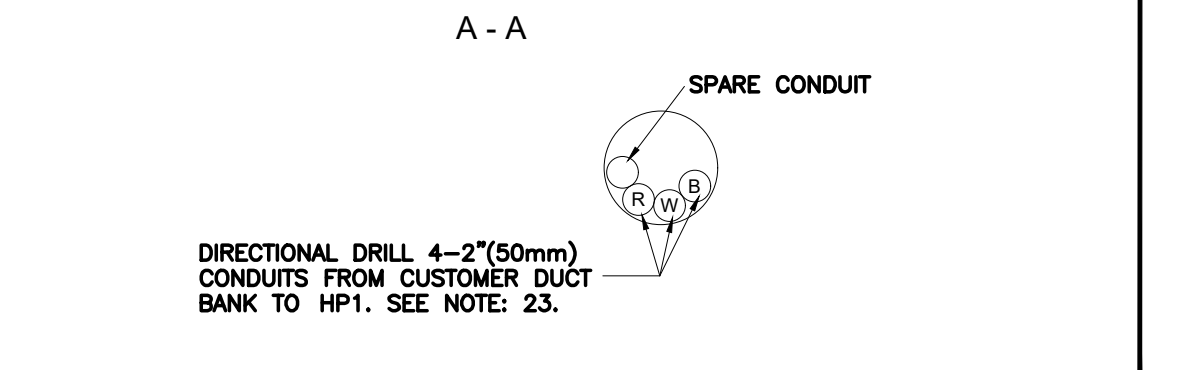
MAX EQUIPMENT WEIGHT: 29,244LBS/13,268KG

GENERAL NOTES:

- CABLE ENTRY OPENINGS-PVC SEALS FOR MAX. 4\"/>
- DELIVERY IS MADE BY CRANE-EQUIPPED TRUCKS. EXCAVATION MUST BE READY, SAFE AND ACCESSIBLE FOR UNLOADING FROM THE REAR OF THE TRUCK.
- MIN OVERHEAD CLEARANCE OF 18FT (5.5m) IS REQUIRED.
- ALL UNITS MUST BE HANDLED WITH PROPER LIFTING EQUIPMENT. (I.E. SPREADER BAR).
- SUMP PUMP PIT TO BE UNDER THE GALVANIZED DOOR SIDE.
- LID TO BE ROTATED AND INSTALLED AS PER THE ENOVA DRAWING.
- WATER PRESSURE WAS NOT CONSIDERED IN THE STRUCTURAL DESIGN. REPORT WATER TABLE DURING CONSTRUCTION.
- PLACE BACKFILL SIMULTANEOUSLY AROUND THE VAULT TO AVOID UNBALANCE LATERAL EARTH PRESSURES.
- BACKFILL SHOULD BE UNIFORMLY COMPACTED TO A MINIMUM OF 98% MATERIALS SPMD. 10 UNITS WILL BE SEALED WITH BUTYL TAPE AT THE JOINTS.

BCP-104SW 3 PHASE TRANSFORMER BASE (PER ENOVA STANDARD 12-300A1, REV 3, 2025-01-31)
NOT TO SCALE

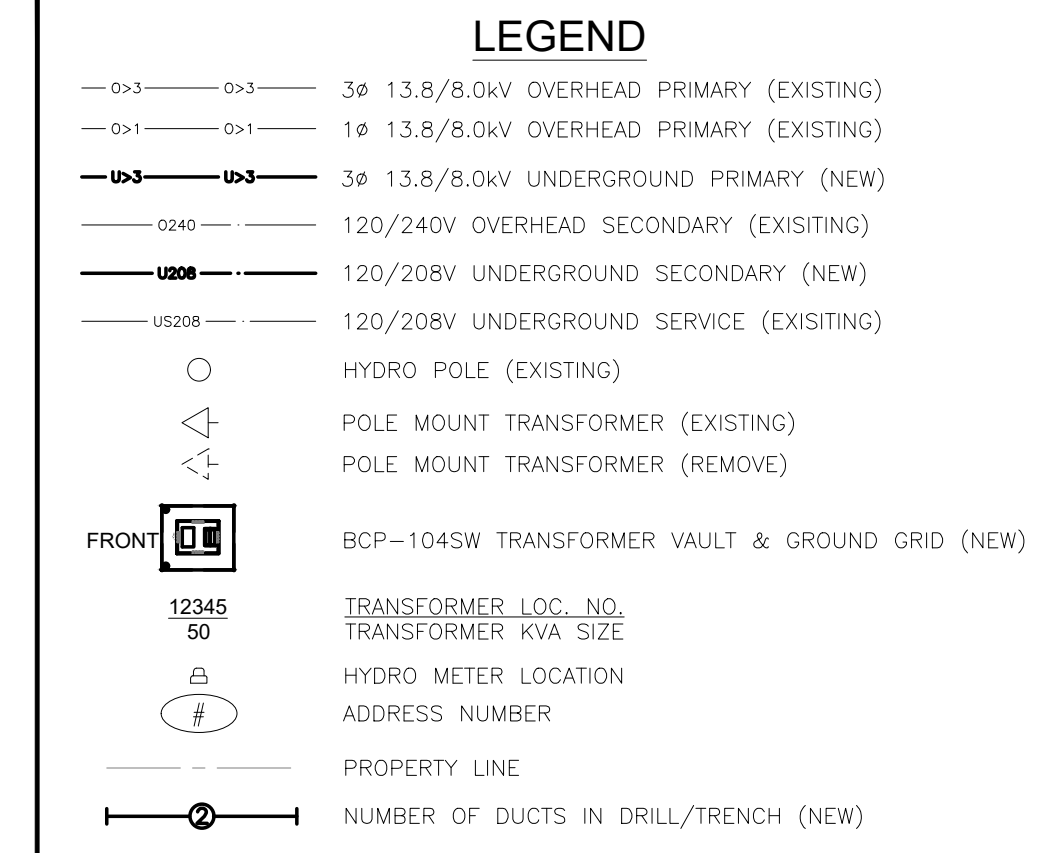
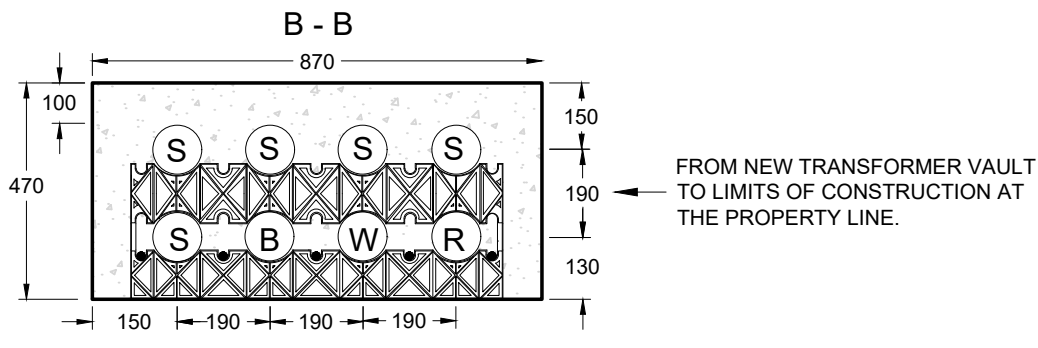
CROSS SECTION - FOR ENOVA CONTRACTOR TO DIRECTIONAL DRILL CONDUITS



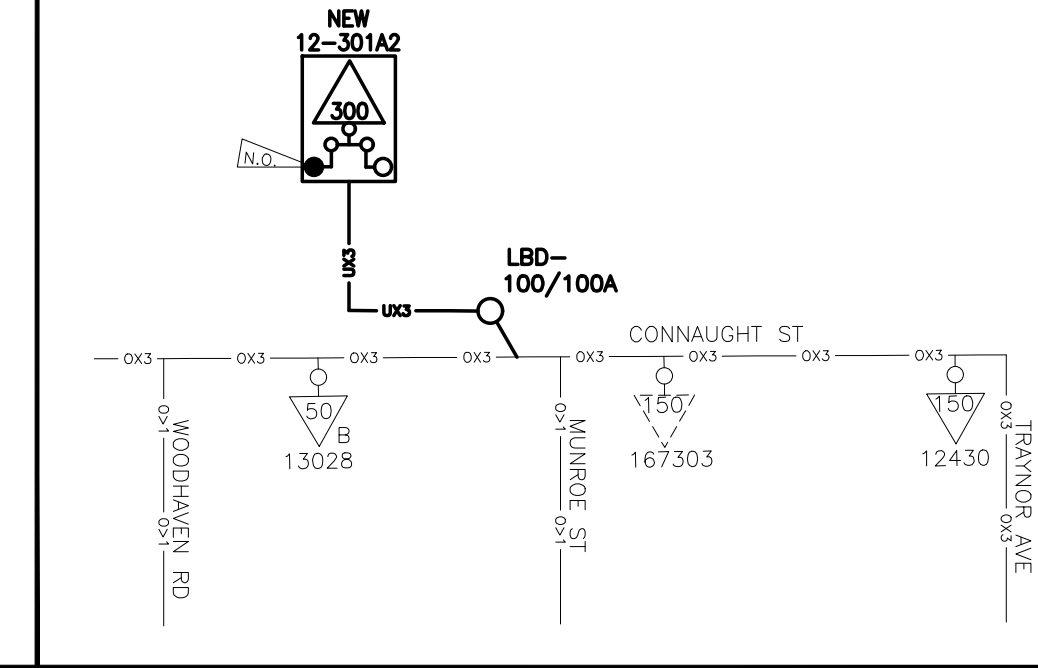
CONTRACTOR TO PROVIDE SPACER SPEC SHEET TO ENOVA PRIOR TO DUCT BANK CONSTRUCTION

- NOTES**
- DUCT BANK TO HAVE A MINIMUM 0.9m OF COVER.
 - DUCT TO BE 100mm TYPE II PVC SUCH AS IPEX SUPERDUCT DB2 PVC UNDERGROUND CONDUIT.
 - ALL HORIZONTAL BENDS TO BE A MINIMUM 1.5m RADIUS AND ALL VERTICAL BENDS TO BE A MINIMUM 1.0m RADIUS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - ALL DUCT CONNECTIONS SHALL BE SOLVENT WELDED (GLUED) AS PER DUCT MANUFACTURER'S RECOMMENDATIONS.
 - ENDS OF DUCTS TO BE CAPPED & MARKED WITH ELECTRONIC MARKERS.
 - 15M REBAR TO BE PLACED ON BOTTOM OF THE DUCT BANK ONLY UNLESS OTHERWISE INDICATED.
 - CONCRETE TO BE 20MPa, 10mm PEASTONE, 80mm SLUMP, WINTER HANDLING WHEN REQUIRED.
 - ALL DUCTS ARE TO BE ENCASED WITH A MINIMUM 75mm CONCRETE UNLESS OTHERWISE INDICATED.
 - ALL BOTTOM DUCTS TO HAVE A MINIMUM 75mm CONCRETE UNDERNEATH.
 - SPACERS TO BE PLACED UNDER EACH DUCT LAYER WITH MAXIMUM CENTER TO CENTER DISTANCE OF 1.5m AND LOCATED WITHIN 600mm EACH SIDE OF COUPLERS ALONG ENTIRE LENGTH OF DUCT BANK.
 - DUCT JOINTS TO BE STAGGERED A MINIMUM OF 0.2m & SECURED WITH AN APPROVED COUPLING.
 - BELL ENDS ARE TO BE USED ON ALL DUCTS ENTERING PULLING PITS OR CONCRETE ENCLOSURES. BELL ENDS MUST BE INSTALLED FLUSH WITH THE INSIDE WALL OF THE PULLING PIT OR CONCRETE ENCLOSURE.
 - EACH DUCT TO BE CLEANED & 2000 lb FLAT MULE ROPE INSTALLED.
 - NON METALLIC ROPE OR BANDING SHALL BIND DUCTS & SPACERS EVERY 3m. DUCT BANK IS TO BE ANCHORED TO PREVENT FLOATING.
 - DO NOT ALLOW CONCRETE TO ENTER THE DUCTS DURING CONCRETE PLACEMENT.
 - SPACERS ARE TO BE RIGID NON BENDABLE TYPE SUCH AS THE IPEX PRODUCTS SHOWN.
 - RED CAUTION TAPE TO BE INSTALLED 300mm ABOVE THE DUCT BANK, ONE STRIP ON EACH SIDE OF THE TRENCH.
- PRIMARY 2X4 DUCTBANK (PER ENOVA STANDARD 12-404A1, REV 0, 2017-04-30)**
NOT TO SCALE

CROSS SECTION - FOR ELECTRICAL CONTRACTOR TO INSTALL NEW DUCTS. FOLLOW ENOVA STANDARD 12-404A1.



13.8kV PRIMARY SCHEMATIC (FEEDER)



RE-DRAWN IN CAD DUE TO ADDITION ON SCHOOL AND SERVICE UPGRADE TO PADMOUNT TRANSFORMER.	2026.04.29	EW
No.	REVISION	DATE

WORK INSTRUCTION CERTIFICATE OF APPROVAL

THIS WORK INSTRUCTION HAS BEEN ASSEMBLED BY UTILIZING ONLY CERTIFIED CONSTRUCTION STANDARDS, SPECIFICATIONS AND APPROVED EQUIPMENT AND MEETS THE SAFETY REQUIREMENTS OF SECTION 4 OF ONTARIO REGULATION 22/04.

ERIC WILBUR APRIL 30, 2026
NAME & PROFESSIONAL DESIGNATION DATE SIGNATURE:

CONSTRUCTION RECORD

THIS IS TO CERTIFY THAT THE CONSTRUCTION RECORDED ON THIS DOCUMENT IS CONSISTENT WITH:
 STANDARD DESIGNS, WORK INSTRUCTIONS, OR LIKE-FOR-LIKE CONSTRUCTION AND THAT APPROVED EQUIPMENT HAS BEEN USED, AND THE SITE WAS LEFT IN A SAFE CONDITION.

NAME DATE SIGNATURE:

Enova ENOVA POWER CORP.

ST. ALOYSIUS CATHOLIC SCHOOL
504 CONNAUGHT ST
KITCHENER

SCALE = 1:250

DRAWING NO: **B5630**

DESIGNED: ERIC WILBUR	APR. 28/2026
DRAWN: ERIC WILBUR	APR. 28/2026
CHECKED:	
FILE NO.: K1E-14-CO-38	