

Architectural Addendum No. 2

Issued: April 23, 2026

Queen's Elevator Project – John Watson Hall

Kingston, Ontario

Issued by:

G architects Inc.

945 Princess St

Kingston, ON

K7L 0E9

The Addendum consists of the following changes noted below:

A. REVISIONS TO ARCHITECTURAL DRAWINGS

- A.1 Remove bollard and parking sign details in A1.21.
- A.2 Revise cement panels size to accommodate manufactural maximum length in A5.00.

B. CLARIFICATIONS OF ARCHITECTURAL DRAWINGS

- B.1 None.

C. REVISIONS TO SPECIFICATIONS

- C.1 Add aluminum finish to the metal ladder in section 05 50 00 .

D. REVISIONS TO SCHEDULES BOUND IN SPECIFICATIONS

- D.1 None.

E. STRUCTURAL REVISIONS

- E.1 Replace sheet S005 issued in Addendum 1 with sheet S005 issued in Addendum 2.

F. MECHANICAL REVISIONS

- F.1 Add BAS contractor in M-001.

G. ELECTRICAL REVISIONS

- G.1 Add a new basement exit sign in E200.

H. SITE SERVICES REVISIONS

- H.1 None.

J. QUESTIONS

1. We noticed on Addendum #1 that a new detail has been added to drawing S005 but it is not clarified in the addendum. Could you please clarify this information?

Answer: The detail referred to in the question is not part of the addendum. Revised sheet S005 is appended to this document.

2. They are asking if the post installation long term maintenance of the elevators will be contracted to the MSA of the University?

Answer: Per Specification Section 14 01 20, Post-Warranty Maintenance will not be included in this procurement. All other maintenance provisions apply (Interim maintenance, warranty maintenance).

3. Are there any Roof anchors on this project?

Answer: There is no roof anchor work on this project.

4. I would like to confirm that there is no sprinkler work on this project?

Answer: Confirmed, there is no sprinkler work in this project.

5. Some of the Tectiva cement panels length are more than what the manufacture produce. Some of the length shows on the architectural drawings are 3258mm and 3169mm but the maximum length for the panel is 3050mm. Please advise.

Answer: Cement panel size has been revised to accommodate the maximum length in A5.00.

6. Is there any more info on signage on this project? Is it just the 1 or 2 parking signs? Would there be any wayfinding signs inside to direct people or floor level signs?

Answer: Parking sign is not part of the scope of work. Details have been deleted from the drawings. Refer to sheet A1.21. There is no signage and wayfinding scope of work.

7. There are 2 details of bollards but I can't seem to find any in the drawings.

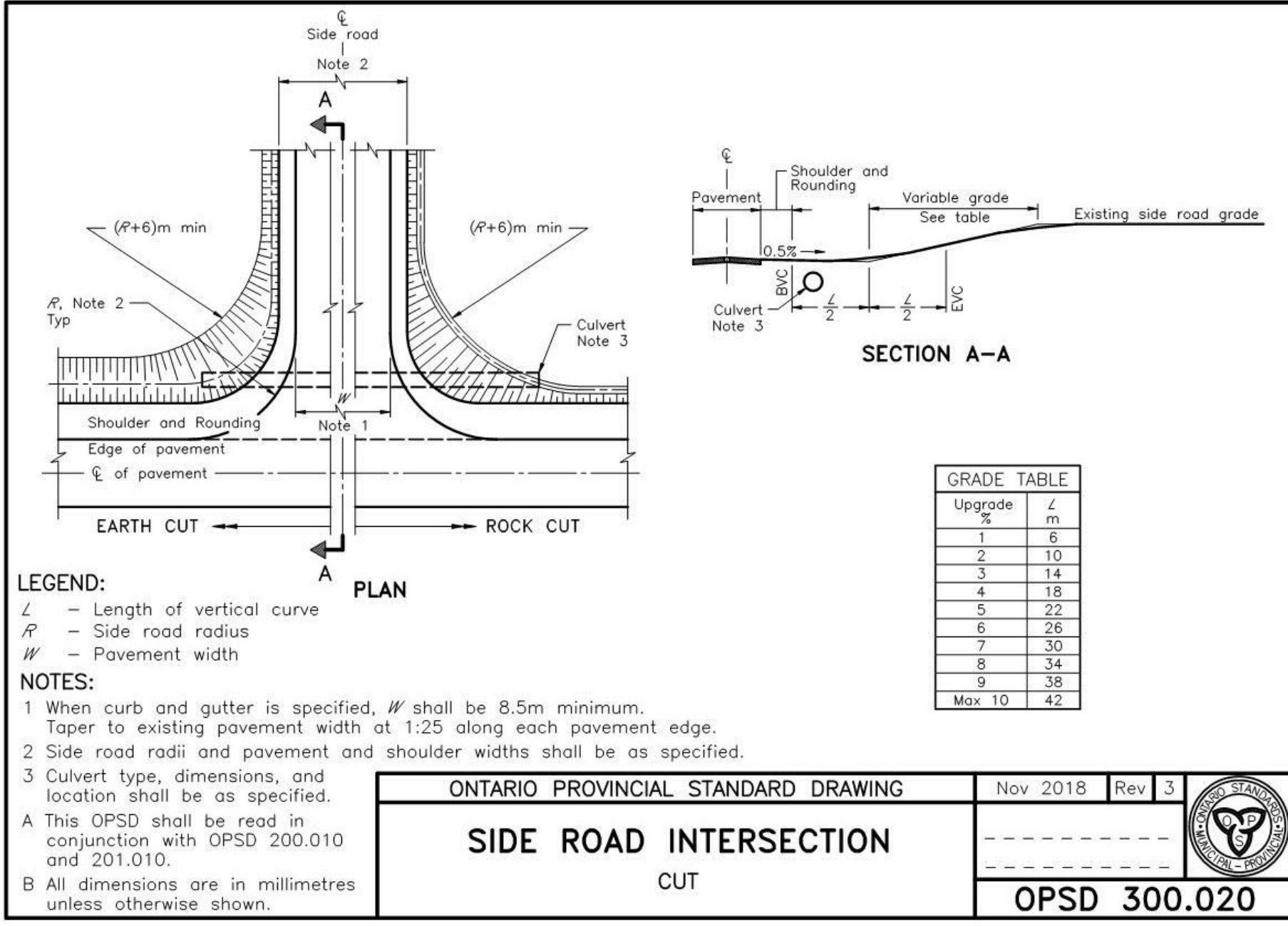
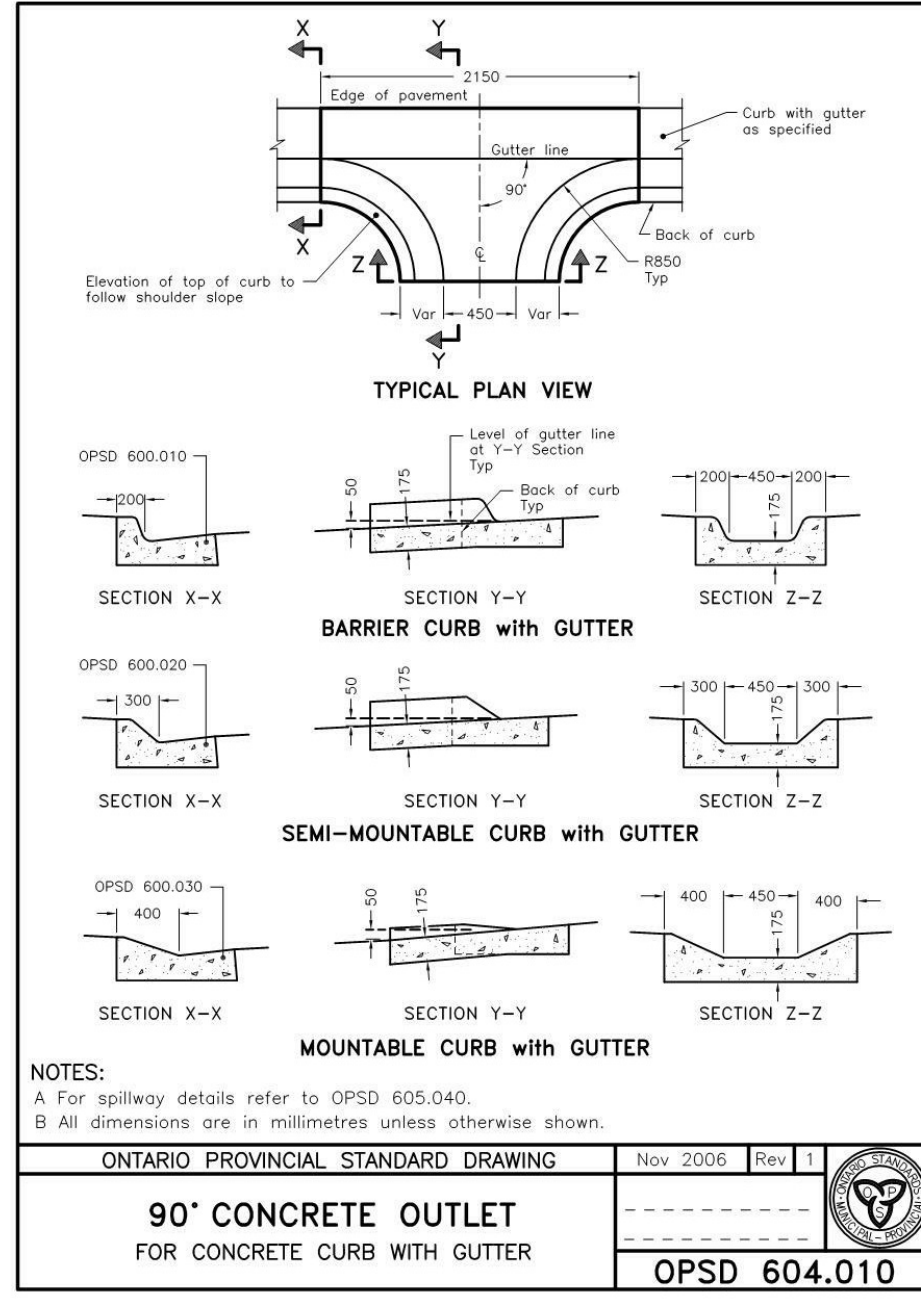
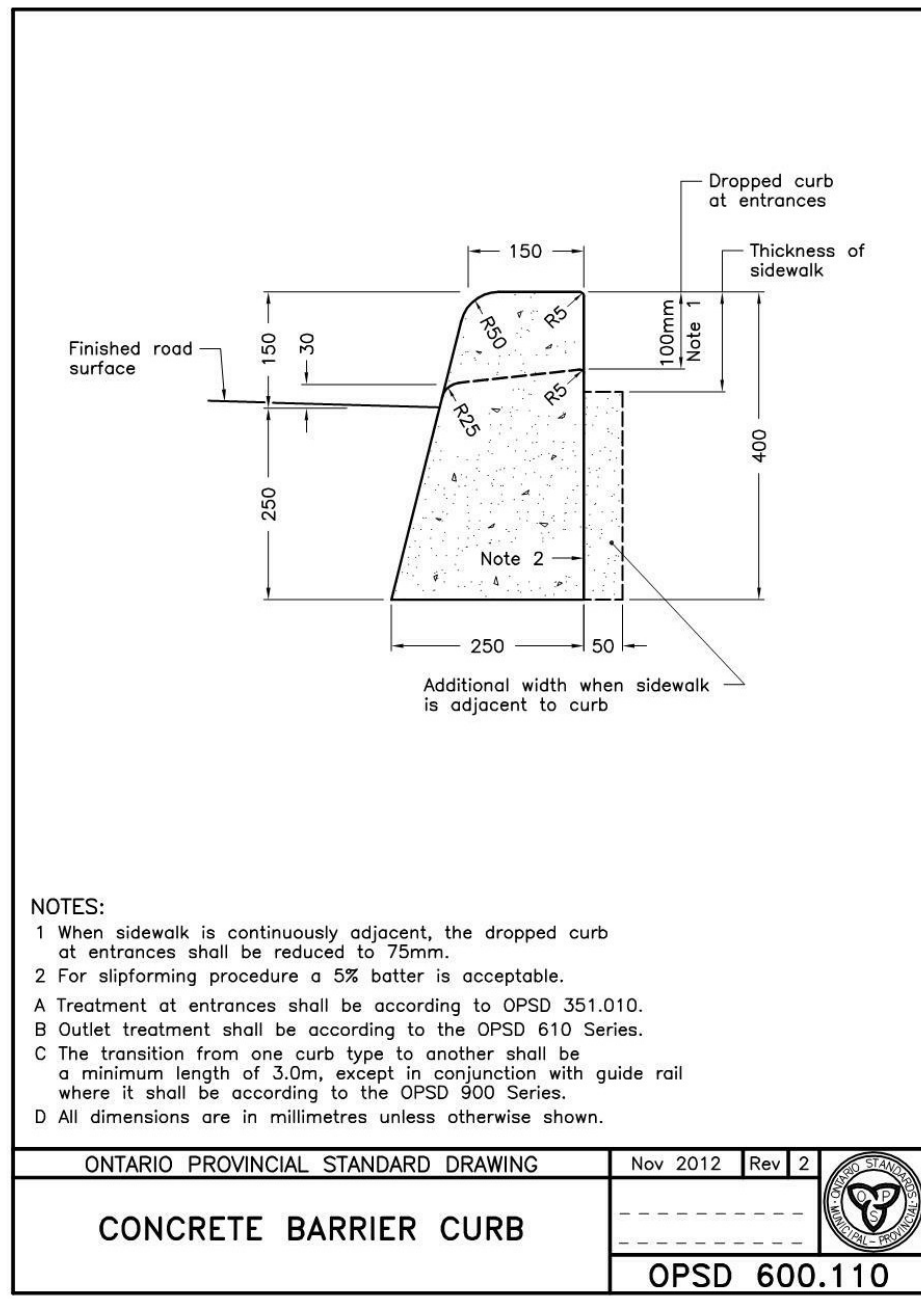
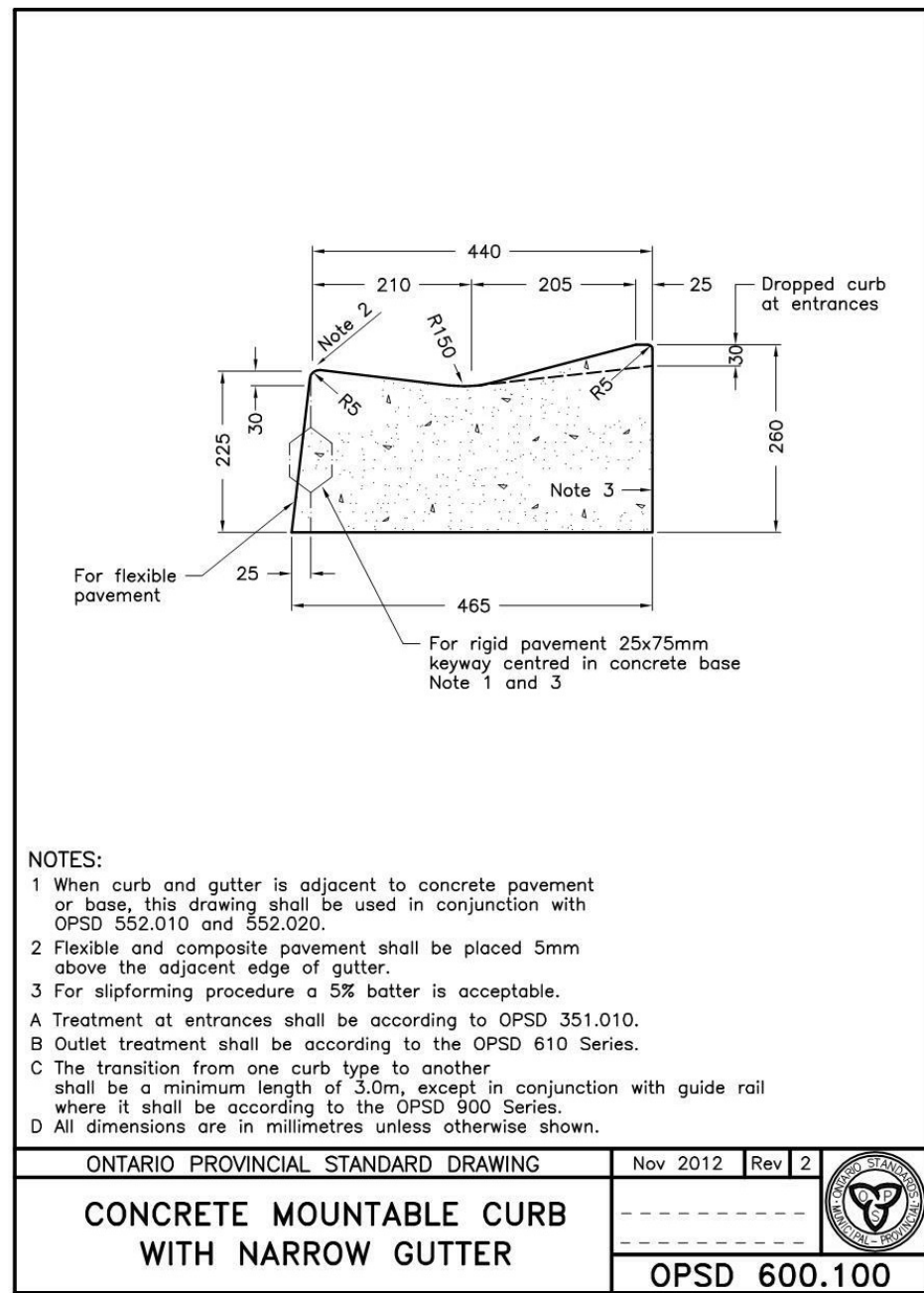
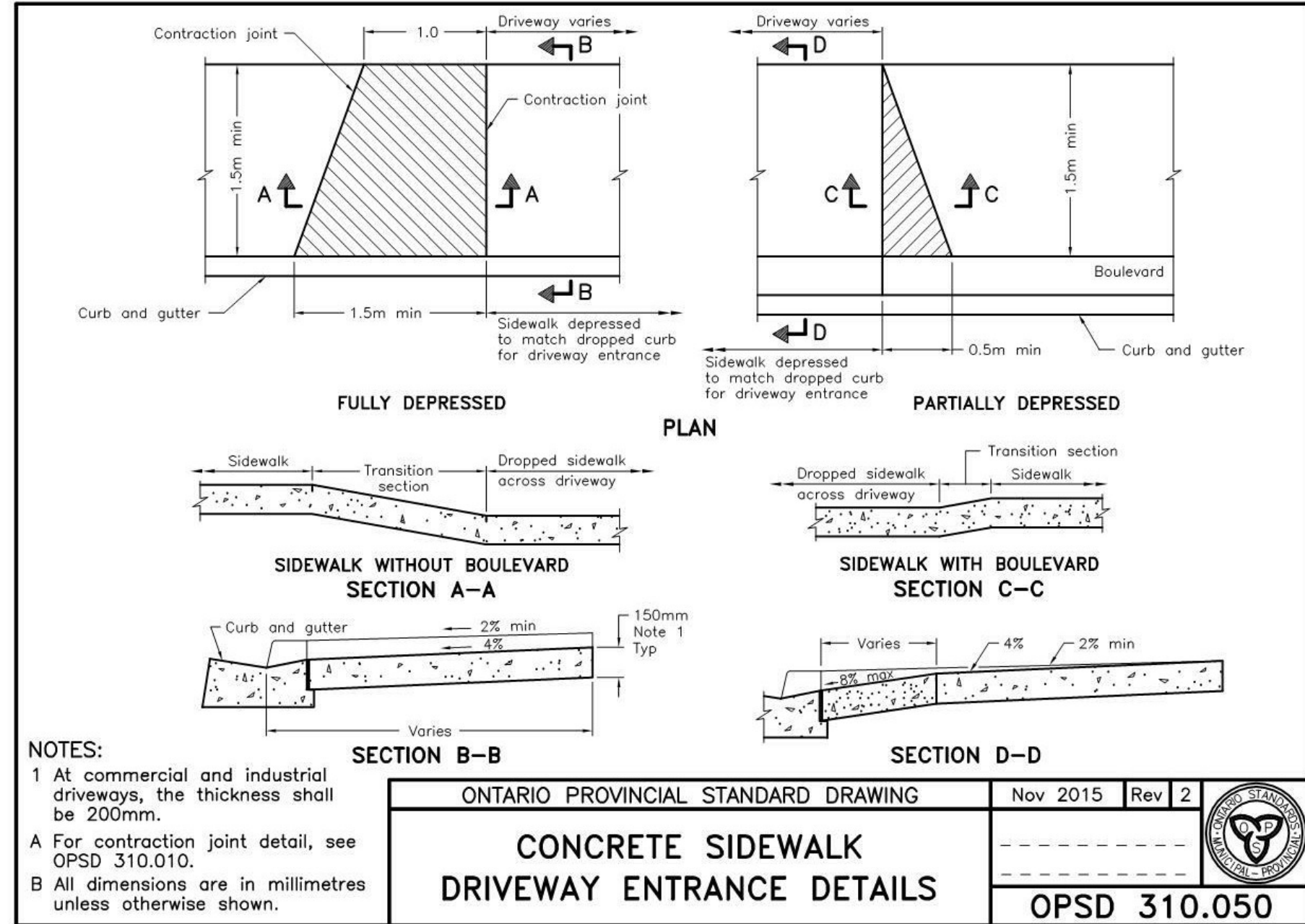
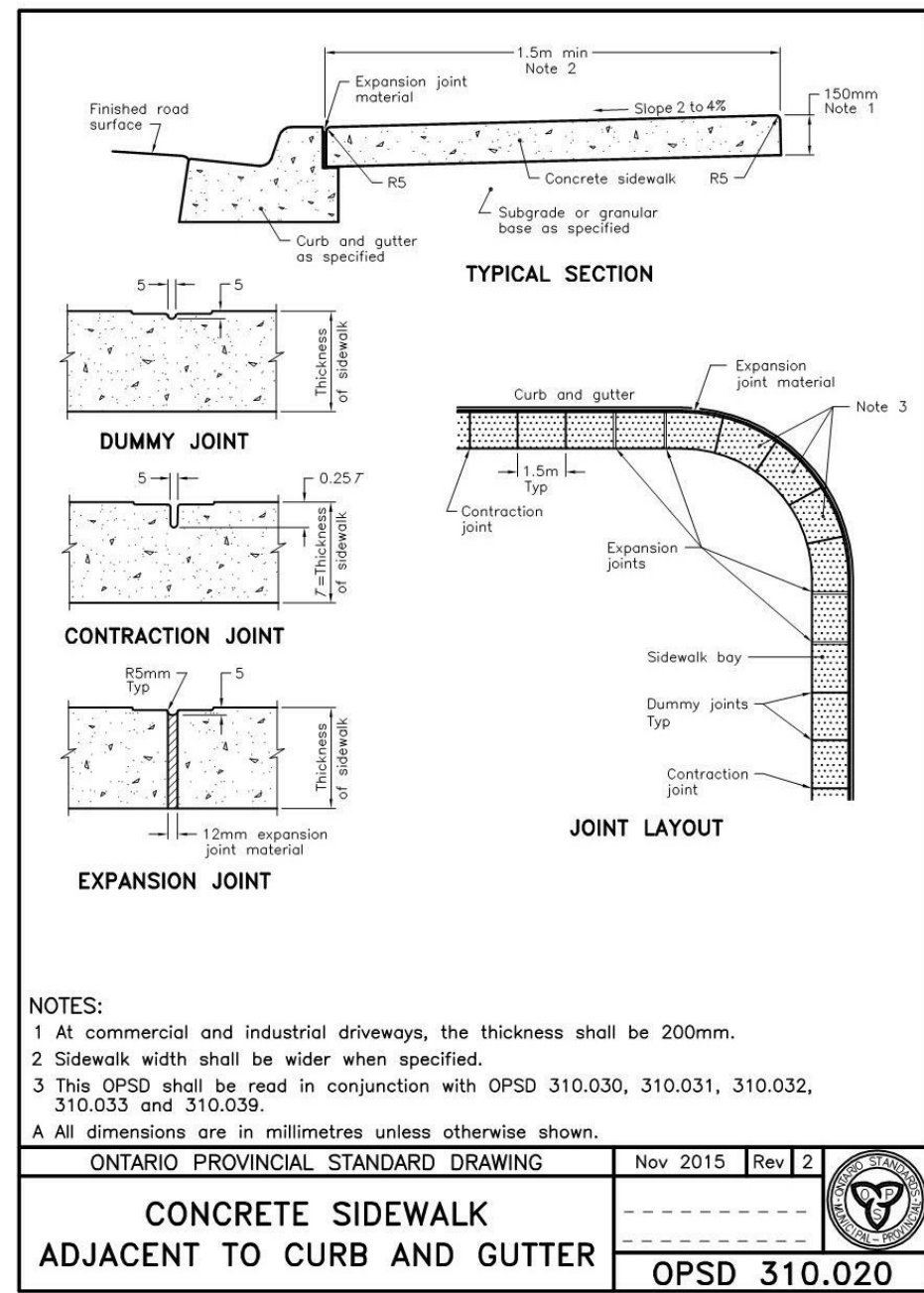
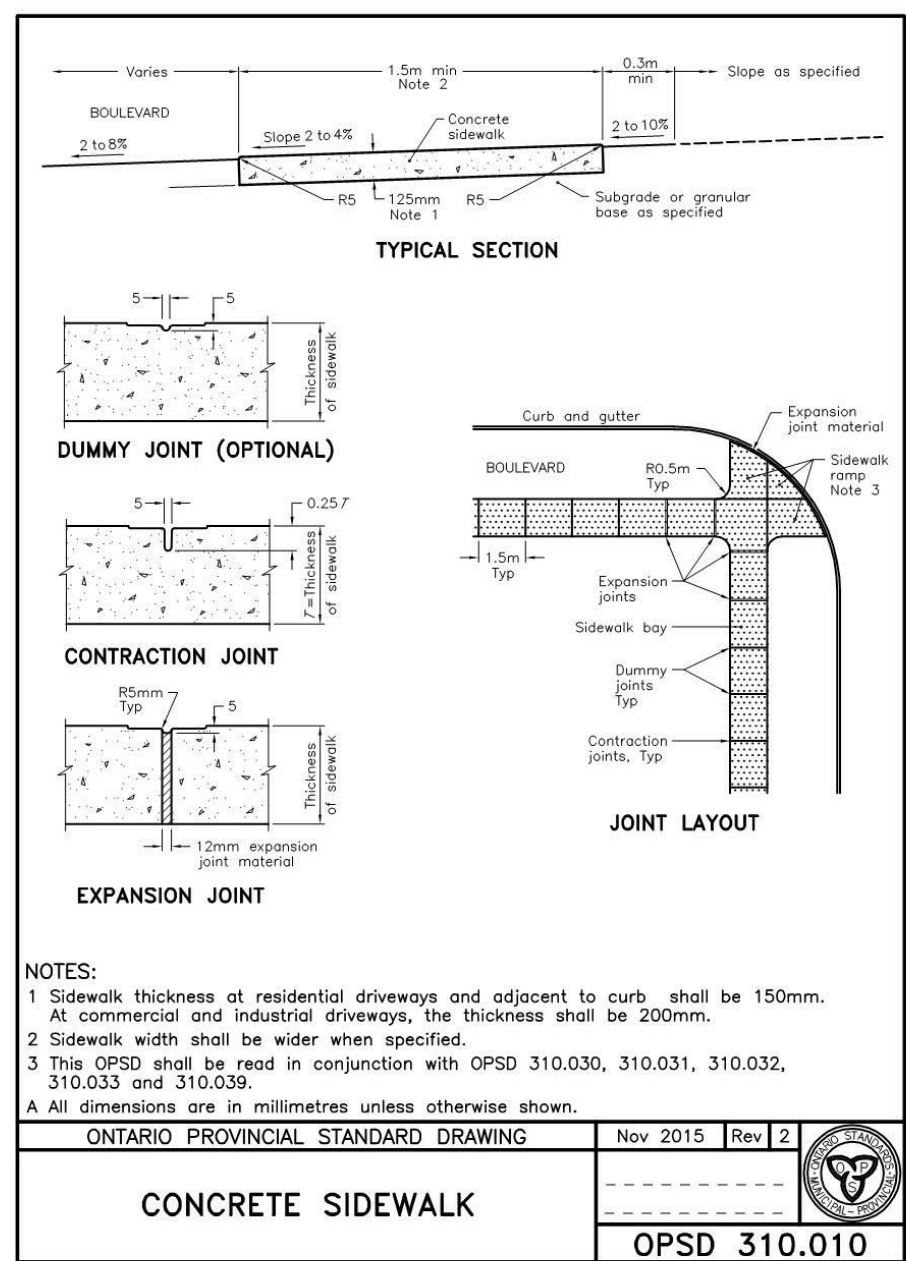
Answer: There is no bollard work on this project. Details have been deleted. Refer to sheet A1.21.

8. Please advise on who the existing BAS Division 25 Base building contractor is?

Answer: The contractor is Regulvar (Delta). Refer to M001.

End of Document

END OF ADDENDUM 02



15	2026 04 23	Issued for Addendum No.2	G
13	2026 02 13	Issued for Tender	G
9	2025 07 09	Issued for Building Permit	G
8	2025 06 05	Issued for 66% CD Client Review	G
7	2024 04 17	Issued for Client Review	G
6		Revision	By

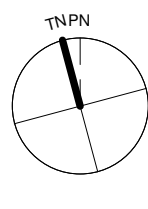
All drawings and specifications are the property of the Architect. The Contractor shall verify all dimensions and information on site and report any discrepancy to the Architect before proceeding.

Queen's Elevators - John Watson Hall
John Watson Hall, Kingston, ON K7L 2S7
Client: Queen's University
Project No. 24084

SITE DETAILS

Scale
Drawn By
Reviewed By
Revision No.
Plot Date

Author
Checker
11
2026-04-22

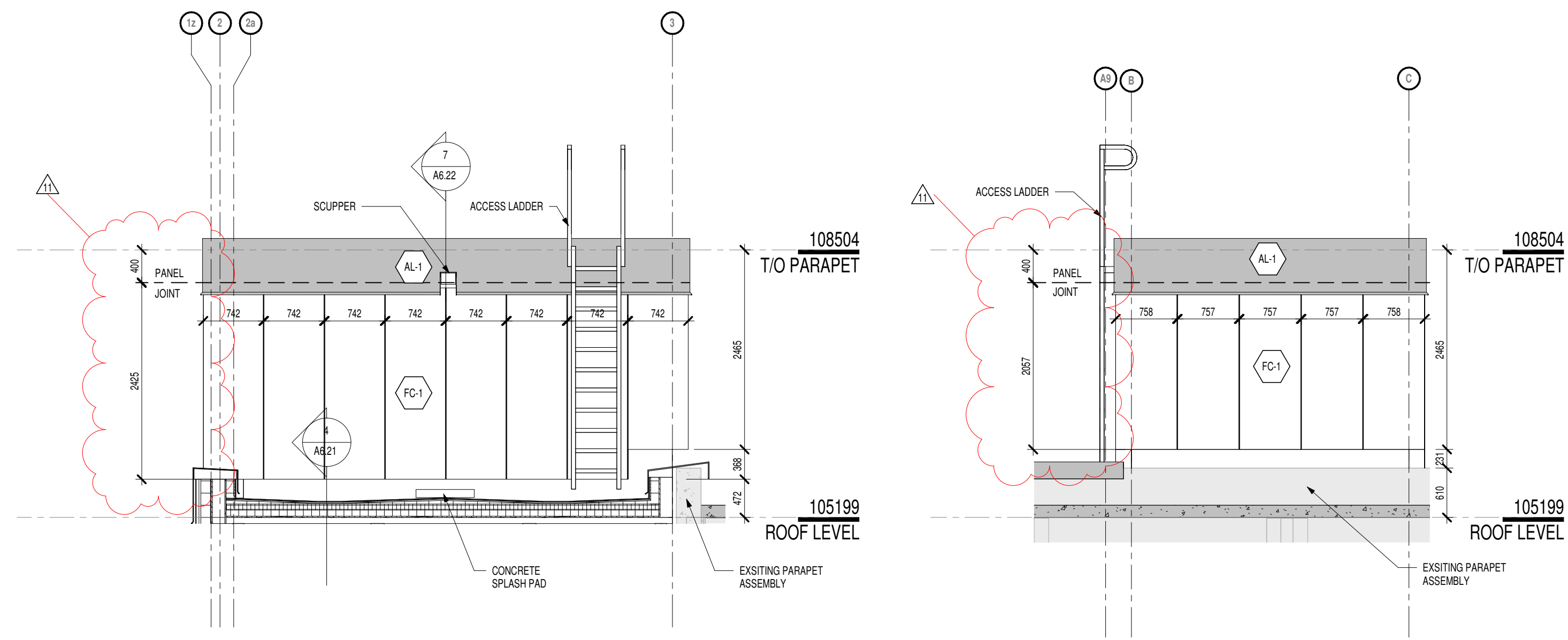


Drawing No.

A1.21

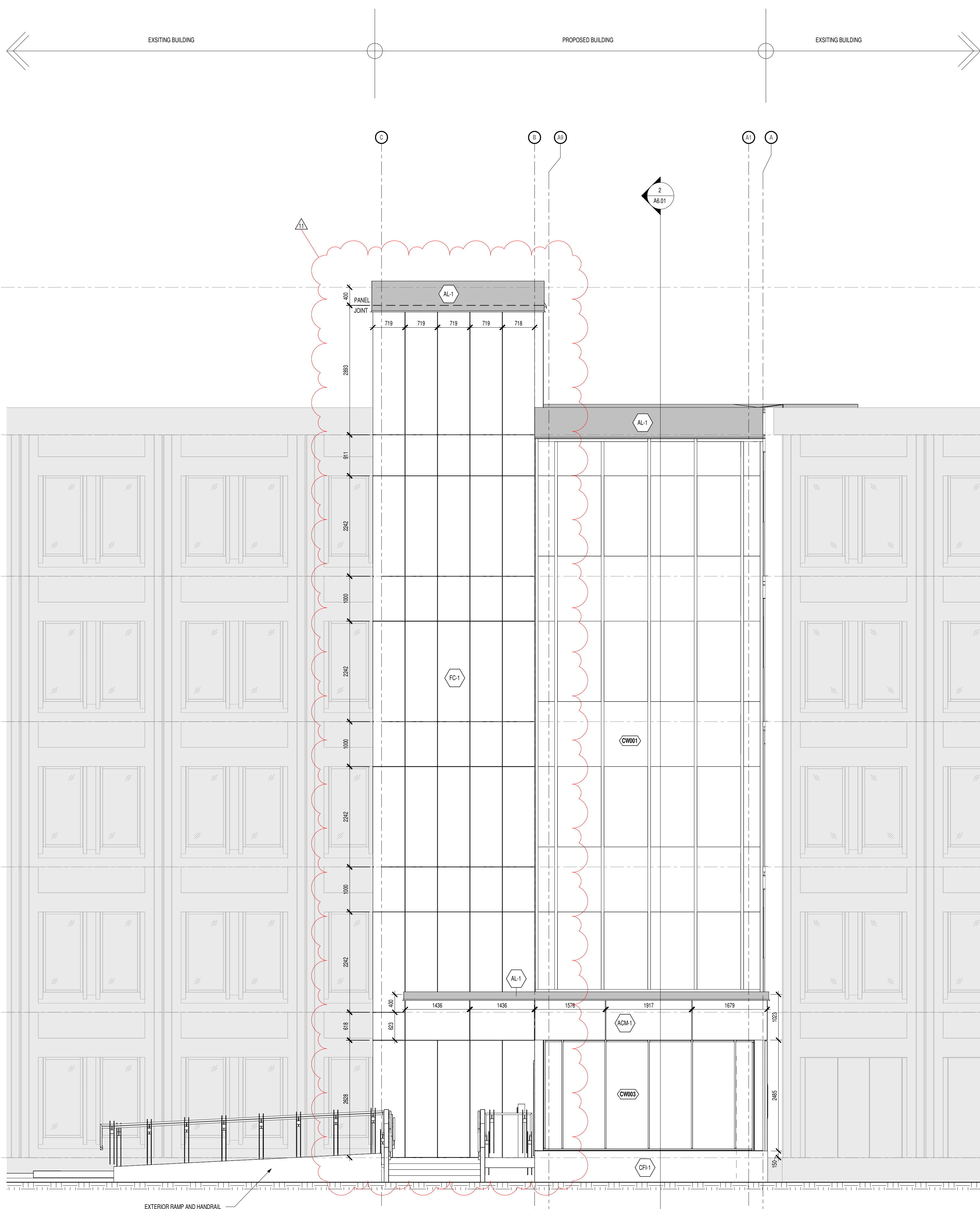
EXTERIOR MATERIAL LEGEND:

- ACM-1 ALUMINUM COMPOSITE METAL PANEL - COLOUR TO BE SELECTED BY THE ARCHITECT
- AL-1 ALUMINUM FLASHING - COLOUR TO MATCH EXISTING. SAMPLE TO BE PROVIDED TO CONSULTANT FOR APPROVAL
- CP-1 CONCRETE FACED INSULATION - NATURAL
- CP-1 CAST IN PLACE CONCRETE - NATURAL
- FC-1 FIBRE CEMENT PANEL - COLOUR TO BE SELECTED BY THE ARCHITECT
- IGU-1 INSULATED GLAZING UNIT - COLOUR TO BE SELECTED BY THE ARCHITECT
- SGL-1 SPANDREL GLASS - COLOUR TO BE SELECTED BY THE ARCHITECT

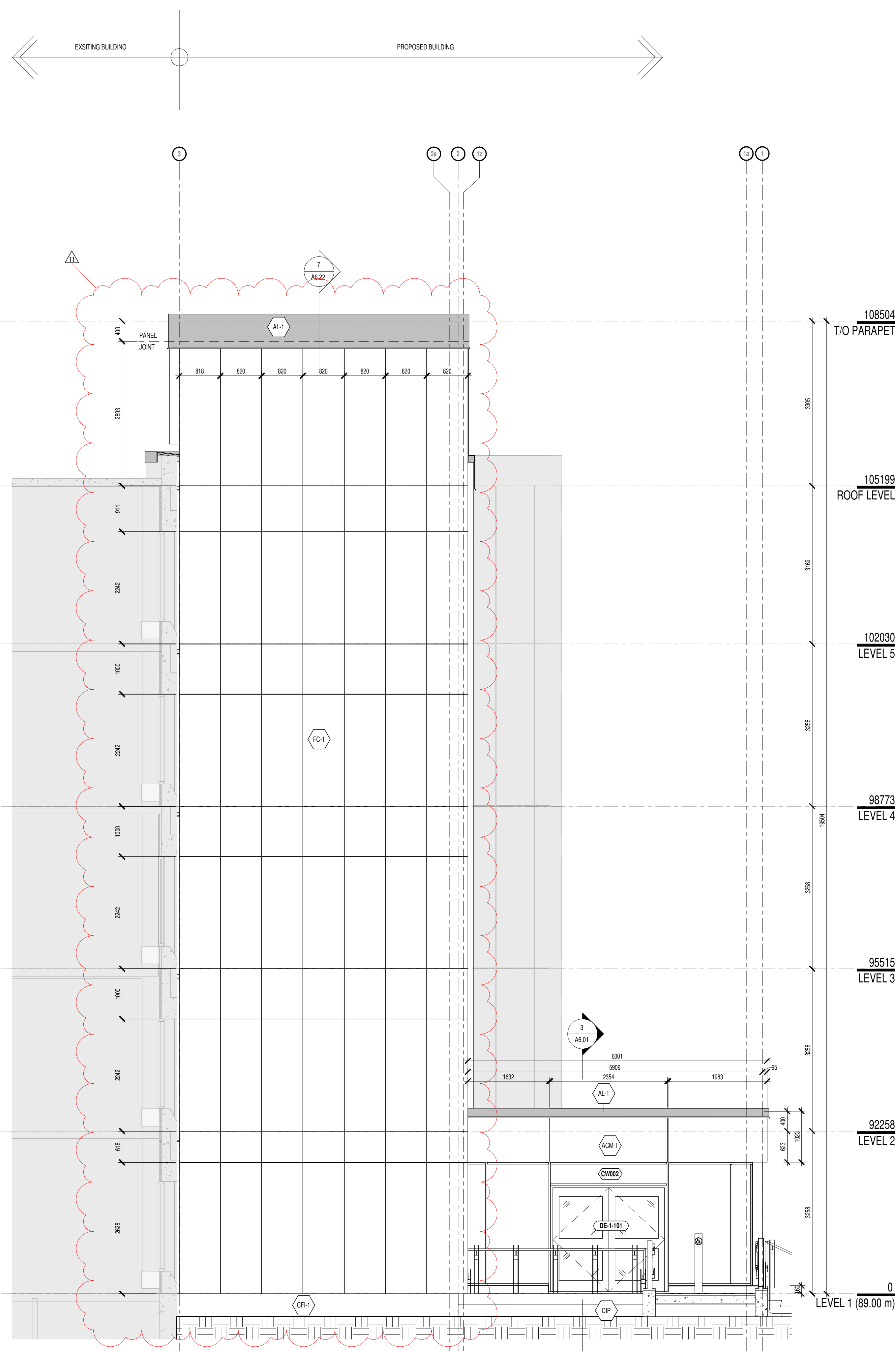


5 ELEVATOR PH - WEST ELEVATION
1:50

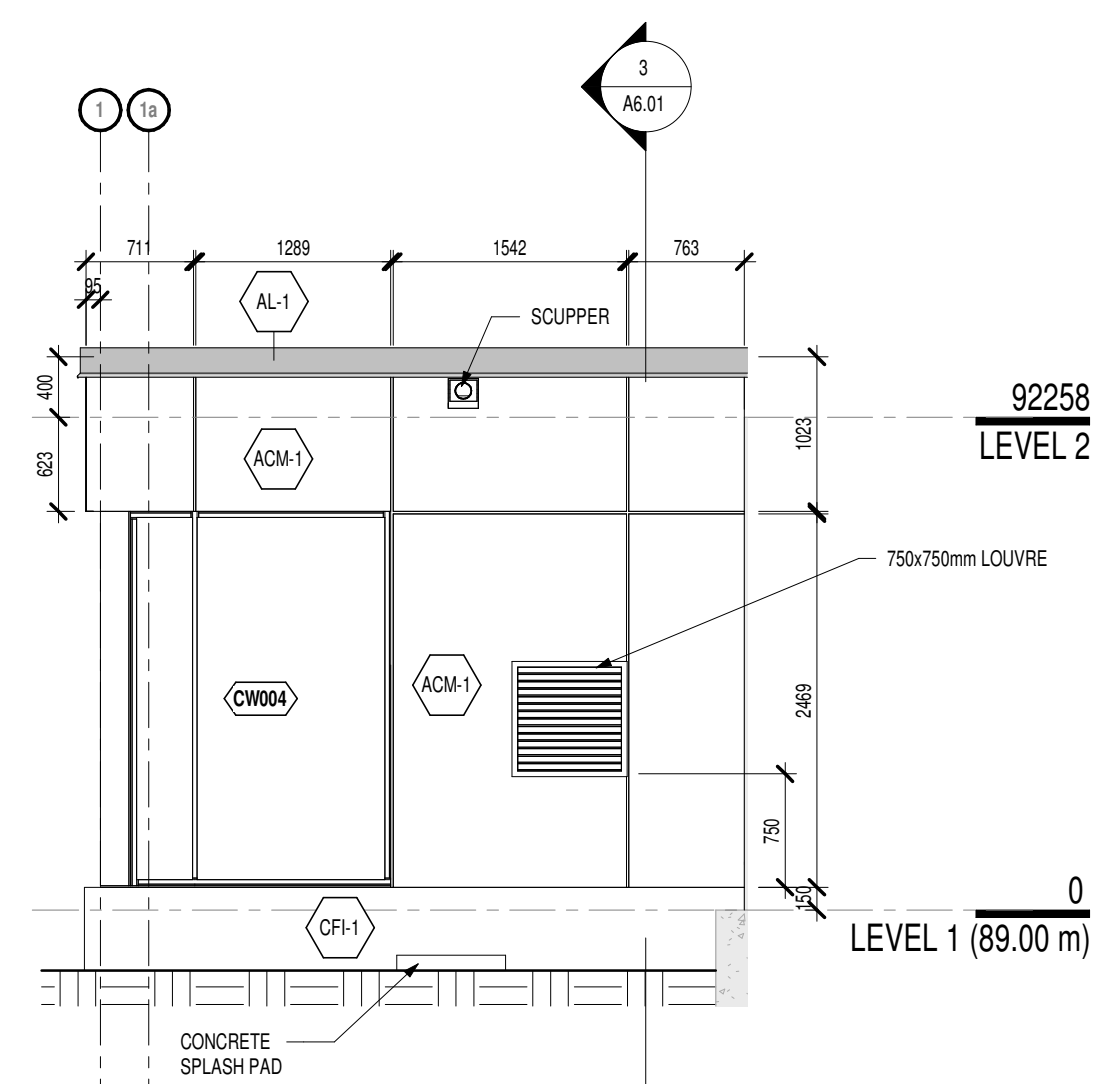
4 ELEVATOR PH - SOUTH ELEVATION
1:50



3 NORTH ELEVATION
1:50



2 EAST ELEVATION
1:50



1 WEST ELEVATION
1:50

15	2026 04 23	Issued for Addendum No.2	G
13	2026 02 13	Issued for Tender	G
12	2026 02 05	Re-issued for Building Permit	G
10	2025 12 12	Re-issued for Building Permit	G
9	2025 07 09	Issued for Building Permit	G
8	2025 06 05	Issued for 60% C.D. Client Review	G
7	2024 04 17	Issued for Client Review	G
6	2024 12 13	Issued for Class C Costing	G
#	Date	Revision	By

All drawings and specifications are the property of the Architect. The Contractor shall verify all dimensions and information on site and report any discrepancy to the Architect before proceeding.

Queen's Elevators - John Watson Hall
John Watson Hall, Kingston, ON K7L 2S7
Client: Queen's University
Project No. 24084

ELEVATIONS

Scale: As indicated
Drawn By: Author
Reviewed By: Checker
Revision No. 11
Plot Date: 2026-04-21

Drawing No.

A5.00

PART 1 GENERAL

1.1 GENERAL INSTRUCTIONS

- 1.1.1 Read and conform to: The general provisions of the Contract, including General and Supplementary Conditions; and the requirements of Division 01 Specifications and any additional documents referred to in this Section.
- 1.1.2 Contractor is solely responsible for dividing the Work among Subcontractors and Suppliers. Consultant and Owner assume no responsibility to act as arbiters or to establish subcontract limits between Sections or Divisions of the Work. Any references to related work items contained in this Section are provided for convenience only.

1.2 SUMMARY

- 1.2.1 Provide labour, materials, Products, equipment and services to complete the metal fabrications work specified herein. This includes, but is not necessarily limited, to:
 - 1.2.1.1 Steel framing and supports for benches, vanity units and miscellaneous architectural woodwork elements.
 - 1.2.1.2 Steel tube reinforcement for low partitions.
 - 1.2.1.3 Steel framing and supports for mechanical and electrical equipment.
 - 1.2.1.4 Steel framing and supports for applications where framing and supports are not specified in other Sections.
 - 1.2.1.5 Elevator machine beams, hoist beams, and divider beams.
 - 1.2.1.6 Steel shapes for supporting elevator door sills.
 - 1.2.1.7 Sump pit covers.
 - 1.2.1.8 Metal ladders and ladder safety cages where shown on Drawings.
 - 1.2.1.9 Metal floor plate and supports.
 - 1.2.1.10 Miscellaneous steel trim including steel angle corner guards, steel edgings and loading-dock edge angles where shown on Drawings.
 - 1.2.1.11 Metal bollards.
 - 1.2.1.12 Loose bearing and leveling plates for applications where they are not specified in other Sections.
 - 1.2.1.13 Steel framing and supports for fire valve cabinets.
 - 1.2.1.14 Miscellaneous sections and framing as required to complete the Work and as indicated in the Canadian Institute for Steel Construction (CISC) - Handbook of Steel Construction "Appendix F" for applications where framing and supports are not explicitly specified in this section.
 - 1.2.1.15 Auxiliary materials required for a complete installation.
- 1.2.2 Related Requirements: Specifications throughout all Divisions of the Project shall be read as a whole, and may be directly applicable to this Section.

1.3 REFERENCES

- 1.3.1 Reference Standards: Unless otherwise indicated in this Section or the Building Code, the latest published editions of reference standards as of the Project's Bid Closing deadline apply.

1.4 DEFINITIONS

- 1.4.1 Workmanship (as defined by AMP 555 – Draft Edition) for this Section must be in accordance with one of the following classes:

1.4.1.1 Class 1:

- .1 Exposed surfaces are finished smooth with pits, mill marks, nicks and scratches filled or ground off. Defects are not apparent when painted or polished.
- .2 Welds are concealed where possible. Exposed welds are ground to small radius with uniform sized coves unless indicated otherwise.
- .3 Distortions are not visible to the naked eyes.
- .4 Exposed joints are fitted to a hairline finish.

1.4.1.2 Class 2:

- .1 Exposed surfaces retain mill marks and moderate irregularities, but are generally not visible to the naked eye when viewed at 10 m (30 ft)
- .2 Exposed welds are ground to a uniform sized cove.
- .3 Exposed joints are fitted to a maximum gap of 1.6 mm (1/16 inch)

1.4.1.3 Class 3:

- .1 Exposed surfaces have no improvement from mill finish except preparation necessary for galvanizing, or priming.
- .2 Exposed welds are not ground.
- .3 Bolt, when used, may be exposed.

1.5 COORDINATION

- 1.5.1 Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible with one another.
- 1.5.2 Coordinate installation of metal fabrications that are anchored to or that receive other work. Supply setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.6 PREINSTALLATION MEETINGS

- 1.6.1 Project Meetings, generally: in accordance with Section 01 31 19, Project Meetings.

- 1.6.2 Pre-installation Meetings: Schedule and hold a pre-installation meeting at the Project site at least one week before beginning work on this Section to coordinate activities with related Subcontractors.
 - 1.6.2.1 Required Attendance: Subcontractor performing work of this Section, representatives from manufacturers and fabricators involved in or affected by installation.
 - 1.6.2.2 Notification: Notify Consultant and Owner of scheduled meeting dates in advance; minimum 72 hour notice required.
 - 1.6.2.3 Agenda:
 - .1 Review progress of related construction activities and preparations for particular activity under consideration.
 - .2 Make note of required sequencing and coordination with materials and activities that have preceded or will follow.
 - 1.6.2.4 Reporting: Record significant discussions, agreements, and disagreements, including required corrective measures and actions.
 - 1.6.2.5 Distribution: Distribute minutes of the meeting to each party present and to other parties requiring information not more than 72 hours after meeting.

1.7 SUBMITTALS

- 1.7.1 Submittals, generally: in accordance with Section 01 33 00, Submittal Procedures.
- 1.7.2 Product Data: Submit manufacturer's product characteristics, catalogue cuts, installation instructions and other relevant information for each material and product used for metal fabrications work specified in this Section.
- 1.7.3 Shop Drawings: Submit Shop Drawings indicating material layouts, details of construction, connections, and relationship with adjacent construction. As a minimum indicate following:
 - 1.7.3.1 Include plans, elevations, sections and details as applicable.
 - 1.7.3.2 Indicate field-measured dimensions on Shop Drawings.
 - 1.7.3.3 Member sizes, locations, thickness (exclusive of coatings), metallic coatings and mechanical properties,
 - 1.7.3.4 Connection details for attaching framing to itself and to the structure,
 - 1.7.3.5 Dimensions, requirements of related work, and critical installation procedures,
 - 1.7.3.6 Temporary bracing required for erection purposes,
 - 1.7.3.7 Design loads,
 - 1.7.3.8 Welds indicated by welding symbols as defined in CSA-W59.
- 1.7.4 Delegated Design Submittals:
 - 1.7.4.1 Engineering design completion of metal fabrications work is delegated to Contractor based on structural design criteria indicated in Contract Documents.

- 1.7.4.2 Submit Shop Drawings for work of this Section that bear the stamp of a Professional Engineer registered in Province of Ontario.
- 1.7.4.3 Submit copy of structural calculations upon request by Consultant.
- 1.7.5 Embodied Carbon / Environmental Product Declarations (EPDs): When available, submit product-specific or industry-wide EPDs conforming to ISO 14025 or other recognized environmental Product declaration framework meeting following criteria:
 - 1.7.5.1 EPD Scope: Must cover Cradle-to-Gate (A1 to A3) as a minimum.
 - 1.7.5.2 EPD Impact Categories: Must report Global Warming Potential (GWP) in form of unit of kgCO₂e/declared unit as a minimum.
 - 1.7.5.3 Product Options: Give preference to Products with compliant documentation when choice is at Contractor's option.
- 1.7.6 Material Ingredient Disclosure: When available, submit documentation disclosing chemical inventory of materials to at least 0.1% (1000ppm) meeting following criteria:
 - 1.7.6.1 Standard: Health Product Declaration (HPD) Open Standard, Cradle to Cradle v2 (Basic level) or Cradle to Cradle v3 (Bronze level), International Living Future Institute (ILFI) Declare, or other approved material ingredient declaration framework.
 - 1.7.6.2 Product Options: Give preference to Products with compliant documentation when choice is at Contractor's option.
- 1.7.7 Low-Emitting Materials: For applicable Products specified or used for activities of this Section (i.e., site-applied coatings, adhesives, and sealants), submit certifications from third-party organizations indicating compliance with following:
 - 1.7.7.1 VOC Emissions: California Department of Public Health (CDPH) Standard Method v1.2–2017, using applicable exposure scenario.
 - 1.7.7.2 VOC Content: SCAQMD Rule 1113 (for paints and coatings) and SCAQMD Rule 1168 (for adhesives and sealants).
- 1.7.8 Welding Certificate: Submit certification for welding firms and welders to verify compliance with welding qualifications specified in this section.

1.8 CLOSEOUT SUBMITTALS

- 1.8.1 Closeout Submittals, generally: in accordance with Section 01 78 00, Closeout Submittals.
- 1.8.2 Operating and Maintenance Data: Submit care and maintenance instructions for metal fabrications to be included in building operation and maintenance manual.
- 1.8.3 Warranty Documentation: Submit copy of extended warranties specified in this Section.

1.9 QUALITY ASSURANCE

- 1.9.1 Manufacturer Qualifications: Provide Products for work of this Section by manufacturer with at least 5 years' experience manufacturing such materials.
- 1.9.2 Installer Qualifications: Engage an entity with at least five years' experience installing, erecting, or assembling work similar in material, design, and extent to

that shown on Drawings and Schedules, and whose work has resulted in construction with a track record of successful in-service performance.

- 1.9.3 Welding Qualifications: Qualify procedures and personnel in accordance with the following:
 - 1.9.3.1 Steel: to CSA W47.1 and CSA W59
 - 1.9.3.2 Aluminum: to CSA W47.2 and CSA W59.2
 - 1.9.3.3 Stainless Steel: to CSA W47.1 (Annex K) and CSA W59.
- 1.9.4 Professional Engineer's Qualifications: Employ Professional Engineer licensed to practice in Province of Ontario who carries professional liability insurance and has at least five years' experience providing engineering services of similar kind, scope, and complexity.
 - 1.9.4.1 Professional Engineer's Responsibility:
 - .1 production and review of Shop Drawings,
 - .2 design and certification of metal fabrications, including attachments for building construction, in accordance with applicable codes and regulations,
 - .3 stamping and signing of each Shop Drawing and associated calculations
- 1.9.5 Single Source Responsibility: Obtain primary materials for this Section from a single source by a single manufacturer, and secondary materials from sources recommended by manufacturers of primary materials.
- 1.9.6 Mock-Ups / First Installation Review: Construct mock-ups to verify selections made under submittals, demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1.9.6.1 Location: In-situ (i.e. first installation), as directed on site by Consultant.
 - 1.9.6.2 Purpose: To set benchmarks for installation and to judge subsequent work. Maintain Mock-ups during construction in undisturbed condition.
 - 1.9.6.3 Reviewed mock-ups: May become part of the completed work if undisturbed at the time of Substantial Performance of The work, provided they are undisturbed, and comply with requirements outlined in Contract Documents.

1.10 DELIVERY, STORAGE AND HANDLING

- 1.10.1 Product Requirements, generally: in accordance with Section 01 61 00, Common Product Requirements.
- 1.10.2 Deliver, store and handle metal fabrications materials in accordance with manufacturer's written instructions.
- 1.10.3 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- 1.10.4 Store materials in off-ground, in clean, dry, well-ventilated area.
- 1.10.5 Replace defective or damaged materials with new.

1.11 FIELD CONDITIONS

- 1.11.1 Environmental Restrictions: Do not deliver or install metal fabrications until building is enclosed, wet work is complete, and HVAC system is operational and will maintain temperature and relative humidity levels equal to occupancy levels for remainder of construction period.
- 1.11.2 Field Measurements: Verify actual dimensions of construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 PRODUCTS**2.1 PERFORMANCE / DESIGN CRITERIA**

- 2.1.1 Delegated Design: Employ a qualified professional engineer, as specified in this Section, to design elements of this section requiring structural performance and based on the following:
 - 2.1.1.1 Steel Elements: to CSA S16, unless indicated otherwise.
 - 2.1.1.2 Cold-Formed Steel: to CSA S136.
 - 2.1.1.3 Aluminum: to CSA S157/S157.1
 - 2.1.1.4 Where components specified in this Section will be subject to upward or downward pull by human interaction (e.g. supports for grab bars, shower seats, etc.) provide elements capable of withstanding the following loads under conditions indicated:
 - .1 Minimum load ratings: 1.3 kN (292 lb-f)
 - .2 Maximum Deflection between supports: $L/144$ or 3 mm (1/8") whichever is less.
- 2.1.2 Metal Surfaces - Appearance:
 - 2.1.2.1 Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
 - .1 Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 2.1.2.2 Provide metal fabrications complying with the following classes as defined in this Section:
 - .1 Class 1 Workmanship: Items that are exposed to view in finished spaces in completed Work.
 - .2 Class 2 Workmanship: Items that are exposed to view in utility areas of the completed Work.
 - .3 Class 3 Workmanship: Items that are concealed from view in the completed Work
- 2.1.3 Exterior Metal Fabrications: fabricate and install to prevent buckling, opening up of joints and overstressing of welds and fasteners under the following temperature conditions:

- 2.1.3.1 Temperature Change: ambient temperature cycling of - 30 deg C (-22 deg F) to 82 deg C (180 deg F) over a 12 hour period.

2.1.4 VOC Content and Emissions:

- 2.1.4.1 VOC Emissions: For applicable items in this Section, comply with CDPH Standard Method v1.2–2017 (CA Spec 01350) and ensure products are certified per UL 2818, SCS Global Gold, or equivalent.
- 2.1.4.2 VOC Content Requirements: Wet-applied materials used in scope of this Section must conform to the following:
 - .1 Paints and Coatings: SCAQMD Rule 1113 or CARB SCM.
 - .2 Adhesives and Sealants: SCAQMD Rule 1168.
 - .3 Methylene chloride and perchloroethylene must not be intentionally added in paints, coatings, adhesives, or sealants.

2.2 FERROUS METALS

- 2.2.1 Steel Plates, Shapes, and Bars: CSA G40.20/G40.21, Grade 350W or equivalent to ASTM A36/A36M
- 2.2.2 Rolled-Steel Floor Plate: ASTM A786/A786M, rolled from plate complying with ASTM A36/A36M or CSA G40.20/G40.21 or ASTM A283/A283M, Grade C or D.
- 2.2.3 Rolled-Stainless Steel Floor Plate: ASTM A793.
- 2.2.4 Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.
- 2.2.5 Steel Pipe: ASTM A53/A53M, Standard Weight Schedule 40 unless otherwise indicated.
- 2.2.6 Slotted Channel Framing (Unistrut): Cold-formed metal box channels struts complying with MFMA-4.
 - 2.2.6.1 Size of Channels: As indicated on reviewed Shop Drawings.
 - 2.2.6.2 Material: Galvanized steel, ASTM A653/A653M, structural steel, Grade 230 (Grade 33), with Z275 (G90) coating; minimum 2-mm (0.079-in.) nominal thickness.

2.3 NON-FERROUS METALS

- 2.3.1 Aluminum Plate and Sheet: ASTM B209M (ASTM B209), Alloy 6061-T6.
- 2.3.2 Aluminum Extrusions: ASTM B221M (ASTM B221), Alloy 6063-T6.
- 2.3.3 Aluminum-Alloy Rolled Tread Plate: ASTM B632/B632M, Alloy 6061-T6.
- 2.3.4 Aluminum Castings: ASTM B26/B26M, Alloy 443.0-F.
- 2.3.5 Stainless Steel Sheet, Strip, and Plate: ASTM A240/A240M or ASTM A666, Type 304 for interior and Type 316L for exterior.
- 2.3.6 Stainless Steel Bars and Shapes: ASTM A276/A276M, Type 304 for interior and Type 316L for exterior.

2.4 FASTENERS

- 2.4.1 General Requirements: Unless otherwise indicated, provide stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with

ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

- 2.4.2 Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM F568M, Property Class 4.6 (ASTM A307, Grade A); with hex nuts, ASTM A563M (ASTM A563); and, where indicated, flat washers.
- 2.4.3 Stainless Steel Bolts and Nuts: Regular hexagon-head annealed stainless steel bolts, ASTM F738M (ASTM F593); with hex nuts, ASTM F836M (ASTM F594); and, where indicated, flat washers; Alloy Group A1 (1) .
- 2.4.4 Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563M (ASTM A563); and, where indicated, flat washers.
 - 2.4.4.1 Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- 2.4.5 Anchors - General Requirements: Capable of sustaining, without failure, loads imposed with appropriate safety factors, as determined by testing in accordance with ASTM E488/E488M, conducted by a qualified independent testing agency.
- 2.4.6 Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels struts complying with MFMA-4, 41 by 22 mm (1-5/8 by 7/8 in.) by length indicated with anchor straps or studs minimum 75 mm (3 in.) long at maximum 200 mm (8 in.) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B633, Class Fe/Zn 5, as needed for fastening to inserts.

2.5 AUXILIARY INSTALLATION MATERIALS

- 2.5.1 Welding materials: to CSA W59.
- 2.5.2 Welding electrodes: to CSA W48 Series.
- 2.5.3 Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with CISC/ CPMA Standards 1-73a and 2-75 and MPI#79 and compatible with topcoat.
 - 2.5.3.1 Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- 2.5.4 Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- 2.5.5 Galvanizing Repair Paint: High-zinc-dust-content paint (not less than 93 percent) complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- 2.5.6 Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.
- 2.5.7 Shrinkage-Resistant Grout: Factory-packaged, nonmetallic, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M with compressive strength of 15 MPa at 24 hours. Provide grout specifically recommended by manufacturer for interior and exterior applications.
 - 2.5.7.1 Acceptable Product: 'Sika Grout 212' by Sika Canada Inc., or approved equivalent.
- 2.5.8 Concrete: Comply with requirements in Section 03 30 00.

2.6 FABRICATION - GENERAL REQUIREMENTS

- 2.6.1 Fabricate work square, true, straight, and accurate to required size, with joints closely fitted and properly secured.
- 2.6.2 Weld connections unless indicated otherwise.
- 2.6.3 Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- 2.6.4 Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1 mm (1/32 in.) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- 2.6.5 Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- 2.6.6 Form exposed work with accurate angles and surfaces and straight edges.
- 2.6.7 Weld corners and seams continuously to comply with the following:
 - 2.6.7.1 Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2.6.7.2 Obtain fusion without undercut or overlap.
 - 2.6.7.3 Remove welding flux immediately.
 - 2.6.7.4 At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- 2.6.8 Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head countersunk fasteners unless otherwise indicated. Locate joints where least conspicuous.
- 2.6.9 Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- 2.6.10 Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- 2.6.11 Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- 2.6.12 Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 3.2 by 38 mm (1/8 by 1-1/2 in.), with a minimum 150-mm (6-in.) embedment and 50-mm (2-in.) hook, minimum 200 mm (8 in.) from ends and corners of units and 600 mm (24 in.) o.c., unless otherwise indicated.
- 2.6.13 Make exposed metal fastenings and accessories of same material, texture, colour and finish as base metal on which they occur unless otherwise shown or specified. Keep exposed fastenings to an absolute minimum evenly spaced and neatly laid out. Make fastenings of permanent type unless otherwise indicated.

2.7 GENERAL FINISH REQUIREMENTS

- 2.7.1 Finish metal fabrications after assembly.
- 2.7.2 Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.
- 2.7.3 Galvanize miscellaneous framing and supports at exterior locations; prime paint miscellaneous framing and supports at interior locations.

2.8 STEEL AND IRON FINISHES

- 2.8.1 Galvanizing: Hot-dip galvanize items to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A 123/A 123M or equivalent to CAN/CSA-G164 for other steel and iron products.
 - 2.8.1.1 Do not quench or apply post-galvanizing treatments that might interfere with paint adhesion.
 - 2.8.1.2 Preparation for Shop Priming of Galvanized Items: After galvanizing, thoroughly clean galvanized surfaces of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
- 2.8.2 Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
 - 2.8.2.1 Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2.8.2.2 Items Indicated to receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2.8.2.3 Other Steel Items: SSPC-SP 3, "Power Tool Cleaning."
 - 2.8.2.4 Galvanized-Steel Items: SSPC-SP 16, "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."
- 2.8.3 Shop Priming:
 - 2.8.3.1 Shop prime items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated. Shop prime with universal shop primer unless indicated otherwise.
 - 2.8.3.2 Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
 - 2.8.3.3 Stripe paint corners, crevices, bolts, welds, and sharp edges.

2.9 ALUMINUM FINISHES

- 2.9.1 As-Fabricated Finish: AA-M12.
- 2.9.2 Clear Anodic Finish: AAMA 611, Class I, AA-M12C22A41.

PART 3 EXECUTION**3.1 EXAMINATION**

- 3.1.1 Verify actual site conditions and location of adjacent materials prior to commencing work. Notify Consultant in writing of any conditions which would be detrimental to the installation. Commencement of work implies acceptance of previously completed work.

3.2 INSTALLATION

- 3.2.1 Installation, generally: Install work of this Section in strict accordance with manufacturer's written installation instructions and reviewed Shop Drawings. Supplement manufacturer's installation instructions with additional installation requirements specified in this Section to produce specified work results.
- 3.2.2 Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- 3.2.3 Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
- 3.2.4 Field Welding: Comply with CSA W59 and the following requirements:
- 3.2.4.1 Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 3.2.4.2 Obtain fusion without undercut or overlap.
 - 3.2.4.3 Remove welding flux immediately.
 - 3.2.4.4 At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- 3.2.5 Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, and other connectors.
- 3.2.6 Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- 3.2.7 Corrosion Protection / Isolation Coating: Isolate aluminum from following components, by means of bituminous paint:
- 3.2.7.1 Dissimilar metals except stainless steel, zinc, or white bronze of small area.
 - 3.2.7.2 Concrete, mortar and masonry.
 - 3.2.7.3 Wood.
- 3.2.8 Provide separator membrane/mastic between steel and substrates of concrete, masonry, or dissimilar metals.

3.3 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

- 3.3.1 General Requirements: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- 3.3.2 Anchor supports securely to, and rigidly brace from, building structure.

3.4 REPAIRS

- 3.4.1 Touchup Painting:
 - 3.4.1.1 Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - .1 Apply by brush or spray to provide a minimum 0.05-mm (2.0-mil) dry film thickness.
- 3.4.2 Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

3.5 METAL FABRICATION SCHEDULE

- 3.5.1 Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- 3.5.2 Where items are required to be built into masonry, concrete or other work, supply such items to respective Sections with required anchors and accessories for building in.
- 3.5.3 Following Schedule is a list of principal items only and is not necessarily exhaustive. Review Drawings and other Specifications, including those pertaining to structural, mechanical, and electrical work, to determine full scope of metal fabrications required for this Project.
- 3.5.4 STEEL FRAMING AND SUPPORTS FOR GLASS DOORS, ENTRANCE AND PARTITIONS
 - 3.5.4.1 Fabricate and install partition framing such that, when installed, it is capable of supporting required deadloads and withstanding live loads imposed on it from operation of the partitions.
- 3.5.5 LATERAL SUPPORT FOR MASONRY WALLS
 - 3.5.5.1 Provide steel angles, minimum 75 mm x 75 mm x 6 mm thick, secured to underside of structure to anchor freestanding masonry. Unless indicated otherwise, space lateral support as follows:
 - .1 At loadbearing walls: Not exceeding 20 times the actual wall thickness.
 - .2 At non-loadbearing partitions: Not exceeding 36 times the actual wall thickness.
 - 3.5.5.2 Refer to structural Drawings for design of lateral supports, spacing and other requirements.
- 3.5.6 METAL LADDERS

- 3.5.6.1 Comply with Ontario Ministry of Labour Fixed Access Ladders Engineering Data Sheet 2-04 and ANSI A14.3, except for elevator pit ladders.
- 3.5.6.2 For elevator pit ladders, comply with ASME A17.1/CSA B44.
- 3.5.6.3 Description: Ladder system constructed of high grade **steel to ASTM A53/A53M or** aluminum to ASTM B221, profiled rung design with spacing between vertical side rails of 525mm. Typical 300 mm spacing between rungs.
- 3.5.6.4 Platform: manufacturer's standard slip-resistant surface.
- 3.5.6.5 Provide platforms as indicated fabricated from welded or pressure-locked steel bar grating, supported by steel angles. Limit openings in gratings to no more than 12 mm (1/2 in.) in least dimension.
- 3.5.6.6 Support Stands: Manufacturer's standard.
- ~~3.5.6.7 Aluminum Ladder Finish: Clear anodized as specified in this Section.~~
- 3.5.6.8 Finish:**
 - .1 Steel Ladder Finish:**
 - .1 Galvanize exterior ladders, including brackets.**
 - .2 Prime paint interior ladders, including brackets and fasteners.**
 - .2 Aluminum Ladder Finish: Clear anodized as specified in this Section.**
- 3.5.7 FLOOR TRENCH AND SUMP PIT COVERS
 - 3.5.7.1 Fabricate from minimum 6-mm (1/4-in.) floor plate.
 - 3.5.7.2 Provide anchors at 1200 mm on centre for embedding in concrete.
 - 3.5.7.3 Supply trench covers in 1200 mm removable lengths.
 - 3.5.7.4 Provide steel angle supports consisting of L 55 x 55 x 6 frame unless otherwise indicated.
 - 3.5.7.5 Provide perimeter gasket for air tight seal at pits connected with sanitary drainage piping.
- 3.5.8 MISCELLANEOUS STEEL TRIM
 - 3.5.8.1 Fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.
 - 3.5.8.2 Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
 - 3.5.8.3 Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.
 - 3.5.8.4 Galvanize exterior miscellaneous steel trim.
 - 3.5.8.5 Prime paint interior miscellaneous steel trim.
 - 3.5.8.6 Surface Applied Corner Guards (Back-of-House): Provide corner guards fabricated from angles of sizes shown, or if not shown, of minimum 114 mm x 114 mm x 6 mm (4-1/2 in x 4-1/2 in x 6 mm) thick equal leg angles. Drill and countersink legs of angles, for fastening to

substrates indicated, with holes spaced maximum 600 mm (24 in) on center. Provide corner guard lengths minimum 1200 mm (48 in) above finished floor level, if not otherwise indicated.

- 3.5.8.7 Cast-In Pit Angles and Edge Angles: Provide edge angles, and pit angles, fabricated from angles of size as shown, or required, with welded-on stud anchors spaced 600 mm (24 in) on center. Provide pit and edge angles in as long lengths as possible. Miter and weld corners and provide splice plates for alignment between sections.

3.5.9 METAL BOLLARDS

- 3.5.9.1 Fabricate metal bollards from Schedule 40 steel pipe with galvanized finish.
- 3.5.9.2 Cap bollards with 6.4-mm- (1/4-in.-) thick, steel plate with domed top, unless indicated otherwise on Drawings.
- 3.5.9.3 Where bollards are indicated to receive controls for door operators, provide cutouts for controls and holes for wire.
- 3.5.9.4 Where bollards are indicated to receive light fixtures, provide cutouts for fixtures and holes for wire.
- 3.5.9.5 Refer to Section 03 30 00 for concrete infill requirements.

3.5.10 STEEL WELD PLATES AND ANGLES

- 3.5.10.1 Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

3.5.11 MISCELLANEOUS FRAMING AND SUPPORTS

- 3.5.11.1 Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
- .1 Fabricate units from slotted channel framing where indicated.
- .2 Supply inserts for units installed after concrete is placed.

3.5.12 MISCELLANEOUS ARCHITECTURAL WOODWORK FRAMING

- 3.5.12.1 Custom-fabricate benches and vanity framing, using steel shapes and plates for support framing, to thicknesses, sizes and shapes required to produce work of adequate strength and durability, without objectionable deflections.
- 3.5.12.2 Use proven details of fabrication, as required, to achieve proper assembly and alignment of the various components of the work.

3.5.13 PIPE RAILINGS

- 3.5.13.1 Steel pipe and stainless-steel pipe: to shapes and sizes as indicated on Drawings. Refer to Queen's University Facilities Accessibility Design Standards guidelines appended to Section 00 31 00.
- 3.5.13.2 Ergonomic design: constructed so as to be continually graspable along their entire length with no obstruction on or above them to break a handhold.

- 3.5.13.3 Galvanize exterior pipe railings after fabrication. Shop coat prime interior railings after fabrication.

3.5.14 METAL SAFETY TREADS

- 3.5.14.1 Provide extruded aluminum safety tread base with integral abrasive, featuring as-cast finish from aluminum oxide, silicon carbide, or both. Ensure units fit openings or conditions accurately in necessary lengths.
- 3.5.14.2 Dimensions: 52 mm (2-1/16 in) wide x 9.5 mm (3/8 in) thick
 - .1 Basis-of-Design: "Spectra Type WP24 (California Title 24)" by Wooster Products Inc.
- 3.5.14.3 Provide anchors for embedding units in concrete, either integral or attached to units, per manufacturer standards.
- 3.5.14.4 Apply bituminous paint to concealed surfaces of cast-metal units set into concrete.
- 3.5.14.5 Coat hidden surfaces of extruded units set into concrete with clear lacquer.
- 3.5.14.6 Provide a colour-contrasting strip between 40 mm and 60 mm wide at both top and bottom landings of each ramp's running slope, and on the horizontal surface of each stair nosing.
 - .1 Colour to be selected during Shop Drawings review.

END OF SECTION

1. All drawings, plans, models, designs, specifications and other documents prepared by Read Jones Christoffersen Ltd. ("RJC") and used in connection with this project are instruments of service for the work shown in them (the "Work") and as such are and remain the property of RJC whether the Work is executed or not, and RJC reserves the copyright in them and in the Work executed from them, and they shall not be used for any other work or project.
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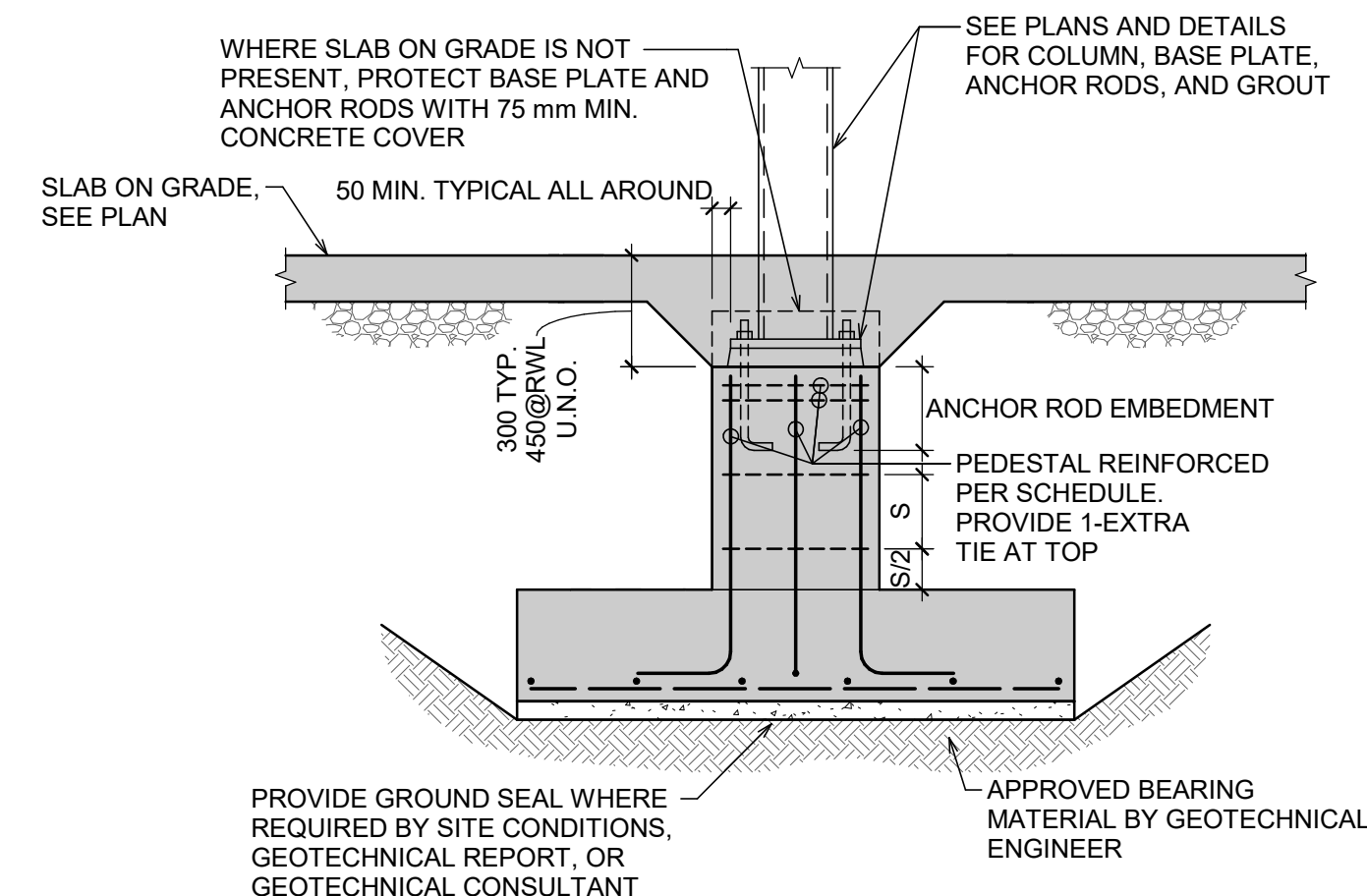
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The work "as constructed" may vary from what is shown on these drawings.

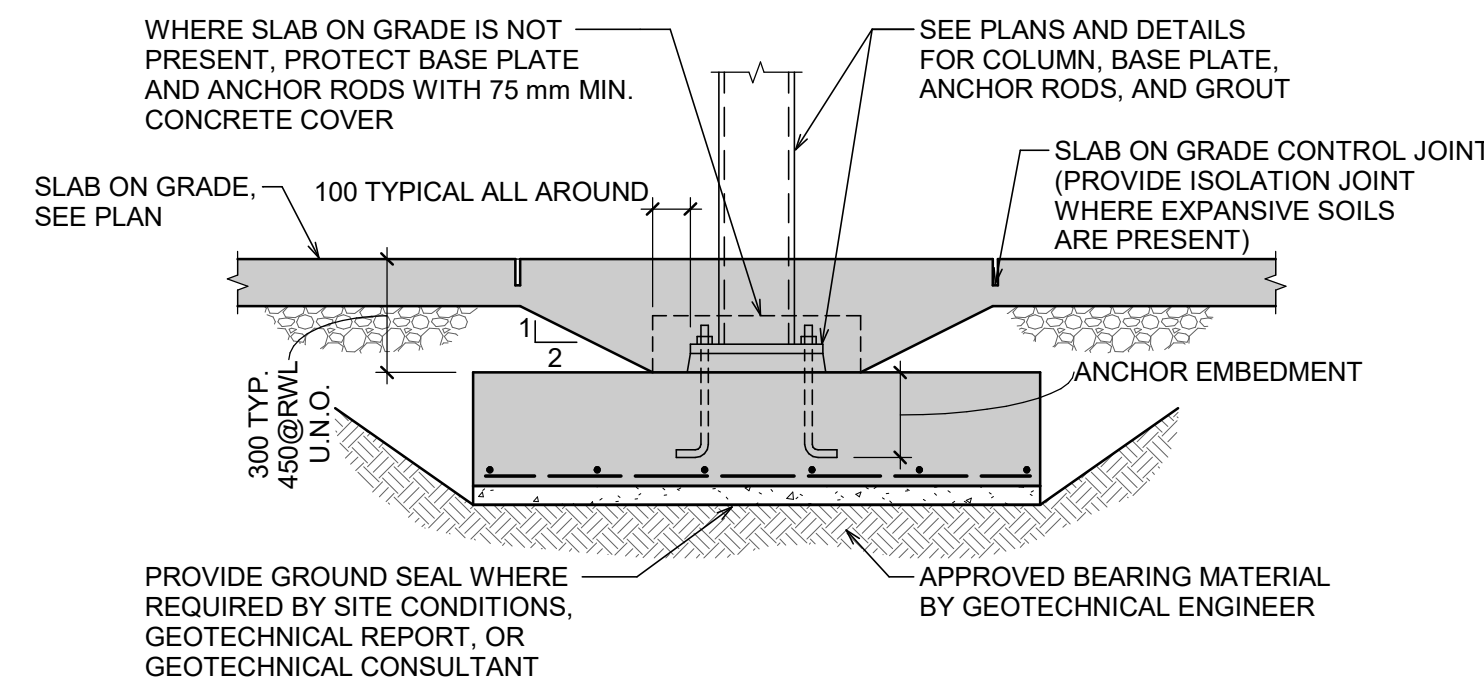
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Do not construct from these drawings unless marked "Issued for Construction" by RJC in the Issued/Revision column, and then only for the parts noted.

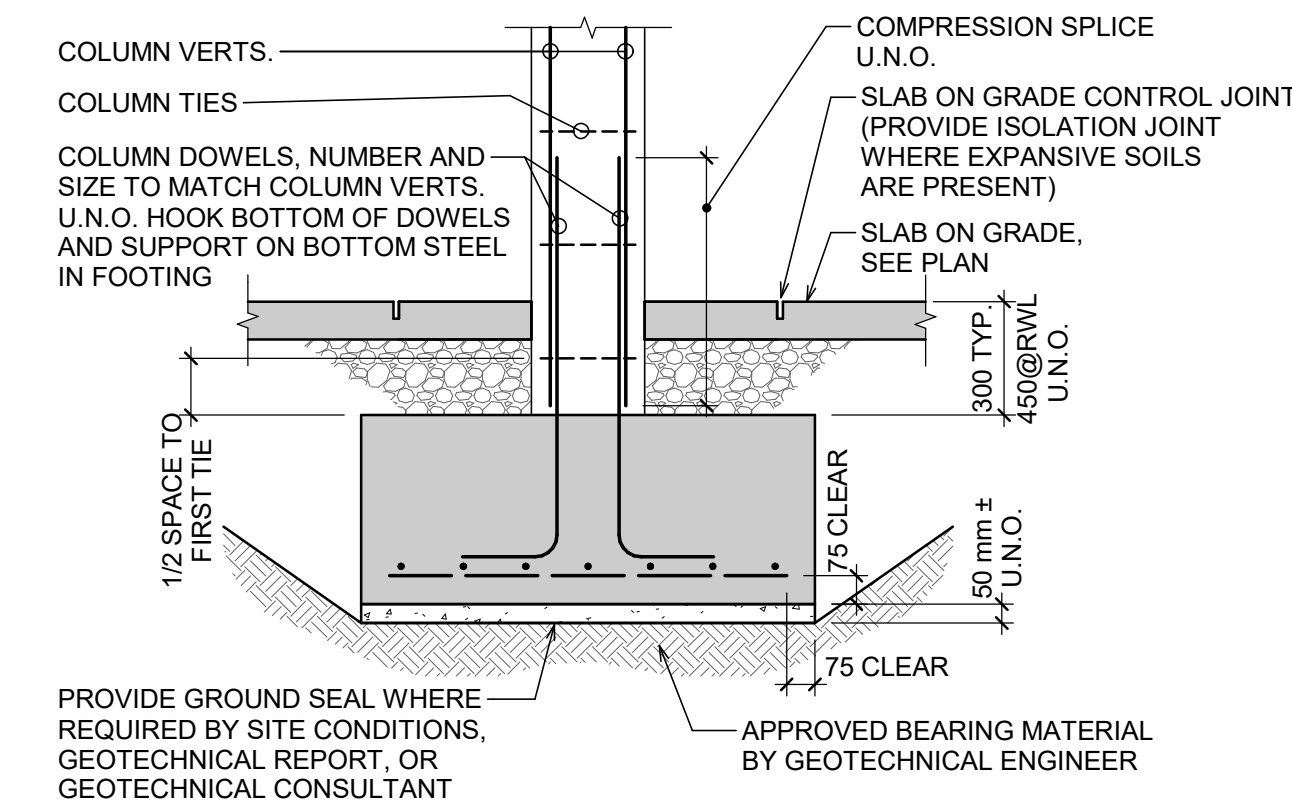
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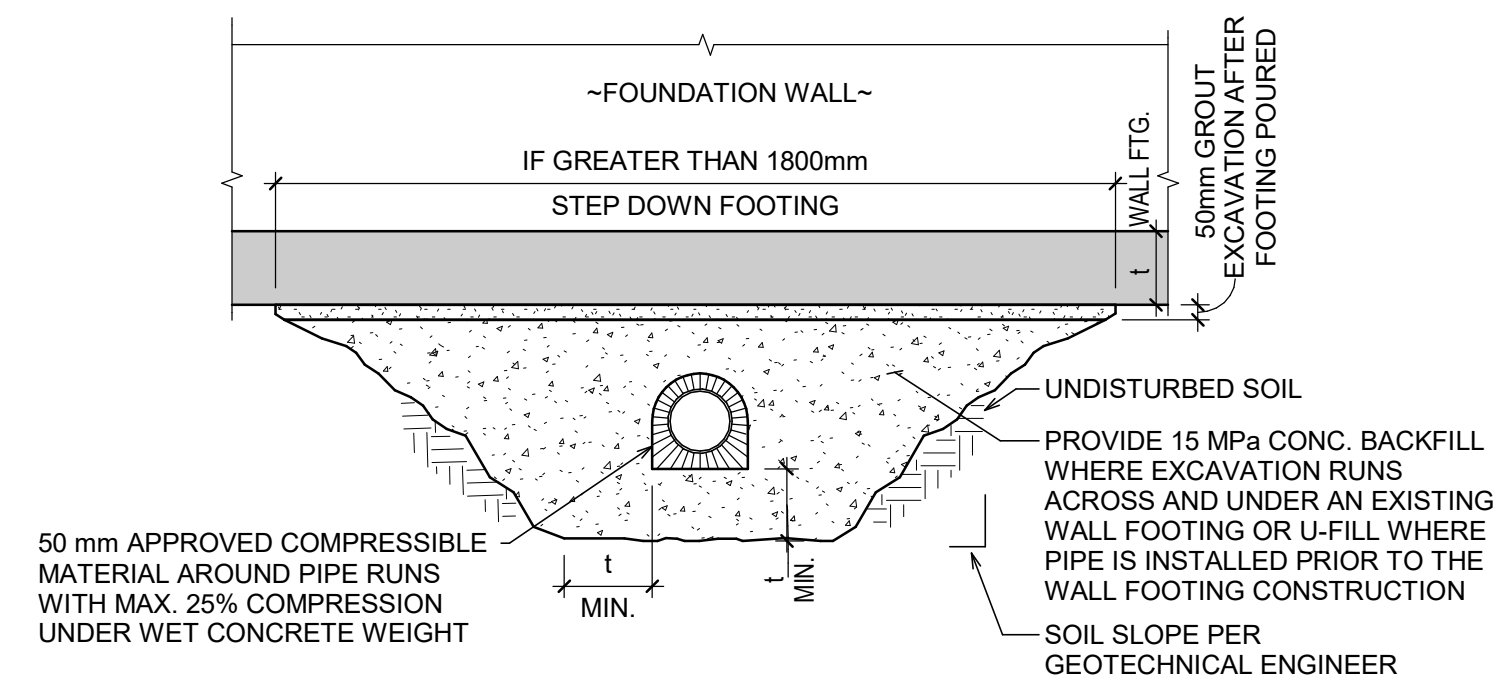
CF004
S005 **STEEL COLUMN ON FOOTING WITH PEDESTAL**
1: 20



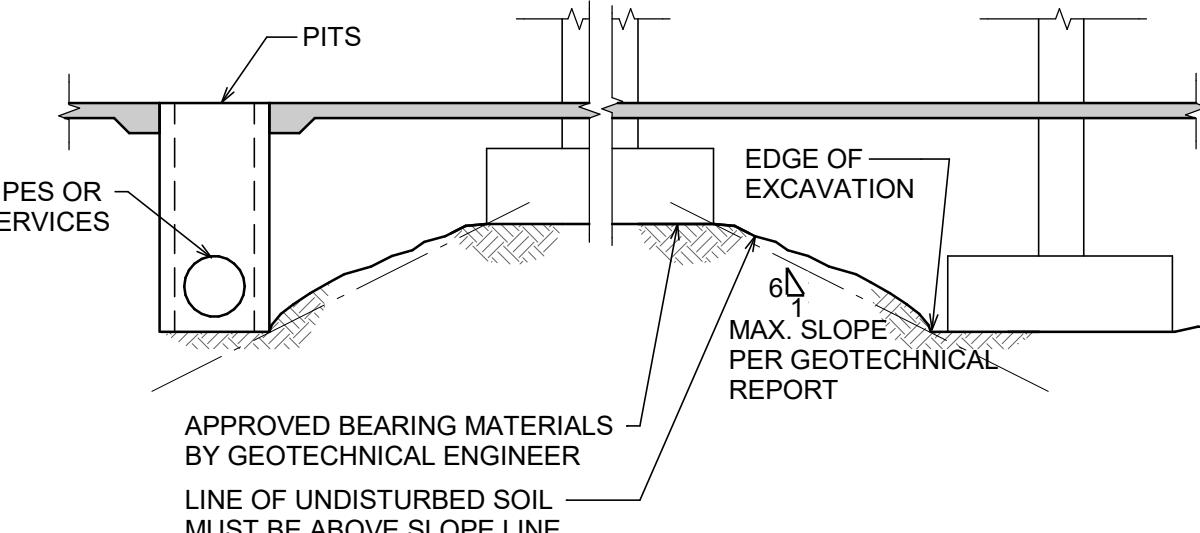
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S005 **STEEL COLUMN BEARING DIRECTLY ON FOOTING**
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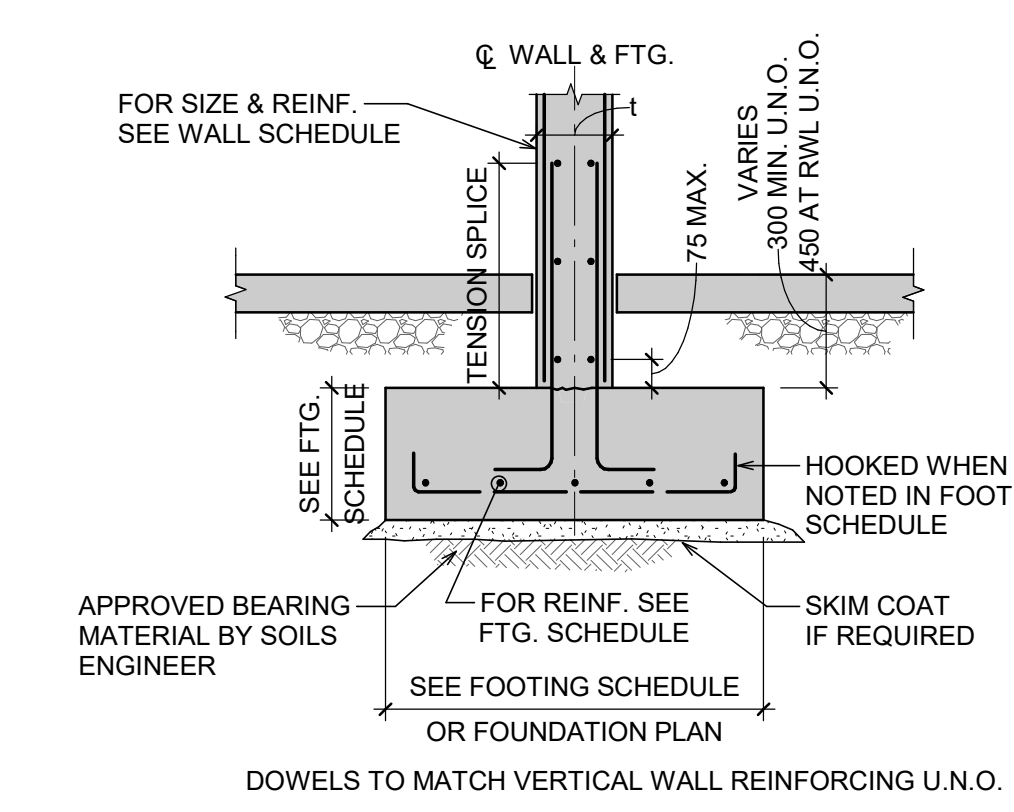
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S005 **CONCRETE COLUMN ON FOOTING**
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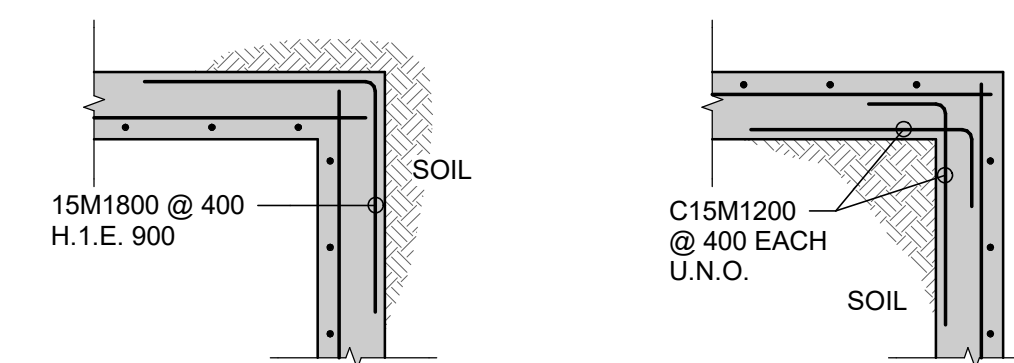
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S005 **PIPE UNDER WALL FOOTING DETAIL**
N.T.S.



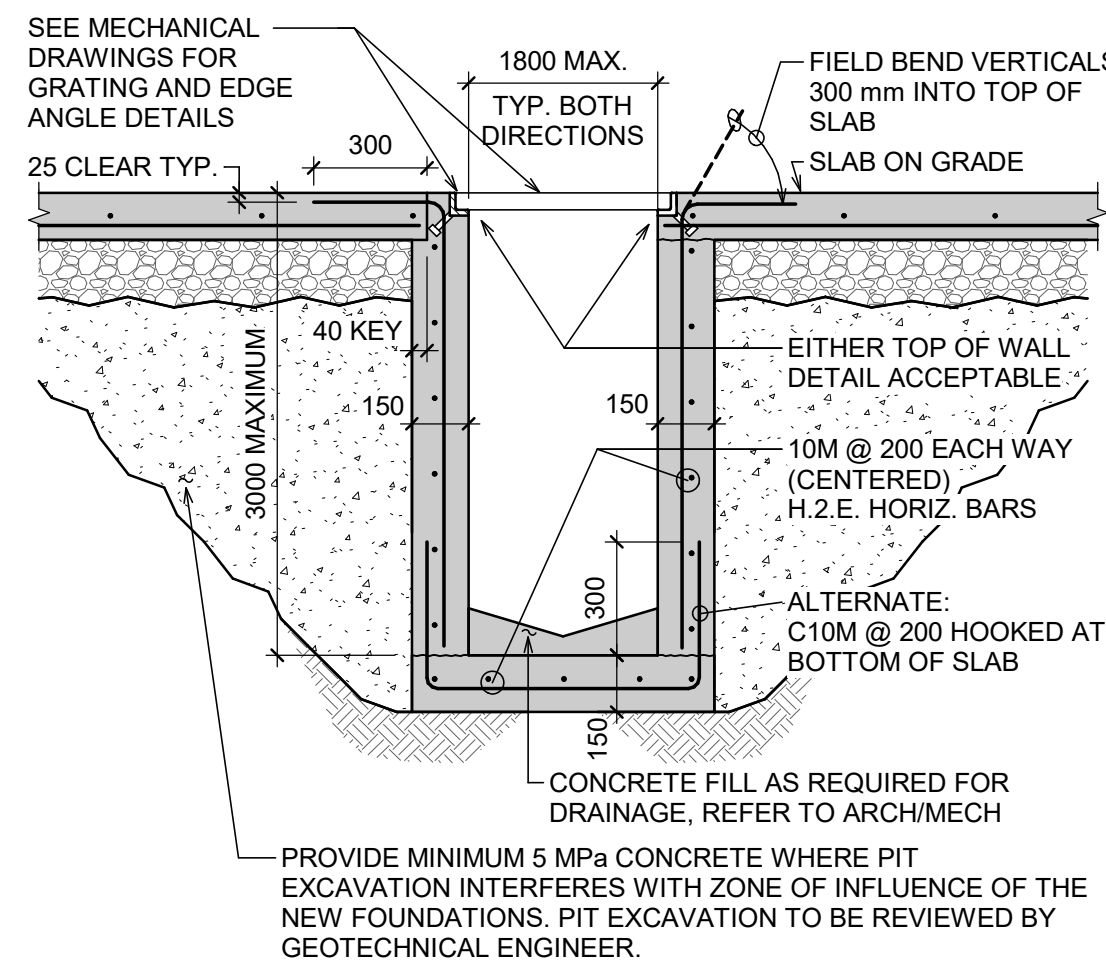
CF001
S005 **FOOTINGS ADJACENT TO EXCAVATION**
1: 50



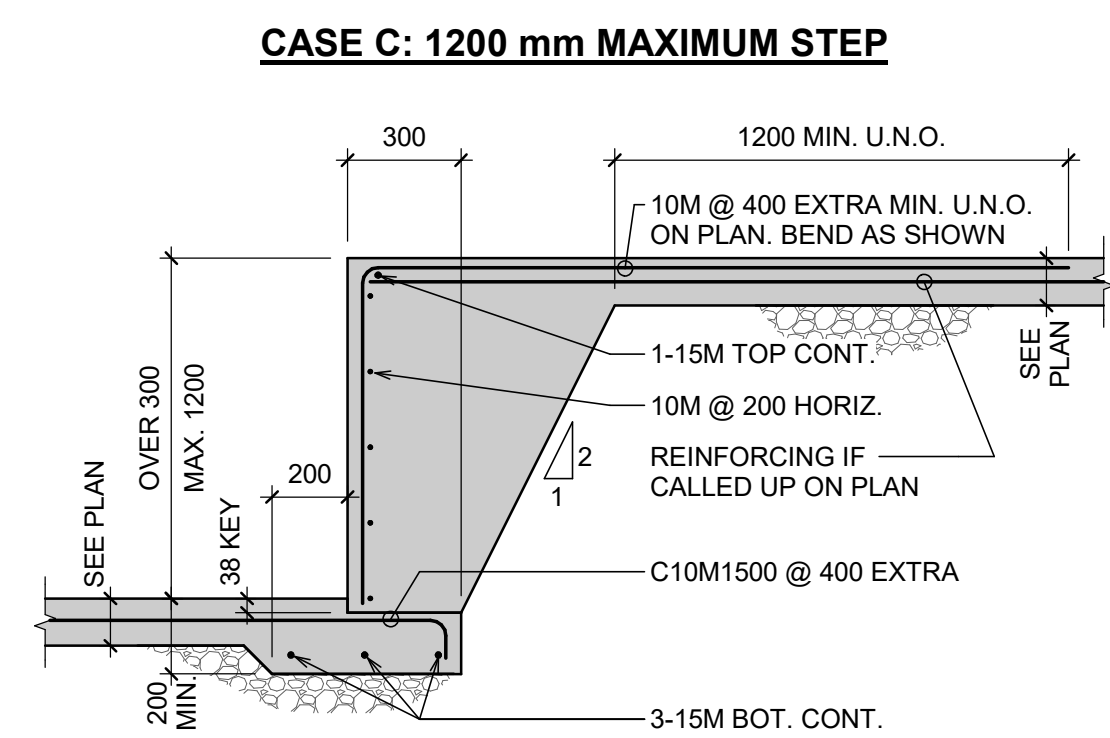
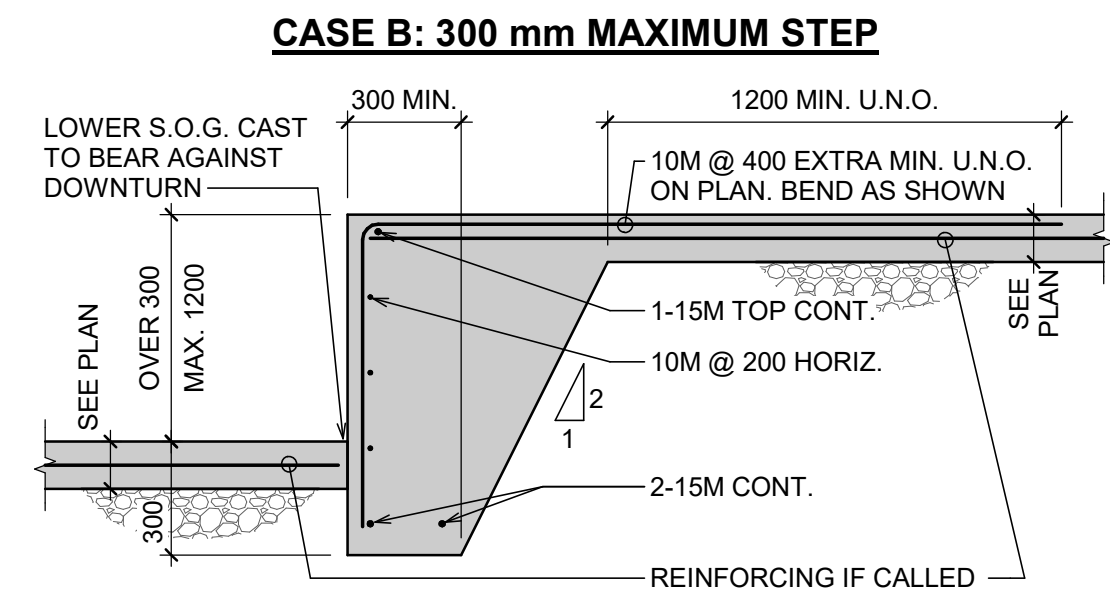
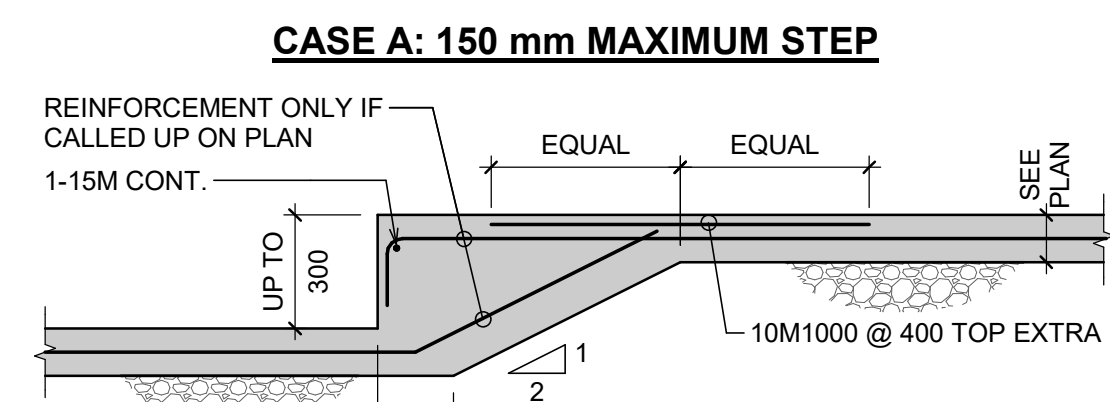
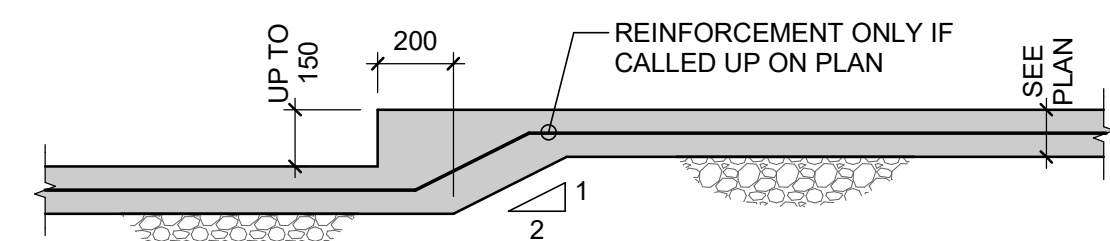
CF012
S005 **INTERIOR SHEAR WALL FOOTINGS WITHOUT PEDESTAL**
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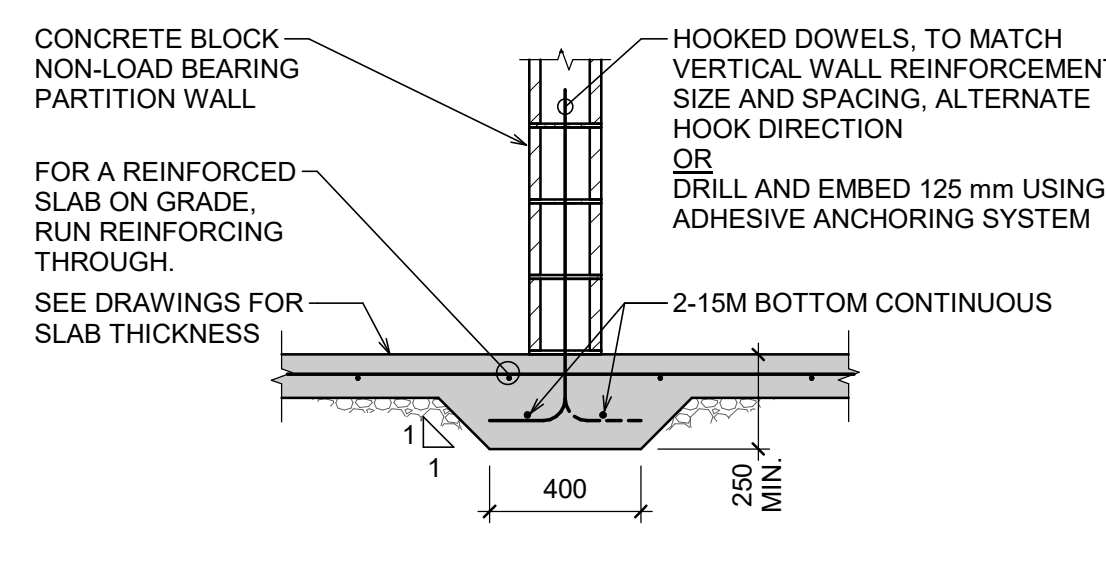
CF300
S005 **RETAINING WALLS - TYP. CORNER BARS**
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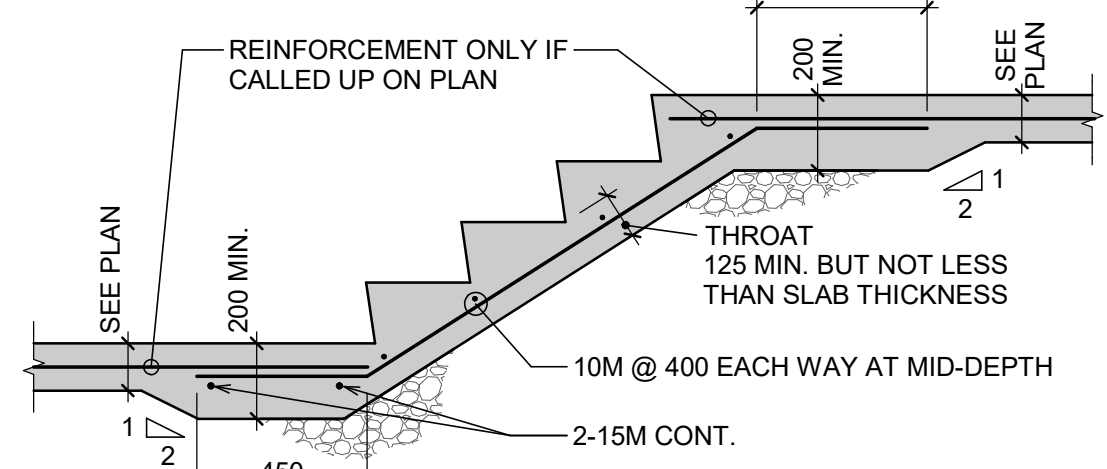
CF301
S005 **SUMP / ACCESS PIT**
1: 20



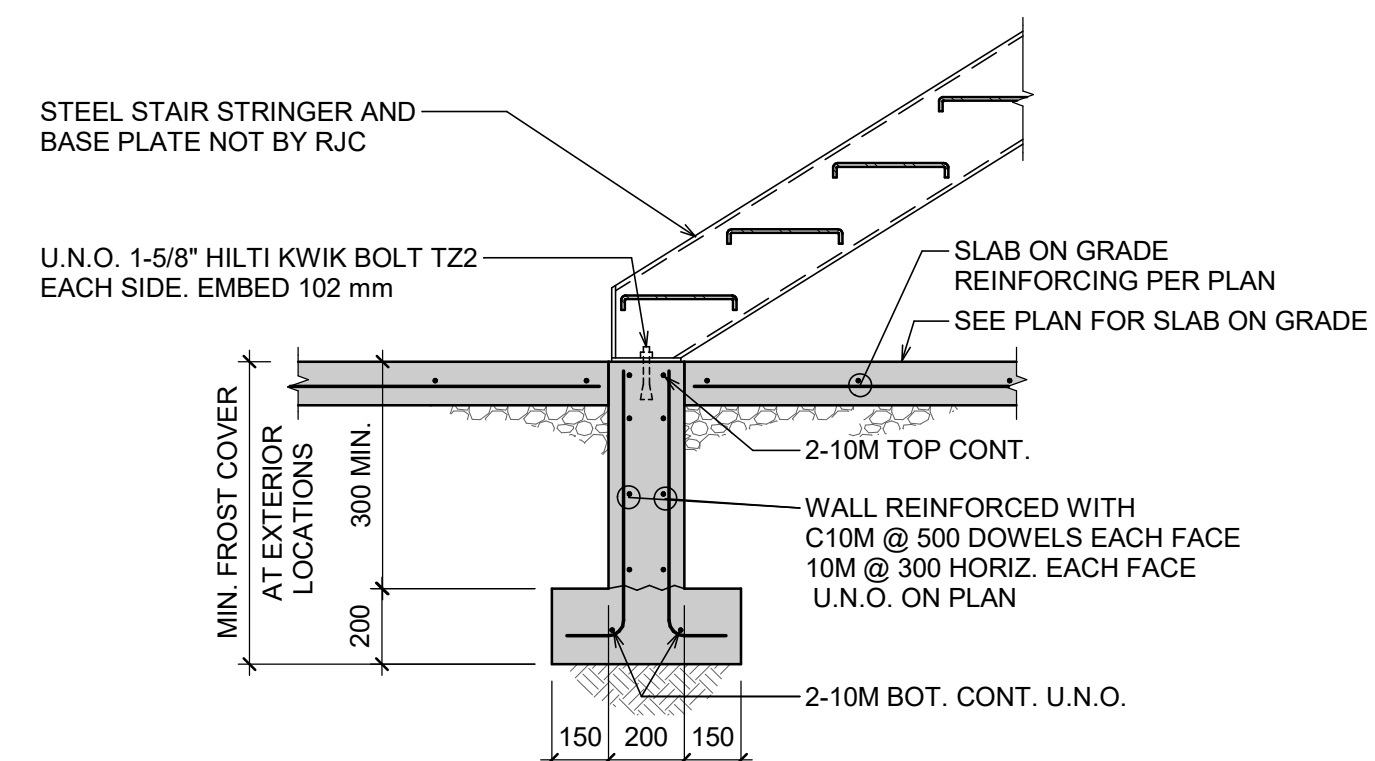
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S005 **SLAB ON GRADE STEP DETAILS**
1: 20



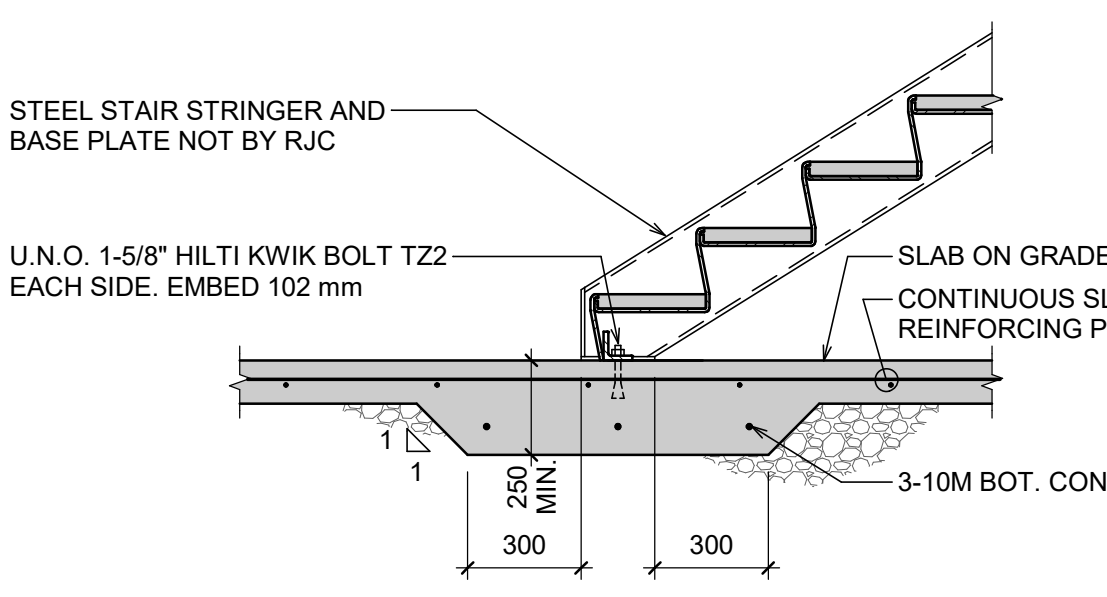
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S005 **TYPICAL SLAB ON GRADE THICKENING UNDER NON-LOAD BEARING BLOCK PARTITION**
1: 20



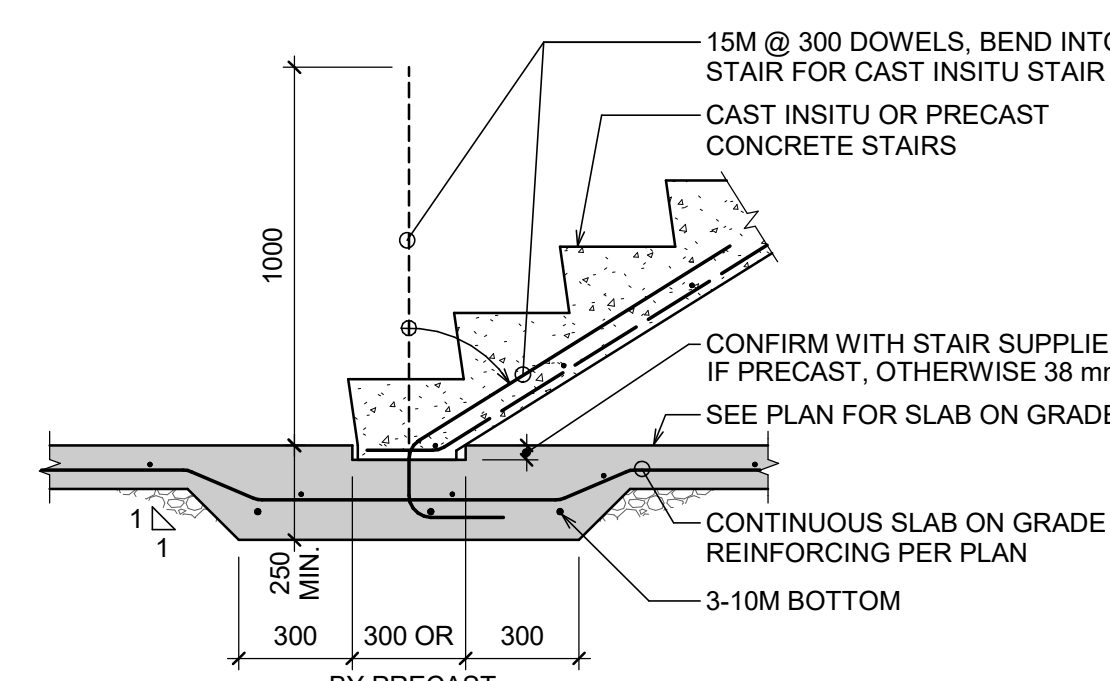
CG002
S005 **SLAB ON GRADE STAIRS**
1: 20



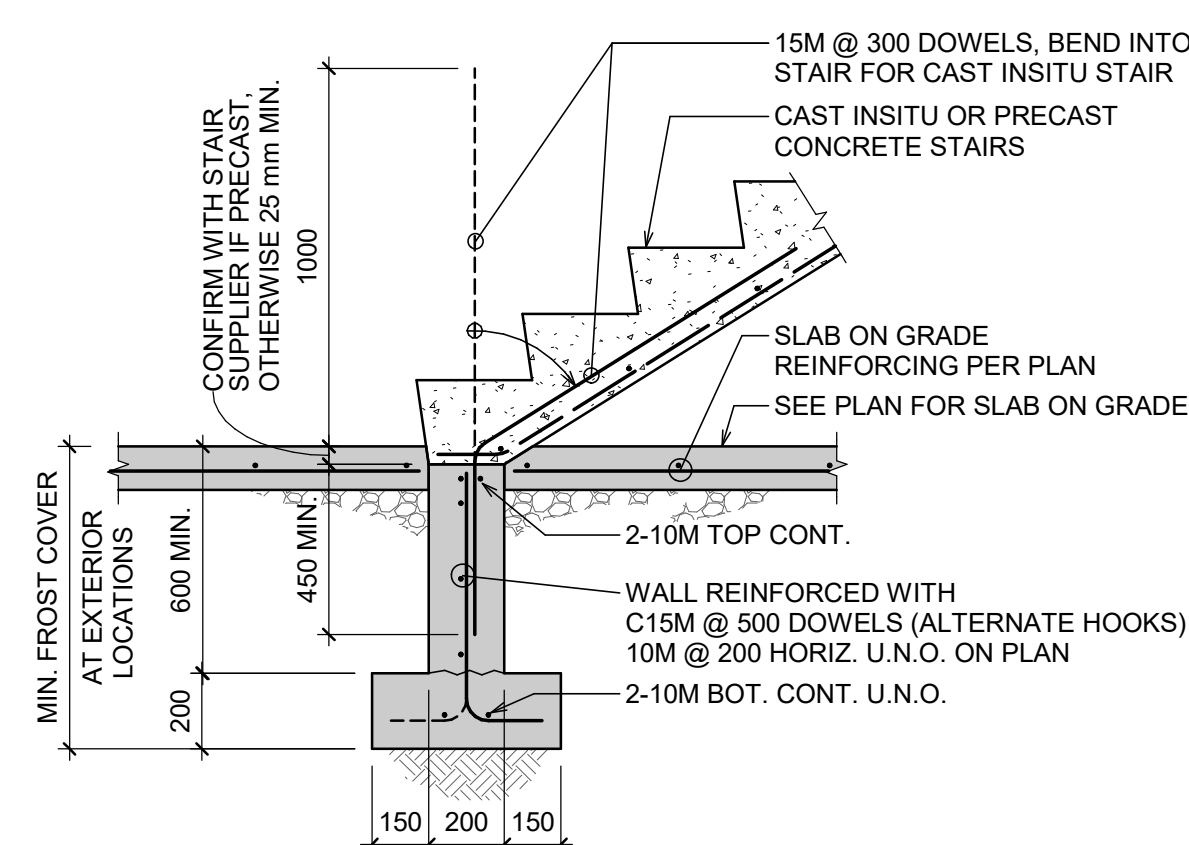
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S005 **TYPICAL STEEL STAIR BEARING ON FOUNDATION WALL AND FOOTING DETAIL**
1: 20



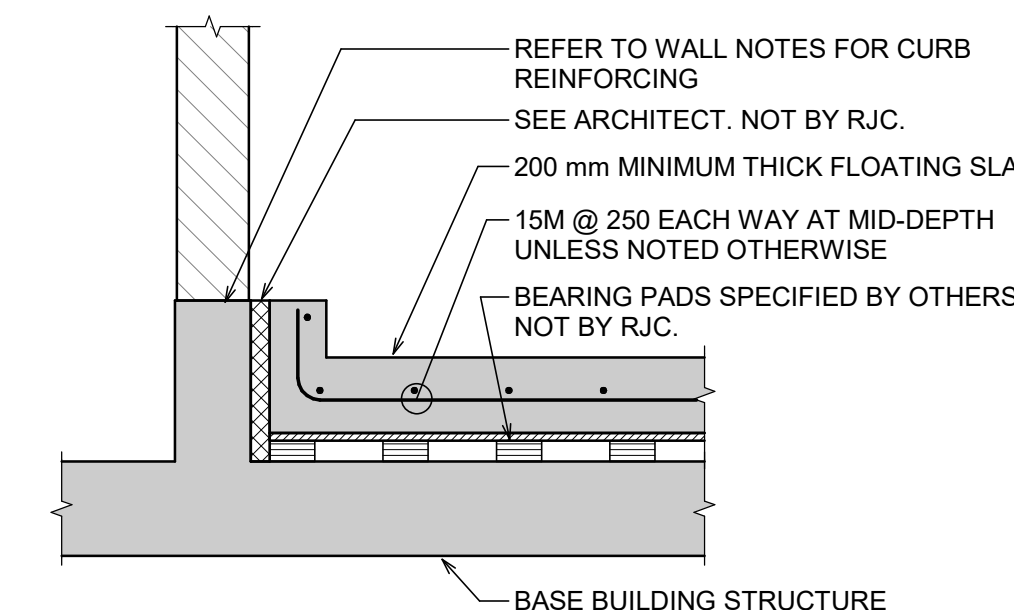
CST003
S005 **TYPICAL STEEL STAIR BEARING ON SLAB ON GRADE THICKENING DETAIL**
1: 20



CST002
S005 **TYPICAL CONCRETE STAIR BEARING ON SLAB ON GRADE THICKENING DETAIL**
1: 20



CST001
S005 **TYPICAL CONCRETE STAIR BEARING ON FOUNDATION WALL AND FOOTING DETAIL**
1: 20



CM101
S005 **TYPICAL MECHANICAL FLOATING SLAB DETAIL**
1: 20

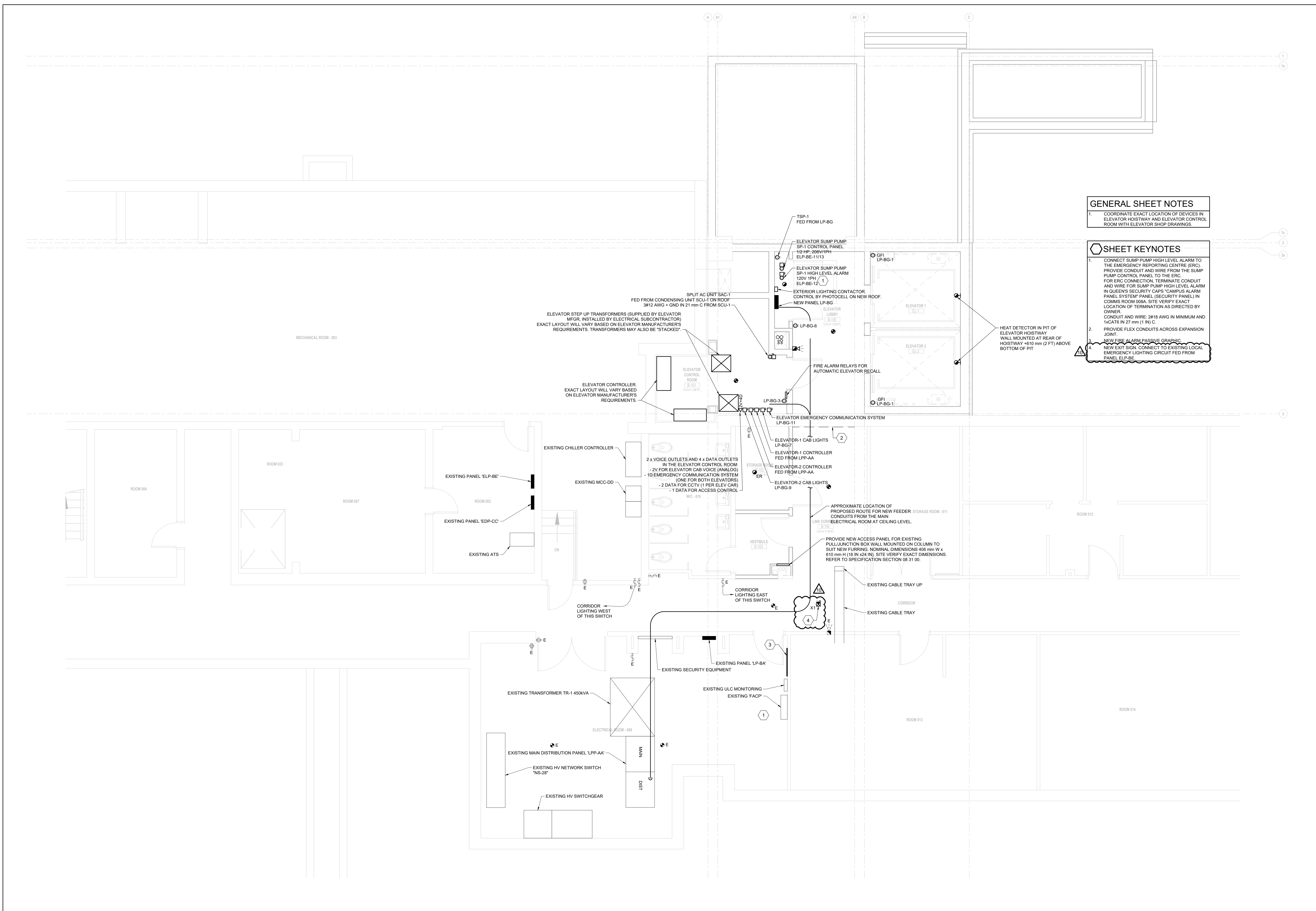
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7	2026 02 05	Issued for Tender	RJC
6	2025 12 15	Issued for Client Review	RJC
5	2025 12 08	Re-Issued For Permit	RJC
4	2025 07 30	Issued For Tender	RJC
3	2025 07 04	Issued For Permit	RJC
2	2025 06 06	Issued for 66%CD	RJC
#	Date	Revision	By

TYPICAL DETAILS

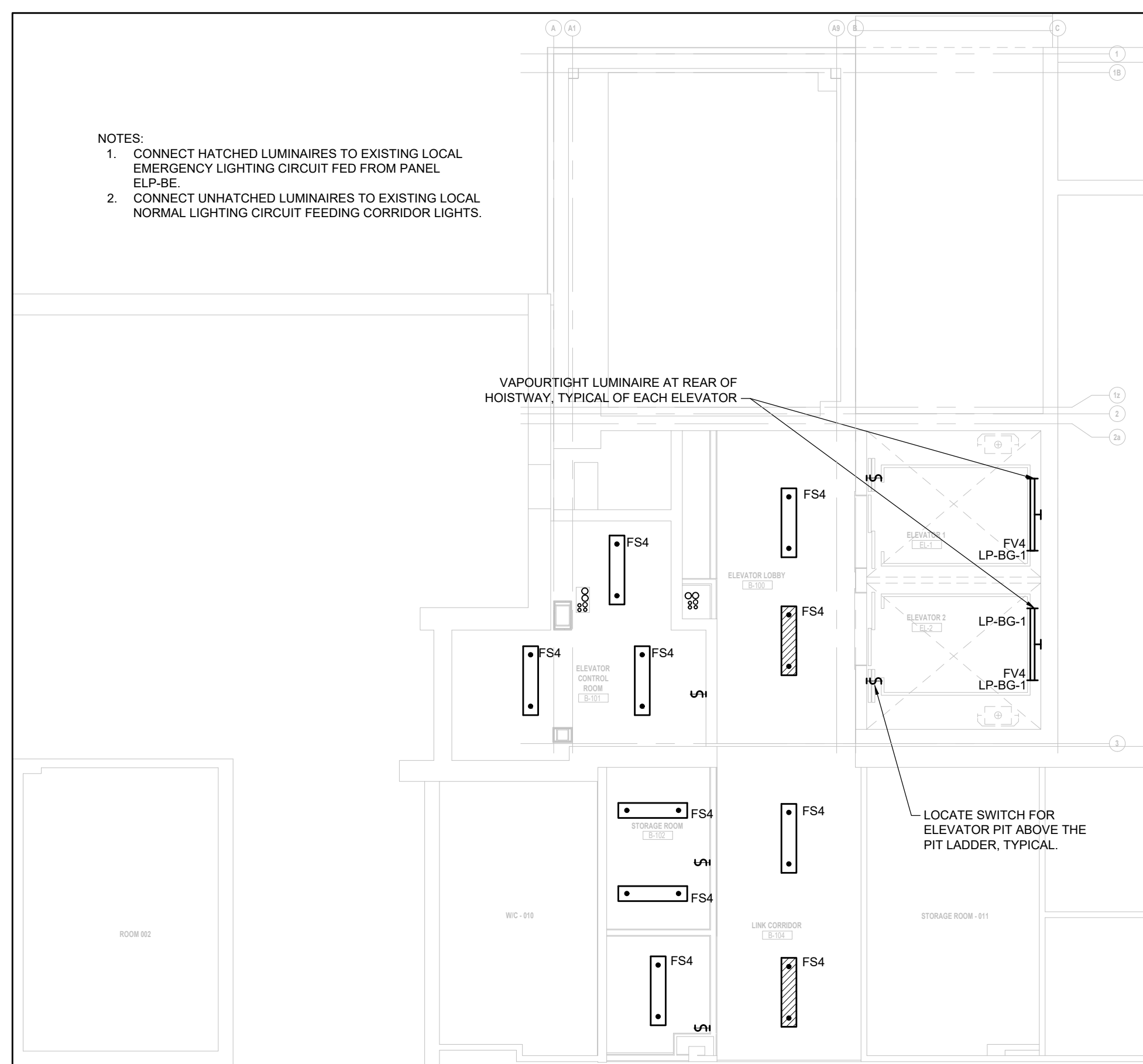
Scale	As indicated
Drawn By	KAJ
Reviewed By	ACW
Revision No.	1
Plot Date	2026-04-16

Drawing No.

S005



1 BASEMENT NEW ELECTRICAL PLAN
SCALE: 1:50



2 BASEMENT NEW CEILING PLAN
SCALE: 1:75

GENERAL SHEET NOTES

- COORDINATE EXACT LOCATION OF DEVICES IN ELEVATOR HOISTWAY AND ELEVATOR CONTROL ROOM WITH ELEVATOR SHOP DRAWINGS.

SHEET KEYNOTES

- CONNECT BUMP PUMP HIGH LEVEL ALARM TO THE EMERGENCY REPORTING CENTRE (ERC) PROVIDE CONDUIT AND WIRE FROM THE BUMP PUMP CONTROL PANEL TO THE ERC. FOR ERC CONNECTION, TERMINATE CONDUIT AND WIRE FOR BUMP PUMP HIGH LEVEL ALARM IN QUEEN'S SECURITY CAPS 'CAMPUS ALARM PANEL SYSTEM' PANEL SECURITY PANEL IN COMMS ROOM 006A. SITE VERIFY EXACT LOCATION OF TERMINATION AS DIRECTED BY OWNER. CONDUIT AND WIRE 2418 AWG IN MINIMUM AND WIRE IN 27 mm (1 IN) C.
- PROVIDE FLEX CONDUITS ACROSS EXPANSION JOINT.
- NEW GFCI ALARM PASSIVE DRAPAC.
- NEW EXT BDR. CONNECT TO EXISTING LOCAL EMERGENCY LIGHTING CIRCUIT FED FROM PANEL LIP-BE.

No.	DATE	DESCRIPTION	CHD
10	2026-APR-22	DWG E200 - ISSUED FOR ADDENDUM No.2	CB
9	2026-FEB-10	ISSUED FOR TENDER	CB
8	2026-FEB-09	RESPONSE TO CITY PERMIT COMMENTS	CB
7	2026-JAN-21	ISSUED FOR TENDER	CB
6	2025-DEC-12	RE-ISSUED FOR BUILDING PERMIT	CB
5	2025-JUL-29	ISSUED FOR BUILDING PERMIT	CB
4	2025-JUL-04	ISSUED FOR BUILDING PERMIT	CB
3	2025-JUN-10	66% CD	CB
2	2025-APR-17	ISSUED FOR CLIENT REVIEW	CB
1	2025-MAR-25	ISSUED FOR CLIENT REVIEW	CB
REVISIONS			
THE SPECIFICATIONS ARE TO BE CONSIDERED AS AN INTEGRAL PART OF THESE DRAWINGS AND NEITHER THE DRAWINGS NOR THE SPECIFICATIONS SHALL BE USED ALONE. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. DO NOT SCALE.			
PROJECT NORTH			
QUASAR CONSULTING GROUP			
250 BOWNTREE DARY RD, WOODBRIDGE, ON TEL: 905-507-0800 WEB: WWW.QUASARGROUP.COM			
PROJECT QUEEN'S UNIVERSITY ELEVATOR ADDITION JOHN WATSON HALL 49 BADER LANE KINGSTON, ON K7L 2S7			
TITLE BASEMENT - NEW ELECTRICAL PLAN			
CHECKED CB	PROJECT No. ED-24-741-B		
SCALE AS SHOWN	DRAWING No. E200		

GENERAL NOTES	
1.	THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES. CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS TO CONSULTANT FOR REVIEW AND DIRECTION. CONTRACTOR SHALL VERIFY ALL CONNECTIONS, PIPE SIZES AND LOCATION OF EXISTING SERVICES AT POINTS OF CONNECTIONS ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT PRIOR TO FABRICATION AND/OR INSTALLATION OF NEW SERVICES.
2.	ENSURE THAT ALL NEW AND EXISTING MECHANICAL EQUIPMENT REQUIRING MAINTENANCE IS ACCESSIBLE AND THAT ACCESS REQUIREMENTS ARE NOT OBSTRUCTED BY NEW OR EXISTING SERVICES AND STRUCTURE. COORDINATE WITH PROJECT MANAGER AND ALL OTHER TRADES. INSTALL MECHANICAL EQUIPMENT IN SUCH A WAY AS TO PROVIDE ALL ACCESS REQUIREMENTS. REFER TO SHOP DRAWINGS AND/OR MANUFACTURER'S RECOMMENDATIONS FOR ACCESS REQUIREMENTS. REPORT ANY OBSTRUCTIONS TO THE PROJECT MANAGER AND MECHANICAL ENGINEER. PROVIDE ACCESS DOORS/PANELS WITH MINIMUM DIMENSIONS AS NOTED BELOW (UNLESS INDICATED OTHERWISE ON DRAWINGS). <div>2.1. 24 INCHES BY 24 INCHES FOR PERSONNEL ENTRY.</div> <div>2.2. 18 INCHES BY 18 INCHES FOR HAND ENTRY.</div> <div>2.3. 12 INCHES BY 12 INCHES FOR VIEWING ONLY.</div> <div>2.4. SIZE DOORS TO ALLOW ADEQUATE OPERATING/MAINTENANCE CLEARANCE FOR DEVICES.</div> <div>2.5. ACCESS DOORS SHALL BE, WHEREVER POSSIBLE, OF A STANDARD SIZE FOR EACH APPLICATION.</div>
3.	PROVIDE ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE DEMOLITION AND THE INSTALLATION OF THE MECHANICAL SERVICES OUTLINED FOR THIS SCOPE OF WORK.
4.	WELDING TO BE PERFORMED WITH STRINGENT ENVIRONMENTAL CONDITIONS FOR SMOKE AND FUME EVACUATION.
5.	SUPPLY AND INSTALL OF SMOKE DETECTORS TO BE COMPLETE WITH TIE-INS TO FIRE ALARM PANEL.
6.	THE MECHANICAL DRAWINGS ARE PERFORMANCE DRAWINGS, DIAGRAMMATIC, AND SHOW APPROXIMATE LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. ANY INFORMATION REGARDING ACCURATE MEASUREMENT OF THE BUILDING ARE TO BE TAKEN AT THE SITE. WHERE INTERFERENCES EXIST, CONTRACTOR SHALL REROUTE THE NEW WORK TO SUIT THE EXISTING PIPING.
7.	FOR CLARITY, NOT ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. HAS BEEN SHOWN ON THE DRAWINGS. THE EXISTING EQUIPMENT, PIPES, DUCTS AND SERVICES ARE SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS, SIZES AND DIMENSIONS SHALL BE DETERMINED ON SITE. WHERE INTERFERENCES EXIST, CONTRACTOR SHALL REROUTE THE NEW WORK TO SUIT THE EXISTING PIPING.
8.	NOT ALL CONNECTIONS TO EQUIPMENT ARE SHOWN. REFER TO THE MANUFACTURERS LITERATURE FOR ALL PIPING CONNECTIONS.
9.	CONTRACTOR IS TO BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DUCTWORK AND EQUIPMENT AS SHOWN ON THE DEMOLITION PLAN.
10.	COORDINATE ALL TEMPORARY SHUT DOWNS WITH QUEEN'S UNIVERSITY (CLIENT) THE DATE AND PERIOD OF THE TIME REQUIRED FOR DISCONNECTING AND MAKING NEW CONNECTIONS TO PIPING, DUCTING, AND ALL RELATED MECHANICAL WORK IN ORDER TO KEEP THE INTERRUPTIONS OF QUEEN'S UNIVERSITY DAILY OPERATIONS AS MINIMAL AS POSSIBLE, INCLUDING FOR FREEZING WHERE REQUIRED.
11.	SURVEY ALL AFFILIATED WORK AREAS AND REPORT ABNORMALITIES AND DISCREPANCIES TO CONSULTANT.
12.	WHERE CEILING, FLOOR, WALL, OR ROOF OPENINGS ARE REQUIRED TO RUN MECHANICAL AND ELECTRICAL SERVICES, INCLUDE ALL COSTS FOR REINSTATING THE CEILING, FLOOR/WALL, OR ROOF. SEAL ALL OPENINGS WITH APPROVED FIRE-STOPPING MATERIALS AS REQUIRED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
13.	IF ASBESTOS CONTAINING MATERIAL IS SUSPECTED OR IDENTIFIED IN THE WORK AREA AND REQUIRED TO BE HANDLED AS PART OF THE DEMOLITION PHASE OF THE PROJECT, CONTRACTOR SHALL HALT WORK AND INFORM CONSULTANT OF SUCH CONDITIONS. CONTRACTOR SHALL NOT PROCEED WITH DEMOLITION OF SUCH AREAS WITHOUT AUTHORIZATION BY CONSULTANT. REMOVAL OF SUCH MATERIALS TO ACCOMMODATE THE WORK DESCRIBED AND OUTLINED IN THESE DRAWINGS SHALL BE ARRANGED THROUGH THE OWNER. ASBESTOS ABATEMENT, IF ANY, IS EXCLUDED FROM THIS CONTRACT AND WILL BE HANDLED SEPARATELY BY OWNER.
14.	ALL ABANDONED OR OBSOLETE MECHANICAL SERVICES SUCH AS VALVES, PIPING, EQUIPMENT, INSTRUMENTATION, ETC. SHALL BE REMOVED WITHIN THE WORK AREA TO FACILITATE ALL NEW MECHANICAL WORK.
15.	INSULATE ALL NEW DUCTWORK AND AND ANY EXISTING DUCTWORK WHERE INSULATION HAS BEEN REMOVED OR DAMAGED BY THIS WORK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
16.	CONTRACTOR TO PROVIDE AIR BALANCING PRE-TESTS. CONTRACTOR TO PROVIDE CUTTING & PATCHING FOR THE INSTALLATION OF HIS WORK. EMPLOY THE SERVICES OF THE GENERAL TRADES CONTRACTOR IF NECESSARY.
17.	CO-ORDINATE NEW SERVICES WITH EXISTING BUILDING STRUCTURE, EXISTING SERVICES & WORK.
18.	ANY SERVICES THAT ARE NOT SHOWN ON THE DRAWINGS AND ARE EXPOSED DURING DEMOLITION/CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR AND REPORTED TO THE CONSULTANT.
19.	CONTRACTOR SHALL COORDINATE WITH ALL NEW AND EXISTING MECHANICAL AND ELECTRICAL SERVICES WHEN MAKING THE PIPE AND, DUCTING, AND EQUIPMENT CONNECTIONS ON SITE.
20.	CONTRACTOR TO PROVIDE TEMPORARY HEATING/COOLING AND VENTILATION FOR AREAS AFFECTED BY TEMPORARY SHUT-DOWN.
21.	DO NOT INTERRUPT EXISTING MECHANICAL SERVICES OCCUPIED OR ADJACENT AREAS OUTSIDE THE SCOPE UNLESS APPROVED BY THE OWNER.
22.	ALL DEMOLITION WORK SHALL BE PERFORMED WITH DUE CARE AND DILIGENCE, SO AS TO PREVENT THE UNNECESSARY DESTRUCTION AND/OR DAMAGE TO SYSTEMS THAT SHALL REMAIN IN OPERATION DURING THE CONSTRUCTION PHASE OF THIS WORK.
23.	THE CONTRACTOR IS TO VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
24.	THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES THAT MIGHT OCCUR TO THE MECHANICAL SYSTEMS DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT ANY AND ALL PORTIONS OF THE EXISTING MECHANICAL SYSTEMS.
25.	CONTRACTOR TO PROVIDE MINIMUM 7-10 WORKING DAYS NOTICE TO PSDS (CLIENT) FOR ANY SHUTDOWN REQUIRED.
26.	THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO OWNER'S OCCUPIED AREAS ADJACENT TO THE NEW CONSTRUCTION.
27.	CONTRACTOR TO PAY FOR AND OBTAIN ALL REQUIRED PERMITS, FEES, LICENSES CERTIFICATES OF INSPECTION, ETC. IF REQUIRED.
28.	CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING PENETRATIONS THROUGH FIRE RATED, SMOKE RATED OR COMBINATION FIR & SMOKE RATED SEPARATIONS. SEE SPECIFICATIONS FOR FIRE & SMOKE RATED SEALANTS.
29.	CONTRACTOR TO PROVIDE APPARATUS WITH PROPER NAMEPLATES AFFIXED THERE TO, SHOWING THE SIZE, NAME OF THE EQUIPMENT, SERIAL NUMBER AND ALL INFORMATION USUALLY PROVIDED, WHICH ALSO INCLUDES VOLTAGE, CYCLE, PHASE AND HORSEPOWER OF MOTORS AND THE NAME AND ADDRESS OF THE MANUFACTURER.
30.	CONTRACTOR TO STOP INSULATION FLUSH WITH ALL WALL AND FLOOR SURFACES AND SEAL SPACE BETWEEN PIPE, DUCT, AND SLEEVE WITH ULC APPROVED AND LISTED FIRE STOPPING MATERIAL AS REQUIRED.
31.	COORDINATE MECHANICAL WORK WITH WORK OF ALL OTHER DIVISIONS.
32.	ALL CRANING WORK TO BE COORDINATED WITH OWNER, AND SCHEDULED, ALLOW FOR WEEKEND WORK.
33.	CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITHIN 2 WEEKS AFTER COMMISSIONING IS COMPLETED.
34.	CONTRACTOR SHALL RETURN ALL REMOVED EQUIPMENT TO THE OWNER OR DISPOSE THE DEMOLISHED EQUIPMENT WHICH IS SUBJECT TO THE OWNER APPROVAL.
35.	DEMOLITION DRAWINGS INDICATE VISIBLE/KNOWN DEVICES AND/OR SERVICES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILED SITE SURVEY PRIOR TO SUBMITTING THE BID AND SHALL INCLUDE FOR ALL COSTS ASSOCIATED WITH DEMOLITION SCOPE OF WORK IN THE BID PRICE. MANDATORY SITE WALKTHROUGHS SHALL BE ARRANGED BY THE OWNER AND CONSULTANT TO ALLOW CONTRACTORS TO INVESTIGATE AND RECORD EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID.
36.	MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REINSTALLATION AND RECONNECTION OF ALL SUCH SERVICES TO MATCH EXISTING STANDARDS. CONTRACTOR SHALL INCLUDE ALL COSTS FOR SITE INVESTIGATION TO SOURCE DELETE SERVICES REQUIRED FOR RE-CONNECTION OF EXISTING SERVICES THAT MUST REMAIN. INCLUDE IN YOUR BID ALL COSTS ASSOCIATED WITH SITE INVESTIGATION, ETC. AND ALL REQUIRED COSTS FOR THIS WORK. REVIEW AND NOTE EXISTING CONDITIONS AND CONFIRM EXACT SITE CONDITIONS.
37.	COSTS TO PERFORM AIR BALANCING TO BE INCLUDED IN THE PRICE FOR THE WORK OF MECHANICAL DIVISION.
38.	COSTS TO PERFORM DUCT CLEANING OF THE WHOLE BUILDING, TESTING AND BALANCING OF THE HVAC SYSTEM TO BE INCLUDED IN THE PRICE FOR THE WORK OF MECHANICAL DIVISION.
39.	CONTRACTOR TO CARRY OUT PRE-CONSTRUCTION AND POST-CONSTRUCTION AIR AUDIT.
40.	CONTRACTOR TO REPAIR BEAMS FIRE RATING SAME WITH PREVIOUS FIRE RATING WHERE SECURING SUPPORTS TO THE EXISTING FIRE RATED BEAMS.
41.	SUBMIT TO CITY OF KINGSTON THE PLUMBERS VERIFICATION CHECKLIST FORM TO BE COMPLETED BY THE PLUMBER WHO IS LICENSED WITH THE CITY OF KINGSTON. REFER TO HTTPS://WWW.CITYOFKINGSTON.CA/APPLICATIONS/LICENCES-AND-PERMITS/PLUMBERS/
42.	BASE BUILDING AUTOMATION SYSTEM (BAS) CONTRACTOR: REGULARV (DELTA).

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
GENERAL	
	EXISTING TO REMAIN
	EXISTING TO BE DEMOLISHED
	EXISTING TO BE REMOVED FOR RELOCATION
	EXISTING RELOCATED IN NEW WORK
	NEW WORK
	CONNECT TO EXISTING
	AIRFLOW / PIPE FLOW DIRECTION
	PIPE TURNING DOWN
	PIPE TURNING UP
	PRESSURE REDUCING VALVE
	ROOM THERMOSTAT
	ROOM HUMIDISTAT
	PUMP
	AUTOMATIC CONTROL VALVE - TWO WAY
	AUTOMATIC CONTROL VALVE - THREE WAY
	ISOLATION VALVE
	BALANCING VALVE
	CHECK VALVE
	STRAINER - OVER 50MM WITH VALVED FLUSHING DRAIN
	PIPE BRANCH OFF TOP
	PIPE BRANCH OFF BOTTOM
	RELIEF VALVE (PIPE TO DRAIN)
	VACUUM BREAKER VALVE
	VENTURI VALVE
	PRESSURE GAUGE
	TEMPERATURE GAUGE
	STAINLESS STEEL BRAIDED FLEXIBLE HOSES
	CAP
	SOLENOID VALVE
	SOLENOID VALVE
	FUSIBLE LINK VALVE
	ELECTRIC HEAT TRACING

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
PLUMBING	
	SANITARY DRAINAGE - ABOVE GROUND
	SANITARY DRAINAGE - UNDERGROUND
	SANITARY DRAINAGE (ACID RESISTANT) - ABOVE GROUND
	SANITARY DRAINAGE (ACID RESISTANT) - UNDERGROUND
	STORM DRAINAGE - ABOVE GROUND
	STORM DRAINAGE - UNDERGROUND
	PUMPED DISCHARGE
	DOMESTIC COLD WATER SUPPLY
	DOMESTIC HOT WATER SUPPLY
	DOMESTIC HOT WATER RECIRC.
	TEMPERED WATER
	ACID RESISTANT VENT
	VENT
	GAS
	REVERSE OSMOSIS PIPING
	RADIO ISOTOPE DRAIN
	COMPRESSED AIR
	HEAT TRACING
	RUNNING TRAP
	P-TRAP
	EMERGENCY SHOWER
	EYE WASH
	CLEANOUT IN FLOOR/BELOW GRADE
	CLEANOUT IN CEILING
	HOSE BIBB
	NON FREEZE HOSE BIBB
	SINGLE GAS OUTLET
	DOUBLE GAS OUTLET
	COMPRESSED AIR OUTLET
	ROOF DRAIN
	CONTROL FLOW ROOF DRAIN
	VENT THROUGH ROOF
	RAIN WATER LEADER
	TRAP SEAL PRIME
	SCUPPER DRAIN
	MANHOLE
	CATCH BASIN
	TRENCH GRATE & FRAME
	AREA DRAIN
	FUNNEL FLOOR DRAIN
	FLOOR DRAIN
	HUB DRAIN
	FLOOR SINK
	TERRACE DECK DRAIN
	FLOOR DRAIN - FLUSHING RIM
	WATER METER ASSEMBLY
	GAS METER
	BACK WATER VALVE
	BACKFLOW PREVENTER
	DENOTES FIXTURE TYPE PER SPECIFICATION
"WC-1"	

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MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
VENTILATION	
	FUSIBLE LINK FIRE DAMPER
	SMOKE DAMPER
	COMBINATION SMOKE/FIRE DAMPER
	BACK DRAFT DAMPER
	BALANCING DAMPER
	MOTORIZED DAMPER
	RECTANGULAR DUCTWORK - DIMENSION AS SHOWN
	ROUND DUCTWORK - DIMENSION AS SHOWN
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR EXHAUST/RETURN DUCT UP
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT UP
	CIRCULAR EXHAUST/RETURN AIR DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR EXHAUST/RETURN DUCT DOWN
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT DOWN
	CIRCULAR EXHAUST/RETURN AIR DUCT DOWN
	MITRED ELBOW WITH TURNING VANES
	SUPPLY GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	EXHAUST/RETURN GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	CEILING SUPPLY AIR DIFFUSER - DIMENSIONS SHOWN ON SCHEDULE
	SUPPLY AIR LINEAR SLOT DIFFUSER - DIMENSIONS SHOWN ON SCHEDULE
	CEILING EXHAUST/RETURN GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	SUPPLY AIR ROUND DIFFUSER
	BRANCH TAKE-OFF WITH ADJUSTABLE SPLITTER DAMPER IN SUPPLY DUCT
	OPEN ENDED DUCT WITH BALANCING DAMPER AND BELLMOUTH. DIRECTION AS SHOWN
	FLEXIBLE DUCT CONNECTION
	ACOUSTICALLY LINED DUCTWORK
	SILENCER (ATTENUATOR)
	FLEXIBLE DUCT (DOUBLE LINE)
	FLEXIBLE DUCT (SINGLE LINE)
	FLEXIBLE DUCT CONNECTION WITH BALANCING DAMPER ON TAKE-OFF
	DUCT MOUNTED HEATING COIL
	SUPPLY AIR TERMINAL BOX C/W REHEAT COIL AND ATTENUATOR
	SUPPLY AIR TERMINAL BOX C/W ATTENUATOR
	RETURN / EXHAUST AIR TERMINAL BOX ATTENUATOR
	FIRE RATED DUCTWORK (DOUBLE LINE)
	DUCT TRANSITION FROM RECTANGULAR TO ROUND
	RECTANGULAR DUCT BREAK
	ROUND DUCT BREAK
	SINGLE LINE DUCT BREAK
	3/4" DOOR UNDERCUT
	TRANSFER AIR DUCT
	SUPPLY AIR LIGHT TROFFER
	3/4" DOOR UNDERCUT
	DIFFUSER TAG
	GRILLE TAG

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MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
HEATING & COOLING	
	HEATING WATER RETURN
	HEATING WATER SUPPLY
	HEATING GLYCOL RETURN
	HEATING GLYCOL SUPPLY
	HIGH TEMPERATURE HEATING WATER RETURN
	HIGH TEMPERATURE HEATING GLYCOL SUPPLY
	HIGH TEMPERATURE HEATING GLYCOL RETURN
	HIGH TEMPERATURE HEATING GLYCOL SUPPLY
	CONDENSER WATER RETURN
	CONDENSER WATER SUPPLY
	CHILLED WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED GLYCOL RETURN
	CHILLED GLYCOL SUPPLY
	CONDENSATE DRAIN
	PUMPED CONDENSATE
	REFRIGERANT GAS
	REFRIGERANT LIQUID
	LOW PRESSURE STEAM
	LOW PRESSURE CONDENSATE
	HIGH PRESSURE STEAM
	HIGH PRESSURE CONDENSATE
	VENT
	STEAM VENT
	GEO-EXCHANGE SUPPLY
	GEO-EXCHANGE RETURN
	FUEL OIL SUPPLY
	FUEL OIL RETURN
	FUEL OIL VENT
	FUEL OIL OVERFLOW
	ELECTRIC BASEBOARD HEATER OUTPUT AS SHOWN (KW)
	ELECTRIC CABINET HEATER
	UNIT HEATER
	CONVECTOR - LENGTH - HEAT OUTPUT (KW)
	WALL FIN - LENGTH - HEAT OUTPUT (KW)
	UNION
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	EXPANSION COMPENSATOR
	EXPANSION SWING
	PIPE ANCHOR
	PIPE GUIDE
	PIPE SLEEVE
	FLOAT & THERMOSTATIC TRAP
	INVERTED BUCKET TRAP
	ELECTRIC TRACING
	RADIANT PANEL - 8 DENOTES DEPTH, 600MM DENOTES HEIGHT, 1100MM DENOTES LENGTH & 2.1 HEAT OUTPUT (KW)
	8C-600-1100 = 2.1

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MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
CONTROLS	
	SUPPLY FAN
	RETURN EXHAUST FAN
	EXHAUST FAN
	HEATING COIL
	COOLING COIL
	PRE-HEAT COIL
	FILTERS
	SUPPLY AIR
	EXHAUST AIR
	OUTDOOR AIR
	RETURN AIR
	MOTORIZED DAMPER
	MOTOR STARTER PANEL
	MOTOR CONTROL CENTER
	HUMIDIFIER
	NORMALLY OPEN
	NORMALLY CLOSED
	VARIABLE FREQUENCY DRIVE
	ACTUATOR CLOSED END SWITCH
	ACTUATOR OPEN END SWITCH
	FLOW SWITCH
	LEVEL SWITCH
	PRESSURE SWITCH
	ACTUATOR NORMALLY CLOSED DE-ENERGIZED POSITION
	ACTUATOR NORMALLY OPEN DE-ENERGIZED POSITION
	ACTUATOR FAIL OPEN POSITION
	ACTUATOR FAIL CLOSED POSITION
	ACTUATOR FAIL LAST POSITION
	TWO-POSITION ACTUATOR
	MODULATING ACTUATOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	VELOCITY SENSOR
	HUMIDITY SENSOR
	TEMPERATURE SENSOR
	OCCUPANCY SENSOR
	CARBON MONOXIDE SENSOR
	NOX SENSOR
	OXYGEN SENSOR
	GAS DETECTION SYSTEM CONTROL PANEL
	VISUAL INDICATOR ALARM
	AUDIBLE INDICATOR ALARM
	BUILDING AUTOMATION SYSTEM
	ANALOG INPUT
	ANALOG OUTPUT
	DIGITAL INPUT
	DIGITAL OUTPUT
	BAS GRAPHICS POINT
	BAS ADJUSTABLE SET POINT
	BACNET ANALOG VARIABLE
	BACNET BINARY VARIABLE
	HAND-OFF-AUTO
	CONTROL WIRING
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	