HWDSB

2025-111-P02103
Bennetto Elementary School Accessibility Renovation Project

Addendum 2

Issued March 10, 2025

The following information changes the competitive process documents issued on Monday, February 10, 2025.

CLOSING DATE CHANGE

Change of closing date to Monday, March 17, 2025, on or before 2:00:00 PM local time.

CLARIFICATION

Item 1: DELETE 2025-137-P02085_Franklin Road Renovations_Addendum 2 issued March 7, 2025 as it does not form part of the tender documents for this competitive process.

GENERAL INFORMATION

Item 1: Refer to RFT Document, Instructions to Bidders
REMOVE and REPLACE Section 1.5 Project Schedule with below:

1.5 PROJECT SCHEDULE

.1 The Successful Bidder will adhere to section GC 3.4 in regard to milestone dates set below.

.2 The following are Project milestone dates:

a.	Tender Issued	Monday, February 10, 2025
b.	Site Walkthrough at 4:00 PM	Wednesday, February 19, 2025
c.	Closing for Questions	Wednesday, February 26, 2025
d.	***Tender Closing at 2:00 PM***	***Monday, March 17, 2025***
e.	Anticipated Award Date	Friday, May 9, 2025
f.	Elevator Shop Drawings Submitted by	10 Business Days after Award Date
g.	Anticipated Construction Commencement	Friday, June 27, 2025
h.	Substantial Performance of the Work	
i.	Phase 1: Washroom, Chairlift and Elevator Shaft	Friday, August 15, 2025
ii.	Phase 2: Elevator Installation/Commissioning	Friday, October 31, 2025
i.	Ready-For-Takeover	
i.	Phase 1: Washroom, Chairlift and Elevator Shaft	Friday, August 22, 2025
ii.	Phase 2: Elevator Installation/Commissioning	Friday, November 21, 2025

.3 Any Work remaining after August 17, 2025, noisy Work or Work which would cause a safety hazard (including work that generates odours) must be completed outside school operational hours 8:30 AM – 3:45 PM, after hours and weekends and cannot be disruptive to the school and operations of the school in any way

.4 Any Work remaining after the Substantial Performance of the Work date will need to be completed after hours and weekends and cannot be disruptive to the school and operations of the school in any way.

Item 2: See attached Addendum 2, Jason Fung Arhictect Inc, March 7, 2025, (2 pages).

Item 3: See attached Specification Section 07 53 23 Ethylene Propylene Diene Monomer Roofing, Jason Fung Arhictect Inc, March 2025, (9 pages).

Item 4: See attached Specification Section 09 67 00 Fluid Applied Flooring, Jason Fung Arhictect Inc, March 2025, (4 pages).

Item 5: The following are the contractors for Base building:
BAS Provider: Siemens
Fire Alarm Control and Testing Service Provider: Hamilton Fire Control
Fire Alarm and Security System Monitoring Service Provider: API Alarm Inc.
Please refer to the Construction School Specific Information Sheet Sample attached (6 pages)

End of Addendum 2

March 07, 2025
2025-111-P02103 Bennetto RFT Addendum 2 - Questions

Q1 Drawings call for new epoxy flooring in the washroom area. However, I could not find any specific details or specifications for the epoxy flooring in the documentation provided. Could you kindly advise on the required product for the epoxy flooring?

R1 See attached Section 09 67 00 Fluid-Applied Flooring to be included in the Specifications

Q2 Can you please ask if we can propose a standard hole-less hydraulic unit as an alternative? Note there would be changes required to the shaft when making this change.

R2 Any proposed alternatives to the passenger elevator specification should be provided during this competitive process for review and approval by the Prime Consultant and HWDSB prior to tender close.

Q3 Warranties are typically 1 year, can the 2 year be reduced to 12 months?

R3 12 month warranty is acceptable as per contract.

Q4 Maintenance is provided only during the 12 month warranty. After that an agreement must be signed with the ownership for elevator maintenance. Can you confirm the maintenance period?

R4 Warranty period is for 12 months as per contract.

Q5 Can you confirm the 7-year maintenance is built into bid price or do you want that quoted separately?

R5 HWDSB maintains the elevators after the warranty period through a separate contract.

Q6 The drawing (A1.02 – Roof R1) and spec (07 13 52) for the roofing package call two different roofing system assembly, could you please assist on what to base our price?

R6 Refer to drawings for correct roofing assembly (EPDM). See attached Section 07 53 23 Ethylene Propylene Diene Monomer Roofing to be included in the Specifications.

Q7 Can you confirm specifications for the toilet, flush valve, sink, and faucet?

R7 See attached specifications for plumbing fixtures. Any proposed alternatives should be provided for review and approval by the Prime Consultant and HWDSB prior to tender close.

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Q8 Where would be the location of the tie in for the discharge pipe and vent from the sump pit?

R8 Please refer to mechanical drawings M-03 – HVAC Proposed Main Floor Plan.

Q9 Where is the new elevator to be fed from? There are multiple distributions and panels in the school, and we need to know the power requirements of the elevator.

R9 Power requirements per manufacturer's shop drawings and electrical drawings (Addendum 1, Response 7). New electrical panels are to be fed from the electrical room reviewed during site walkthrough (Addendum 1, Response 20)

Q10 Will the engineer be designing the new fire alarm system requirements? Or will Hamilton Fire?

R10 Elevator manufacturer to provide shop drawings for fire alarm system. (Addendum 1, Response 9)

Q11 In the spec package for lighting, it only references fluorescent lights and ballast. Would you like me to just quote the most cost-effective LED flat panels? DO the new second floor vestibule lights need to have dimming capability? The lighting consultants have sent this back saying there is not enough information.

R11 LEDs to conform to the following: CGTS NUV projected lumen maintenance based on TM21 testing standards is >L82 @60,000 hours, Driver rated for FCC part 15 Class B for use in residential or commercial applications, LEDs are 85 CRI (minimum) and switch to 3500K, 4000K, and 5000K. Second floor vestibule lights do not require dimming capability.

Q12 Emergency lighting specs do not list a preferred manufacturer, will any do?

R12 GC to source product that in accordance with specifications. There is no preferred manufacturer.

Q13 Which division is to supply the force flow heater?

R13 Refer to mechanical drawings M-03, Electric Heater Schedule.

Q14 Please confirm the size of new rooftop units for this project.

R14 There is no new rooftop unit for this project.

JFA

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1 GENERAL

1.01 RELATED REQUIREMENTS

.1 Section 05 31 00 - Steel Decking

.2 Section 06 10 53 - Miscellaneous Rough Carpentry

.3 Section 07 92 00 - Joint Sealants

1.02 DEFINITIONS

.1 Environmental Product Declaration (EPD): Third-party verified documentation with the supporting Product Category Rule (PCR) and Life cycle assessment information. Prepared in accordance with ISO 14025, 14040, 14044, and EN 15804 or ISO 21930 and have at least a cradle to gate scope.

.1 Industry-wide (generic) EPD with third-party certification (Type III), including external verification in which the manufacturer is explicitly recognized as the participant by the program operator.

.2 Product-specific Type III EPD -- Products with third-party certification (Type III), including external verification in which the manufacturer is explicitly recognized as the participant by the program operator.

1.03 REFERENCE STANDARDS

.1 Canadian General Standards Board (CGSB):

.1 CAN/CGSB-51.34, Vapour Barrier, Polyethylene Sheet for Use in Building Construction

.2 Canadian Roofing Contractors' Association (CRCA):

.1 CRCA Roofing Specification Manual Current Edition

.3 CSA Group (CSA):

.1 CSA A123.21, Standard Test Method for the Dynamic Wind Uplift Resistance of Mechanically Attached Membrane-Roofing Systems

.2 CSA A231.1/A231.2, Precast Concrete Paving Slabs/Precast Concrete Pavers

.3 CAN/CSA O80 Series-15 , Wood Preservation

.4 CSA O121, Douglas Fir Plywood

.5 CSA O151, Canadian Softwood Plywood

.4 Health Canada/Workplace Hazardous Materials Information System (WHMIS):

.1 Safety Data Sheets (SDS)

.5 ULC Standards (ULC):

.1 ULC107, Methods of Fire Tests of Roof Coverings (CAN/ULC S107-10)

.2 CAN/ULC-S701, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering

.3 ULC-702, Standard for Mineral Fibre Thermal Insulation for Buildings, Part 2: Application Guidelines (ULC S702.2-15)

.4 ULC-704, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced (CAN/ULC S704 11)

.5 ULC-706, Standard for Wood Fibre Insulating Boards for Buildings (CAN/ULC-S706-09)

.6 CAN/ULC S770, Standard Test Method for Determination of Long-term Thermal Resistance of Closed-Cell Thermal Insulating Foams

.7 CAN/ULC-S107, Methods of Fire Tests of Roof Coverings

1.04 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Provide manufacturer's printed product literature, specifications and datasheets for membranes and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Provide one electronic copy of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.3 Test and Evaluation Reports: submit laboratory test reports certifying compliance of roofing membrane with specification requirements.

.1 Compatibility of materials: submit written declaration to HWDSB and Consultant as described in PART 2, PERFORMANCE CRITERIA.

.4 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.

1.05 QUALITY ASSURANCE

.1 Installer qualifications: company or person specializing in application of EPDM roofing systems with 5 years experience.

.2 Mock-ups:

.1 Construct mock-up in accordance with Section 01 43 00 - Quality Assurance.

.2 Construct mock-up 2m^2 minimum size showing typical lap joint, one outside corner.

.3 Mock-up will be used:

.1 To judge workmanship, substrate preparation, operation of equipment and material application.

.4 HWDSB and Consultant will require minimum 24 hours to review the mock-up.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this work.

.6 Approved mock-up may remain as part of finished Work.

1.06 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, store, and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Storage and Handling Requirements:

.1 Provide and maintain dry, off-ground weatherproof storage.

.2 Store materials on supports to prevent deformation.

.3 Remove only in quantities required for same day use.

.4 Store uncured flashing and jointing materials to prevent premature curing and freezing.

.5 Store insulation protected from sunlight and weather and deleterious materials.

.6 Store roofing materials in accordance with manufacturer's written instructions, to prevent damage or loss of performance.

.3 Packaging Waste Management: remove for reuse of pallets and packaging materials in accordance with Section 01 74 19 - Waste Management and Disposal.

1.07 SITE CONDITIONS

.1 Ambient Conditions:

.1 Apply EPDM membrane only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

.2 Do not install EPDM membrane when air and substrate temperature remains below 5°C or when wind chill gives equivalent cooling effect.

.3 Install EPDM membrane on dry substrate, free of snow and ice. Use only dry materials and apply only during weather that will not introduce moisture into system.

1.08 WARRANTY

.1 Roofing Membrane Manufacturer Warranty: Product Manufacturer shall issue a written and signed warranty in the owner's name, certifying product performance properties for a period of ten (10)] years, starting from the date of acceptance, covering wholly and completely the specified warranty period starting from Substantial Performance of the entire Contract.

2 PRODUCTS

2.01 DESCRIPTION - ROOFING SYSTEM

.1 EPDM elastomeric membrane roofing consisting of: non-reinforced membrane for use in fully adhered system.

2.02 PERFORMANCE CRITERIA

.1 Compatibility between components of system and adjacent materials is essential.

.1 Provide a written declaration to Consultant stating that all materials and components, as assembled in system, meet this requirement.

.2 Roofing system: to CSA A123.21 for wind uplift resistance.

2.03 DECK COVERING

.1 Gypsum board: to thickness as indicated.

.2 Cementitious Board: to thickness as indicated.

.3 Glass Mat Gypsum Board: to thickness as indicated.

.4 Plywood: to Sheathing Grade, treated.

.1 thickness as indicated.

.2 As specified in Section 06 10 53 - Miscellaneous Rough Carpentry.

2.04 VAPOUR RETARDER

.1 Kraft-laminated foil paper: to CAN/CGSB-51.34, and fire resistant adhesive.

.2 Polyethylene: to CAN/CGSB-51.34, Type 1, 0.25 mm thick.

.3 Primer: SBS synthetic rubbers, adhesive resins and solvents used to prime porous substrates to enhance adhesion of self-adhesive membranes at temperature above -10°C.

.4 Vapour Retarder: Built up vapour retarder comprised of a two ply #15 felt laminated vapour retarder (modified for two ply installation), fully mopped.

.5 Self adhered vapour retarder: SBS rubberized asphalt membrane, self adhering vapour retarder, having a non-slip surface and UV resistant opaque surface.

.6 Vapour Retarder Continuity Strip: SBS membrane with non woven polyester reinforcement, glass grid and elastomeric bitumen having a sanded upper surface and self adhesive underside compatible with wall and roof air/vapour retarder membranes and as recommended by acceptable vapour retarder membrane manufacturers listed above.

2.05 POLYSTYRENE INSULATION

.1 Extruded polystyrene (XPS) insulation: to CAN/ULC-S701, thickness as indicated, square edges.

2.06 EXTRUDED POLYSTYRENE COMPOSITE INSULATION (CONCRETE TOPPING)

.1 Extruded polystyrene (XPS): to CAN/ULC-S701, thickness as indicated.

.2 Concrete topping: latex modified concrete, 10 mm thick, smooth surface, colour grey.

.3 Size 600 x 1200 mm, tongue and groove edges.

2.07 MEMBRANE

.1 Ethylene propylene diene monomer (EPDM sheet membrane): to ASTM D 4637.

.1 Type 1, Class A, 1.6 mm thick, non-reinforced membrane for use in fully adhered system.

.6 Type I Exposed face colour: white-on-black, 2.3 mm thick.

2.08 OVERLAY BOARD

.1 Asphalt based recovery board with non-woven glass facers, as recommended by the membrane manufacturer.

.2 Asphalt impregnated fiberboard to CAN/ULC S706, fully adhered to primary insulation.

.3 Semi-flexible core board composed of mineral fortified asphaltic core between layers of asphalt saturated felts, non-woven glass fibre mats.

.4 Plywood: Cover board for roof slope greater than or equal to 6%: 13 mm thickness Douglas fir or softwood plywood roof sheathing conforming to either CSA O121 or CSA O151, mechanically fastened to deck structure and sleepers.

.5 Gypsum Board: Cover board for high traffic roofs of any slope: Glass mat faced gypsum board, moisture and mould resistant, having a non-combustible core, primed ready for application of base sheets.

.8 Thickness: as indicated.

2.09 ADHESIVES

.1 Membrane Roofing Materials Adhesive: Manufacturer's recommended cold process materials compatible with specified roofing products.

.2 Insulation Adhesive: Manufacturers recommended adhesives specifically formulated for installation insulation to roofing materials and meeting accepted products status for specified Warranty Certificate.

.3 Gypsum Board Adhesive: Manufacturers recommended adhesives specifically formulated for installation of gypsum board to metal deck.

2.10 SEALANTS

.1 Sealants: asbestos-free sealant, compatible with systems materials. In accordance with Section 07 92 00 - Joint Sealants.

2.11 FASTENERS

.1 Sheathing to steel deck: No.10 flat head, self tapping, Type S, cadmium plated screws

.2 Insulation to substrate: fasteners and plates must meet FM Approval Standard #4470 for wind uplift and corrosion resistance.

.3 Membrane to substrate: Factory coated steel fasteners and metal plates meeting corrosion resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

.4 Roofing Nails: Spiral nails with steel round top cap 25 mm in diameter and 3 mm diameter shank, length to penetrate solid wood supports by at least 38 mm and plywood substrates by at least 19 mm.

2.12 ACCESSORIES

.1 Filter Fabric

.1 UV resistant, black woven polyolefin fabric for installation between insulation and stone ballast in protected membrane system

.1 Fabric to meet recommendation of insulation manufacturer.

.2 Product weight 93.5 gm/m^2.

.2 Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric mat, water permeable and resistant to ultraviolet degradation, type and weight as recommended by roofing system manufacturer for application.

.3 Protection Mat

.1 Non woven polypropylene needle punched felt.

.4 Fastening

.1 Bar, with pre-punched holes and screws.

.2 Screws and washers as recommended by manufacturer.

.5 Adhesives, Tapes and Primers

.1 Adhesive, tapes and primers, in accordance with manufacturer's recommendations.

.6 Flexible Walkways: Factory formed, nonporous, heavy duty, solid rubber, slip resisting, surface textured walkway pads or rolls, approximately 5 mm thick, and acceptable to membrane roofing system manufacturer.

.7 Sealants: asbestos-free sealant, compatible with systems materials, recommended by system manufacturer.

.8 Premanufactured Pipe Supports: Premanufactured pipe supports fabricated from 100% recycled rubber with 2.7 mm thickness galvanized steel frame, 150 mm wide x 100 mm tall x length to suit installation; including fasteners, bridge components, and angled supports as required for a complete installation and having the following accessories:

.1 Pipe and Conduit Support: Galvanized pipe clamp sized to suit gas pipe in accordance with manufacturer's instructions.

.2 Multi-Pipe and Conduit Support: Galvanized pipe support system size and number to suit pipes being supported in accordance with manufacturer's instructions.

.3 Extendable Height Support: Galvanized steel pipe extensions to suit installation in accordance with manufacturer's instructions.

.12 Roof drains: as specified in Mechanical Sections.

.13 Source Quality Control

.1 Provide laboratory test reports certifying compliance of roofing materials with specification requirements as described in PART 1, SUBMITTALS/QUALITY CONTROL.

3 EXECUTION

3.01 QUALITY OF WORK

.1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

.2 Do examination, preparation and roofing Work in accordance with Roofing Manufacturer's Specification Manual and CRCA Roofing Specification Manual, except where specified otherwise.

3.02 EXAMINATION

.1 Verification of Conditions: examine substrates and immediately inform HWDSB and Consultant in writing of defects.

.2 Evaluation and Assessment: prior to beginning work ensure:

.1 Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris.

.2 Curbs are built.

.3 Drains are installed at proper elevations relative to finished surfaces.

.4 Plywood and lumber nailer plates are installed to walls and parapets as indicated.

3.03 PREPARATION

.1 Protection of In-Place Conditions

.1 Cover walls, walks, sloped roofs and adjacent work where materials hoisted or used.

.2 Use warning signs and barriers:

.1 Maintain in good order until completion of Work.

.3 Dispose of rain water away from face of building until drains or hoppers installed and connected.

.4 Protect from traffic and damage:

.1 Comply with precautions deemed necessary HWDSB.

.5 Place plywood runways over work to enable movement of material and other traffic.

.6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.

.7 Seal and ballast exposed edges.

.8 Treat connectors and decking with rust proofing or galvanization if metal connectors used.

3.04 INSTALLATION - DECK SHEATHING

.1 Mechanically fasten Plywood to steel deck with screws spaced 400mm on centre each way.

.2 Place with long axis of each sheet transverse to steel deck ribs, with end joints staggered and fully supported on ribs.

3.05 INSTALLATION - VAPOUR RETARDER (STEEL DECK)

.1 Install roof vapour retarder to meet and overlap air and vapour retarder membrane from adjoining walls to ensure total continuity.

.2 Install vapour retarder membrane at insulation perimeters and around each element piercing the insulation to ensure sealed connections with base sheet at up stands.

.3 Laminated Vapour Retarder (Steel Deck)

.1 Adhere laminated vapour retarder using solvent based adhesive as per manufacturer's instructions.

.4 Polyethylene Vapour Retarder (Concrete / Gypsum Board)

.1 Apply CGSB approved 6 mil polyethylene.

.2 Embed two piles of felts glass in hot bitumen spread at rate of 1.2 kg/m^2 for glass asphal.

3.06 INSULATION

.1 Insulation: Fully Adhered, Adhesive Application

.1 Adhere insulation to laminated vapour barrier using solvent-based adhesive.

.2 Apply 2 layers insulation with joints tightly butted, and with upper surface flush across joints, following layout procedures recommended by manufacturer, in accordance with reviewed shop drawings.

.3 Place boards in parallel rows with ends staggered, and in firm contact with one another.

.4 Stagger joints between lower layer and upper layer of insulation as recommended by Manufacturer.

.5 Install tapered insulation as second insulation layer, in accordance with shop drawings.

.6 Apply adhesive in continuous ribbons at 300 mm on centre.

.7 Cut insulation to fit neatly to perimeter blocking and around all projections through roof.

3.07 (EXPOSED) CONVENTIONAL MEMBRANE ROOFING (CMR) APPLICATION

.1 Membrane, adhered, exposed application:

.1 Position membrane over insulation starting at highest point.

.2 Allow membrane to relax for minimum of 30 minutes.

.3 Apply adhesive to membrane and substrate in accordance with manufacturer's written instructions.

.2 Lap joints:

.1 Clean both mating surfaces, apply primer and splicing contact cement in accordance with manufacturer's written instructions.

.2 Apply double-sided adhesive tape in accordance with manufacturer's written instructions.

.3 Solvent clean edge and apply lap sealant.

.4 Perimeter securement with mechanical fastened in accordance with manufacturer's written instructions.

.3 Edge securement:

.1 Attach fastening strips to mechanically secure membrane. Ensure screws penetrate into deck or wood nailers.

.2 Adhesive recommended by manufacturer.

.4 Flashings:

.1 Install cured or uncured EPDM membrane flashings in accordance with manufacturer's written instructions.

.5 Penetrations:

.1 Install drain pans, vent stack covers and other penetration flashings and seal to membrane in accordance with manufacturer's recommendations and details.

3.08 SITE QUALITY CONTROL

.1 Inspection:

.1 Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to HWDSB and Consultant.

.2 Notify HWDSB and Consultant 48 hours in advance of date and time of inspection.

.3 Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

3.12 CLEANING

.1 Clean Work in accordance with Section 01 74 00 - Cleaning.

.2 Clean to HWDSB approval, soiled surfaces, spatters, and damage caused by Work of this Section.

.3 Check drains to ensure cleanliness and proper function, and remove debris, equipment and excess material from site.

.4 Waste Management: separate waste materials for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

.1 Collect, package and store EPDM membrane cut-offs and waste material for recycling, and return to recycler in accordance with Waste Management Plan.

.2 Plan and coordinate insulation work to minimize generation waste.

.3 Place used hazardous sealant tubes, adhesive containers and materials defined as hazardous or toxic in designated containers.

.4 Clearly label location of salvaged material's storage areas and provide barriers and security devices.

.5 Ensure emptied containers are sealed and stored safely.

.6 Divert unused aggregate materials from landfill to local facility for reuse.

.7 Dispose unused coating material at official hazardous material collections site.

.8 Do not dispose unused adhesive, sealant and materials into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.

.9 Dispose unused adhesive material at official hazardous material collections site.

.10 Dispose unused sealant material at official hazardous material collections site.

END OF SECTION

1 GENERAL

1.01 SUMMARY

.1 This Section specifies standard performance and high performance fluid-applied flooring systems.

1.02 RELATED REQUIREMENTS

.1 Section 03 00 00 - Cast-in-Place Concrete

.2 Section 07 90 00 – Joint Sealants

.3 Section 02 81 00 – Hazardous Materials

1.03 DEFINITIONS

.1 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB's, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handled improperly as defined by the Federal Hazardous Products Act (RSC 1985) including latest amendments.

.2 Hazardous Material: product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into environment.

1.04 REFERENCE STANDARDS

.1 ASTM International (ASTM)

.1 ASTM C307 - Standard Test Method For Tensile Strength Of Chemical-Resistant Mortar, Grouts, And Monolithic Surfacings.

.2 ASTM C413 - Standard Test Method for Absorption of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

.3 ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

.4 ASTM C579 - Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

.5 ASTM C580 - Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

.6 ASTM D307 - Method of Test for Spectral Characteristics and Color of Objects and Materials.

.7 ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.

.8 ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

.9 ASTM D638 - Standard Test Method for Tensile Properties of Plastics.

10. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics.

11. ASTM D1894 - Standard Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheeting.

12. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber

Abraser.

13. ASTM D4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

14. ASTM D7234 - Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.

15. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

16. ASTM F150 - Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring.

1.05 ACTION AND INFORMATIONAL SUBMITTALS

.1 Action Submittals: Provide the following in accordance with Section 01 33 00 - Submittal Procedures before starting work of this Section:

.2 Product Data:

- .1 Manufacturer's data sheets on each product to be used.
- .2 Preparation instructions and recommendations.
- .3 Storage and handling requirements and recommendations.
- .4 Typical installation methods.

.3 Samples for Verification: Two representative units of each type, size, pattern and color.

1.06 ADMINISTRATIVE REQUIREMENTS

.1 Coordination: Coordinate work of this Section to avoid interference with work by other Sections.

.2 Scheduling: Account for HWDSB's project schedule.

1.07 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

.2 Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.

.3 Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

.4 Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.

- .1 Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
- .2 If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
- .3 Retain mock-up during construction as a standard for comparison with completed work.
- .4 Do not alter or remove mock-up until work is completed or removal is authorized.

.5 Regulatory Requirements: Perform work of this Section in accordance with the following:

- .1 Federal Workers' Compensation Service, Ontario Workers' Compensation Boards/Commissions
- .2 Government of Canada, Labour Program: WSIB

1.08 PRE-INSTALLATION CONFERENCE

.1 Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.09 DELIVERY, STORAGE, AND HANDLING

.1 Store and handle in strict compliance with manufacturer's written instructions and recommendations.

.2 Protect from damage due to weather, excessive temperature, and construction operations.

1.10 PROJECT CONDITIONS

.1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.11 WARRANTY

.1 Manufacturer's standard limited warranty unless indicated otherwise.

2 PRODUCTS

2.01 MANUFACTURERS

.1 Acceptable Manufacturers: BASF Canada Inc., Sika Canada Inc. or Toronto Epoxy Pros.

.2 Substitutions: Permitted, subject to review by HWDSB and JASON FUNG ARCHITECT INC.

.3 Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.02 MATERIALS

.1 General

.1 All materials under work of this Section, including but not limited to, primers and epoxy flooring are to have low VOC content limits.

.2 Each material used in the application of each flooring system shall be as recommended or manufactured by the supplier of the flooring system.

2. Epoxy flooring and base: Trowelled system, silica sand filled 100% epoxy binder, minimum 6 mm thick, with one coat of 100% solids chemical free resistant epoxy top coat. Colours and finishes to later selection by HWDSB and JASON FUNG ARCHITECT INC. from manufacturer's full colour range; ‘MasterTop 1245CLAD' by BASF Canada Inc. or ‘Sikafloor Morritex Trowel System' by Sika Canada Inc.

.3 Primer: As recommended by manufacturer.

3 EXECUTION

3.01 EXAMINATION

.1 Do not begin installation until substrates have been properly constructed and prepared.

.2 If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.02 PREPARATION

.1 Prepare substrate using steel aggregate blast method and vacuum substrate free of debris and dust.

.2 Fill minor cracks and voids and prime surfaces in accordance with manufacturer's recommendations.

.3 Protect adjacent surfaces from damage resulting from this work. Mask and/or cover adjacent surfaces, fixtures, and equipment as necessary.

.4 Fill open control joints, and other cracks and voids with material compatible with

epoxy materials.

.5 Clean prime and seal surfaces as recommended by epoxy manufacturer.

3.03 APPLICATION

.1 Apply epoxy flooring in accordance with manufacturer’s printed instructions.

.2 Apply epoxy with care to ensure that no laps, voids, or other marks or irregularities are visible, and with an appearance of uniform colour, sheen and texture, all within limitations of materials and areas concerned.

.3 Match colours and textures of approved samples.

.4 Make clean true junctions with no visible overlap between adjoining applications of

epoxy.

.5 Chase edge of adjacent floor systems so that epoxy finishes flush with adjacent floor systems.

3.04 SITE TOLERANCES

.1 Finish surfaces shall be level, or straight where sloped to drains, within a tolerance of 1.5 mm in 3m, and shall not vary more than 0.8 mm in any running 300 mm.

3.05 FIELD QUALITY CONTROL

.1 Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

.2 Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.06 CLEANING AND PROTECTION

.1 Clean products in accordance with the manufacturer's recommendations.

.2 Leave storage and mixing areas in same condition as equivalent spaces in project.

.3 Touch-up, repair or replace damaged products before Substantial Completion.

.4 Erect barriers to prevent the entry and presence of personnel not performing work of this Section during application of epoxy flooring, and for 48 hours following completion of application.

END OF SECTION

Appendix A – Construction School Specific Information Sheet Sample

In addition to the terms and conditions of the Contract Documents, the Contractor shall follow the protocols of the Construction Site Specific Information Sheet, sample provided below.
A completed version of this document, with site specific content, will be provided to the Contractor at the pre-construction meeting.

HWDSB

Capital Projects
Facility Services

Construction School Specific Information Sheet

1. School Information:

School Name:	Insert School Name
Bell Times	
Morning (School Entry)**:**	0:00 AM
Afternoon (School Dismissal):	0:00 PM
Aftercare Program Dismissal:	6:00 PM
Caretaking Phone Number:	000-000-0000
***After-Hours Emergency Number:**	905-667-3079
****Caretaking Hours**	
September to June	6:00 AM – 10:00 PM
December Holiday Break	6:00 AM – 2:00 PM
March Break	6:00 AM – 2:00 PM
July to August	6:00 AM – 2:00 PM
Saturday / Sunday	CLOSED
Account Code:	HP0000
Security Panel Code:	0000

*Please call the After-Hours Emergency Number noted above if issues arise outside of Caretaking Hours. These would include unanticipated interruption of services, issues with building or room access, fire alarm or security concerns, etc.

**Caretaker hours are not guaranteed. Please confirm with the HWDSB project supervisor prior to any work taking place, and then on a weekly basis throughout the duration of the project.

2. School Entry for afterhours, school holidays or closures:

Please follow these steps upon entry to the building outside of caretaker hours and on school holidays or closures:

1. Call API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) that access to the building will be required. They will require the HP code noted above.
2. Disarm the security panel when arriving.
3. Arm the security panel when leaving.
4. Call API to verify that the building is armed and secure.

Failure to follow this procedure outside of caretaker hours and on school holidays or closures will result in an automatic dispatch of a security guard to the building to verify who has entered/exited the building. Security costs associated with the dispatch of a security guard for failing to follow the procedure will be expensed to the contractor responsible for the incident.

3. Protocol for Work Impacting Fire Alarm System or Devices

The contractor is to follow this procedure when the fire alarm system is impacted.

A. References and Definitions:

Fire Alarm Control and Testing Service Provider: Hamilton Fire Control

Fire Alarm and Security System Monitoring Service Provider: API Alarm Inc.

Fire Watch: An hourly patrol of areas that are not protected/monitored by the fire alarm system. These include but are not limited to, a disconnected device, a covered device, a bypassed device, or device in trouble. The general contractor is responsible for fire watch in all construction areas. Caretaking staff are responsible for fire watch in all other areas of the school. Fire watch is to be recorded in a Fire Watch Log.

Fire Watch Log: The general contractor is to document and maintain a written log confirming fire watch has been conducted hourly. This log is to remain on site for the duration of the project. This written log is maintained separate from the caretaking fire watch log. The caretaking log is digitally recorded within the Boards asset management system (eBase).

B. Mandatory Pre-Construction Site Meeting with Hamilton Fire Control

1. Contractor to request a meeting prior to mobilization with Michael Fleet from Hamilton Fire Control (HFC), the project supervisor from HWDSB, the facility operation supervisor from HWDSB and the head caretaker to review any work that will affect the fire alarm system. This can be coordinated by the project supervisor upon request.

   Contact: Michael Fleet - Hamilton Fire Control
   Phone: (905) 527-7042
   Email: michael@hamiltonfirecontrol.ca

2. Contractor to minute the meeting and submit to the project supervisor and Michael Fleet from HFC for review within 48 hours of the site-walk-through.

C. Mandatory Construction Protocol if the Fire Alarm System is Impacted

1. Contractor to follow procedures discussed and documented from the pre-construction site meeting with Hamilton Fire Control.

2. If devices are impacted during occupied hours:
   - Per the Fire Safety Plan, contractor to notify API that they'll be on Fire Watch (in the area of the impacted devices only). API will not take any action; the notification is for information purposes only.
   - Contractor to either take the device offline or protect/cover it. Fire watch (in the area of the impacted device only) is required in either of these scenarios. If the alarm goes off during work, all occupants, including contractors, are to evacuate the building and the fire department will be dispatched.

   If hot work is taking place, prior to the above-noted steps:
   - Contractors are required to advise HWDSB at least 24 hours before any hot work is scheduled to take place.
   - The contractor is required to provide a hot work permit to HWDSB at the same time.

3. If devices are impacted outside of occupied hours, and the contractor is the only party in the building:
   - The same protocol above is to be followed.

4. If the system or specific devices will not be operational while the school is completely vacant (i.e. overnight or on a weekend when no Work is taking place):
   - No action required.

The system is to be bypassed (device(s) or full system). The system is NOT to be put on test. The only time the system will be put on test and the school will be on Fire Watch is if the system is being tested.

In the event a fire alarm device is activated, all occupants of the school, including contractors, must evacuate the school. The fire department will be dispatched. The contractor will be responsible for all fire department costs resulting from construction.

4. Please follow these steps for planning any service (electrical, gas, water) shutdowns:

A. Internal Localized System/Service Shutdowns:

1. Localized shutdowns **require minimum 3 days' notice** to HWDSB project supervisor for coordination with the school facility and staff.

2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. If a shutdown will impact the security system, the contractor shall contact API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) of the shutdown.
4. If a shutdown impacts the fire alarm system, the contractor shall follow the Fire Alarm Bypass Protocol, section 4 above.
5. If required, the contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.

    - Chamberlain Building Services Inc - info@chbs.ca, 905-664-1914 or
    - Union Boiler Company Limited - info@unionboiler.com, 905-528-7977

6. Process will vary based on services shutdown and ability to localize shutdown.

B. Complete School System/Service Shutdowns:

1. Complete building shutdowns **require minimum 5 days' notice** to HWDSB project supervisor.
2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. Contractor to contact API Alarm Inc. at 1-877-787-5237 and notify them in advance of the day(s) and time(s) of shutdown.
4. During the shutdown, the contractor is responsible for following Fire Alarm Bypass Protocol, section 4 above.
5. The contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.

    - Chamberlain Building Services Inc - info@chbs.ca, 905-664-1914 or
    - Union Boiler Company Limited - info@unionboiler.com, 905-528-7977

6. HWDSB project supervisor will coordinate with other HWDSB departments to ensure all systems (IIT, security, communications) are up and running after service disruption has concluded.
7. If required, HWDSB project supervisor will coordinate with City of Hamilton staff if site has shared facilities such as recreation centre, community centre, pool or library, etc.
8. Process will vary based on service shutdown.

C. Heating and Cooling System Shutdowns:

1. Heating and cooling system shutdowns **require minimum 5 days' notice** to HWDSB project supervisor

2. Shutdowns must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.
3. The contractor is to coordinate with Board vendor/s to be on site to ensure boilers, roof top units, heat pumps, etc. are functioning properly after service disruption has concluded.

    - Chamberlain Building Services Inc - info@chbs.ca, 905-664-1914 or
    - Union Boiler Company Limited - info@unionboiler.com, 905-528-7977

4. If the boiler system is drained, the contractor upon refilling the system, is responsible for coordinating Board approved chemical treatment vendor to treat water.

    - Aquarian Chemicals Inc - info@aquarianchemicals.com, 905-825-3711

5. Process will vary based on services shutdown and ability to localize shutdown.

D. Asbestos Abatement and Designated Substance Related Work:

1. Designated substance related work **requires minimum 5 days' notice** to HWDSB project supervisor.
2. Designated substance related work in occupied areas must be completed outside of school bell times/operational hours which vary by facility and must be scheduled for evenings after 6:00 PM, weekends or board holidays.