Region of Peel
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Wednesday, November 20, 2024

DOCUMENT - 2024-346P

Construction of the Docksteader Peel Region Paramedic Services Reporting Station

ADDENDUM 2

Number of Pages: 5 plus the following,

- Division 10 Specialties, Section 10 99 99 – Manufactured Specialties, Attached Addendum 2
- Division 11, Equipment, Section 11 41 23 – Walk-in Coolers and Freezers, Attached Addendum 2
- Division 7, Thermal and Moisture Protection, Section 07 52 16, Modified Bituminous Membrane Roofing, Revised Addendum 2
- Division 11, Equipment, Section 11 11 26 – Vehicle Washing Equipment, Revised Addendum 2
- A041 – Exterior Building Assemblies, Symbols & Annotations, dated November 12th, 2024, Revised Addendum 2
- L100 – Landscape Site Plan, dated November 12th, 2024, Revised Addendum 2
- L101 – Layout Plan, dated November 12th, 2024, Revised Addendum 2
- L102 – Planting Plan, dated November 12th, 2024, Revised Addendum 2
- L201 – Landscape Sections, dated November 12th, 2024, Revised Addendum 2
- L301 – Details, dated November 12th, 2024, Revised Addendum 2
- L302 – Details, dated November 12th, 2024, Revised Addendum 2.
- L303 – Details, dated November 12th, 2024, Revised Addendum 2

Referring to the above Document 2024-346P - Construction of the Docksteader Peel Region Paramedic Services Reporting Station, please note the following Modifications to the Specifications:

1. **Add:** Division 10 Specialties, Section 10 99 99 – Manufactured Specialties, Attached Addendum 2

2. **Add:** Division 11, Equipment, Section 11 41 23 – Walk-in Coolers and Freezers, Attached Addendum 2

3. **Delete:** Division 7, Thermal and Moisture Protection, Section 07 52 16, Modified Bituminous Membrane Roofing in its entirety.

   Replace With: Division 7, Thermal and Moisture Protection, Section 07 52 16, Modified Bituminous Membrane Roofing, Revised Addendum 2.

4. **Delete:** Division 11, Equipment, Section 11 11 26 – Vehicle Washing Equipment in its entirety.

   Replace With: Division 11, Equipment, Section 11 11 26 – Vehicle Washing Equipment, Revised Addendum 2.

Referring to the above Document 2024-346P - Construction of the Docksteader Peel Region Paramedic Services Reporting Station, please note the following Modifications to the Drawings.

1. **Delete:** A041 – Exterior Building Assemblies, Symbols & Annotations, dated September 23rd, 2024 in its entirety.

   Replace With: A041 – Exterior Building Assemblies, Symbols & Annotations, dated November 12th, 2024, Revised Addendum 2.

2. **Delete:** L100 – Landscape Site Plan, dated September 23rd, 2024 in its entirety.

   Replace With: L100 – Landscape Site Plan, dated November 12th, 2024, Revised Addendum 2.

3. **Delete:** L101 – Layout Plan, dated September 23rd, 2024 in its entirety.

   Replace With: L101 – Layout Plan, dated November 12th, 2024, Revised Addendum 2.

4. **Delete:** L102 – Planting Plan, dated September 23rd, 2024 in its entirety.

   Replace With: L102 – Planting Plan, dated November 12th, 2024, Revised Addendum 2.

5. **Delete:** L201 – Landscape Sections, dated September 23rd, 2024 in its entirety.

   Replace With: L201 – Landscape Sections, dated November 12th, 2024, Revised Addendum 2.

6. **Delete:** L301 – Details, dated September 23rd, 2024 in its entirety.

   Replace With: L301 – Details, dated November 12th, 2024, Revised Addendum 2.

7. **Delete:** L302 – Details, dated September 23rd, 2024 in its entirety.

   Replace With: L302 – Details, dated November 12th, 2024, Revised Addendum 2.

8. **Delete:** L303 – Details, dated September 23rd, 2024 in its entirety.

   Replace With: L303 – Details, dated November 12th, 2024, Revised Addendum 2.

Referring to the above Document 2024-346P - Construction of the Docksteader Peel Region Paramedic Services Reporting Station, please note the following responses to questions raised:

Question 1:

Question by site servicing- Regarding Site Servicing - There is a Concrete Irrigation Tank as well as a Concrete Stormwater Tank both with anti-bouyancy collars shown on drawing -Site Servicing Plan - Gen-1 Sheet 5 of 6. I cannot find any details on either of these tanks. Please provide detailed drawings and specifications for each tank.

Answer 1:

Underground storage tank design to be completed by the precast concrete tank designer and to meet the technical requirements described in Specification 33 46 11 – Stormwater Management Facilities. Prepared shop drawing to be reviewed by the design engineer during construction.

Question 2:

Division 21 13 00 item 1.3- will the successful candidates be advised via addenda 7 days prior in order to carry sub-contractors which are acceptable to consultant?

Answer 2:

The proponent needs to submit above mentioned information to the Consultant 7 days prior to the close of the sub trade tender. Once the Tender is awarded, we will let the trade and subtrade know about the successful proponent.

Question 3:

Please forward flagpole specification - if any

Answer 3:

Refer to the modifications to the Appendices above, Specifications, Section 07 52 16, Modified Bituminous Membrane Roofing has been attached.

Question 4:

Could you please send me the Geothermal drawings?

Answer 4:

The project does not contain a geothermal system.

Question 5:

The drawing stated 13mm coverboard and on the specs it is stating to use SopraRock DD Plus (this product comes at 2.0”- 6.0” thickness). Please clarify the product to use for the coverboard.

Answer 5:

Please refer to Addendum 2 Specification Section 07 52 16 and Drawing A041 – Exterior Building Assemblies, Symbols & Annotations attached.

Question 6:

The spec specified Detec's TruGround conductive primer in order to enable ELD (electronic leak detection) testing. Unfortunately, TruGround is not compatible with Soprema's SopraRock DD Plus. TruGround would need to be applied to an asphaltic board such as Soprema's Sopraboard in order to be compatible.

Answer 6:

Please refer to Addendum 2 Specifications and Drawings. No change to ELD system is being considered.

Question 7:

Can we use Internation Leak Detection (ILD) in Lieu of Detec System. Laying down a wire mesh under the base sheet membrane to properly test for leak.

Answer 7:

Please refer to Addendum 2 Specifications and Drawings Alternatives will NOT be considered prior to contract award, the final decision on use of any alternatives that the awarded bidder may have offered is at the sole discretion of the Agency after award of the contract.

Mario MacGlashan
Procurement Advisor

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 modified bituminous membrane roofing work specified herein. This includes, but is not necessarily limited, to:

.1 Conventional roof assembly system consisting of cap sheet materials, base-sheet materials, flashing membrane materials, support boards, insulation, and vapour retarders.

.2 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. Related requirements provided below are for convenience purposes only:

.1 Section 06 10 00 - Rough Carpentry

.2 Section 07 21 00 - Thermal Insulation

.3 Section 07 62 00 - Sheet Metal Flashing and Trim.

.4 Section 07 92 00 - Joint Sealants

.5 Division 22, Plumbing

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. Refer to 01 42 19 - Reference Standards.

1.4 Definitions

1.4.1 Roofing Terminology: Refer to CRCA Specifications Manuals and ASTM D1079 for the definition of terms related to roofing work in this Section.

1.5 Preinstallation Meetings

1.5.1 Project Meetings, generally: in accordance with Section 01 31 00, Project Management and Coordination.

1.5.2 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 Required Attendance: Subcontractor performing work of this Section, representatives from manufacturers and fabricators involved in or affected by installation.

.2 Notification: Notify Consultant and Owner of scheduled meeting dates in advance; minimum 72 hour notice required.

.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.

.3 Review and finalize construction schedule and verify availability of materials, personnel, equipment, and facilities needed to make progress and avoid delays.

.4 Review methods and procedures for roofing installation, including manufacturer's instructions.

.5 Review structural loading limitations of roof deck during and after roofing.

.6 Examine supports, deck, and alignment and attachment to structural members.

.7 Review flashing, details, penetrations, openings, and conditions of other elements that may affect roofing system installation.

.8 Discuss governing regulations, insurance, certificates, tests, and inspections as applicable.

.9 Review temporary protection requirements for roofing system before, during and after installation.

.10 Discuss roof observation and repair procedures after roofing installation.

.4 Reporting: Record significant discussions, agreements, and disagreements, including required corrective measures and actions.

.5 Distribution: Distribute minutes of the meeting to each party present and to other parties requiring information not more than 72 hours after meeting.

1.6 Submittals

1.6.1 Submittals, generally: in accordance with Section 01 33 00, Submittal Procedures.

1.6.2 Product Data: Submit manufacturer's product characteristics, catalogue cuts, installation instructions and other relevant information for each material and product used for modified bituminous membrane roofing work specified in this Section.

1.6.3 Shop Drawings: Submit Shop Drawings indicating material layouts, details of construction, connections, and relationship with adjacent construction. As a minimum indicate following:

.1 Include plans, elevations, sections and details as applicable.

.2 Indicate field-measured dimensions on Shop Drawings.

.3 Base flashings and membrane terminations.

.4 Tapered insulation, including slopes.

.5 Crickets, saddles, and tapered edge strips, including slopes.

.6 Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

.7 Include coping design including fastening type and frequency.

1.6.4 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 EPD Scope: Must cover Cradle-to-Gate (A1 to A3) as a minimum.

.2 EPD Impact Categories: Must report Global Warming Potential (GWP) in form of unit of kgCO2e/declared unit as a minimum.

.3 Product Options: Give preference to Products with compliant documentation when choice is at Contractor's option.

1.6.5 Material Ingredient Disclosure: When available, submit documentation disclosing chemical inventory of materials to at least 0.1% (1000ppm) meeting following criteria:

.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.

.2 Product Options: Give preference to Products with compliant documentation when choice is at Contractor's option.

1.6.6 Manufacturer's Certificate:

.1 Submit letter signed by manufacturer certifying that products meet or exceed specified requirements. Submit evidence of meeting performance requirements by submitting additional test and evaluation reports as well as conformance to applicable listings.

.2 Compatibility: Compatibility between components of roofing system is essential. Provide written declaration to Consultant stating that materials and components, as assembled in system, meet this requirement.

1.6.7 Warranties: Submit copies of warranties specified in this Section for Consultant's review.

1.6.8 System Test Reports: Submit reports substantiating conformance with requirements of CSA A123.21 based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.

1.6.9 Submit for Consultants review, QA checklist used as part of installation process. Make modifications to QA checklist based on Consultant feedback

1.7 Closeout Submittals

1.7.1 Closeout Submittals, generally: in accordance with Section 01 78 00, Closeout Submittals.

1.7.2 Operating and Maintenance Data: Submit care and maintenance instructions for modified bituminous membrane roofing to be included in building operation and maintenance manual.

1.7.3 Warranty Documentation: Submit copy of extended warranties specified in this Section.

1.8 Quality Assurance

1.8.1 Manufacturer Qualifications: Provide Products for work of this Section by manufacturer with at least 15 years' experience manufacturing such materials.

.1 Manufacturer shall employ trained technical service representatives, independent of sales.

.2 Manufacturer shall be an ISO 9001 registered company and provide a 'Quality Compliance Certificate (QCC)' for reporting/confirming tested values of modified bitumen membrane materials upon request.

.3 Manufacturer's Representative: Contractor to arrange for a daily on-site technical representative of the manufacturer or a third-party roofing consultant to review substrate conditions and new roof system applications.

1.8.2 Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to obtain manufacturer's extended warranty specified in this Section.

.1 Installer must be approved by manufacturer for installing roof system and to authenticate warranties.

.2 Installer must have a minimum 10 years of experience in low sloped roofing systems.

.3 Installer must be an active member of Ontario Industrial Roofing Contractors Association (OIRCA) or CRCA.

1.8.3 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 Mixing Products across from various manufacturers without manufacturer's or Consultant's written permission is not permitted.

1.8.4 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 Location: In-situ (i.e. first installation), as directed on site by Consultant.

.2 Construct mock-up 10 m² (100 sq ft.) minimum size showing typical lap joint, one inside corner and one outside corner.

.3 Purpose: To set benchmarks for installation and to judge subsequent work. Maintain Mock-ups during construction in undisturbed condition.

.4 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.

1.9 Delivery, Storage And Handling

1.9.1 Product Requirements, generally: in accordance with Section 01 61 00, Common Product Requirements.

1.9.2 Deliver, store and handle modified bituminous membrane roofing materials in accordance with manufacturer's written instructions.

1.9.3 Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product

brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

1.9.4 Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

.1 Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

1.9.5 Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

1.9.6 Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.10 Field Conditions

1.10.1 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements. Do not install roofing system during inclement weather that may affect adhesion, curing or sealing of membranes or components.

1.11 Warranty

1.11.1 Contractor’s Warranty: Provide a two-year written warranty on CRCA standard warranty form, covering replacement or repair of defective roofing components, including membrane, flashing, insulation, and accessories, to maintain a watertight system at no expense to the Owner. Conduct necessary repairs during the warranty period without additional cost to the Owner. Perform a final inspection at warranty end and repair all defects. Emergency repairs by the Owner during the warranty period do not void the warranty.

1.11.2 Manufacturer’s Warranty: Provide a 25-year, non-prorated, no dollar limit warranty covering labor, materials, and workmanship for the roofing system. This warranty must cover repairs for defects and leaks, be transferable at no cost, and allow for emergency repairs by the Owner without voiding the warranty.

2 . PRODUCTS

2.1 Manufacturers

2.1.1 Provided requirements of Contract Documents are satisfied, the following manufacturers may supply Products for work this Section:

.1 Henry Company

.2 IKO.

.3 Johns Manville.

.4 Siplast, Inc.

.5 Soprema.

2.1.2 Substitution Limitations: In accordance with requirements of Section 01 25 00, Substitution Procedures.

2.2 Performance / Design Criteria

2.2.1 General Performance: installed membrane roofing and flashing system must remain watertight and withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defects in manufacture, fabrication, installation, or construction.

2.2.2 Wind Uplift Design Criteria: Roofing system must have undergone testing by a qualified testing and inspection agency to resist uplift pressure based on Ontario Building Code and CAN/CSA A123.21 requirements as follows:

.1 Corner Uplift Pressure: -2.2 kPa

.2 Perimeter Uplift Pressure: -1.2 kPa

.3 Field-of-Roof Uplift Pressure: -0.9 kPa

2.2.3 Roof Fire Covering Classification: Conforming to CAN/ULC-S107 and to OBC 3.1.15.2.

2.2.4 Material Compatibility: Ensure compatibility between roofing system components and interfacing materials. Roof system must not adversely affect adjacent materials.

2.3 Cap Sheet Membrane

2.3.1 **Modified Bitumen Membrane (Composite-reinforced), torched – High HRI:**

.1 Classification: CSA A123.15, Type C, Grade 1 or 2.

.2 Reinforcement: combination of polyester and glass fibres to ASTM D6162, having nominal weight of 160 g/m^2

.3 Top/bottom surfaces: Manufacturer’s standard suitable for application indicated.

.4 Granule colour: Bright white.

.1 Solar Reflectance Index (SRI) (ASTM E1980)
.1 Initial SRI: ≥ 82
.2 3-year-aged SRI: ≥ 64.

.5 Application: Torched.

.6 Basis-of-Design Products: "SOPRASTAR FLAM HD FR GR" (i.e. Class A) by Soprema Inc or approved equivalent FR cap sheet as follows:

.1 "DynaWeld FR CR (coated)" by Johns Manville

.2 "Armourcool Granular TP-HD " by IKO

.3 "Parafor 30 TG BW" by Siplast

.4 "modifiedPLUS® NP250gT4 with Solarflex Coating" by Henry Company

2.4 Base Sheet Membrane

2.4.1 **Modified Bitumen Membrane (Composite-reinforced), adhered in cold adhesive:**

.1 Classification: CSA A123.15; Type C, Grade 3.

.2 Reinforcement: combination of polyester and glass fibres to ASTM D6162, having nominal weight of 160 g/m²

.3 Top/bottom surfaces: Manufacturer's standard suitable for application indicated.

.4 Application: Fully adhered with hot-asphalt.

.5 Basis-of-Design Products: "Colply Base 410" by Soprema Inc or approved equivalent as follows:

.1 "DynaLastic 180 S " by Johns Manville

.2 "Modiflex MP-HD-SS-BASE" by IKO

.3 "Paradiene 20 " by Siplast

.4 "modifiedPlus NP180 s/s" by Henry Company

2.5 Insulation Cover Board

2.5.1 Manufacturer's standard type designed to protect insulation and provide firm substrate for roof installation:

.1 Description: ASTM D6506 or CSA A123.25, semirigid sheets of fiberglass or mineral-reinforced-asphaltic core, pressure laminated between two asphalt-saturated fibrous liners, and compatible with leak detection systems.

.2 Thickness: Nominal 6 mm (1/4 inch).

.3 Basis-of-Design: "SOPRABOARD 1/4 IN" by Soprema Inc.

2.6 Roof Insulation

2.6.1 Material Tag: This item is noted as “INS-2” on Drawings and Schedules.

2.6.2 **Polyisocyanurate foam insulation board:**

.1 Classification: CAN/ULC-S704, Type 2 and ASTM C 1289, Type II, Class 2, Grade 2 inorganic glass-fibre mat facer on both major surfaces. Organic facers are not permitted.

.2 Compressive strength: minimum 138 kPA (20 psi).

.3 Minimum RSI (R) Value: 1.0 per 25 mm (5.7 per 1”) based on LTTR testing per CAN/ULC-S770.

.4 Thickness: As indicated on Drawings and required to provide specified R-values.

.5 Application: Fully adhered with hot-asphalt.

.6 Basis-of-Design Products: “Sopra-ISO Plus” by SOPREMA, Inc.or approved equivalent as follows:

.1 “ENRGY 3® CGF” Johns Manville.

.2 “IKOTherm III” by IKO Industries Inc.

.3 “Paratherm Poly ISO” by Siplast

.4 Approved equivalent by Atlas Roofing Corporation.

2.6.3 Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of not less than 1:48 (1/4 inch per 12 inches) unless otherwise indicated. Refer to Drawings for specific slopes. Tapered insulation to be of identical composition as roof insulation board.

2.6.4 Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.7 Roof Vapour Retarder

2.7.1 Material Tag: This item is noted as “VCM-1” on Drawings and Schedules.

2.7.2 Description: minimum 0.80- mm (31.5-mil) thick, self-adhering-sheet vapour retarder consisting of tri-laminate woven polyethylene film laminated to layer of SBS-modified bitumen with slip-resisting surface and release film backing specifically designed for use in roofing assembly specified.

.1 Basis-of-Design Products: "Sopralene 180 Sanded" by SOPREMA, Inc. or approved equivalent.

2.7.3 Primer: Low-VOC, water-based polymer emulsion primer as recommended by roofing membrane manufacturer.

.1 Basis-of-Design Products: “Elastocol Stick Zero” or “Elastocol H2O” by SOPREMA, Inc. or approved equivalent as follows:

.1 “SAM LVC” by IKO Industries

.2 “TA 119” by Siplast

.3 “Blueskin LVC Primer” by Henry Company

2.8 Thermal Barrier (Roof Sheathing Board)

2.8.1 Manufacturer’s standard type designed to provide thermal barrier and provide firm substrate for vapour retarder installation:

2.8.2 Fire Response:

.1 Combustibility: non-combustible in accordance with CAN/ULC S114.

.2 Surface Burning Characteristics: Flame spread: 0 / Smoke developed: 0 in accordance with CAN/ULC S102.

2.8.3 Mould Resistance (ASTM D3273): Minimum 10 rating (no mould growth after four week).

2.8.4 Maximum Board Size: 1220 mm x 1220 mm (4 ft x 4 ft).

2.8.5 Following types are acceptable:

.1 Fibre-Reinforced Roof Sheathing Board: ASTM C1278/ASTM C1278M, cellulosic-fibre-reinforced, water-resistant gypsum substrate.

.1 Basis-of-Design Products: "Securock® - Brand Gypsum-Fiber Roof Board" by CGC Inc. or approved equivalent.

2.8.6 Adhesive: Insulation manufacturer's recommended bead-applied, low-rise, multicomponent urethane adhesive or full-spread spray-applied, low-rise, two-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer

.1 Basis-of-Design Product: “Duotack” by SOPREMA, Inc.; or approved equivalent as follows:

.1 “Millenium Adhesive” by IKO Industries;

.2 “MJM Green 2-Part UIA Canister” by Johns Manville.

2.9 Flashing Membranes

2.9.1 Flashing Base Sheet: SBS-modified asphalt sheet (reinforced with polyester fabric or composite glass fibre/polyester); smooth surfaced; suitable for application method specified.

.1 Classification: CSA A123.15; Type B or C.

.2 Reinforcement: nonwoven polyester fibres to ASTM D6164, having nominal weight of 180 g/m² or combination of polyester and glass fibres to ASTM D6162, having nominal weight of 160 g/m²

.3 Top/bottom surfaces: Manufacturer's standard suitable for application indicated.

.4 Products: As recommended by roof manufacturer.

2.9.2 Flashing Cap Sheet: Identical to field roofing cap sheet membrane.

2.9.3 Liquid-Applied Flashing: Low-VOC resin-based, seamless, reinforced waterproofing system flashing that is compatible with adjacent materials.

.1 Provide at all flashing details including, but not limited to, mechanical equipment, roof/wall penetrations and similar locations.

.2 Basis-of-Design Products: "Alsan Flashing" by Soprema Inc. or approved equivalent as follows:

.1 "MS Detail" by IKO Industries.

.2 "PermaFlash" by Johns Manville.

2.9.4 Flashing sheets shall extend a minimum of 150 mm (6 inches) beyond the cant strip onto the horizontal field of roof for base sheets and 200 mm (8 inches) for cap sheets.

2.10 Walkways

2.10.1 Walkway Pads: Polyester reinforced SBS modified bitumen pads with slip-resisting mineral-granule surface, manufactured as a traffic pad for foot traffic and acceptable to roofing system manufacturer, 5 mm (3/16 inch) thick, minimum.

.1 Pad Size: Manufacturer's standard type.

.2 Granule Colour: Contrasting colour as selected by Consultant at a later date.

2.10.2 Roof Pavers: CSA A23.1/A23.2 Heavyweight, hydraulically pressed, concrete units, square edged manufactured for use as plaza deck pavers; minimum average cube compressive strength 50 MPa (7250 psi), with no individual unit less than 45 MPa (6525 psi) . Additional reinforcement to be added at paver locations.

.1 Size: 610 mm x 610 mm x 45 mm (24 inch x 24 inch x 1-3/4 inch)

.2 Finish: non-slip finish – shot blast.

.3 Colour: As selected by Consultant from manufacturer's full range.

.1 Colour Pigment Material Standard: Comply with ASTM C 979.

.4 Freeze/Thaw Deicing Salt Resistance: Required.

.5 Water Absorption: not greater than 5 percent.

.6 SRI: Provide Products having minimum Solar Reflective Index (SRI) values as follows:

.1 Initial: Not less than 80

.2 3-year test results: Not less than 78.

.7 Acceptable Products: “Solar Reflective Slabs” by Brooklin Concrete Products or approved equivalent.

.8 Provide pavers at traffic concentration points (i.e. roof hatches, access doors, rooftop ladders, etc.), regardless of traffic frequency or whether or not these are explicitly indicated on Drawings.

2.10.3 Paver Supports:

.1 Paver manufacturer's standard SBR rubber, high-density polyethylene, or polyurethane paver support assembly, including fixed-height, adjustable or stackable pedestals, shims, and spacer tabs for flush joint spacing sufficient to allow for expansion and contraction while avoiding tripping hazards.

.1 Acceptable Manufacturers:

.1 “Paver Pedestals” by SOPREMA, Inc.

.2 Approved equivalent by Bison Innovative Products

.3 Approved Equivalent.

.2 Polystyrene: Extruded polystyrene insulation as fabricated with both sides having a matrix of drainage, size as required to support pavers.

.1 Grooves: 13 mm x 13 mm (½” x ½”); staggered

2.11 Auxiliary Materials

2.11.1 Use accessory materials recommended by the modified bituminous membrane manufacturer to create a complete roof assembly. Ensure compatibility between materials.

2.11.2 Roof Hatches: Refer to Section 07 72 76 - Roof Access Hatches.

2.11.3 Equipment Supports: Provide required associated roofing accessories and supports as necessary to provide complete roofing work and support roof equipment shown on Drawings.

.1 Coordinate with Divisions 23, HVAC and Division 22, Plumbing. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

.2 Acceptable Manufacturers: Thaler Metal Industries Ltd. Or approved equivalent.

2.11.4 Wood Nailer Strips: Comply with requirements in Section 06 10 00.

2.11.5 Mastic Sealant: CAN/CGSB-37.29, Polyisobutylene, plain or modified bitumen; nonhardening, nonmigrating, non-skinning, and nondrying.

2.11.6 Board Fasteners: Factory-coated steel fasteners and metal plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.

2.11.7 Conductive Medium: Conductive primer is to be applied atop of cover board to ensure valid electronic leak detection (ELD) testing per ASTM D7877 and ATSM D8231.

.1 Acceptable Product: “Truground Conductive Primer” by Detec Systems or approved equivalent.

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.

3.1.2 Inspect materials for defects before installation.

3.1.3 Comply with safety regulations of Authority Having Jurisdiction.

3.1.4 Roof Openings and Penetrations:

.1 Ensure roof openings, penetrations are in place, curbs are set and braced.

.2 Ensure roof drain bodies are securely clamped in place.

3.1.5 Wood Cants, Blocking, Curbs, and Nailers:

.1 Ensure wood cants, blocking, curbs, nailers and similar components are securely anchored to roof deck at penetrations and terminations.

3.1.6 For Steel Decks:

.1 Verify surface plane flatness and fastening of steel roof deck. Coordinated with Section 05 31 00 - Steel Decking.

.2 Verify deck is securely fastened with no projecting fasteners.

3.2 Preparation

3.2.1 Design and selection of materials for temporary roofing are responsibilities of Contractor.

3.2.2 Clean substrate of dust, debris, moisture, and substances detrimental to roofing installation in accordance with manufacturer's written instructions. Remove sharp projections.

3.2.3 Prevent materials from entering and clogging roof drains and conductors.

3.2.4 Avoid spillage or migration of materials onto surfaces of other construction.

3.2.5 Remove roof-drain plugs when work is not in progress or when rain is forecast.

3.3 Installation, Generally

3.3.1 Installation Compliance: Install roofing membrane system in accordance with roofing system manufacturer's written instructions, reviewed Shop Drawings and applicable recommendations in CRCA's Roofing Specification Manual.

3.3.2 Supplement manufacturer's installation instructions with additional installation requirements specified in this Section to produce specified work results.

3.4 Asphalt Heating

3.4.1 Heat and apply roofing asphalt according to roofing system manufacturer's written instructions.

3.4.2 Asphalt Temperature: Heat asphalt to equiviscous temperature before application. Maintain asphalt within recommended temperature limits. Avoid heating near the flash point. Do not heat asphalt within 25 deg F (14 deg C) of flash point. Discard overheated asphalt.

3.4.3 Roofing Asphalt Application: Apply within ±25°F (±14°C) of equiviscous temperature.

3.4.4 Substrate-Joint Penetrations: Prevent asphalt and adhesives from damaging substrate joints or entering building during application.

3.5 Thermal Barrier (Roof Sheathing Board) Installation

3.5.1 Install roof sheathing board with long joints in continuous straight lines, perpendicular to roof slopes and with end joints staggered between rows. Tightly butt roof sheathing boards together. Align panels without significant height differences.

3.5.2 For adhered applications: use adhesive specified in roof assembly's CSA A123.21 wind uplift test report.

3.6 Self-Adhering Sheet Vapour Retarder Installation

3.6.1 Prime substrate as required by manufacturer. Ensure full adhesion by applying pressure during protective film removal.

3.6.2 Laps:

.1 Minimum required side laps for each sheet: 100 mm (4 inches)

.2 Minimum required end laps for each sheet: 150 mm (6 inches), respectively.

.3 Seal laps by rolling.

3.6.3 Completely seal vapour retarder at terminations, obstructions, and penetrations to prevent air infiltration into roofing system.

3.7 Insulation Installation

3.7.1 Follow manufacturer's instructions for insulation installation. Do not install insulation boards displaying signs of moisture damage.

3.7.2 Install insulation using staggered layers to minimize thermal bridging.

3.7.3 Install insulation with long joints in a continuous straight line. Stagger end joints between rows.

3.7.4 Ensure that edges and ends between boards abut each other. Fill gaps exceeding 6 mm (1/4 inch) with insulation. Cut and fit insulation within 6 mm (1/4 inch) of nailers, projections, and penetrations.

3.7.5 Secure preformed 45-degree insulation cant strips at junctures of roofing membrane systems with vertical surfaces or angle changes exceeding 45 degrees.

3.7.6 Install tapered insulation under roofing to match slopes indicated on Drawings. Install insulation under roofing membrane to reach required thickness.

3.7.7 Provide two or more layers when overall insulation thickness is 75 mm (3 inches) or more.

3.7.8 Stagger joints of each succeeding layer at least 150 mm (6 inches) in each direction from joints of previous layer.

3.7.9 Trim surface of insulation as needed at roof drains. Ensure completed surface is flush and does not impede flow of water.

3.7.10 Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

3.8 Cover Board Installation

3.8.1 Install cover board over insulation to protect insulation from roof traffic. Ensure tight, staggered joints. Use adhesive specified in roof assembly’s CSA A123.21 wind uplift test report.

3.9 Roofing Membrane Installation

3.9.1 Presence of Technical Personnel: Begin installation of roofing membrane only in the presence of roofing system manufacturer's technical personnel. Cooperate with Owner’s inspection and testing agencies as needed.

3.9.2 Slope Consideration: For roof slopes exceeding 1:12 (1 inch per 12 inches), install roofing membrane sheets parallel to slope. Comply

with roofing manufacturers' instructions for steep slope installation. Backnail roofing membrane sheets to nailer strips in accordance with manufacturer's instructions.

3.9.3 Temporary Protection:

.1 Coordinate roofing system installation to ensure insulation and other non-permanent components are protected against precipitation and are not left uncovered at end of workday or when rain is anticipated.

.2 Provide tie-offs at the end of each day of work to cover exposed roofing sheets and insulation.

.3 Complete terminations and base flashings; provide temporary seals to prevent water ingress into completed sections of roofing system.

.4 Remove and discard temporary seals before starting work on adjoining roofing areas.

3.9.4 **Installation of Roofing Base Sheet Membrane:**

.1 Procedure:

.1 Unroll roofing base sheets. Allow roofing base sheets to relax.

.2 Lay base sheet membrane over insulation cover board or substrate indicated.

.3 Start installation at low point of roof system and install base sheet according to manufacturer's instructions.

.4 Extend and terminate roofing base sheet beyond cants, where applicable.

.2 Installation Method: As specified in this section.

.3 Laps:

.1 Align roofing sheets accurately, without stretching, ensuring uniform side and end laps with staggered end laps.

.2 Bond and seal laps completely, leaving no voids.

.3 Repair tears and voids in laps and lapped seams that are not completely sealed.

3.9.5 **Installation of Roofing Cap Sheet Membrane:**

.1 Procedure:

.1 Unroll roofing cap sheets. Allow roofing cap sheets to relax.

.2 Apply cap sheet over base sheet, starting at low of roofing system.

.3 Extend and terminate roofing cap sheets beyond cants, where applicable.

.2 Installation Method: As specified in this section.

.3 Laps:

.1 Accurately align roofing sheets, maintaining uniform side and end laps with staggered end laps.

.2 Bond and seal laps completely, leaving no voids.

.3 Repair tears and voids in laps and lapped seams that are not completely sealed.

.4 Install roofing sheets to ensure side laps and end laps shed water.

3.10 Membrane Flashing Installation

3.10.1 Install membrane flashing at roof penetrations, walls, and intersections.

3.10.2 Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof. Secure to substrates according to roofing system manufacturer's written instructions.

3.10.3 Extend base flashing up walls or parapets a minimum of 200 mm (8 inches) above roofing membrane and 100 mm (4 inches) onto field of roofing membrane.

3.10.4 Mechanically fasten top of base flashing securely at terminations and perimeter of roofing. Seal top termination of base flashing.

3.10.5 Install roofing membrane cap-sheet flashing where metal flanges and edgings are set on membrane roofing according to roofing system manufacturer's written instructions.

3.11 Walkway Installation

3.11.1 Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size according to walkway pad manufacturer's written instructions.

3.12 Field Quality Control

3.12.1 Roof Inspection: Contractor must have roof system manufacturer's technical personnel to inspect roofing during installation and on completion to confirm substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components; and to supply reports to Consultant.

3.12.2 Roofing system will be considered defective if it does not pass tests and inspections.

3.12.3 Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.12.4 Roofs are to be tested via Electronic Leak Detection (ELD) as per ASTM D7877. Furnish report prepared by third party testing agency confirming entire roof area is deemed 'watertight'. Any noted breaches are to be repaired and retested prior to issuing report

.1 Basis-of-Design: Detec System or approved equivalent not necessitating a stainless steel mesh.

3.13 Protection

3.13.1 Protect modified bituminous membrane roofing from damage, soiling and contaminating substances resulting from construction activities or caused by work of other trades.

3.13.2 Promptly replace modified bituminous membrane roofing work damaged during construction that cannot be satisfactorily repaired.

3.14 Cleaning And Waste Management

3.14.1 Cleaning and Waste Management, generally: in accordance with Section 01 74 00, Cleaning and Waste Management.

3.14.2 Cleaning: Maintain clean construction area at the end of each day. When activities of this Section are complete, remove materials, tools, equipment and rubbish.

3.14.3 Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.14.4 Waste Management and Disposal: sort waste for reuse, recycling, or disposal, as specified. Remove recycling bins and containers from site and dispose of contents at the appropriate waste disposal facilities.

END OF SECTION

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 Manufactured Specialties work specified herein. This includes, but is not necessarily limited, to:

.1 Indoor flagpole and base

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 Administrative Requirements

1.4.1 Coordination: Coordinate specialties locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

1.4.2 Preinstallation Meetings: Conduct preinstallation meeting at Place of the Work prior to installation. Review requirements of Contract Documents and coordination requirements with other trades.

1.5 Submittals

1.5.1 Submit manufacturer’s product data and literature in accordance with requirements of Division 01. Provide copies of WHMIS Safety Data Sheets (SDS) with each submission. Include descriptions of product characteristics, limitations, finishes, and construction

details, as well as instructions for maintaining each type of material.

1.5.2 Shop Drawings:

.1 Submit shop drawings clearly indicating the material being supplied and showing all connections, attachments, reinforcing, anchorage and location of exposed fastenings.

.2 Provide all necessary templates and instructions where fastenings or anchors have to be built in by other Sections.

1.5.3 Samples: Submit samples in accordance with requirements of Division 01. Submit minimum of two (2) samples illustrating material characteristics, including finishes and colours. Where variations in finishes or textures are expected, submit samples illustrating range of textures expected.

1.6 Closeout Submittals

1.6.1 Operation and Maintenance Data: Submit operation and maintenance data for manufactured specialties work for inclusion in operation and maintenance manuals specified in Division 01.

1.7 Quality Assurance

1.7.1 Manufacturer Qualifications: Provide Products for Work of this Section by manufacturer with minimum 10 years' experience in the manufacture of such materials.

1.7.2 Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated on Drawings and Schedules for this Project, whose work has resulted in construction with a record of successful in-service performance. Ensure installers have minimum of 5 years documented experience.

.1 Submit proof of experience upon request.

1.7.3 Where applicable, welding shall be undertaken only by a fabricator fully approved by the Canadian Welding Bureau to the requirements of CSA W47.1, CSA W55.3 and CSA W47.2 as may be applicable.

1.7.4 Single Source Responsibility: Ensure primary materials provided in this Section are obtained from 1 source by a single manufacturer and secondary materials are obtained from sources recommended by primary materials manufacturers.

1.8 Delivery, Storage, and Handling

1.8.1 Deliver, handle, and store materials in accordance with manufacturer's instructions.

2 . Products

2.1 Regulatory Requirements

2.1.1 Comply with governing codes and regulations.

2.2 Indoor Flagpole

2.2.1 Flagpole, General: Provide indoor flagpole and base to allow for sleeved mounting of 900 mm x 1828 mm (36 inch x 72 inch) flag.

.1 Structural Performance: Flagpole assemblies, including anchorages and supports, shall withstand the effects of gravity loads.

2.2.2 Base: Indoor cast brass flag pole base with 1.58 kg (3.5 lbs) weight.

.1 Basis-of-Design: “Brass Premier Floor Stand for 1" Pole” by Canada Flag Shop.

2.2.3 Flagpole: Provide oak flagpole, complete with manufacturers standard hardware. Fabricate shop and field joints without using fasteners, screw collars, or lead calking.

.1 Height: 4.9 m (16 feet)

.2 Basis-of-Design: “8'x1" Premier Oak Flagpole” by Canada Flag Shop.

2.2.4 Accessories:

.1 Finial: Brass maple leaf finial finished to match flagpole base.

.1 Basis-of-design: To be selected by Consultant at a later date.

2.3 Fabrication

2.3.1 Verify all dimensions on the site before preparing shop drawings or proceeding with shop work. Fit the various sections of the Work, shop assemble and deliver to the Work site in the largest practicable sections.

2.3.2 Fabricate the Work true to dimensions, square, plumb and level. Accurately fit joints with hairline joints and intersecting members with adequate fastenings.

2.3.3 Fabricate the finished Work free from distortion and defects detrimental to appearance and performance.

2.3.4 Do not prime non-ferrous metals.

2.3.5 Prime galvanized metal with galvanized metal primer.

2.3.6 Prime metal to receive special coating with a primer recommended by the manufacturer of the special coating.

2.3.7 Prime all interior ferrous metal work requiring priming with one shop coat of primer complying with CISC/CPMA 2-75.

2.3.8 After fabrication, thoroughly descale all steelwork to be primed. Remove any roughness and irregularities by grinding clean with a wire brush, remove oil and grease from the surface and apply one shop coat of priming paint.

2.4 General Finish Requirements

2.4.1 Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.4.2 Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

2.4.3 Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

3 . Execution

3.1 Manufacturer's Instructions

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

3.2 Examination

3.2.1 Verification of Conditions:

.1 Verify actual site dimensions 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.

3.3 Examination

3.3.1 Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

3.3.2 Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 Installation

3.4.1 Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of manufactured specialties where required.

3.4.2 Fit insofar as possible the various sections of the work and shop assemble and deliver to the Work site in the largest practicable sections.

3.4.3 Install the work true to dimensions, square, plumb and level. Accurately fit joints and intersecting members with adequate fastening.

3.4.4 Install the finished work free from distortion and defects detrimental to appearance and performance, adequately fastened in a safe and secure manner.

3.5 Cleaning

3.5.1 After completing work, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION

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 vehicle washing equipment work specified herein. This includes, but is not necessarily limited, to:

.1 Rollover vehicle washing system

.2 Vehicle cleaning station

.3 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. Refer to Section 01 42 19 for list of standards used in Specifications.

1.4 Submittals

1.4.1 Product Data: Submit in accordance with Division 01 for the following:

.1 Vehicle wash system.

.2 Vehicle wash station

1.4.2 Shop Drawings: Submit detailed shop drawings showing all components, plumbing and electrical connections.

1.4.3 Operation and Maintenance Data: Submit complete set of operating and maintenance manuals, including installation drawings.

1.5 Warranty

1.5.1 Provide warranty covering the Work of this Section in accordance with Supplementary Condition SC49 / GC 12.3 WARRANTY.

2 . Products

2.1 Manufacturers

2.1.1 Products from the following manufacturers may be acceptable for inclusion into The Work, provided they meet requirements of Contract Documents.

.1 CustomKraft

.2 Istobal

.3 Approved equivalent.

2.1.2 Substitution Limitations: In accordance with requirements of Section 01 25 00, Substitution Procedures.

2.2 Rollover Vehicle Washing System

2.2.1 Provide vehicle washing system with easy access to programmable controller and with following features:

.1 Total vehicle coverage for vehicles up to 2895 mm (114 inches) high.

.2 Dimensions: Refer to Drawings.

.3 Operation: Manufacturer’s standard entry system.

2.2.2 Materials

.1 Structural Components:

.1 Hot-dip galvanized steel for durability and corrosion resistance.

.2 Brushes: Three (3) brushes, colour to be selected by Consultant at a later date.

.3 Finishes: Powder-coated, colour to be selected by Consultant at a later date.

2.2.3 Electrical Requirements

.1 Electrical Service:

.1 Provide power as required by the manufacturer’s specifications.

.2 Control Systems:

.1 PLC based control system for operation and diagnostics.

2.2.4 Accessories

.1 On-board lighted signs and pictograms.

.2 Vinyl wrap for customization.

.3 High-pressure wheel-wash system.

2.2.5 Basis-of-Design: “Flex 5 XL – 3 Brushes” by Istobal; Contact: Richard Piper; National Wash Inc. 2 Simpson Road, Lindsay, ON K9V 6H2. Or Consultant approved equivalent.

2.2.6 Seismic Performance: Provide products and systems specified in this Section to withstand the effects of earthquake motions in accordance with OBC 4.1.8.18 and CAN/CSA S832.

.1 Professional engineer specified in Division 01 and referenced in this Section shall be responsible for designing systems and submitting signed and sealed analysis data and Shop Drawings illustrating seismic-resistant systems.

.2 Refer to Structural Drawings for seismic sensitivity values.

2.3 Vehicle Cleaning Station

2.3.1 Characteristics:

.1 Dimensions:

.1 Single-sided: 762 mm wide x 762 mm deep x 2032 mm tall (30 in wide x 30 in deep x 80 in tall).

.2 Double-sided: 1219 mm wide x 1575 mm deep x 1626 mm high (48 in wide x 62 in deep x 64 in high).

.2 Frame and Tanks: Stainless steel with automatic proportioning valves.

.3 Electric Motor: Baldor 5 hp, 3 phase (Super E).

.4 Pump: CAT pump with lifetime warranty manifold.

.5 Drive: Direct drive.

.6 Controls: Meter box with digital timer and rotary switch.

.7 Pressure Gauge: 907 kg liquid-filled (2000 lbs).

.8 Trigger Gun: Safety trigger gun.

2.3.2 Standard Features

.1 Variable Frequency Drive (VFD) accepts single or three-phase input.

.2 High-pressure wash system providing 15 liters per minute (4 gpm) up to 11700 kPa (1700 psi).

.3 Foam Brush: Air-operated diaphragm pump with hog's hair bristles.

2.3.3 Basis-of-Design: “Wash-Me Express” by CustomKraft or Consultant approved equivalent.

3 . Execution

3.1 Examination

3.1.1 Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, including equipment bases; accurate placement, pattern, and orientation of anchor bolts; critical dimensions; and other conditions affecting performance of the Work.

3.1.2 Examine roughing-in for electrical, plumbing and communication systems to verify actual locations of connections before parking control equipment installation.

3.1.3 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

3.2.1 Install vehicle washing equipment in strict accordance with manufacturer’s instructions and as required for complete and integrated installation.

3.3 Adjusting

3.3.1 Adjust vehicle washing equipment to function smoothly, and lubricate as recommended by manufacturer.

3.3.2 After completing installation of exposed, factory-finished equipment, inspect exposed finishes and repair damaged finishes.

3.4 Demonstration

3.4.1 Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain equipment.

End Of Section

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 Walk-in Coolers and Freezers work specified herein. This includes, but is not necessarily limited, to:

.1 Prefabricated modular construction, each room supplied and installed as a complete self-contained unit and provided with all equipment necessary to reach environmental conditions specified

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. Refer to Section 01 42 19 for list of standards used in Specifications.

1.4 Administrative Requirements

1.4.1 Sequencing: Coordinate installation with related Sections referenced herein.

1.4.2 Pre-Installation Meetings:

.1 Regulatory Requirement Review Meeting: Provide pre-start regulatory requirement review meeting to parties associated with work of this Section.

.2 Pre-construction Site Meeting:

.1 Prior to start of work, arrange for Project site meeting of parties associated with work of this Section, including non-exhaustively Subcontractor performing work of trade involved, testing company's representative and Contractor's consultants of applicable discipline. Consultant may attend.

.2 Review Contract Documents to permit compliance with intent of this Section for work included under this trade, and ensure complete understanding of requirements and responsibilities relative to:

.1 work included,
.2 materials to be used,
.3 storage and handling of materials,
.4 installation of materials,
.5 sequence and quality control,
.6 Project staffing,
.7 restrictions on areas of work and other matters affecting construction.

1.4.3 Scheduling:

.1 Prior to commencing work of this Section arrange for manufacturer’s technical representative to review with Contractor and Consultant, procedures to be adopted and conditions under which work shall be performed. Inspect surfaces to determine adequacy of existing and proposed conditions.

.2 Co-operate fully with other Subcontractors on the Work and promptly proceed with work of this Section as rapidly as job conditions permit.

.3 Co-operate with other Sections for application of all miscellaneous specialties.

.4 Supply items to be built-in in ample time to be incorporated into work of other Subcontractors, together with measurements and other information required for location of it.

.5 Ensure work which may create dust does not proceed during work related to painting and final finishing.

1.5 Submittals

1.5.1 Submit in accordance with Section 01 33 00- Submittal Procedures.

1.5.2 Product Data:

.1 Submit manufacturer's instructions, printed or electronic product literature and data sheets for walk-in coolers and include product characteristics, performance criteria, physical size, finish and limitations.

1.5.3 Shop Drawings:

.1 Shop drawing shall be stamped by professional engineer registered or licensed in Province of Ontario, Canada.

.2 Indicate on drawings:

.1 Construction details of equipment by drawings and manufacturers' literature.

.2 Roughing-in requirements for mechanical and electrical services.

.3 Installation details.

.3 Certificates: Obtain certificate from Professional Engineer responsible for design which includes seismic assessment and field review of this part of the Work, validating that work substantially complies with requirements of the Ontario Building Code and that requisite field reviews have been completed.

1.5.4 Quality Assurance/Control Submittals:

.1 Qualification Statements: If requested, submit a listing of at least 10 cold room installations that are comparable to this installation, and have been completed in last five years. Reference shall demonstrate conformance to these Specifications.

1.5.5 Design Data, Test Reports:

.1 All refrigeration systems and control panels are to be pre-tested in the factory prior to the field installation. Copies of test results must be submitted prior to on-site fabrication.

.2 Submit testing plan to demonstrate how testing will accurately record unit’s ability to comply with specified temperature range and uniformity. Submit test results from the factory test indicating how the systems operated for the intended operational parameters outlined in this Specification.

.3 Test out of limit alarms function as designed and demonstrate the acknowledgement of alarms and building automation interface functions as designed.

1.6 Closeout Submittals

1.6.1 Submit in accordance with Section 01 78 00- Closeout Submittals.

1.6.2 Operation and Maintenance Data: submit operation and maintenance data for walk-in coolers for incorporation into manual.

1.7 Quality Assurance

1.7.1 Manufacturer Qualifications: Provide Products for Work of this Section by manufacturer with minimum 10 years' experience in the manufacture of such materials.

1.7.2 Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated on Drawings and Schedules for this Project, whose work has resulted in construction with a record of successful in-service performance. Ensure installers have minimum of 5 years documented experience

1.7.3 Single Source Responsibility: Ensure primary materials provided in this Section are obtained from 1 source by a single manufacturer and secondary materials are obtained from sources recommended by primary materials manufacturers.

.1 If products of several manufacturers are used to satisfy requirements of this section, then all items shall meet the specified flexibility and interchangeability requirements specified herein.

.2 System Supplier shall be responsible for performance of all components.

1.8 Delivery, Storage And Handling

1.8.1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

1.8.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

1.8.3 Storage and Handling Requirements:

.1 Store materials off ground, indoors (away from direct sunlight) in clean, dry, well-ventilated area where temperature won't exceed 30 Celsius.

.2 Store and protect walk-in coolers from nicks, scratches, and blemishes .

.3 Replace defective or damaged materials with new.

1.9 Project Conditions

1.9.1 Examine and verify site conditions to assure acceptable access, dimensions and other related situations affecting work. Notify Consultant in writing of any conditions, which are unacceptable to installation of this environmental cold room. Determine exact room size by verifying actual field measurements.

1.10 Warranty

1.10.1 Extended warranty: In addition to the basic warranty, compressors shall be warranted in materials and workmanship against failure due to defects for a period of 5 years from Substantial Performance of Work.

2 . Products

2.1 Manufacturers

2.1.1 Products of following manufacturers are acceptable subject to conformance to requirements of Drawings, Schedules and Specifications:

.1 Cool Master Refrigeration

.2 Norbec

2.2 Design And Performance Requirements

2.2.1 Design and Certification by Professional Engineer: Employ a Professional Engineer who is licensed to practice in the Province of Ontario, has professional liability insurance, and has experience providing engineering services of similar kind, scope, and complexity to design and certify cold storage rooms installation to resist effects of earthquake motions under seismic design conditions specified in Contract Documents. Provide components as necessary to implement design.

2.2.2 Prefabricated walk-in refrigeration units for cooler including insulated panels, doors, door accessories, lighting, and refrigeration systems.

.1 Panels: Prefabricated insulated panels with Camlock system for walk-in coolers, freezers, and storage rooms. Panels to feature tongue-and-groove interlocking joints with factory-applied closed-cell weather stripping.

2.2.3 Compliance: to CSA C22.2 No. 1222-01 and UL 471: Refrigeration equipment safety standards.

2.2.4 Seismic Performance: Design work of this Section to withstand seismic motions determined in accordance with requirements of Ontario Building Code and CAN/CSA S832.

.1 Walk-in Cooler construction shall be engineered in accordance to provided seismic lateral loads, including:

.1 Fastening to the concrete slab

.2 Bracing and other lateral elements

.3 Seismic resistant suspension system

2.2.5 Basis-of-Design: This Section is based on “CAM-LOCK walk-ins” products by Norbec Architectural

2.3 Panel System

2.3.1 Core: Polyurethane foam, density 136 kg/m³ (8.5 lb/ft³), to CAN/ULC-S705.1 , Class A; tested to CAN/ULC-S102 and CAN/ULC-S138.

2.3.2 Inner Face: 0.48 mm (0.019 in) – 26 gauge prepainted steel or optional 1.32 mm (0.052 in) – 18 gauge galvanized steel.

2.3.3 Outer Face: 0.48 mm (0.019 in) – 26 gauge prepainted steel.

2.3.4 Thickness: 102 mm (4 in)

2.3.5 Sealant: To CAN/CGSB-19.13 , colour to match panel.

2.3.6 Tests results “listings” must be available on an independent, third-party certification body website. Insulation must meet thermal performances as described by NRCan Energy Efficiency Regulations (R25 coolers), Amendment 14, when tested to ASTM C518.

2.3.7 Insulation must be certified to have a flame spread rating or 25 or less in accordance with CAN/ULC-S102.

2.3.8 Factory-applied closed-cell weather stripping at joints.

2.3.9 Provide closure panels and trim to match wall panel finishes.

2.4 Fabrication

2.4.1 Overall dimensions: As noted on Drawings, and subject to final field measurements to maximum “best fit” dimensions. Coordinate with architectural dimensions and construction details.

2.4.2 Panel Sections: Precision die formed metal pans accurately spaced and insulated Panel edges and corners to have tongue and grooves or flat faced nose, polyurethane formed-in-place, to assure airtight, vapour proof joints using gaskets or sealants.

2.4.3 Door Panels: Insulated and finished as per exterior and interior panels with double doors, dimensions are per Door Schedule reinforced to prevent door panels from twisting, racking or warping. Ensure that doors will close and seal opening. Equip each door panel with.

2.4.4 Lighting, alarm and temperature monitor: Provide IM4 monitor that brings together the temperature display and alarm functions in addition to allowing control of cold room lighting. The unit must include the following:

.1 Power source failure alarm with adjustable set point for temperature.

.2 Jack for remote alarm telephone dialer and enunciator panel.

.3 Temperature display with minus 40 degrees C to plus 60 degrees C range.

.4 Built-in battery and charger.

2.4.5 Ceiling panels: reinforced internally or externally as required, to support evaporator supplied by walk in cold room manufacturer. Where external reinforcement is needed and through fasteners are used, fasteners to be of low heat conducting material such as teflon.

2.4.6 Locking devices: panel sections to have cam-action locking devices, spaced at maximum 950 mm vertically, 600 mm horizontally. Male and female or hybrid lock pockets.

2.4.7 LED light fixture: to CSA 22.2 No.137 supplied by walk-in manufacturer to be terminating in the vapour-tight junction box that the light is mounted on. Allow Consultant to select final fixture from manufacturer's full range.

2.4.8 Removable closure panels: extend from lower edge of erected prefabricated ceiling panels to finished building ceiling.

.1 Extend cover strips or angles from building floor to ceiling closure panels between exposed ends of walk-in boxes and building wall.

.2 Closure panels, cover strips or angles to match exposed exterior wall panels.

2.4.9 Protection Bumper : 19 x 200 white HDPE on exposed exterior and interior panels, mounted 300 mm from center of rail to finished building floor.

.1 Where rub rail is at external corner, mitre joint.

.2 Top and vertical ends where rail makes contact with wall panels are to be sealed.

.3 Include 2 rub rails on interior of garbage refrigerator mounted 600 and 300 mm from respective centers to refrigerator floor.

.4 Rub rails are not required at doors, door panels or within 200 mm of internal angles of walls.

2.5 Self-Contained Refrigeration System

2.5.1 Refrigeration system: completely self-contained, consisting of single unit with condensing unit mounted and evaporator coil within the same enclosure.

.1 Capacities, air-delivery and dimensions in accordance with manufacturer's recommendations and as indicated.

.2 Mechanical units to achieve 4 deg C temperatures inside the cooler

2.5.2 Type of refrigerant: chlorine free R448a refrigerant

2.5.3 Condensing unit: Dual speed EC motor.

2.5.4 Forced-air evaporator: to discharge cooled air down.

.1 Assemble air circulation motor, multi-fin tube-type coil, and heat exchanger within protective housing complete with drip pan and drain.

2.5.5 Self-contained systems used for freezing temperatures with automatic system for defrosting evaporator, including heaters and time control.

.1 Factory-assemble system and thoroughly test to meet manufacturer's standards.

2.5.6 Monitoring and Alarms: Electronic system with remote audible alarm to indicate temperatures ±6°C (±10°F) from set point.

2.6 Drain Lines And Heater Cables

2.6.1 Provide necessary drain lines to funnel drains and heater cables as required.

2.7 Source Quality Control

2.7.1 Ensure equipment is manufactured and installed by company having personnel skilled in manufacturing and installing of prefabricated walk-in coolers and has continuous proven experience within last five years.

2.7.2 Contractor will conduct shop inspection of equipment fabrication prior to delivery to site in accordance with Section 01 40 00.

2.8 Services

2.8.1 Coordinate design of rooms to accommodate local field services provided by Division 20-25 and 26. Provide reinforcement for wall penetrations as recommended by wall system manufacturer. Other trades shall be responsible to seal their own penetrations.

2.8.2 Electrical wiring and components: to meet CSA standards.

3 . Execution

3.1 Manufacturer's Instructions

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

3.2 Examination

3.2.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are

acceptable for walk-in coolers installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Contractor.

.2 Inform Contractor of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contractor.

3.3 Installation

3.3.1 Supply appropriate protection apparatus.

3.3.2 Install in accordance with manufacturer's installation manual and specific installation drawing set.

3.3.3 Erect work true-to-line, plumb, square and level with joints aligned. Fit joints and intersecting members accurately and in true planes adequately fastened.

3.3.4 Unless otherwise indicated, install units within 51 mm to 76 mm of building walls, with 914 mm minimum clearance between top of unit and room ceiling.

.1 Fasten screeds to building and/or wearing floor in accordance with manufacturer's instructions.

3.3.5 Caulk around perimeter of screeds after installation on floor slab .

3.3.6 Fill space between perimeter of floor panels and edge of floor depression with concrete or non-shrink grout and trowel flush with floor slab .

3.3.7 Cut or drill holes in panels, as required, to accommodate electrical and mechanical services, runs or connections as per walk in manufacturer’s instructions.

.1 Only non-metallic conduits or wire harness sleeves are to be use into holes.

.2 After installation of services, fill remaining space with insulation and seal.

3.3.8 Install removable closure panels, cover strips, and angles.

3.4 Adjusting

3.4.1 Remove protective coverings and test and adjust operating equipment.

3.5 Cleaning

3.5.1 Progress Cleaning: clean in accordance with Section 01 74 00-Cleaning .

.1 Leave Work area clean at end of each day.

.2 Clean equipment and apparatus in accordance with Section 01 45 00- Quality Control .

.3 Re-finish damaged coatings and finishes.

3.5.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00- Cleaning .

3.6 Protection

3.6.1 Protect installed products and components from damage during construction.

3.6.2 Repair damage to adjacent materials caused by walk-in cooler installation.

END OF SECTION

Exterior Wall Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
EW1 (A or B)	R-30	265; Support Substrate	**Metal Panel on Concealed Clip System** Prefinished Metal Cladding Panel Engineered Cladding Rails w/ Concealed Clip System Insulation Type INS-1 Fibreglass Clip and Galvanized Girt Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings) *Note:* Type Suffix "A" and "B" Indicate Metal Cladding Panel Finish Type - Refer to Specification
EW2 (A or B)	-	60; Support Substrate	**Metal Panel on Concealed Clip System - Uninsulated** Prefinished Metal Cladding Panel Engineered Cladding Rails w/ Concealed Clip System Support Substrate (Refer to Drawings) *Note:* System to be Engineered to Resist Wind Loads From Front (Exposed) and Back (Support) Faces
EW3	R-30	195; 200; Support Substrate	**Solar Wall** 22mm 24 Gauge Corrugated Perforated Rolled Pre-Painted Steel Wall Cladding 150mm Solarwall Preheat Cavity 100mm Vertical Galvanized Z-Girt on 50mm Horizontal Galvanized Z-Girt 22mm 24 Gauge Corrugated Rolled Galvanized Steel Wall Cladding Insulation Type INS-1 Fibreglass Clip and Galvanized Girt Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)
EW4	R-30	265; Support Substrate	**Aluminum Composite Panel Cladding System** Composite Metal Panel on Engineered Clip System Engineered Cladding Rails Insulation Type INS-1 Fibreglass Clip and Galvanized Girt Clididing Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)
EW5	-	65; Support Substrate	**Aluminum Composite Panel - Uninsulated** Composite Metal Panel on Engineered Clip System Engineered Cladding Rails Support Substrate (Refer to Drawings)
EW6	R-30	275; Support Substrate	**Sintered Stone Panel Cladding System** Sintered Stonel Panel on Engineered Clip System Engineered Cladding Rails Insulation Type INS-1 Fibreglass Clip and Galvanized Girt Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)
EW8	R-15	150; Support Substrate	**Corrugated Metal Cladding** 22mm 24 Gauge Corrugated Rolled Pre-Painted Steel Wall Cladding 25mm Engineered Cladding Support Channel Insulation Type INS-1 Fibreglass Clip Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)
EW9	-	15; 15; 35; 50	**Ribbed Pre-Cast Concrete Panel** Pre-Cast Ribbed Concrete Panel w/ 25x25mm Channels @50mm C/C Mid-Coarse Chipped Surface Pattern Cast-In-Place Concrete (Refer to Structural)
EW10	R-30	265; Support Substrate	**Glass Faced Rainscreen Cladding Panel** Glass Faced Rainscreen Panel Engineered Cladding Rail Insulation Type INS-1 Fibreglass Clip and Galvanized Girt Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)
EW11	R-30	65; 240; Support Substrate	**Assembled Aluminum Fin Profile** Prefished Assembled Aluminum Fin Profile Extruded Aluminum Fin Projections on Plate Aluminum Cladding Panel Engineered Cladding Attachment Clip System Insulation Type INS-1 Fibreglass Clip Cladding Attachment Membrane Type AVBM-1 (Typical) Support Substrate (Refer to Drawings)

Exterior Back-Up Wall Types

TYPE	STC	FRR	ASSEMBLY	DESCRIPTION
MS1	--	- -	124	**Steel Stud Back-Up Wall - 124mm** 16mm Exterior Sheathing Board 92mm Engineered Lateral Load-Bearing Cold Formed Metal Framing 16mm Gypsum Board
MS2	--	- -	184	**Steel Stud Back-Up Wall - 184mm** 16mm Exterior Sheathing Board 152mm Engineered Lateral Load-Bearing Cold Formed Metal Framing 16mm Gypsum Board
MS3	--	- -	235	**Steel Stud Back-Up Wall - 235mm** 16mm Exterior Sheathing Board 203mm Engineered Lateral Load-Bearing Cold Formed Metal Framing 16mm Gypsum Board

Foundation Wall Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
FW1	R-30	300; Support Substrate	**Typical CIP Concrete Foundation Wall** 100mm Precast Concrete Wall Base 30mm Air Space Insulation Type INS-3 Stainless Steel Anchors Filter Fabric 19mm Drainage Board Waterproofing Membrane Type WPM-1 Concrete Substrate with Crystalline Waterproofing Admixture - Ref. Section 07 16 16
FW2	R-30	280; Support Substrate	**Typical CIP Concrete Foundation Wall - 25mm Air Space** 100mm Precast Concrete Wall Base 10mm Air Space Insulation Type INS-3 Stainless Steel Anchors Filter Fabric 19mm Drainage Board Waterproofing Membrane Type WPM-1 Concrete Substrate with Crystalline Waterproofing Admixture - Ref. Section 07 16 16

Soffit Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
S1	R30		**Interlocking Metal Panel Soffit** 92mm Engineered Metal Stud 16mm Fibreglass Faced Gypsum Sheathing Board Membrane Type M-AVB-1 Insulation Type INS-1 Max. 200mm Insulation Depth Fibreglass Clip and SS Girt Cladding Attachment 25mm Galvanized Steel Cladding Attachment Channel Interlocking Prefinished Galvanized Metal Panel
S2	-		**Interlocking Metal Panel Soffit - Uninsulated** 92mm Engineered Metal Stud 16mm Fibregless Faced Gypsum Sheathing Board 25mm Galvanized Steel Cladding Attachment Channel Interlocking Prefinished Galvanized Metal Panel
S3	-		**Aluminum Composite Panel Soffit - Uninsulated** Composite Metal Panel w/ Mirror Finish Membrane Type AVBM-1 (Typical) 92mm Galvanized Metal Stud Framing

Roof Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
R1	R45	Support Substrate; 13	**SBS Membrane - Low Slope** 2-Ply SBS Roof Membrane, Fully Adhered - Ref. 07 52 16 6.35mm Cover Board Insulation Type INS-2 Membrane Type VCM-1 (Typical) 16mm Fibreglass-Mat Gypsum Sheathing Board Substrate - Typically Metal Roof Deck (Refer to Structural)
R2		Support Substrate; 13	**SBS Membrane - Low Slope, Reduced Insulation** 2-Ply SBS Roof Membrane, Fully Adhered - Ref. 07 52 16 6.35mm Cover Board Insulation Type INS-2 Membrane Type VCM-1 16mm Fibreglass-Mat Gypsum Sheathing Board Substrate - Typically Metal Roof Deck (Refer to Structural) Note: This Roof Assembly to be Used at Exterior Canopy and Does Not Form a Part of the Building Enclosure

Slab-On-Grade Types

TYPE	RSI	FRR	ASSEMBLY	DESCRIPTION
SOG1	R-30		REFER TO STRUC.; REFER TO GEOTECH.	**Slab on Grade** Structural Cast-In-Place Slab (Refer to Structural) Membrane Type VCM-2 Insulation Type INS-4 Min. 200mm Gravel Base and Drainage Layer
SOG2	R-30		REFER TO STRUC.; REFER TO GEOTECH.	**Slab on Grade w/ Concrete Topping** 150mm Concrete Topping Hydronic Piping Set In Topping Structural Cast-In-Place Slab (Refer to Structural) Membrane Type VCM-2 Insulation Type INS-4 Min. 200mm Gravel Base and Drainage Layer

Insulation Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
INS-1	R4.3 per 25.4mm		**Semi-Rigid Mineral Wool Insulation** Staggered Joints Ref. Section 07 21 00
INS-2	R4.7 per 25.4mm		**Polyisocyanurate Roof Insulation** Staggered Joints Ref. Section 07 21 00
INS-3	R5.0 per 25.4mm		**Extruded Polystyrene** Low-GWP Staggered Joints Ref. Section 07 21 00
INS-4	R5.0 per 25.4mm		**Extruded Polystyrene** High Load-Bearing Capacity Low-GWP Staggered Joints Ref. Section 07 21 00
INS-5	R4.3 per 25.4mm		**Foamed-In-Place Insulation** Ref. Section 07 21 19

Membrane Types

TYPE	R(IMP.) EFFECTIVE	ASSEMBLY	DESCRIPTION
AVBM-1			**Air and Vapour Barrier Membrane** Ref. Section 07 27 14
AVBM-2			**Air and Vapour Barrier Membrane** Heat Resistant - Ref. Section 07 62 00
AVBM-4			**Air and Vapour Barrier Membrane** Silicon Transition Sheet - Ref. Section 08 44 13
VCM-1			**Vapour Control Membrane** Roof Type - Ref. Section 07 52 16
VCM-2			**Vapour Control Membrane** Underslab Type - Ref. Section 07 26 16
WPM-1			**Waterproofing Membrane** Face Applied - Ref. Section 07 13 26
WPM-2			**Waterproofing Membrane** Blind-Side - Ref. Section 07 13 33
WPM-3			**Waterproofing Membrane** Cementitious Waterproofing - Ref. Section 07 16 13

Typical Partition Tag

P21A0
- Assembly Type (First Position)
- Core Assembly (Second Position)
- Sheathing Thickness/Quantity (Third Position)
- Assembly Options (Suffix (Optional))

Assembly Abbreviations

Prefix	Assembly Type
M	Concrete Masonry Partition
MR	Concrete Masonry Partition FR
F	Furring
P	Metal Stud Partition
PR	Metal Stud Partition FR
PS	Shaftwall Partition
EW	Exterior Wall
PW	Parapet

GENERAL NOTES

Partitions

1. Gypsum Board Partitions and Furring:

1.1 Extend Gypsum Board Partitions Full Height to U/S of Floor or Roof Slab Above, Unless Otherwise Indicated.
1.2 At Non-Rated Fire Separations, Acoustic and Fire Rated Partitions, Provide Joint Sealant at Perimeter Joints and All Penetrations Through Gypsum Board.
1.3 Provide Backer Plates for Handrail Support, Bumper Rails, Wall Mounted Millwork etc. Refer to Plans for Extent and Locations.
1.4 At Partitions to Receive Ceramic Tile Wall Finish Provide Tile Backer Board in Lieu of Gypsum Board Behind Tiles. Backer Board to be Fire Rated Type at Fire Rated Partitions.
1.5 At Acoustic Partitions, Recessed Electrical Boxes on Opposite Sides of Partition to be Staggered Minimum 600mm.
1.6 See Room Finish Schedule for Interior Finishes.
1.7 Height of Furring Wall to be 150mm Above Finished Ceiling Unless Otherwise Noted.
1.8 Suffixes for Gypsum Board Partitions and Furring:
- 'O': Denotes Offset Wall - Number of GB Layers Differs per Side.
- 'I': Denotes Wall Containing Acoustic Batt Insulation in Stud Cavity.
- '0': Denotes Low Wall - Height Indicated on Floor Plans. Cap with GB Unless Otherwise Indicated.
- '1': Denotes Partition/Furring to Extend Min 150mm Above Finished Ceiling.
- '2': Denotes Partition/Furring to Stop at U/S of Finished Ceiling
- '3': Denotes Partition/Furring to Extend to U/S of Floor or Roof Slab Above.
- '4': Denotes Engineered Metal Support System.
- '5': Denotes Partition Acting as Guard
- '6': Denotes Partition/Furring Replaces GB With Moisture Resistant GB
- '7': Denotes Partition/Furring Replaces GB With Moisture Resistant GB on One Side Only (Refer to RFS)
- '8': Denotes Partition/Furring Replaces GB with Impact Resistant GB on One Side Only (Refer to RFS).

1.9 ULC Listings Provided for Fire Rated Partitions are for Reference Only. Provide Appropriate Manufacturer Specific ULC Listings for Review as Required in the Specifications.

2. Concrete Masonry Unit Walls and Partitions:

2.1 All Concrete Masonry Unit Walls and Partitions to Extend to U/S of Floor or Roof Slab Above, Unless Noted Otherwise.
2.2 Provide Compressible Joint Filler Continuous at Top of All CMU Walls and Partitions, Seal Joints where Exposed. Provide Firestopping and Smoke Seals at Perimeter Joints and Penetrations in Fire Rated Partitions.
2.3 Provide Lateral Bracing at Top of CMU Walls and Partitions, Refer to Structural for Details.
2.4 Provide Reinforcement of CMU Walls and Partitions as Required by Structural.

3. Fire Separations:

3.1 Refer to Fire Separation Plans - Fire Separation Requirements.
3.2 At All Fire Rated Partitions: Install Continuous Firestopping and Smoke Seals at All Perimeter Joints and Penetrations.
3.3 At Recessed Panel Installations (Eg. Electrical Panels) Within Rated Walls: Provide Continuity of the Required Rating Behind and Around the Panel.

4. Guard Loading:

4.1 Partitions constructed along edges of floors and adjacent to open-to-below areas to be designed and engineered to meet loading requirements as prescribed by the Ontario Building Code.

Legend

Drawing Symbols

Symbol	Description
1 / A100	Building Section
1 / A100	Wall Section / Detail Section
1 / A100	Callouts
1 / A100	Building Elevation
1, 1, A100, 1, 1	Interior Elevation
A, 1	Grids
Level 2 5100	Levels
1	Revision Bubbles & Tags
	Breakline
1 / A202	Matchline
	North Arrow

Legend

Annotation Symbols

Symbol	Description
ROOM 1230	Room/Area Tags
20011A	Door Tags
SC2001	Screen Tags
P1 P1	Assemblies/Accessories/ Furniture/Window/ Equipment/Finishes Tag
ACT2 2600 / ACT2 2600	Ceiling Tags
1200	Spot Elevation - New
1200	Spot Elevation - Existing
T/O Concrete 1200	Spot Elevation - "Top of" Alignment Benchmark
U/S Soffit 1200	Spot Elevation - "Underside of" Alignment Benchmark
UP	Stair/Ramp Direction Tag
352; 2R @ 176mm	Stair Riser Tag
278; 2T @ 139mm	Stair Tread Tag
Wall Base	Keynote Tag

Legend

Abbreviations List

Abbreviation	Meaning
A	
ABM	Air Barrier Membrane
ACONC	Architectural Concrete
ACP{#}	Acoustic Ceiling Panel {Type No.}
ACT{#}	Acoustic Ceiling Tile {Type No.}
AD	Area Drain
Add	Addendum
Adj	Adjustable
ADO	Automatic Door Operator
AF	Above Floor
AFF	Above Finished Floor
AHU	Air Handling Unit
Alum	Aluminum
ANOD	Anodized
AP	Access Panel
Approx	Approximate
Arch	Architectural
AVBM{#}	Air Vapour Barrier Membrane
AW	Acid Waste
AWP{#}	Acoustic Wall Panel {Type No.}
Approx	Approximate
Arch	Architectural
B	
BBD	Tile Backer Board (In lieu of GB behind CT)
BDRM	Bedroom
BF	Barrier Free
BH	Bore hole
BL{#}	Bollard {Type No.}
BM	Benchmark
BR	Bumper Rail
BSMT	Basement
BT{#}	Base Type {Type No.}
C	
Cam	Security Camera
CBD	Cement Board
CG	Corner Guard
CFF	Concrete Floor Finish {Type No.}
CH	Coat Hook
CJ	Control Joint
CHB	Chalkboard
CL	Centre line
CLG	Ceiling
CM	Construction Manager
CMU	Concrete Masonry Unit
CO	Clean out
Col	Column
Conc{#}	Concrete {Type No.}
Con	Construction
ConJT	Construction Joint
Cont	Continuous
Conv	Convector
CPH	Concealed Panic Hardware
CPT{#}	Carpet {Type No.}
CR	Chair Rail
CROD	Curtain Rod
CS{#}	Concrete Surface Sealer {Type No.}
CT	Curtain Track
CTR	Centre
Cur{#}	Curtain {Type No.}
CW{#}	Curtain Wall {Type No.}
D	
Demo	Demolition
DEPT	Department
DF	Drinking Fountain
Dia	Diameter
Diff	Diffuser
Dim	Dimension
Disp	Dispenser
Div	Division
DM	Dome Mirror
DN	Down
DWG	Drawing
E	
EA	Each
EHO	Electric Hold Open
Elec	Electrical
Elev	Elevator
EP{#}	Epoxy Flooring {Type No.}
EPT{#}	Epoxy Terrazzo
EQ	Equal
EQP	Equipment
ES{#}	Eyewash Station {Type No.}
EW{#}	Exterior Wall Type
EXG	Existing
EXP	Exposed
EXPNJT{#}	Expansion Joint
EXPSTR	Exposed Structure
F	
F{#}	Gypsum Board Furring {Type No.}
FA	Fire Alarm
FCU	Fan Coil Unit
FD	Floor Drain
FE	Fire Extinguisher
FEC	Fire Extinguisher Cabinet
FHY	Fire Hydrant
FHC	Fire Hose Cabinet
Fin{#}	Finish{Type No.}
FL	Floor or Flooring
FLGR{#}	Floor Grille {Type No.}
Fluor	Fluorescent
FN{#}	Fence {Type No.}
FR	Fire-rated
FRR	Fire Resistance Rating
FRTR	Fire Retardant Treated
FS	Full-size
G	
GA	Gauge
GALV	Hot Dipped Galvanized
GB	Gypsum Board
GBC{#}	Gypsum Board Ceiling {Type No.}
GBR	Grab Bar
GC	General Contractor
GDRL{#}	Guardrail {Type No.}
GFRG	Glass Fibre Reinforced Gypsum
GL{#}	Glass {Type No.}
GMU	Glass Masonry Unit
GT{#}	Geotextile Filter Fabric {Type No}
H	
HB	Hose Bib
HDRL{#}	Handrail
HM	Hollow Metal
HM{#}	Hollow Metal Door Type
Hor	Horizontal
HP	High Point
HR	Hour
HSS	Hollow Steel Section
HT	Height
HVAC	Heating Ventilating and Air Conditioning
I	
ID	Inside Diameter
IFRM{#}	Intumescent Fireproofing Type {#}
INT	Interior
INS{#}	Insulation Type {#}
INV	Invert
IVT	Intravenous Track
J	
JAN	Janitor
JT	Joint
K	
KG	Kilogram
KO	Knockout
L	
LAB	Laboratory
LAM	Laminated
LAV	Lavatory
LKR	Locker
LINO	Linoleum
LP	Low Point
M	
M	Metre
M{#}	Concrete Masonry Unit Wall {Type No.}
MRM	Marmoleum
Max	Maximum
Mech	Mechanical
Mezz	Mezzanine
MG	Make Good
MH	Maintenance Hole
Mic	Microphone
Min	Minimum
Mir	Mirror
MISC	Miscellaneous
MiscMTL	Miscellaneous Metal
MR{#}	Fire Rated Concrete Masonry Unit Wall {Type No.}
MWK	Millwork
MM	Millimetre
MO	Masonry Opening
MTL	Metal
N	
NA	Not Applicable
NBC	National Building Code
NFHB	Non-Freeze Hose Bib
NIC	Not in Contract
No	Number
NRC	Noise Reduction Coefficient
NS	Non-slip (Slip Resistant)
NTS	Not to Scale
O	
OAA	Ontario Association of Architects
OBC	Ontario Building Code
OC	On Center
OD	Outside Diameter
Off	Office
OHD{#}	Overhead Door {Type No.}
Opp	Opposite
OWSJ	Open Web Steel Joist
P	
P{#}	Gypsum Board Partition {Type No.}
PCONC	Precast Concrete
PE{#}	Moveable Partition {Type No}
PERF	Perforated
PH	Panic Hardware
Plas{#}	Plaster {Type No.}
PLam{#}	Plastic Laminate {Type No.}
PLWD	Plywood
PNL{#}	Wall Panel {Type No.}
Pol	Polished
PPT	Prime Painted
PR{#}	Fire Rated Gypsum Board Partition {Type No.}
Prefab	Prefabricated
Prefin	Prefinished
Proj	Projection
PS{#}	Shaft Wall {Type No.}
PSF	Pounds per Square Foot
PSH{#}	Horizontal Shaft Wall {Type No.}
PSI	Pounds per Square Inch
PT{#}	Paint {Type No.}
PTD	Paper Towel Disposal
PTDD	Paper Towel Dispenser
PTN	Folding Partition
PTR	Paper Towel Receptor
PVA	Polyvinyl Acetate
PVC	Polyvinyl Chloride
R	
R	Radius
R{#}	Roof Type {Type No.}
RA{#}	Roof Anchor {Type No.}
RAD	Radiator
RB	Rubber Base
RBM	Root Barrier Membrane
RC	Reinforced Concrete
RD	Roof Drain
Ref	Reference
Refr	Refrigerator
Rev	Revision
RFS	Room Finish Schedule
RM	Room
RO	Rough Opening
RP	Removable Panel
RPM	Revolutions Per Minute
RS {#}	Roller Shade
RSF {#}	Resilient Sheet Flooring {Type No.}
RSU	Rod & Shelf Unit
RT {#}	Resilient Tile {Type No.}
RTU	Roof-Top Unit
RWL	Rainwater Leader
S	
S{#}	Soffit Type {Type No.}
SBO	Supplied by Owner (for contractor installation)
SC	Screen
SD	Soap Dispenser
Sect	Section
SF{#}	Sub Floor {Type No.}
SFRM	Sprayed Fireproofing
SHRC	Shower Rod & Curtain
Sim	Similar
SND	Sanitary Napkin Dispenser
SNR	Sanitary Napkin Receptor
SPK	Speaker
SP{#}	Spandrel Panel Type No.
Spec	Specification
SPLR	Sprinkler
SQ	Square
SRTC	Service Room Traffic Coating
SS	Stainless Steel
SSM{#}	Solid Surface Material {Type No.}
ST	Stain
STC	Sound Transmission Class
STD	Standard
STL	Steel
STL/D	Steel Deck
STN {#}	Stone {#}
Struc	Structural
Susp	Suspended
SVC	Sprinkler Valve Cabinet
T	
T&G	Tongue and Groove
TB	Towel Bar
TKB{#}	Tack Board
Tel	Telephone
Terr	Terrazzo
Tex{#}	Textile {Type No.}
Thr{#}	Threshold {Type No.}
TL{#}	Tile {Type No.}
TOC	Top of Curb
TOCS	Top of Concrete Slab
TOL	Top of Ledge
TOS	Top of Steel
TOW	Top of Wall
TP	Toilet Partition
TPH	Toilet Paper Holder
TR{#}	Floor Transition Type No.
TT{#}	Traffic Topping {Type No.}
TWSI{#}	Tactile Warning Strip Indicators {Type No}
TXF	Textured Finish
Typ	Typical
U	
UC	Undercut
U/S	Underside
U/SS	Underside Soffit
UPS	Uninterruptible Power Supply
UH	Unit Heater
V	
V	Vinyl
VB{#}	Vapour Barrier {Type. No.}
VDS{#}	Visual Display Surface
VCM{#}	Vapour Control Membrane {Type No.}
Vert	Vertical
Vest	Vestibule
VWC{#}	Vinyl Wall Covering
W	
W	Width
W/	With
WA{#}	Washroom Accessory {Type No.}
WBD	Whiteboard
WC	Water Closet
WD	Wood Frame Material
WD{#}	Wood Door {Type No.}
WDS{#}	Solid Wood Type No
WDFL{#}	Wood Flooring Type No.
WDP{#}	Wood Panel Type No.
WDVN{#}	Wood Veneer Type No.
WDU	Waste Disposal Unit
WM	Wire Mesh
WMD	Wire Mold
WP	Wall Protection
WPM{#}	Waterproofing Membrane {Type No.}
WR	Washroom
WRP	Water Repellent Sealer
WS{#}	Window Shades {Type No.}
WTS	Waterproof Traffic Surfacing
WWF	Welded Wire Fabric

diamond schmitt

Peel Region
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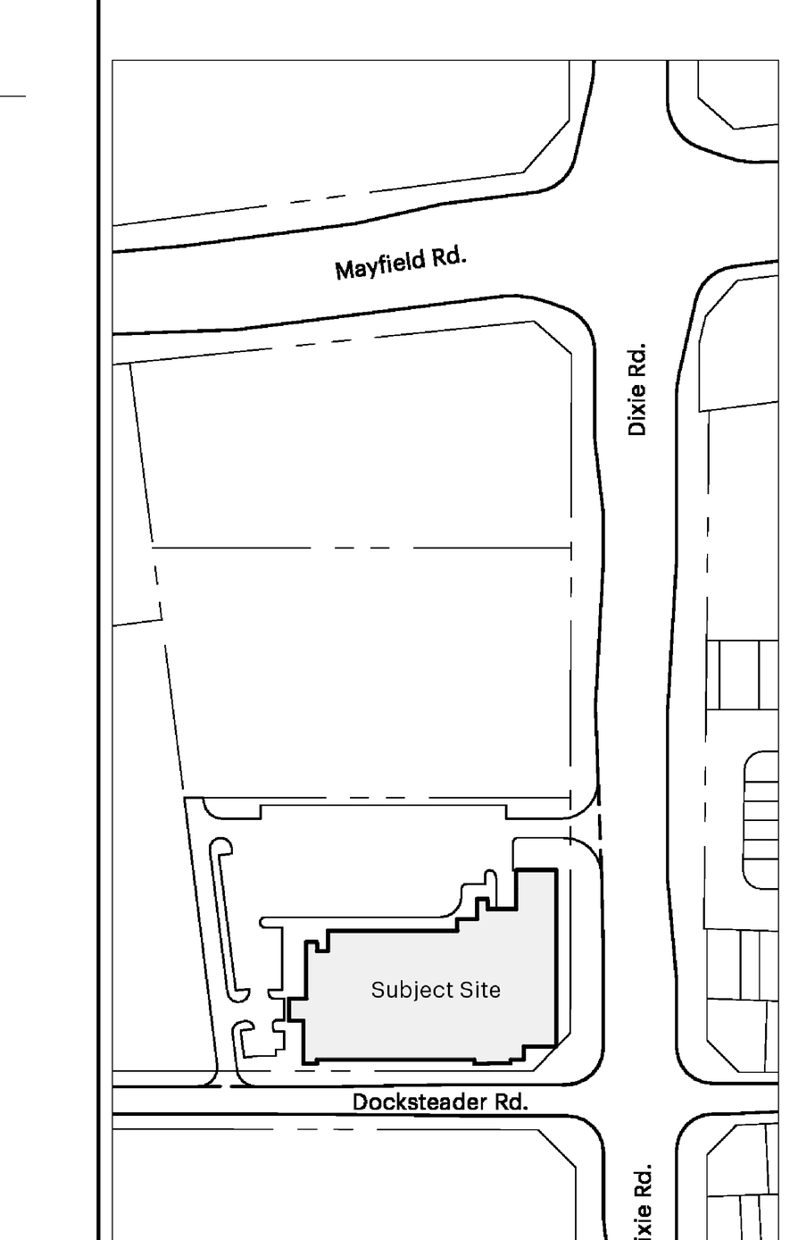
Issued

No.	Date	Description
2	Nov 20, 2023	100% Design Development
5	Mar 22, 2024	33% Construction Documents
6	Apr 22, 2024	66% Construction Documents
7	May 27, 2024	Issued For Building Permit (Draft)
10	July 8, 2024	Issued for Building Permit
11	July 26, 2024	Issued for Tender
12	Sept 23, 2024	Issued for Tender
13	Nov 12, 2024	Issued for Tender Addendum No. 2



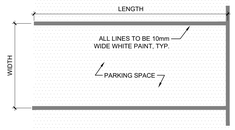
Key Plan 1:3000

Docksteader PRPS
6 Docksteader Road, Brampton, ON
221033
File No. SPA-2024-0088

Exterior Building Assemblies, Symbols & Annotations

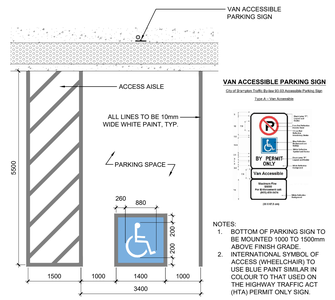
As indicated

A041



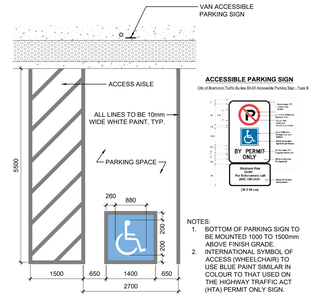
PARKING STALL DIMENSIONS			
KEY	STALL TYPE	LENGTH (mm)	WIDTH (mm)
AODA (A)	ACCESSIBLE TYPE A	5400	3400
AODA (B)	ACCESSIBLE TYPE B	5400	2700
A	AMBULANCE	7000	3500
E	ELECTRIC	5400	2700
M	MOTORCYCLE	3000	1200
S	STAFF	5400	2700
V	VISITOR	5400	2700

① TYPICAL PARKING STALL
N.T.S.



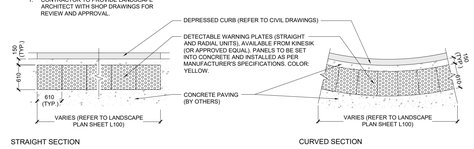
NOTES:
1. BOTTOM OF PARKING SIGN TO BE MOUNTED 1000 TO 1500mm ABOVE FINISH GRADE.
2. INTERNATIONAL SYMBOL OF ACCESS (WHEELCHAIR) TO USE BLUE PAINT SIMILAR IN COLOUR TO THAT USED ON THE HIGHWAY TRAFFIC ACT (HTA) PERMIT ONLY SIGN.

② ACCESSIBLE PARKING STALL TYPE A
N.T.S.



NOTES:
1. BOTTOM OF PARKING SIGN TO BE MOUNTED 1000 TO 1500mm ABOVE FINISH GRADE.
2. INTERNATIONAL SYMBOL OF ACCESS (WHEELCHAIR) TO USE BLUE PAINT SIMILAR IN COLOUR TO THAT USED ON THE HIGHWAY TRAFFIC ACT (HTA) PERMIT ONLY SIGN.

③ ACCESSIBLE PARKING STALL TYPE B
N.T.S.



④ TACTILE WARNING STRIP
N.T.S.

LEGEND:

- Property Line
- Snow Storage Area
- Deciduous Tree
- Coniferous Tree
- PA — Planting Area
- Grassland Bird Habitat Wet Meadow Seed Mix Available from St. Williams Nursery & Ecology Centre
- Dry Meadow Seed Mix Available from St. Williams Nursery & Ecology Centre
- Sod with 200mm Topsoil
- Concrete Paving, Typical
- Concrete Paving, Vehicular Snow Melt
- Concrete Paving, Pedestrian Snow Melt
- Unit Paving, Snow Melt
- Solar Reflective Asphalt Coating, Colour 'A'
- Solar Reflective Asphalt Coating, Colour 'B'

REFERENCE NOTES:
1. Survey provided by KRCMAR Surveyors Ltd., dated February 28, 2023.
2. Refer to Electrical drawings by Introba for site lighting information.
3. Refer to Civil drawings prepared by Morrison Hershfield for grading and servicing information, including: oil and grit separation, stormwater storage tanks, asphalt pavements and permeable pavements.

GENERAL NOTES:
1. Drawings not to be used for construction unless authorized by the Landscape Architect.
2. Contractor shall report any discrepancies between the drawings and site conditions prior to commencement of the work.
3. All utility locates are the responsibility of the Contractor. Hand dig within the limits recommended by the service utility. Utility conflicts with proposed tree locations must be reported immediately to the Landscape Architect.
4. Landscape drawings show engineering information for design purposes only. Do not construct engineering works from these drawings.

MATERIAL NOTES:
1. Contractor to provide solar reflective asphalt coatings as a provisional item.
   1.1. StreetBond/SR solar reflective coating available from HUB Surface Systems, or approved alternate.
2. Contractor to provide snow melt system. Refer to mechanical for priority areas that shall be provided, and secondary areas that shall be included as a provisional item.

DAYLIGHT TRIANGLE NOTES:
1. The maximum height of all objects within the daylight triangle shall not exceed 600mm. This includes:
   1.1. The mature height of plant material;
   1.2. Landscape features and site furnishings.
2. 2. All plant material located within the daylight triangle will be maintained by the Owner, the Region of Peel, in perpetuity.

GSP group

Region of Peel
working with you

ISSUED

No.	Date	Description
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2	2023 NOV 20	Issued for 100% Design Development
3	2023 NOV 29	Issued for Site Plan Control
4	2024 MAR 20	Issued for Site Plan Approval
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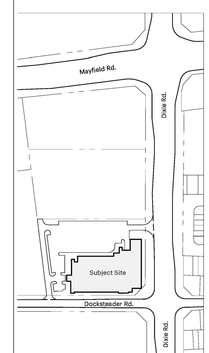
8	2024 JUL 08	Issued for Building Permit
9	2024 JUL 26	Issued for Tender
10	2024 SEP 23	Issued for Tender
11	2024 NOV 12	Issued for Tender Addendum No. 2



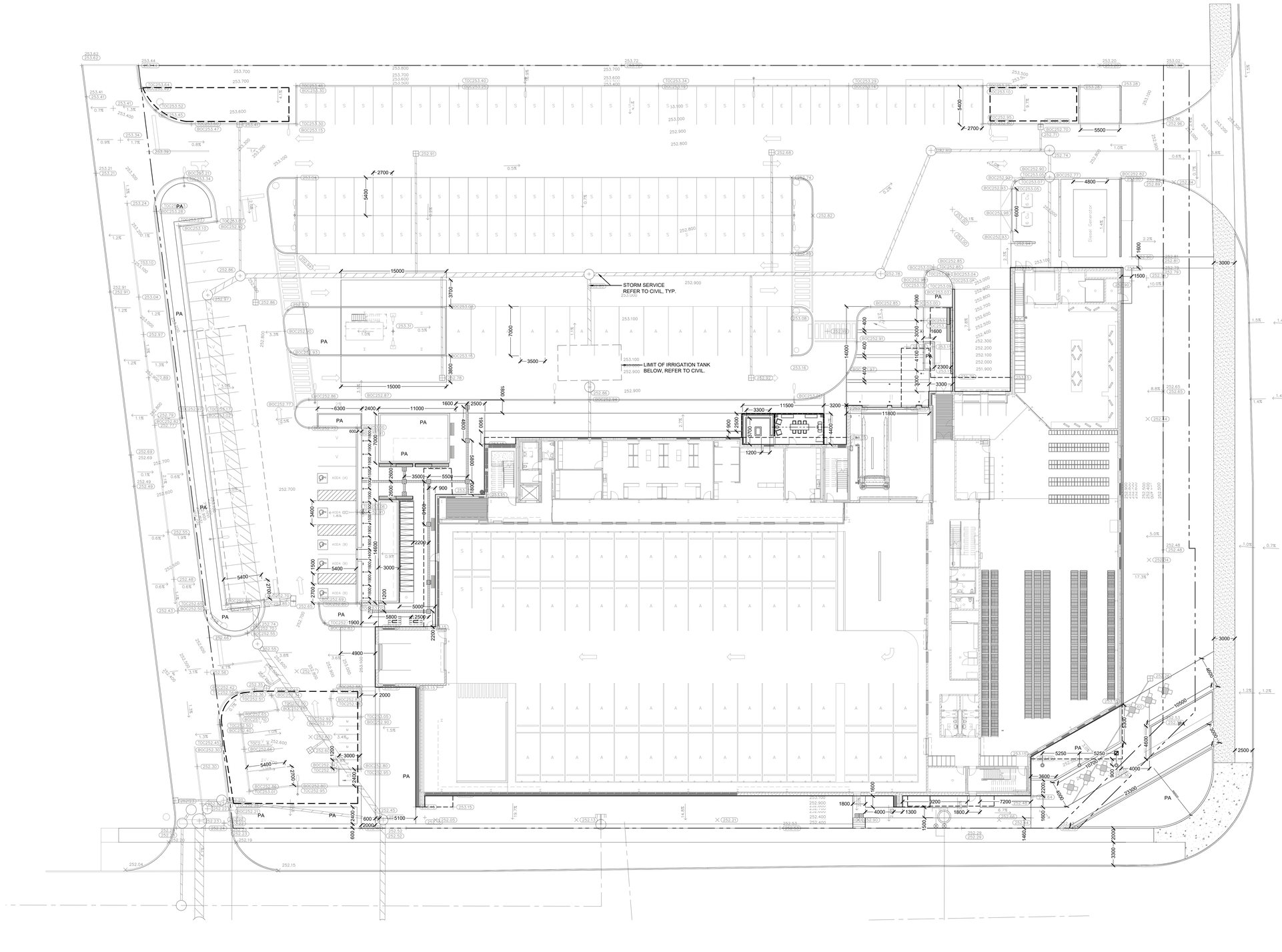
Key Plan 1:3000

3 1 0 2 4 8
1:200(m)

Docksteader PRPS
6 Docksteader Road, Brampton, ON
SPA-2024-0088
23003

Landscape Site Plan
1 : 200

L100



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Region of Peel
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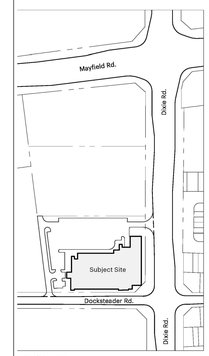

Key Plan 1:3000

3 1 0 2 4 8
1: 200(m)

Docksteader PRPS
6 Docksteader Road, Brampton, ON
SPA-2024-0088
23003

Layout Plan
1 : 200

L101

PLANT SCHEDULE INSIDE PROPERTY

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS
CONIFEROUS TREES							
PG	8	Picea glauca	White Spruce	200cm Ht.	W.B.		Native
DECIDUOUS TREES							
AF	9	Acer freemanii `Jeffersred`	Autumn Blaze Maple	60mm Cal.	W.B.		Native hybrid
CO	6	Celtis occidentalis	Common Hackberry	60mm Cal.	W.B.		Native
CCA	4	Cercis canadensis	Eastern Redbud	60mm Cal.	W.B.		
GB	2	Ginkgo biloba	Maidenhair Tree	60mm Cal.	W.B.		
GD	5	Gymnocladus dioica 'Espresso'	Kentucky Coffeetree	60mm Cal.	W.B.		Native cultivar
NS	4	Nyssa sylvatica 'David Odom'	Afterburner Black Gum	60mm Cal.	W.B.		Native
OV	16	Ostrya virginiana	American Hophornbeam	60mm Cal.	W.B.		Native
PA	5	Platanus acerifolia `Bloodgood`	London Plane Tree	60mm Cal.	W.B.		
PT	3	Populus tremuloides	Quaking Aspen	60mm Cal.	B&B		Native
PP	13	Populus tremuloides 'Dancing Flame'	Dancing Flame Aspen	60mm Cal.	W.B.		Native cultivar
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
CONIFEROUS SHRUBS							
Jl	41	Juniperus chinensis 'Blaauw'	Blaauw's Juniper	60cm	3 gal.	1.5 m	
Jm	29	Juniperus chinensis 'Mint Julep'	Mint Julep Juniper	60cm	3 gal.	1.5 m	
DECIDUOUS SHRUBS							
Pm	30	Physocarpus opulifolius 'Monlo'	Diabolo Ninebark	60cm	3 gal.	1.5 m	Native cultivar
RaG	34	Rhus aromatica `Gro-Low`	Gro-Low Fragrant Sumac	60cm	3 gal.	1.5 m	Native cultivar
Vj	25	Viburnum x juddii	Judd Viburnum	60cm	3 gal.	1.5 m	
ORNAMENTAL GRASSES							
ca	51	Calamagrostis acutiflora `Karl Foerster`	Feather Reed Grass	---	1 gal.	0.8 m	
Pv	44	Panicum virgatum	Switch Grass	---	1 gal.	0.9 m	Native
PvC	196	Panicum virgatum 'Cheyenne Sky'	Cheyenne Sky Switch Grass	---	1 gal.	0.6 m	Native cultivar
Sl	55	Schizachyrium scoparium	Little Bluestem	---	1 gal.	0.6 m	Native
Sn	33	Sorghastrum nutans	Indian Grass	---	1 gal.	0.9 m	Native
PERENNIALS							
Am	246	Allium x 'Millenium'	Ornamental Onion	---	1 gal.	900 mm	Bulbs
Cv	5	Clematis virginiana	Virgins Bower	---	1 gal.	1,000 mm	Native
ep	85	Echinacea purpurea	Coneflower	---	1 gal.	600 mm	Native
sMN	46	Salvia nemorosa `May Night`	Sage	---	1 gal.	450 mm	
Sh	563	Sporobolus heterolepis	Prairie Dropseed	---	1 gal.	600 mm	Native

PLANT SCHEDULE OUTSIDE PROPERTY

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS
DECIDUOUS TREES							
PT	1	Populus tremuloides	Quaking Aspen	60mm Cal.	B&B		Native
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
PERENNIALS							
Am	77	Allium x 'Millenium'	Ornamental Onion	---	1 gal.	900 mm	Bulbs
Cz	135	Coreopsis verticillata 'Zagreb'	Zagreb Tickseed	---	1 gal.	500 mm	
Sh	172	Sporobolus heterolepis	Prairie Dropseed	---	1 gal.	600 mm	Native

REFERENCE NOTES:

1. Survey provided by KRCMAR Surveyors Ltd., dated February 28, 2023.
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3. Refer to Civil drawings prepared by Morrison Hershfield for grading and servicing information, including: oil and grit separation, stormwater storage tanks, asphalt pavements and permeable pavements.

GENERAL NOTES:

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2. Contractor shall report any discrepancies between the drawings and site conditions prior to commencement of the work.
3. All utility locates are the responsibility of the Contractor. Hand dig within the limits recommended by the service utility. Utility conflicts with proposed tree locations must be reported immediately to the Landscape Architect.
4. Landscape drawings show engineering information for design purposes only. Do not construct engineering works from these drawings.

PLANTING NOTES:

1. Provide erosion control blankets for all seeded and planted slopes greater than 3:1. Contractor to submit a biodegradable straw net suitable for the application.
2. Provide 100mm uncompacted planting soil for all trees, soil trenches and planting beds. Soil to contain a minimum of 10% organic matter by dry weight, and a pH of 6.0 to 8.0.
3. No potable water shall be used for irrigation.
4. Contractor to submit irrigation shop drawings for review and approval by Landscape Architect.

LEGEND:

- Property Line
- Snow Storage Area
- Deciduous Tree
- Coniferous Tree
- Shrubs
- Ornamental Grasses
- Sod with 200mm Topsoil
- Grassland Bird Habitat Wet Meadow Seed Mix Available from St. Williams Nursery & Ecology Centre
- Dry Meadow Seed Mix Available from St. Williams Nursery & Ecology Centre

ISSUED

No.	Date	Description
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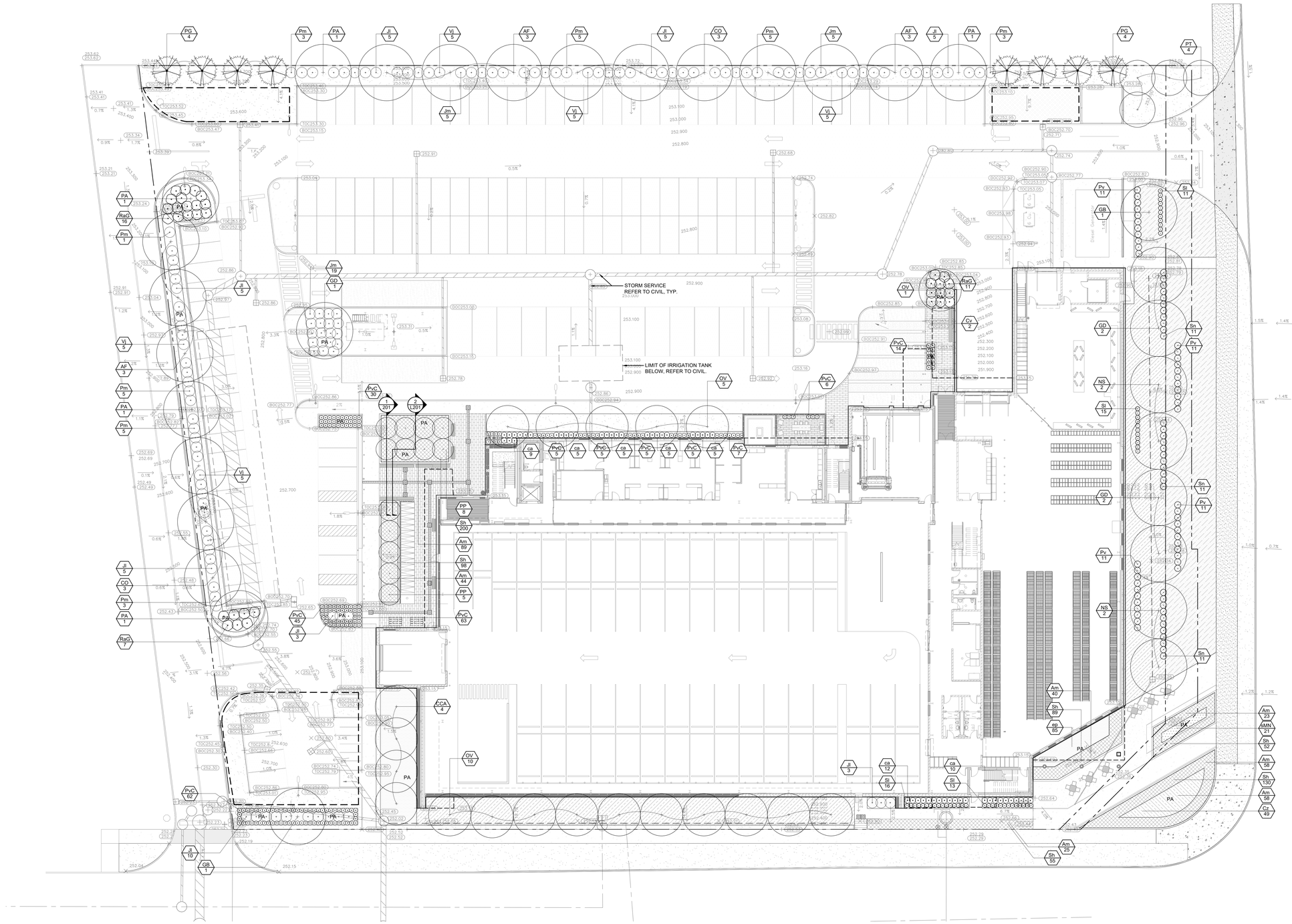
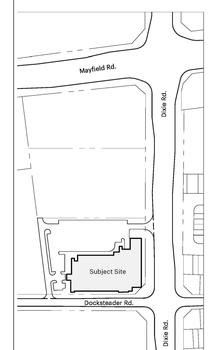
11	2024 NOV 12	Issued for Tender Addendum No. 2





Key Plan 1:3000

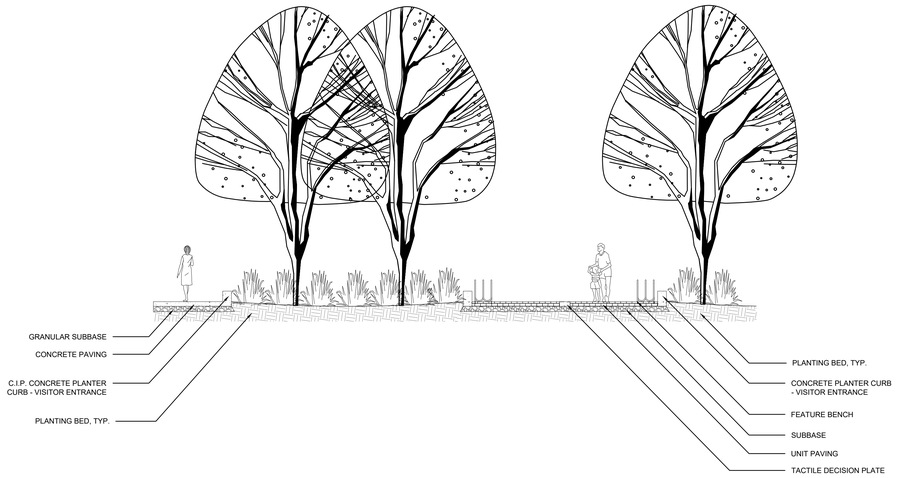
3 1 0 2 4 8
1: 200(m)

Docksteader PRPS

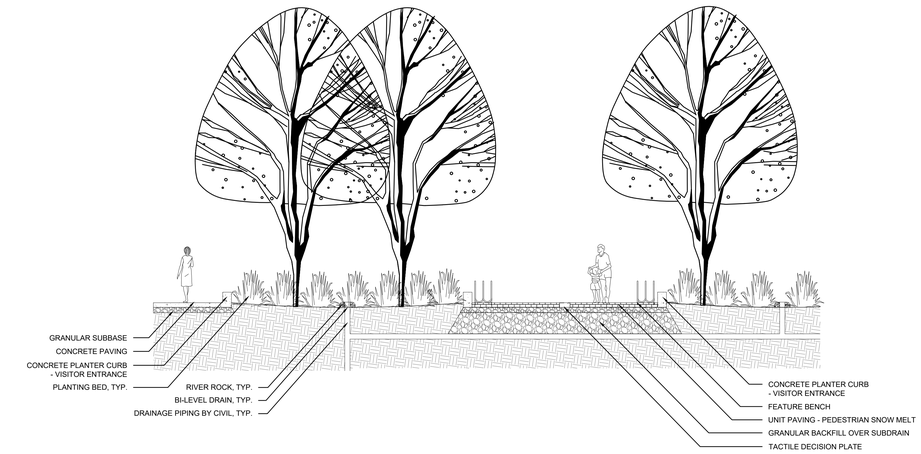
6 Docksteader Road, Brampton, ON
SPA-2024-0088
23003

Planting Plan
1 : 200

L102



1 VISITOR ENTRANCE PLANTER SECTION 1
N.T.S.



1 VISITOR ENTRANCE PLANTER SECTION 2
N.T.S.

GSP group

Region of Peel
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ISSUED

No.	Date	Description
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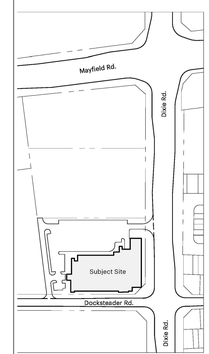
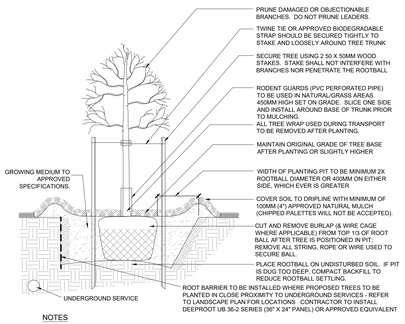


Key Plan 1:3000

Docksteader PRPS
6 Docksteader Road, Brampton, ON
SPA-2024-0088
23003

Landscape Sections

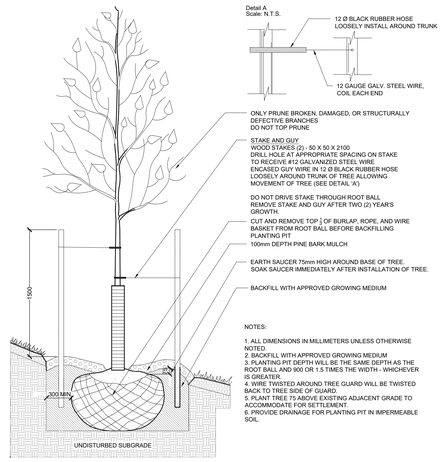
L201



NOTES

1. GROWING MEDIUM MIX: 4 PARTS TOPSOIL, 1 PART COMPOST, 1 PART SHREDDED PEAT & APPLICATION OF HIGH PHOSPHOROUS FERTILIZER (0-20-0)
2. PLANT MATERIAL SHALL BE THOROUGHLY WATERED AT TIME OF PLANTING.
3. PLANT MATERIAL SHALL BE SET PLUMB IN THE MIDDLE OF THE PIT.
4. TREE SHALL BEAR SAME RELATION OR SLIGHTLY HIGHER TO FINISHED GRADE AS ORIGINALLY GROWN.
5. PLANT STOCK MOVED WHILE IN LEAF SHALL BE COVERED WHILE IN TRANSIT. ROOTS SHOULD BE KEPT MOIST UNTIL PLANTED. TREES IN LEAF TO BE TREATED WITH ANTI-DESICANT.
6. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
7. STAKING IS TO OCCUR ONLY AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
8. 100MM HIGH SAUCER EXCEPT WHEN PLANTING IN BED.

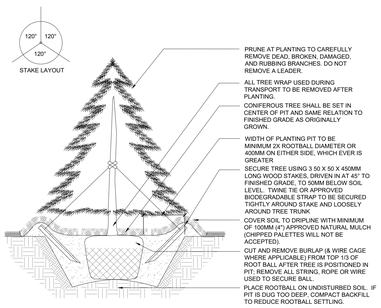
1 DECIDUOUS TREE PLANTING B.B/W.B - UP TO 80mm CALIPER
N.T.S.



NOTES:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. BACKFILL WITH APPROVED GROWING MEDIUM
3. PLANTING PIT DEPTH WILL BE THE SAME DEPTH AS THE ROOT BALL AND 900 OR 1.5 TIMES THE WIDTH - WHICHEVER IS GREATER.
4. WIRE TWISTED AROUND TREE GUARD WILL BE TWISTED BACK TO TREE SIDE OF GUARD.
5. PLANT TREE 75 ABOVE EXISTING ADJACENT GRADE TO ACCOMMODATE FOR SETTLEMENT.
6. PROVIDE DRAINAGE FOR PLANTING PIT IN IMPERMEABLE SOIL.

2 DECIDUOUS TREE PLANTING ON SLOPE
N.T.S.



NOTES

1. GROWING MEDIUM MIX: 4 PARTS TOPSOIL, 1 PART COMPOST, 1 PART SHREDDED PEAT & APPLICATION OF HIGH PHOSPHOROUS FERTILIZER (0-20-0)
2. PLANT MATERIAL SHALL BE THOROUGHLY WATERED AT TIME OF PLANTING.
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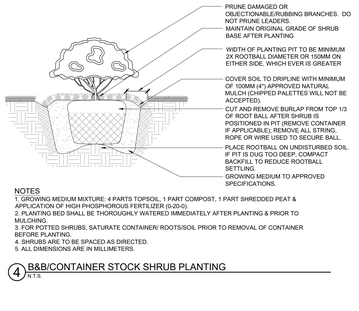
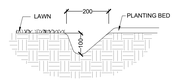
3 CONIFEROUS TREE PLANTING DETAIL
N.T.S.



NOTES

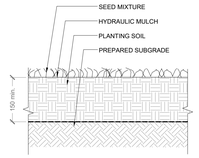
1. GROWING MEDIUM MIXTURE: 4 PARTS TOPSOIL, 1 PART COMPOST, 1 PART SHREDDED PEAT & APPLICATION OF HIGH PHOSPHOROUS FERTILIZER (0-20-0).
2. PLANTING BED SHALL BE THOROUGHLY WATERED IMMEDIATELY AFTER PLANTING & PRIOR TO MULCHING.
3. FOR POTTED SHRUBS, SATURATE CONTAINER/ ROOTS/SOIL PRIOR TO REMOVAL OF CONTAINER BEFORE PLANTING.
4. SHRUBS ARE TO BE SPACED AS DIRECTED.
5. ALL DIMENSIONS ARE IN MILLIMETERS.

4 B&B/CONTAINER STOCK SHRUB PLANTING
N.T.S.



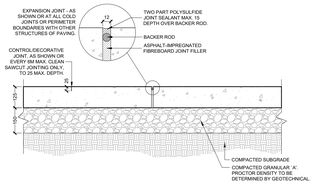
5 TYPICAL PLANTING BED EDGE
N.T.S.

NOTE:
1. REFER TO PLANT SCHEDULES FOR SEED MIXES.
2. CONTRACTOR TO SUBMIT CUTSHEET OF EACH SEED MIXTURE TO LANDSCAPE ARCHITECT FOR APPROVAL.
3. ALL SLOPES THAT EXCEED 3:1 SHALL INCLUDE SLOPE STABILIZATION PRIOR TO SEEDING. REFER TO PLANTING NOTES.



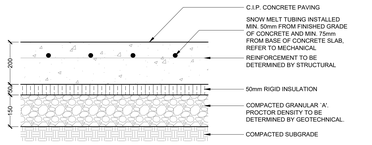
6 SEEDING
N.T.S.

NOTE:
1. CONCRETE PAVING TO BE BROOM FINISHED, NATURAL COLOUR.
2. CONCRETE FORMS AND BASE TO BE INSPECTED BY LANDSCAPE ARCHITECT PRIOR TO POURING.



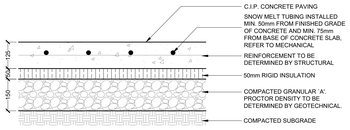
7 CONCRETE PAVING
N.T.S.

NOTES:
1. SNOW MELT TUBING AND SPACING FOR REFERENCE ONLY.
2. REFER TO MECHANICAL FOR ALL HEAT TRACING COMPONENTS AND SPECIFICATIONS.



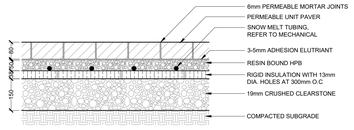
8 CONCRETE PAVING - VEHICULAR SNOW MELT
N.T.S.

NOTES:
1. SNOW MELT TUBING AND SPACING FOR REFERENCE ONLY.
2. REFER TO MECHANICAL FOR ALL HEAT TRACING COMPONENTS AND SPECIFICATIONS.



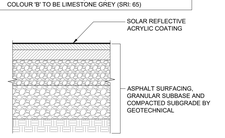
9 CONCRETE PAVING - PEDESTRIAN SNOW MELT
N.T.S.

NOTES:
1. UNIT PAVING SUBBASE DESIGNED AS A COMPLETE SYSTEM, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED MANUFACTURERS INSTRUCTIONS.
2. SNOW MELT TUBING AND SPACING FOR REFERENCE ONLY.
3. REFER TO MECHANICAL FOR ALL HEAT TRACING COMPONENTS AND SPECIFICATIONS.



10 UNIT PAVING - PEDESTRIAN SNOW MELT
N.T.S.

NOTE:
1. ASPHALT TO BE STAMPED WITH STREETBONDSR AVAILABLE FROM HUB SURFACE SYSTEMS, OR APPROVED ALTERNATE.
2. CONTRACTOR TO APPLY SOLAR REFLECTIVE COATING AS PER MANUFACTURERS RECOMMENDATIONS. THE NUMBER OF COATINGS RATED FOR VEHICULAR APPLICATIONS.
3. COLOUR 'A' TO BE SLATE (SRI: 33)
4. COLOUR 'B' TO BE LIMESTONE GREY (SRI: 65)



11 SOLAR REFLECTIVE ASPHALT COATING
N.T.S.

NOTE:
1. PROVIDE 10mm RADIUS ON OUTSIDE EDGE OF CURB.

12 CONCRETE PLANTER CURB - TYPICAL
N.T.S.

NOTE:
1. PROVIDE 10mm RADIUS ON ALL EXPOSED EDGES OF CURB.

13 CONCRETE PLANTER CURB - VISITOR ENTRANCE
N.T.S.

14 TACTILE WARNING PLATE
N.T.S.

15 TACTILE WAYFINDING STRIP
N.T.S.

Key Plan 1:3000

ISSUED

No.	Date	Description
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2	2023 NOV 20	Issued for 100% Design Development
3	2023 NOV 29	Issued for Site Plan Control
4	2024 MAR 20	Issued for Site Plan Approval
5	2024 MAR 22	Issued for 33% Construction Drawings
6	2024 APR 22	Issued for 66% Construction Drawings
7	2024 MAY 31	Issued for Building Permit
8	2024 JUL 08	Issued for Building Permit
9	2024 JUL 26	Issued for Tender
10	2024 SEP 23	Issued for Tender
11	2024 NOV 12	Issued for Tender Addendum No. 2

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6 Docksteader Road, Brampton, ON
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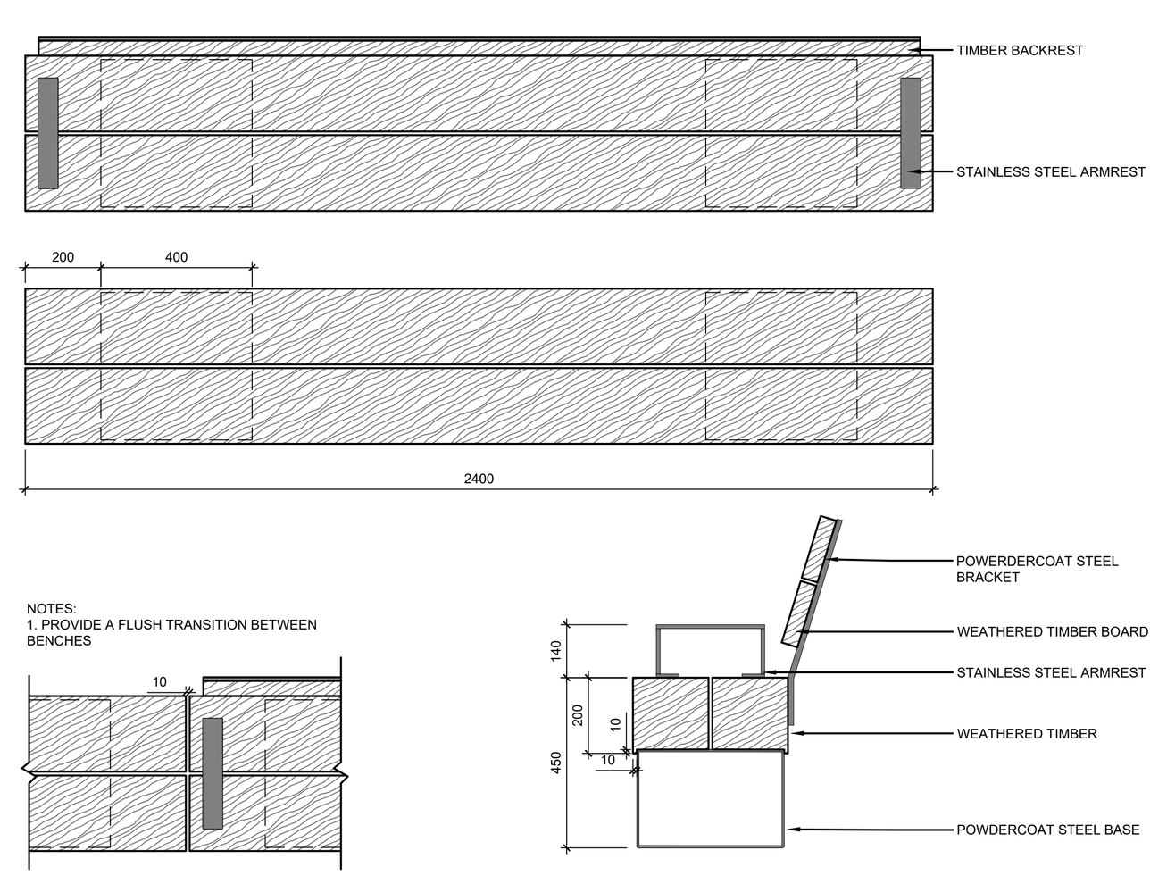
23003

Details

L301



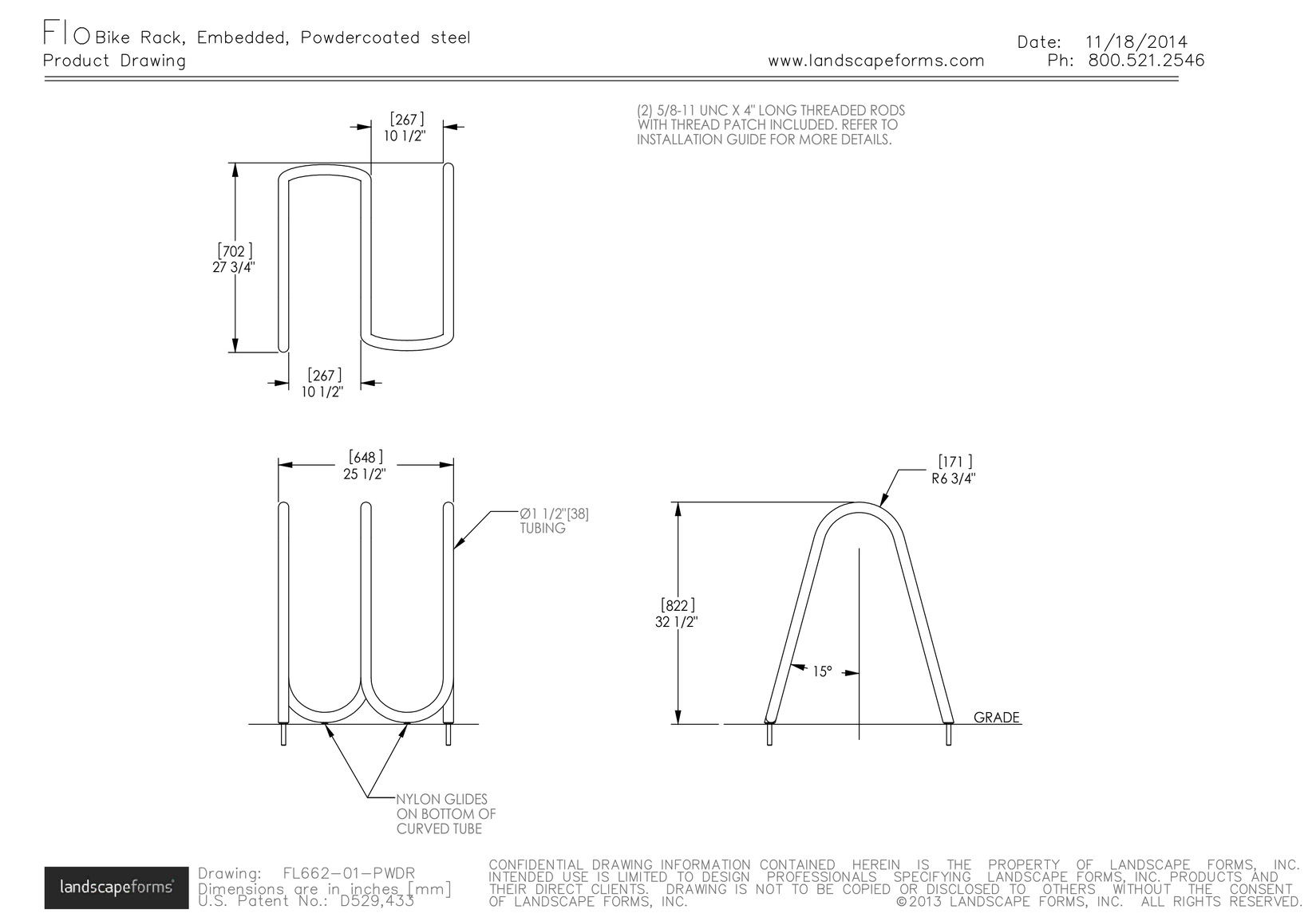
NOTE:
1. PRODUCT TO BE PLAIN BENCH. AVAILABLE FROM ROBURSCAPE WITH CUSTOM BACK REST AS SHOWN.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.
3. CUSTOM SHOP DRAWINGS TO BE PROVIDED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.

1 FEATURE BENCH
1:20

NOTE:
1. PRODUCT AVAILABLE FROM MAGLIN SITE FURNITURE.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.

2 MAGLIN BENCH
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM LANDSCAPE FORMS.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.



3 BIKE RACK
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM DERO.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.

4 BIKE REPAIR STATION
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM MADRAX.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.
3. LOCKER TO BE NON TOP STACKING, WITHOUT FLOOR, FULL PERFORATED DOOR, PADLOCK LOCK STYLE.

5 BIKE LOCKERS
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM LANDSCAPEFORMS.
2. POWDERCOAT METAL COLOUR TO BE NUTMEG COLOUR.
3. PANELS TO BE SURFACE MOUNTED AS PER MANUFACTURER'S SPECIFICATIONS.

6 DECORATIVE METAL SCREEN
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM GREEN THEORY.
2. COLOUR AND MATERIAL OPTIONS AS NOTED.
3. PRODUCT TO BE SURFACE MOUNTED AND INSTALLED AS PER MANUFACTURER SPECIFICATIONS.

LENGTH AS PER LANDSCAPE DRAWINGS - REFER TO PLANS

460mm

250mm

7 METAL TROUGH PLANTER - GREEN THEORY JOIN EDGING
N.T.S.

LENGTH AS PER LANDSCAPE DRAWINGS - REFER TO PLANS

LENGTH AS PER LANDSCAPE DRAWINGS - REFER TO PLANS

960mm

400mm HEIGHT

NOTE:
1. PRODUCT AVAILABLE FROM GREEN THEORY.
2. COLOUR AND MATERIAL OPTIONS AS NOTED.
3. PRODUCT TO BE SURFACE MOUNTED AND INSTALLED AS PER MANUFACTURER SPECIFICATIONS.

8 RAISED VEGETABLE BED
N.T.S.

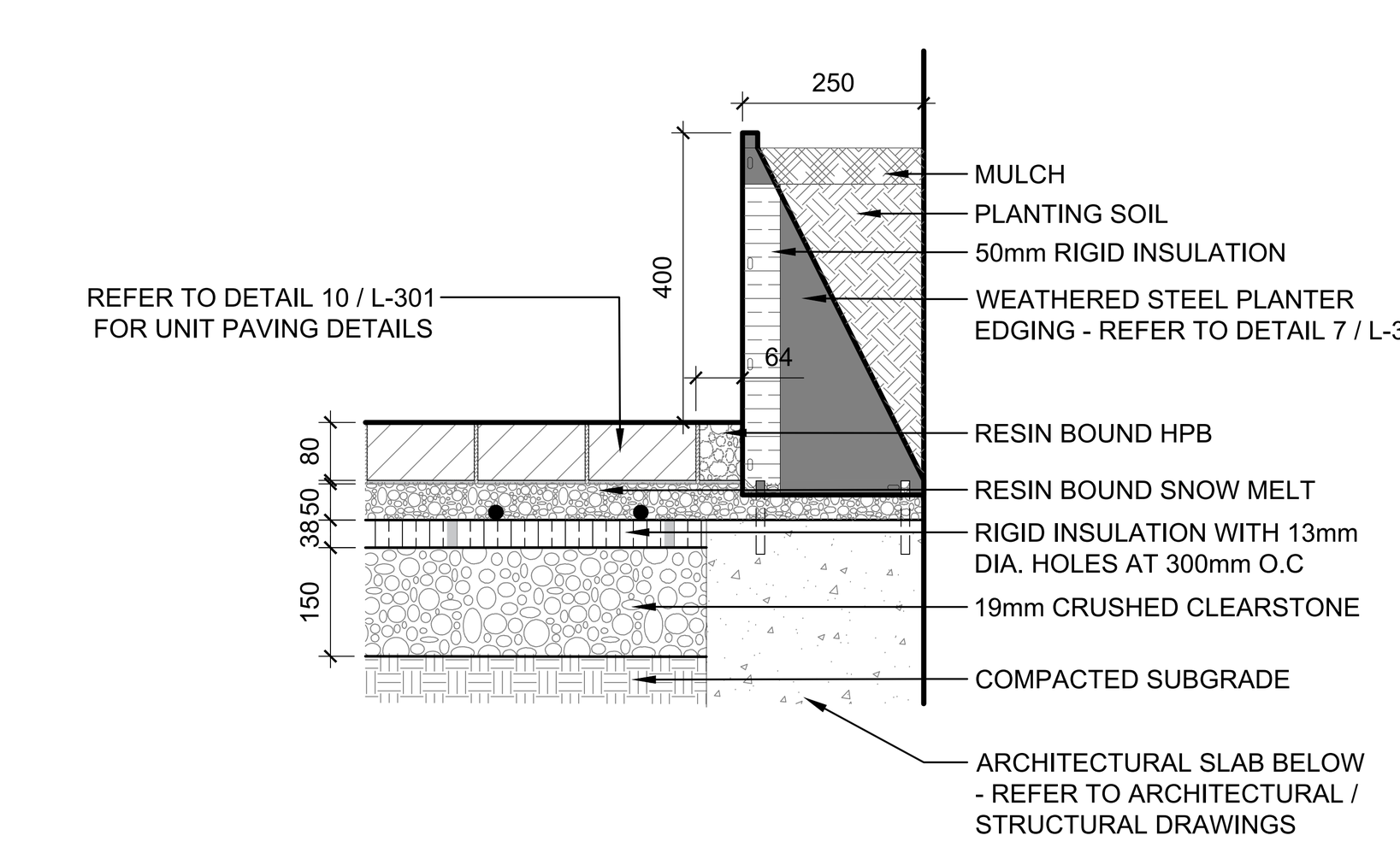
48" LENGTH

36" WIDTH

32" HEIGHT

NOTE:
1. PRODUCT AVAILABLE FROM GREEN THEORY.
2. COLOUR AND MATERIAL OPTIONS AS NOTED.
3. PRODUCT TO BE SURFACE MOUNTED AND INSTALLED AS PER MANUFACTURER SPECIFICATIONS.

9 ACCESSIBLE VEGETABLE BED
N.T.S.



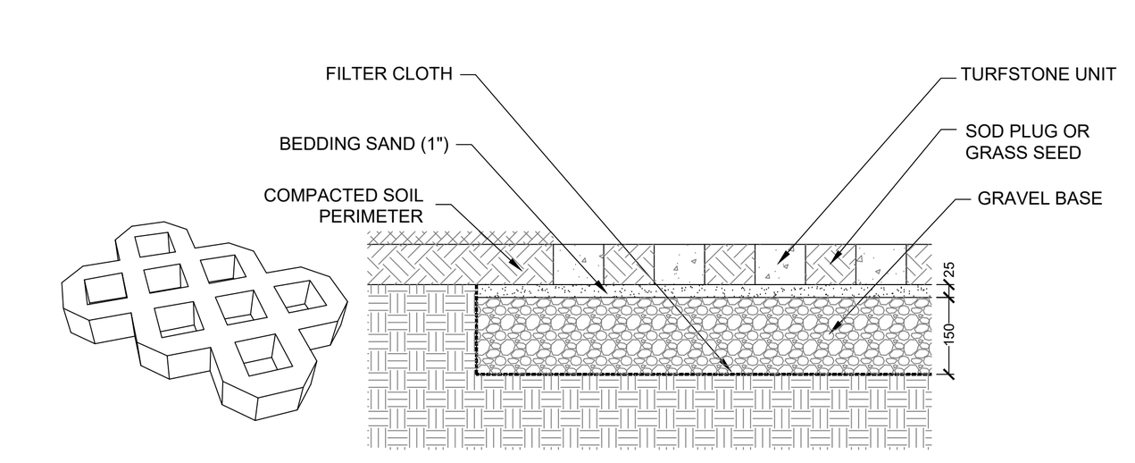
16 TROUGH PLANTER SECTION AT GUEST ENTRANCE
1:10

NOTE:
1. PRODUCT AVAILABLE FROM EQUIPARC.
2. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.

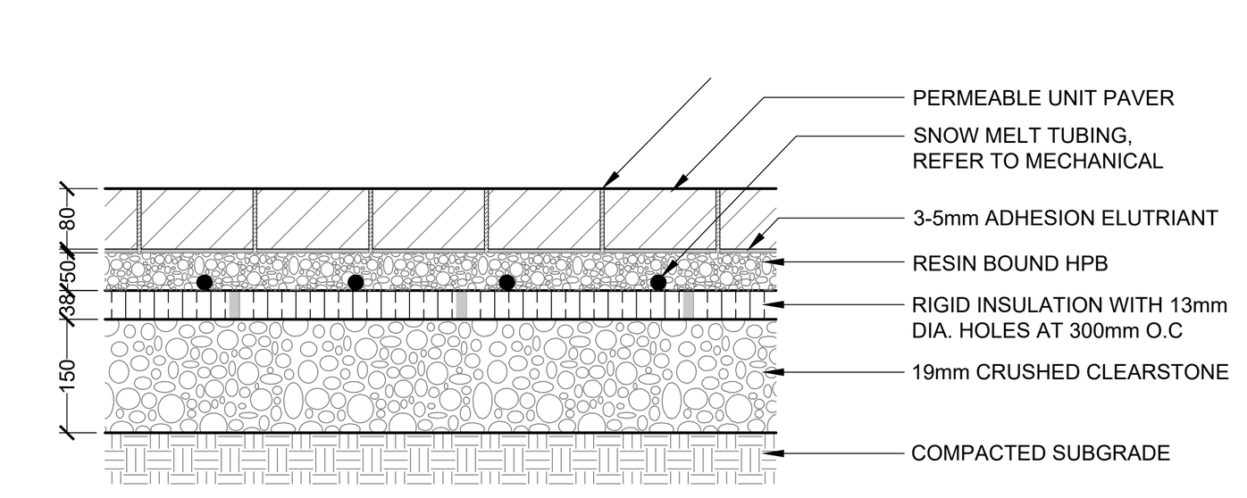
10 BOLLARD
N.T.S.

NOTE:
1. POWDERCOAT METAL COLOUR TO BE GUNMETAL GREY.
2. CONTRACTOR TO PROVIDE ENGINEER STAMPED SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

11 OVERHEAD LIGHT POST FOOTING
N.T.S.



13 TURF STONE
N.T.S.



14 UNIT PAVING - PEDESTRIAN SNOW MELT
N.T.S.

NOTE:
1. PRODUCT AVAILABLE FROM LANDSCAPEFORMS.
2. POWDERCOAT METAL COLOUR TO BE NUTMEG COLOUR.
3. PANELS TO BE SURFACE MOUNTED AS PER MANUFACTURER'S SPECIFICATIONS.

15 DECORATIVE METAL GATE
N.T.S.

GSP group

Region of Peel
working with you

ISSUED

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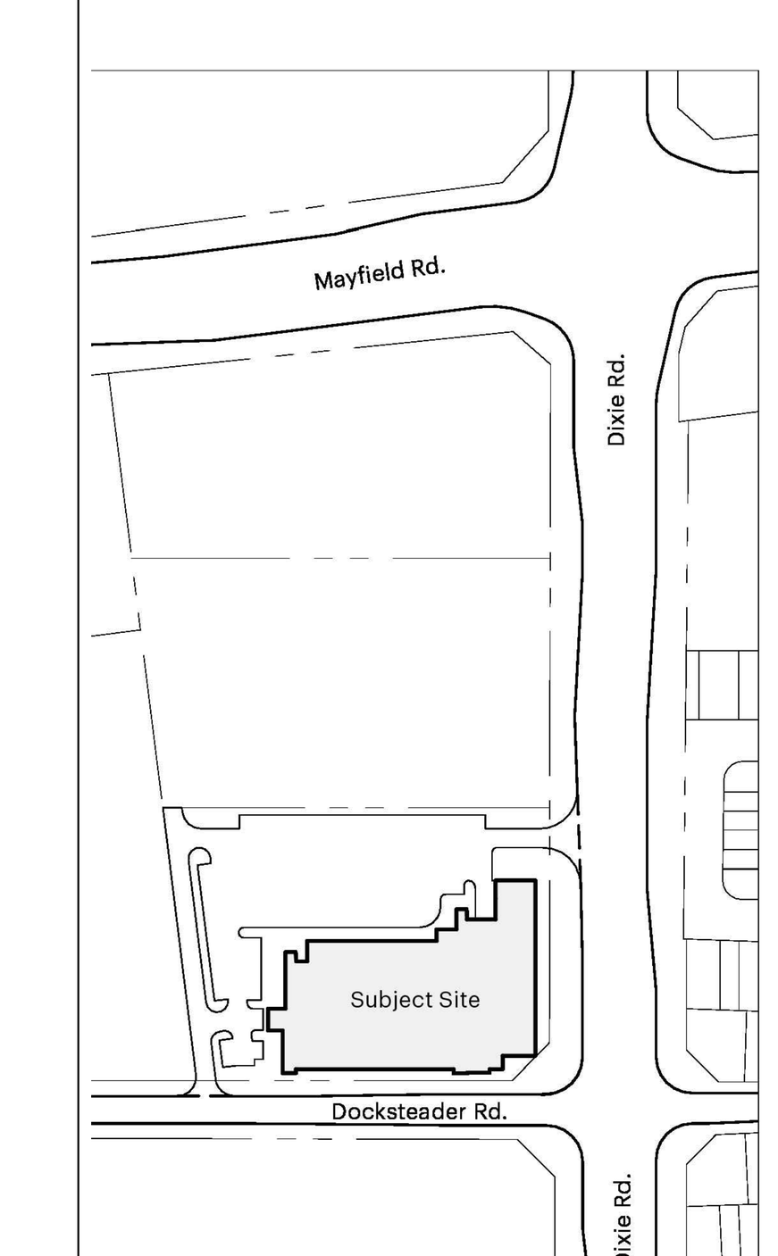

Key Plan 1:3000

Contractor Must Check & Verify all Dimensions on the Job.

Do Not Scale Drawings.

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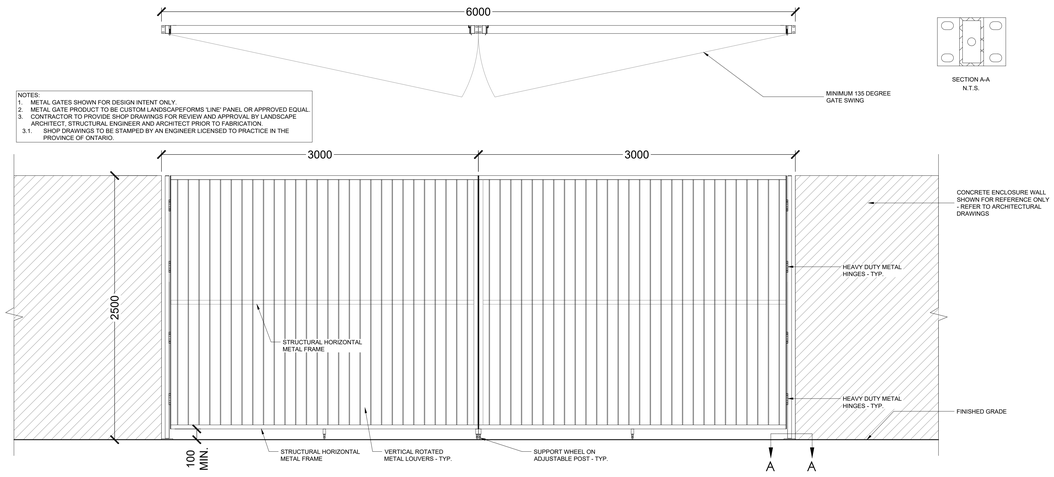
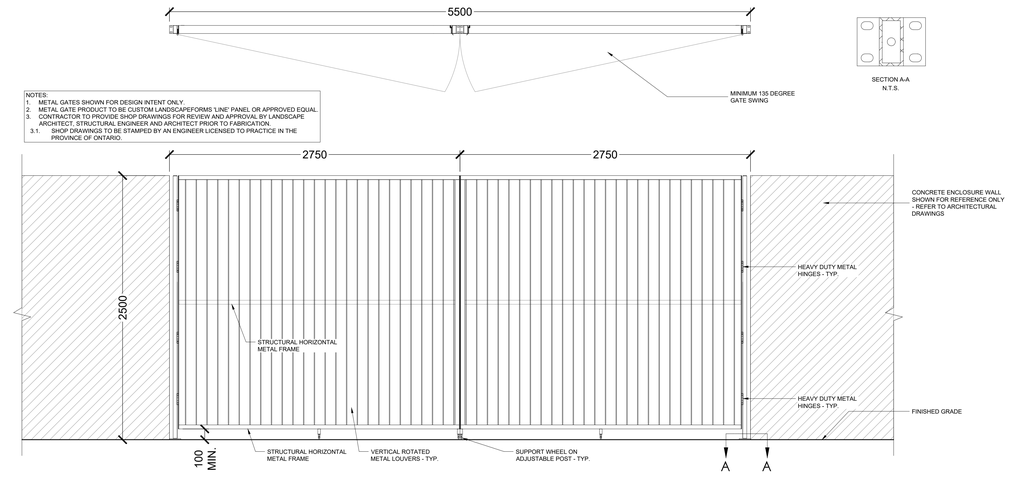
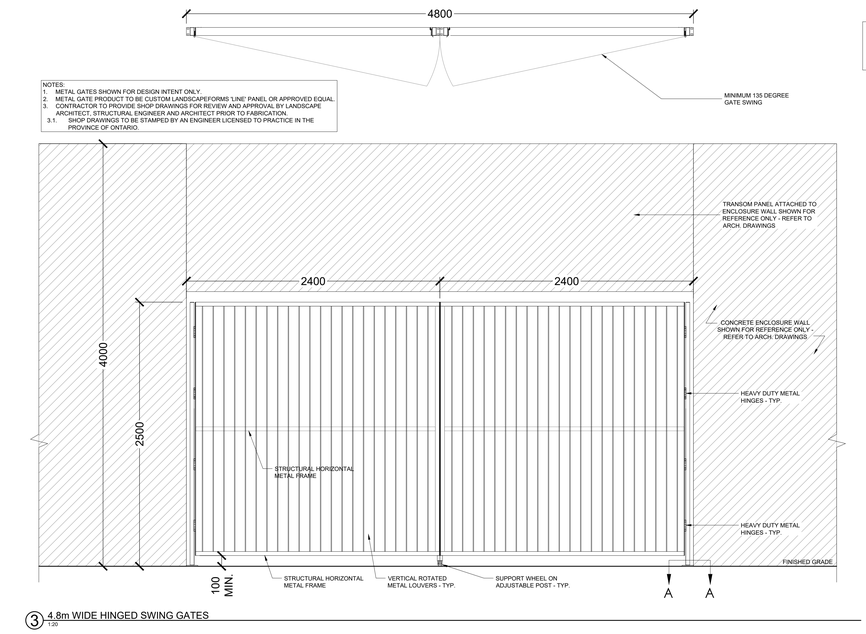


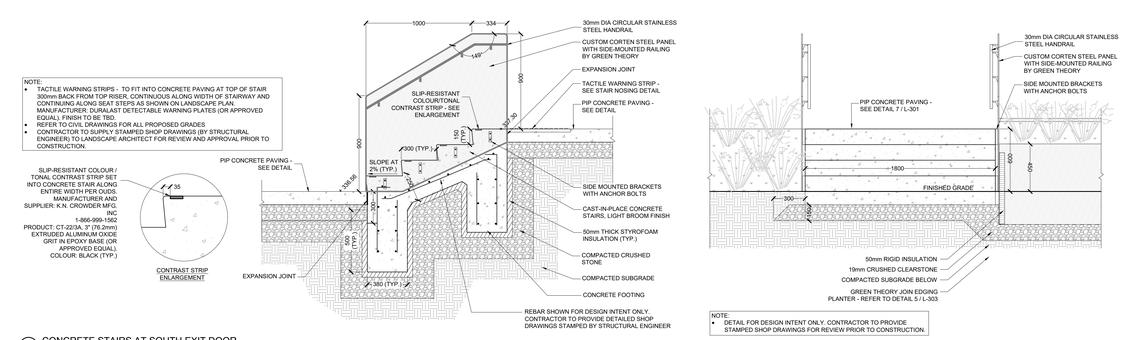
1 6m WIDE HINGED SWING GATES
1:20



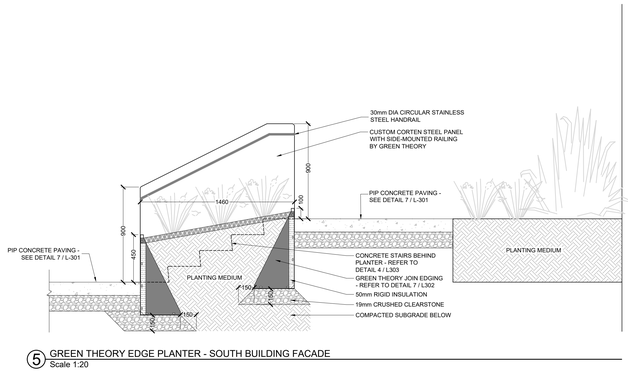
2 5.5m WIDE HINGED SWING GATES
1:20



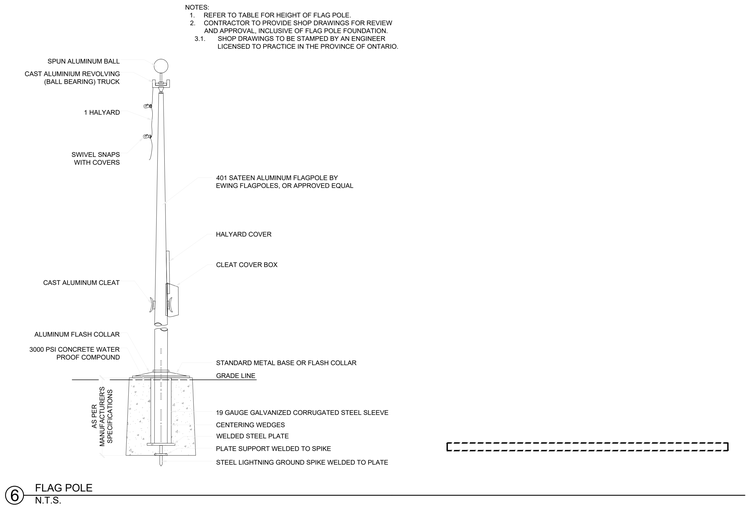
3 4.8m WIDE HINGED SWING GATES
1:20



4 CONCRETE STAIRS AT SOUTH EXIT DOOR
Scale 1:20



5 GREEN THEORY EDGE PLANTER - SOUTH BUILDING FACADE
Scale 1:20



6 FLAG POLE
N.T.S.

GSP group

Region of Peel
working with you

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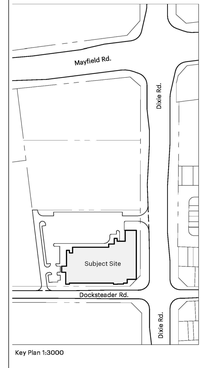

Key Plan 1:3000

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