



Halifax Regional
School Board

TENDER #3768

Parking Lot & Site Upgrades EASTERN SHORE DISTRICT HIGH

Closing Date: **FRIDAY, SEPTEMBER 11TH, 2015**
Closing/Opening Time: **2:00:00 P.M.**

Closing Location:

Halifax Regional School Board
33 Spectacle Lake Drive
Dartmouth, N.S. B3B 1X7

HRSB Contacts:

Deborah Beck, Buyer

School Location:

**EASTERN SHORE DISTRICT HIGH, 35 West
Petpeswick Rd, Musquodoboit Harbour, NS**

Tel: (902) 464-2000 #2011
Fax: (902) 464-0161

Gary Mannette
Tel: (902) 464-2000 #5124

A mandatory bidders' site meeting is scheduled for *TUESDAY SEPTEMBER 1ST, 11:00:00 A.M. AT THE SCHOOL ENTRANCE.*

To obtain documents:

Download tender documents in .pdf format from the School Board's

Website: <http://www.hrsb.ca/about-hrsb/financial-services/purchasing/tenders/tender-listing>

The Halifax Regional School Board encourages equity and affirmative action programs.

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NOTICE – CEASATION OF PUBLIC TENDER OPENINGS

As of April 1, 2014 Public tender openings are no longer held for any tenders relating to goods, services or construction for HRSB. A list of bidders and bid amounts will be posted on the Procurement Services website (<http://novascotia.ca/tenders/tenders/ns-tenders.aspx>) shortly following the closing of the tender. All bid submissions are subject to evaluation after opening and before award of contract. The winning bidder and award amount will be posted on the Procurement Services website (<http://novascotia.ca/tenders/tenders/ns-tenders.aspx>) after evaluation.

1.0 **GENERAL**

The Halifax Regional School Board is seeking bids from qualified contractors for ***PARKING LOT & SITE UPGRADES at EASTERN SHORE DISTRICT HIGH as per the plans and specifications prepared by ARCHITECTURE49.***

1.1 **INSTRUCTIONS TO BIDDERS**

**TENDER
SUBMISSION:**

- (a) Sealed Bids will be received by:

Halifax Regional School Board
33 Spectacle Lake Drive
Dartmouth, N.S.
B3B 1X7

Until ***2:00:00 P.M., FRIDAY, SEPTEMBER 11TH, 2015***, (as verified by the phone clock on the Reception desk at 33 Spectacle Lake Drive) for the following projects:

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Should the School Board Office be closed for any reason the tender closing will be postponed to the next business day.

- (b) Submit one copy of the original tender on the enclosed tender form. Each item on the form must be completed unless noted otherwise. Bids must be signed by an authorized representative of the Suppliers/Contractors. Incomplete bids will be rejected. Bids must be submitted on or before the advertised time and date in a sealed envelope clearly marked:

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- (c) It is the responsibility of the bidder to ensure their submissions are received on time. Faxed bids will not be accepted.

- (d) Addenda must be issued by the Board no less than three (3) business days before tender closing. Addenda cover letters shall be signed and attached to the tender documents.

1.2 **CONDITIONS OF TENDER**

- (a) No term or condition shall be implied, based upon any industry or trade practice or custom or in a practice or policy of the Board or otherwise, which is inconsistent or conflicts with the provisions contained in these instructions.
- (b) Any changes to this tender or specifications shall be stated by the Board in writing. All correspondence, inquiries, instructions, etc. in connection with the work shall be made through the office of the Halifax Regional School Board, c/o Manager of Accounting & Purchasing or representative.
- (c) Tender price must include freight, duty, and all taxes, rates and charges, which are applicable at the time the contract is awarded. It is the responsibility of the bidder to find out from the appropriate authorities what taxes, rates and charges are applicable to this tender.
- (d) The Contractor is responsible for obtaining all provincial, municipal and other permits as required for the work, and shall adhere to all regulations from regulatory bodies, including the National Building Code, 2005. They shall pay all fees for these permits. Sub-trades are responsible for obtaining permits and following regulations as they affect their work.
- (e) Invoices shall be submitted to: Halifax Regional School Board
c/o Operations Services Coordinator-Maintenance
33 Spectacle Lake Drive,
Dartmouth, NS B3B 1X7

Contact information to be supplied to the successful bidder as part of the award confirmation.

Payment: Payment terms will be considered as Net 30 days from date of invoice.

- (f) Bidders or their employees must not be employees of the Halifax Regional School Board.
- (g) The bidder must comply with Nova Scotia Fire Safety Act and all Municipal Regulations, Ordinances and other laws including the Occupational Health and Safety Act.
- (h) Persons or firms submitting tenders shall be actually engaged in the line of work required by the specifications.
- (i) When applicable, a bidder shall list, in the space provided in Section 3.3, the names of the sub-contractors they propose to use with each sub-contractor's tender price. A change in sub-contractors from this list will require permission in writing from the Board.
- (j) Except as the specifications may be modified by Addenda, the successful

contractor will be held to furnish under this tender all work as specified.

- (k) The contractor shall save, defend, and indemnify the Halifax Regional School Board against all costs which the School Board may sustain or incur by reason of any act or omission of the contractor or its' agents or sub-contractors.
- (l) Property loss and/or damage that occurs during the course of work or caused by negligence on the contractors part during the course of the work shall be reported by HRSB Operations Services to the School Insurance Program (SIP) office. Adjusters may be assigned to manage restoration of damaged, defaced or stolen HRSB property. HRSB and/or its insurer reserve the right to assign management of restoration to the adjuster. The contractor shall be responsible for all costs to repair or replace any School Board property, which has been damaged, defaced or stolen during the course of work.
- (m) The term of the contract will be from date of award to ***DECEMBER 1ST, 2015***.
- (n) Where the Tender Documents stipulate a particular product, written requests for substitutes will be considered by the Board up to five (5) business days prior to the tender closing date. Such requests shall be accompanied by complete descriptive and technical information including MSDS so that a proper evaluation can be made.

When a request for approval of a product is made, the Board may grant approval and will attempt to issue an Addendum to this effect to known bidders. However, HRSB assumes no liability for the delivery of electronic transmissions.

All products used in the course of this work are to be used, stored, and maintained as per the instructions written on the MSDS sheet.

- (o) Time and Material costs must be provided as listed in Section 3.6
- (p) **Unique Logistics**
Completely describe how your Tender will respond to the unique logistics of each school or administrative site as set out in the Project Scope and fully describe, in the same manner, all items of equipment, service, and support you will provide to respond to those logistics and all pricing and other matters relating to them.
- (q) **HRSB Discretion**
The Bidder hereby acknowledges that:
 - a) HRSB shall have the right to reject any or all Tenders for any reason, or to accept any tender which HRSB in its sole, unrestricted discretion deems most advantageous to it. The lowest, or any, Tender will not necessarily be accepted and HRSB shall have the unrestricted right to:
 - i) accept any Tender, and in the event it only receives informal, non-conforming or qualified Tenders with respect to this Tender, accept any such Tender; or

- ii) Accept a Tender that is not the lowest price;
 - iii) Reject a Tender that is the lowest price even if it is the only tender received;
 - iv) Reject any Tender that contains any irregularities, informalities, conditions or qualifications;
 - v) Reject any Tender that is not accompanied by the required tender security documents;
 - vi) Reject any Tender that is not properly signed by or on behalf of the Bidder;
 - vii) Reject any Tender that contains an alteration in a quote that is not initialed by or on behalf of the Bidder;
 - viii) Reject any Tender that is incomplete or ambiguous; or
 - ix) Reject any Tender that does not strictly comply with other requirements contained in these instructions.
- b) HRSB reserves the right to consider, during the evaluation of Tenders:
- i) Information provided in the Tender itself;
 - ii) Information received in response to enquiries of credit and industry references set out in the Tender;
 - iii) The manner in which the Bidder provides services to others;
 - iv) The experience and qualification of the Bidder;
 - v) The compliance of the Bidder to HRSB's requirements and specifications;
 - vi) Such alternate goods, services, terms or conditions that may be offered, whether such offer is contained in a Tender or otherwise,
 - vii) Splitting the Tender and Project Scope into multiple parts and accepting Tenders (or portions thereof) from more than one Bidder;
 - viii) Rejecting Bidder's recommendation of a Subcontractor or any other third party associated with the Tender and jointly along with the Bidder, determine alternate acceptable third parties; and
 - ix) Any other consideration in HRSB's discretion;
- c) HRSB may rely upon the criteria it deems relevant, even if such criteria has not been disclosed to Bidder. By submitting a Tender, the Bidder acknowledges the HRSB's rights under this Section and absolutely waives any right or cause of action against HRSB and its employees, agents or Trustees by reason of HRSB's failure to accept the Tender submitted by the Bidder, whether such right or cause of action arises in contract, tort including negligence or otherwise; and
- d) HRSB shall not at any time have any obligation to deal exclusively with the Bidder. HRSB expressly reserves its rights, in its sole discretion, to seek a Tender regarding the subject matter hereof, from any person whomsoever

and at any time.

(r) **Limitation of Liability**

Bidder, by submitting a bid to this Tender, agrees that it will not claim damages, costs or expenses for whatever reason, relating in any way to this Tender and any resulting process (including without limitation any subsequent discussions or negotiations, if any, or in respect of any competitive process) and waives any and all claims against HRSB whatsoever, whether for costs, damages or expenses incurred by Bidder in preparing its Tender, in participating in this tender process (including without limitation any subsequent discussion or negotiation, if any), loss of anticipated profit or any other matter whatsoever related to this tender and any resulting process, discussions or negotiations.

(s) **Construction Contract Guidelines**

The Halifax Regional School Board acknowledges and complies with the **Nova Scotia Transportation and Public Works Construction Contract Guidelines.**

1.3 **OTHER REQUIREMENTS**

- (a) The bidder must provide with the submitted tender document a certificate indicating the completion of the Nova Scotia Construction Safety Association's Construction Safety Program or other WCB approved safety audit company that jointly sign the Certificate of Recognition with the WCB.
- (b) The bidder must provide with the submitted tender document a letter showing they are in good standing with the Worker's Compensation Board.
- (c) The bidder must provide with the submitted tender document a tentative schedule indicating timelines for completion of works. **Upon award of work, the successful bidder shall provide within three (3) business days a schedule clearly indicating timelines for completion of all aspects of the project. Shop drawings/samples must be returned to HRSB for Consultant's review within five (5) days upon award.**
- (d) The bidder must provide with the submitted tender document, an insurance certificate showing **HRSB as "ADDITIONAL INSURED"** with proof of:
- (i) Commercial General Liability insurance, including but not limited to, products liability and completed operations, contractual liability, owners and contractors liability, attached machinery extensions, endorsement, independent contractor, for a combined single limit of no less than **\$5,000,000** per occurrence; Builder's Risk Insurance in the amount of the Contract Price.
 - (ii) Commercial Auto Liability insurance covering all owned, non-owned and hired vehicles for a minimum combined single limit of **\$2,000,000** per occurrence; and
 - (iii) It is also agreed that the above insurance coverage is primary.

Upon award, the bidder shall secure and maintain the insurance as noted above at its expense during the term of the contract.

The Halifax Regional School Board must be named as additional named insurance

pertaining to the work for this project. Furthermore, Halifax Regional School Board must receive at least thirty (30) days' notice of cancellation or modification of the above insurance. Bidders shall at all times keep in force insurance as may be required.

(e) **BID SECURITY**

The bidder **MUST** provide with the submitted tender document **Bid Security** in the amount of **ten percent (10%) of the Contract Price** (before HST) in the form of a Certified Cheque, Irrevocable Standby Letter of Credit or Bid Bond payable to, or naming the Halifax Regional School Board.

BID BONDS *must be provided by a surety company licensed to issue surety bonds in the Province of Nova Scotia:*

- Provide bond on the standard CCDC Bid Bond Form, latest version, in the amount of not less than **ten percent (10%) of the Contract Price (before HST)**.
- Bid Bonds, submitted by the general contractor bidder, signed and sealed by the principal (Contractor) and Surety and shall be with an established Surety Company satisfactory to and approved by the Halifax Regional School Board.
- Where a Bid Bond is used as Bid Security, include the cost of providing the Bid Bond in the Tender Contract price.

Where **CERTIFIED CHEQUE or BANK DRAFT** is provided as bid security:

- Provide a certified cheque or bank draft, endorsed in the name of the Halifax Regional School Board, for a **sum not less than ten percent (10%) of the amount of the Contract Price (before HST)**.
- Where certified cheque or bank draft is used as Bid Security, include the cost in the Contract price.

Where the **IRREVOCABLE STANDBY LETTER OF CREDIT** is used as bid security:

- Provide an Irrevocable Standby Letter, endorsed in the name of the Halifax Regional School Board, for a sum not less than **ten percent (10%) of the Contract Price (before HST)**.
- The Irrevocable Standby Letter of Credit shall be issued by a certified financial institution subject to the Uniform Custom and Practices for Documentary Credit (1993 revision or latest revision) International Chamber of Commerce (Publication No. 500).
- Where Irrevocable Standby Letter of Credit is used as bid security, include the cost in the Tender Contract Price.

RETURN OF BID SECURITY:

- The bid security of the unsuccessful bidders will be returned to them after the contract has been signed, or previous to such time, at the discretion of the Halifax Regional School Board. The above shall apply provided a contract is awarded within sixty (60) days from the closing date of the bid. If no contract is awarded, all bid security will be returned.

(f) **CONTRACT SECURITY (ONLY REQUIRED FOR BIDS OVER \$100,000)**

For bids over \$100,000 bidders must provide **Contract Security by a surety company licensed to issue surety bonds in the Province of Nova Scotia** in the form of one of the following:

- Letter of Surety.
- Performance Bond and a Labour and Material Payment Bond OR
- Certified Cheque or Bank Draft OR Irrevocable Letter of Credit bearing the bidder's original signature, payable to or naming the Halifax Regional School Board as insured.

Bidder shall maintain performance assurance in force for a period of not less than twelve (12) months after the issue of the substantial performance certificate certified by Halifax Regional School Board and until completion of the contract.

Should it become apparent that the final cost of the project will **exceed the total amount payable by more than 10%**, the bidder shall arrange to have their bonds reissued based on the projected final cost.

Where a **LETTER OF SURETY** was used as **CONTRACT SECURITY**:

- Within ten (10) days after notification of award of the Contract, provide a Performance Bond and a Labour & Material Payment Bonds each in an amount **equal to fifty percent (50%) of the Contract Price (before HST)**, naming the Halifax Regional School Board.
- Performance Bond and Labour and Material Payment Bonds, submitted by the bidders, shall be provided at the expense of the bidder and shall be with an established Surety Company satisfactory to and approved by the Halifax Regional School Board.
- Include the cost of providing the Performance Bond and Labour and Material bond in the Contract price.

Where a **CERTIFIED CHEQUE OR BANK DRAFT** is used as **CONTRACT SECURITY**:

- The Certified Cheque or Bank Draft submitted during the bid period will be cashed and the amount retained by the Halifax Regional School Board shall serve as Performance Assurance, including the payment of all obligations arising under the Contract.
- The Certified Cheque or Bank Draft will be held in lieu of the Performance Bond and Labour and Material Bonds, providing that, at Contract award, the successful Bidder shall supplement their Certified Cheque or Bank Draft to maintain an amount of **twenty (20%) of the Contract price** (before HST) under the contract.
- The amount remaining will be returned without interest after a period of not less than twelve (12) months after the issue of the substantial performance certificate

certified by the Halifax Regional School Board and shall serve as performance assurance until completion of the contract.

- Where certified cheque or bank draft is used as Performance Assurance, include the cost of providing the certified cheque in the Contract price.

Where **an IRREVOCABLE STANDBY LETTER OF CREDIT** is used as **CONTRACT SECURITY**:

- The Irrevocable Standby Letter of Credit for a sum not less than **ten percent (10%) of the Contract price (before HST)** submitted during the bid period will be retained by the Halifax Regional School Board and shall serve as performance assurance, including the payment of all obligations arising under the contract. The irrevocable standby letter of credit shall be issued by a certified financial institution subject to the Uniform Customs and Practices for Documentary Credit (1993 revision) International Chamber of Commerce (Publication No. 500).
 - Where irrevocable standby letter of credit is used as Performance Assurance, include the cost of providing and Irrevocable Standby Letter of Credit in the Contract Price. The contractor shall provide to the Halifax Regional School Board documentation throughout the duration of the contract that the irrevocable standby letter of credit remains in full effect at all times as specified.
 - Upon expiry of the Irrevocable Standby Letter of Credit, a separate Irrevocable Standby Letter of Credit shall be provided for work requiring extended warranties for such amounts as are required by the contract.
- (g) The bidder must provide with the submitted tender document a completed copy of Appendix “E” Safety Plan information sheet. The contractor prior to commencement of work must have a safety plan in place for use by the contractor personnel regarding potential hazards and work practices specific to the site.
- (h) ***HRSB is directly responsible for the safety of its students and staff. Should contractors be required to work in or on school property while children are present, it is a MANDATORY HRSB REQUIREMENT that contractors assign the work to employees and/or sub-contractors who DO NOT have a CRIMINAL RECORD and who ARE NOT LISTED ON THE CHILD ABUSE REGISTRY. By checking the “Agreed” box at the bottom of clause 3.4 below you are confirming that you understand and will abide by this mandatory HRSB requirement. Failure to comply with this requirement may result in immediate contract termination.***
- (i) Contractors must submit warranty information with the tender bid submission and successful bidders must submit all appropriate warranty documents with final payment invoice.
- (j) Bidders are advised that, as per the Halifax Regional School Board Tobacco Free Schools and Workplace Policy, the HRSB endorses and supports implementation of the Nova Scotia Smoke Free Places Act 2002, which prohibits tobacco possession for persons under the age of 19 and declares that no person shall smoke in schools, school board

offices or on school grounds.

1.4 **AMENDMENTS OR WITHDRAWAL OF TENDER PRIOR TO BID CLOSING**

- (a) Tender may be amended or withdrawn **by post or facsimile (902) 464-0161** PRIOR to Tender Closing date and time.
- (b) Clearly indicate on the fax transmission or submitted envelope, whether your correspondence is an amendment or withdrawal and the title of the Tender. Sign and seal as required for tender, and submit at address listed under closing location on the cover of this document.

1.5 **THE CONTRACT**

1.5.1 Binding Effect of Proposal and Contract Finalization

The Bidder hereby acknowledges that its Tender constitutes a contract with HRSB, and the terms and conditions of this Tender and the bidder response (with the Tender taking precedence in the event of any inconsistency or conflict of terms) shall govern such agreement. Such contract shall remain binding upon Bidder until the earlier of:

- a) Written notice from HRSB that the Bidder's Tender is rejected as unsatisfactory; or
- b) Issuance by HRSB of its PO to the Bidder with respect to this Tender, pursuant to Section 1.2(p), and upon such issuance, the Bidder shall be regarded as the Contractor hereunder; or
- c) Execution of the Contract by both HRSB and the Bidder pursuant to Section 1.2(p); or
- d) Written notice from HRSB that it has entered a Contract with a Contractor and that the Bidder has been unsuccessful under this Tender.

1.5.2 Contract Documents

1.5.2.1 The attached form of contract (Schedule A) is a version that shall be issued to or executed by the successful bidder pursuant to the terms and conditions of this Tender. It is NOT TO BE executed and returned by the bidder as part of its (proposal or Tender response).

1.5.2.2 After the contract has been awarded and signed, the contractor will be contacted by the appropriate Regional Manager to attend a site visit to complete Appendix D of the contract – 'Undertaking to Comply and Contractors Safety Checklist' prior to the commencement of any work.

1.5.2.3 The Contract the Contractor will have with the HRSB, if awarded, will include:

- a) Such further documentation as may be negotiated and executed by the HRSB and the Contractor pursuant to Section 1.2(p); and

- b) This Tender and all of its Schedules, including without limitation any PO issued by HRSB to the Contractor, and any revisions, amendments or additional documents made thereto, if any; and
- c) The Tender, in its entirety and all promises made in the tender will be deemed covenants in the Contract and all information, representations and warranties made in the Tender will be deemed terms, representations and warranties of the Contract surviving the signing or issuance by HRSB of any additional or formal documents prepared by the HRSB.

1.5.2.4 For the purposes of evaluation and interpretation of Tenders, in the case of conflicts, discrepancies, errors or omissions between this Tender and any documentation issued or executed pursuant to Section 1.5.1, and the Tender, this Tender and such documentation shall take precedence over the Bidder response.

1.6 Your Contractual Terms

- 1.6.1 List separately any contractual terms which must be included as part of the Contract if awarded to you and which would be a condition to HRSB's acceptance of your bid.
- 1.6.2 List separately any contractual terms which you would like the HRSB to consider but which would not be a condition to the acceptance by the HRSB of your bid and which would only be part of the Contract with the HRSB with the specific further agreement of the HRSB.

2.0 SCOPE OF WORK

- (a) Location:

EASTERN SHORE DISTRICT HIGH – PARKING LOT & SITE UPGRADES as per drawings and specifications prepared by **ARCHITECTURE49**.

- (b) School/Work site access control: **Contractor's employees shall always report to the main office of a school or security officer, indicate who they are and state their purpose on site prior to starting any work in the school.** Contractor is not permitted to work on the school site without HRSB assigned representative on site unless authorized by HRSB Manager of Operations.

The outside work area shall be appropriately demarked and/or surrounded by a barrier to prevent unauthorized entry to the work area. All workers shall contain their activity to the work site area. The contractor shall only use the school staff designated washroom and lunchroom facilities. Access to the school shall only be allowed as planned in coordination with HRSB Operations and the school administration.

The contractor and sub-contractor employees shall maintain professional and courteous behaviour, including work and communications practices, at all times on the project site. Communications and work shall be conducted so as to minimize the effect on regular school occupants and their activities.

- (c) Project/Safety Coordination: The contractor shall provide to HRSB within one week of award of contract a fixed schedule for all aspects of completion of work. The safety plan outline provided with this document must be posted on site during the execution of work and will be accessible to all workers on the site.

Where applicable, a **hot work permit** will be required to be completed prior to commencement of work and all conditions of the permit must be maintained until completion of hot work. A copy of the hot work permit signed by the contractor representative shall be provided to HRSB upon completion of each hot work session. Contractor must assign a designated fire watch as noted on the permit document who shall remain on site for three hours after completion of each hot work session.

The contractor will provide access to the work site and safety plan for inspection by HRSB Operations Services administration, HRSB health and safety Manager, consultants, regulatory inspectors as may occur throughout the duration of the project.

All necessary project coordination communications between project personnel and HRSB or site administration shall be from the project foreman/supervisor through the school principal and/or the Manager of Operations.

- (d) Hours of work - All work shall be carried out during **regular working hours** unless otherwise indicated in writing by the Manager of Operations Services or a designate. Hours of work shall comply with local ordinances and bylaws for each site.

- (e) **Site Material Control:** The contractor shall be responsible for storage of all materials required to complete the renovation. The school shall not be used for storage of materials unless otherwise approved by the principal and manager of Operations Services. Any requirement for modifications to the building in order to allow delivery and installation of the new equipment is the responsibility of the contractor.

The contractor is responsible for security of all project materials and access to the project site and/or the school through the project site at all times until completion of work and acceptance of the finished project by HRSB. Such additional security costs for security personnel or other means of security as deemed necessary by the contractor will be the sole responsibility of the contractor.

The contractor shall keep the work site free from accumulated debris caused by the employees or work and shall remove all debris at the end of each work shift. Debris shall not be deposited in HRSB controlled garbage and/or recycling containers.

All waste materials and debris created during demolition and/or construction shall be disposed of in a dumpster provided by the contractor, to be removed at the end of the construction project, using a methodology that is in compliance with the applicable HRM solid waste by laws. Otherwise, the material must be removed and disposed of off site at the end of each working day. The waste materials may not be stored on site unless they are held in an approved project dumpster.

All temporary structures such as portable washroom facilities, materials storage trailer, work trailer, debris dumpster, vehicles, etc., shall be located a minimum of (25) twenty-five feet from the school building.

- (f) 1 Contractor is advised that the building maybe occupied when work on this project takes place. Contractor to verify all areas of construction are secured and air tight partitioned to ensure that the health and safety of the students and staff are maintained during the construction period.
- 2 **Temporary Construction Utilities & Closures:**
Contractor to erect and maintain 'dust-tight' barriers as noted. Prior to start-up, the 'dust-tight' separations must be in place as noted and reviewed by HRSB Project Manager and the Consultant. 'Dust-tight' enclosure will be reviewed during the course of construction. Contractor must maintain the current lighting levels, heating and ventilation standards in place.
- 3 **Interior Closures and Construction Areas:**
- 3.1 For interior/interior locations provide the following:
- 3.1.1 Gypsum board both sides to 9'-4", AFF.
- 3.1.2 3 5/8 metal stud at 16" o.c., extend every 4th stud to underside of OWSJ.
- 3.1.3 Provide 10ml poly from top of gypsum board to u/s deck, sealed at the top of the wall to underside of deck.
- 3.1.4 Provide negative pressure within the construction space exhausted to the exterior.
- 3.2 Tarps are not to be used in lieu of the described closures.

- 3.3 Construction Access & Storage:
 - 3.3.1 Proper access to the area and storage of materials to be provided by the owner.
 - 3.3.2 Location to be determined by Project Manager on site.
- 3.4 Provide and maintain PARKING LOT & SITE UPGRADES equipment during performance of the work as required by insurance companies, authorities having jurisdiction and governing codes, regulations and by-laws. Ensure no access is blocked for this purpose.
- 3.5 Contractor to coordinate a staging area for the Subcontractors for equipment, tools and material storage. Locate trailers and/or lockable waterproof sheds on site as per HRSB Project Manager's instructions.
- 3.6 Provide sanitary facilities in accordance with local authority having jurisdiction.

4 Indoor Environmental Protection:

- 4.1 There are several sources of potential contamination during a construction/renovation project. These include:
 - 4.1.1 Demolition Activities:
 - 4.1.1.1 Demolition activities release dust and fibrous materials into the air. Asbestos control is essential. Insulation in ceilings and walls, and ceiling tile all have a high fiber content that may produce substantial fibrous materials during demolition. Total suspended particulate levels may be very high with a significant portion of the total being of the respirable particle sizes.
- 4.2 Construction:
 - 4.2.1 Construction introduces additional dust and fibrous materials. Many construction materials used today emit a range of volatile organic compounds, especially formaldehyde. All glues, vapours, and gases rise from solvents used to prepare surfaces for bonding, and emissions from welding and soldering can introduce a range of metals into the air.
- 4.3 Finish Work and Materials:
 - 4.3.1 Final finishing and decorating of the renovated spaces can introduce strong odours and more VOCs. Solvents, paints and varnishes, and adhesives and other glues all add to the accumulation of these irritating compounds.
- 4.4 The Contractor shall ensure site clean-up is carried out at the end of each working day. This includes partially used containers of solvents, paints, caulking, adhesives, and ensuring that these are removed from the site. All construction debris shall be removed from the site at the end of each day, either to an approved dumpster outside the building, or removed completely from the property.

5 Preparation:

- 5.1 Inspect perimeter partitions of the construction area, above the ceiling and seal all penetrations above and below the ceiling. Carefully remove the minimum number of ceiling tiles necessary to perform the inspection and the work of sealing the partitions. HEPA vacuum above remaining ceiling tiles and grid and above existing ductwork to remove loose dust prior to removal.
- 5.2 Install new temporary 'dust tight' walls and include details of the plans for location.

- 5.3 Seal all doors leading to construction areas.
- 5.4 Any existing perimeter partitions of the construction area that do not extend to the underside of deck, Contractor to extend to ensure dust-free light area between the construction area and the remainder of the school.
- 5.5 Before any construction begins, doors between the rooms where work is being carried out and the adjacent corridor must be carefully sealed. Seal the doors completely at top, bottom, and sides. All vents, ducts, openings, etc. to be sealed. Do periodic inspections to ensure seals remain tight. Provide written information to the Project Manager.
- 5.6 Negative Pressure: Implement a system that extracts air directly from the work area, and discharges this air directly outside the work area to the outside of the building. All exhausted air is to pass through a HEPA filtering system before discharge to exterior. Place negative air pressure units in the area to be constructed in order to maintain a continuous negative pressure within the construction space. The construction area **MUST** be kept at a negative pressure relative to the occupied spaces.

6 During Construction:

- 6.1 Erect impermeable dust barriers to completely seal off the work area from adjacent areas.
- 6.2 Dust barriers are to be maintained and remain in place until work is completed and the facility representative has approved removal. Any damage to barriers must be repaired as soon as possible.
- 6.3 **Contractors will be held responsible for any damage, dirt or dust migration beyond the construction enclosure and all cleaning cost to rectify same will be borne by the General Contractor.**
- 6.4 Post signs on the doors indicating that there is to be absolutely no unauthorized entrance or exit through the sealed-off areas except for fire or security reasons. Ensure that the construction crew and others comply with these restrictions.
- 6.5 Clean the construction area daily.
- 6.6 Dirty or dusty footprints outside the construction area that have been left behind by people who were in the construction area are to be promptly cleaned.
- 6.7 Use water mist and commercial dust suppressing products, approved by the Owner, to control dust. Execute work by methods to minimize raising dust from construction operations.
- 6.8 In the event equipment or materials cannot be removed from the construction area, use drop sheets to cover these items.
- 6.9 Debris transported from the second floor will be by the exterior in all cases possible. Contractor to provide sealed chute to covered bins below.
- 6.10 Failure to provide adequate dust control will result in the contractor bearing the cost of any clean up, repair or replacement deemed necessary as a result of dust generated from the project.
- 6.11 Ensure that windows, doors, penetrations, electrical outlets and intake and exhaust vents are properly sealed with plastic and taped within work area.
- 6.12 For exterior work adjacent to windows in an existing facility, test window openings for air tightness and seal windows that leak.

- 6.13 Verify that all fresh air intakes facing construction operation are shut down, and sealed not to allow dust or debris intake.
- 6.14 Ventilation:
 - 6.14.1 Seal duct openings in work are until completed.
 - 6.14.2 Maintain negative pressure between work area and adjacent occupied areas by using portable ventilation equipment.
 - 6.14.3 Verify that air is exhausted directly outside and away from intake vents, or filtered through a HEPA filter before being recirculated. Where odour is a concern, ensure an approved air scrubbing material is utilized.
 - 6.14.4 The main building's air handling system shall be disconnected from use in areas of construction. This will require sealing of existing duct work on both the supply and return air systems.
- 6.15 Remedial Measures:
 - 6.15.1 Water leaks and flooding shall be reported immediately to the Project Manager.
 - 6.15.2 Detected water damage must be thoroughly investigated in consultation with the Project Manager. A plan of action will then be implemented as approved by the Project Manager.
 - 6.15.3 All investigations, removal and abatement procedures shall be conducted in a manner that does not promote dispersal of dust and spores.
- 6.16 Cleaning During Progress of Work:
 - 6.16.1 Clean work area with HEPA filter-equipped vacuums and wet mops, or both, at end of each work shift and as necessary.
 - 6.16.2 Ensure ventilation system is functioning properly and is cleaned if contaminated by soil or dust after work is complete.

7 After Construction:

- 7.1 Clean work area with HEPA filter equipped vacuums and wet mop.
- 7.2 Ensure air vents and ductwork are cleaned and seals removed.
- 7.3 If required, Contractor to conduct final indoor air quality test. Submit test results to the HRSB Project Manager.

8 Cutting and Patching

- 8.1 Provide openings larger than 8" in diameter in non-structural elements of Work for penetrations of structural, mechanical and electrical Work. Openings smaller than 8" diameter will be provided by the Sub-trades requiring same.
- 8.2 When floor cutting is required, Contractor to confirm there are no under-floor electrical or junction boxes. Contractor must utilize a electrically power operated floor saw.
- 8.3 Fit work airtight to pipes, sleeves, ducts, conduit, and after penetrations through surfaces.
- 8.4 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with approved fire-stopping and smoke sealing materials, full thickness of the construction element, as required to maintain the required fire resistance and smoke spread rating.
- 8.5 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.
- 8.6 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

9 Progressive Cleanliness & Restoration of Damage

- 9.1 Maintain Work daily in tidy condition, free from accumulation of waste products and debris. Remove waste material and debris from site at end of each working day, and dispose of off-site. Ensure permits are obtained from authorities having jurisdiction for disposal of waste and debris.
- 9.2 Provide on-site containers for collection of waste materials and debris, and provide clearly marked separate bins for recycling.

10 Close Out Procedures:

- 10.1 Remove dust, stains, paint spots, soil grease, fingerprints and accumulations of construction materials, interior and exterior to the building. Perform cleaning in accordance with installer's instructions for each material. Final cleaning shall include:
 - 10.1.1 Washing exterior paved surfaces disturbed under this contract.
 - 10.1.2 Cleaning and polishing of glass and finish metals, interior of areas noted.
 - 10.1.3 Cleaning of hardware, mechanical fixtures, lighting fixtures, cover plates and equipment, including polishing of their finish metal, porcelain, vitreous and glass components.
 - 10.4.4 Removing of visible manufacturer's labels left on materials, components and equipment.
 - 10.5.5 Cleaning of new flooring and of all other flooring disturbed under this contract.

10.2 Maintenance materials:

- 10.2.1 Maintenance materials provided shall be new, not damaged or defective, and of the same quality and manufacture as products provided in the work. If requested, furnish evidence as to type, source and quality of products provided.
- 10.2.2 Provide 3% of all hard tile, floor and walls and 4 liters of each paint colour specified.

10.3 Testing Balancing and Adjusting

Provide testing and ensure agency is a current member of AABC certified to perform services.

10.4 Demonstration of systems and equipment

Provide complete demonstration of all systems and equipment in the presence of the Owner and maintenance representations at the following times:

10.5 Submittals

- 10.5.1 Provide with application for substantial completion certificate.
 - 10.5.1.1 Certificate of final inspection report from electrical utility or inspection.
 - 10.5.1.2 Other reports required or specified.
 - 10.5.1.3 Maintenance manuals and operating instructions.
- 10.5.2 Submit with application for release of final payment:
 - 10.5.2.1 Final project record drawings including shop drawings.
 - 10.5.2.2 Performance bonds which shall remain in effect for one year after takeover date.

- 10.5.2.3 Completed Liability Insurance Policy extended for one year over date.
- 10.5.2.4 Written guarantee covering all workmanship and materials used in the work.
- 10.5.2.5 Certificate from Worker's Compensation Board.
- 10.5.2.6 Maintenance Bonds as specified.
- 10.5.2.7 Maintenance Manual.
- 10.5.2.8 Spare parts and maintenance materials and list.
- 10.5.2.9 Extended warranties.

10.6 Substantial performance and final inspection procedures:

10.6.1 Provide:

An inspection of the work, identify deficiencies and defects; repair as required. Notify the consultants in writing and request Substantial Performance Final Inspection.

10.6.2 Present at the Substantial Performance Inspection will be:

10.6.2.1 The consultants and his sub-consultants that he requires and notifies.

10.6.2.2 The Owner and his consultants upon notification by the design builder.

10.6.2.3 The design builder and such sub-contractors that he considers are required.

10.6.3 The Contractor will compile a Substantial Performance deficiency list at this inspection and issue it to the Owner and his consultants.

10.6.4 Upon the Owner's completion of the deficiencies, the design builder shall submit an application for final payment and a certificate for payment will be issued by the consultant to the Board.

10.7 Substantial performance:

10.7.1 The owner will issue a Certificate of Substantial Performance when satisfied outstanding deficiencies noted during inspections prior to the Substantial Performance inspection have been corrected, and the work is substantially performed.

10.7.2 The owner reserves the right to occupy and use portions of the building(s), whether partially or entirely completed, or whether completed on schedule or not, provided such occupancy does not interfere with the Design Builders continuing work. Partial occupancy or installation by the Owner of his equipment shall not imply acceptance of Substantial Performance, in whole or in part, nor shall it imply acknowledgement that terms of the agreement are fulfilled.

10.7.3 The Certificate of Substantial Performance will be attached to the list of remaining deficiencies to be rectified before final acceptance.

10.7.4 Make submissions specified in this section.

10.8 Completion certificate:

- 10.8.1 The owner will issue a Certificate of Performance when he is satisfied that outstanding deficiencies noted during inspections have been corrected and the work is complete.
- 10.8.2 A list of remaining deficiencies to be rectified before final acceptance will be attached to the completion certificate.
- 10.8.3 Make submissions specified in this section.

10.9 Warranties:

- 10.9.1 Establishment of warranties:
 - 10.9.1.1 Warranties shall commence on date of approval of the Substantial Performance Certificate.
- 10.9.2 Warranty period:
 - 10.9.2.1 The Owner will notify the design builder of defects observed during warranty period and request him to remedy the defects in accordance with the contract documents.
 - 10.9.2.2 Thirty days before the expiration of warranties, the Owner and the design builder will inspect the work as arranged by the design builder noting defects of products and workmanship.
 - 10.9.2.3 The designer builder shall immediately remedy such noted defects.

2.1 **SITE VISITS**

- (a) Bidders will be deemed to have familiarized themselves with existing site and all other conditions which may affect performance of the Contract. No plea of ignorance of such conditions as a result of failure to make all necessary examinations and calculations will be accepted as a basis for any claims for extra compensation or an extension of time.
- (b) **A mandatory bidder's site meeting is scheduled as per the directions on the cover sheet of this document.**

3.0 **FORM OF TENDER - BIDDER DECLARES**

- (a) That this tender was made without collusion or fraud.
- (b) That the proposed work was carefully examined.
- (c) That the bidder is familiar with local conditions.
- (d) That contract documents and attachments were carefully examined.
- (e) That all the above were taken into consideration in preparation of this tender.

3.1 **BIDDER AGREES**

- (a) To enter into a contract to supply all labour, material and equipment and to do all work necessary to complete the Work as described and specified herein for the prices as per the Form of tender, Schedule of Prices, Article 3.5.
- (b) That this tender is valid for acceptance for 60 days from the time of tender Closing.
- (c) That failure to enter into a formal contract and give specified documents within time required will constitute grounds for forfeiture of this agreement.
- (d) That if Certified Cheque or bid bond is forfeited, the Owner will retain difference in money between amount of tender and amount for which owner legally contracts with another party to perform the work and will refund balance, if any, to bidder.
- (e) I/WE certify that the company listed herein is in good standing with the City of Halifax Tax Collector and all Municipal, Provincial and Federal Tax Agencies. Failure to complete this certification and maintain this status will be cause for rejection of your tender and/or cancellation of any contractual undertaking with the Board. We further agree with and accept the terms set out in this tender document.

CONTRACTOR INFORMATION SHEET

***TENDER #3768
PARKING LOT & SITE UPGRADES
EASTERN SHORE DISTRICT HIGH***

FIRM _____

ADDRESS _____

E-MAIL ADDRESS _____

POSTAL CODE _____ PHONE _____ FAX _____

NAME OF PERSON SIGNING FOR FIRM _____

POSITION OF PERSON SIGNING FOR FIRM _____

The undersigned company represents and warrants that it is authorized to carry on business of this nature and that it is not prohibited by any law applicable in Nova Scotia from performing this Contract. The undersigned also acknowledges receipt and understanding of, and has taken into consideration all information presented in, this tender and agrees to be bound by its terms and conditions. The undersigned further confirms and agrees that the person whose name is set out below is fully authorized to represent the company and to bind it to this bid and the Contract awarded pursuant to it and in all matters relating to or arising out of the subject matter of this tender.

I/WE, the undersigned, having carefully examined the ***#3768 PARKING LOT & SITE UPGRADES- EASTERN SHORE DISTRICT HIGH*** tender documents, and having read, understood, and accepted the Conditions of the tender which form part of the tender documents, hereby offer to provide the materials and service in strict accordance with the ***#3768 PARKING LOT & SITE UPGRADES- EASTERN SHORE DISTRICT HIGH*** documents, which form part of this tender.

I/WE, hereby agree that notification of acceptance of this bid shall be in writing and may be sent by prepaid post or fax, and if sent by prepaid post, acceptance shall be deemed to have been made on the date of mailing of such notification.

3.2 **REFERENCES:**

The Bidder shall furnish particulars of at least three contracts successfully completed or currently being carried to completion. The projects quoted should preferably be approximate in nature to the Works now proposed for and be of comparable or greater size.

Contact Name & Phone #	Date	Contract Value
_____	from _____ to _____	_____
_____	from _____ to _____	_____
_____	from _____ to _____	_____
_____	from _____ to _____	_____

3.3 **SUB-CONTRACTORS:**

The Bidder shall enter the name and address of each Sub-Contractor used in making up this Tender. Only one Sub-Contractor shall be named for each part of the work to be sublet.

Subcontractor/Suppliers/Manufacturers	Service/Material

3.5 **SCHEDULE OF PRICES**

CONTINGENT UNIT PRICES: [see article 1.2 (p)]

Provide unit prices for contingency items in the event that additional work items are required in association with the scope of work as outlined in section 2.0 and the total value of unit prices shall be included in the Total Fixed Cost price.

Item No.	Description	Unit of Measurement	Unit Price
1.	_____	_____	\$ _____
2.	_____	_____	\$ _____
3.	_____	_____	\$ _____
4.	_____	_____	\$ _____
5.	_____	_____	\$ _____

3.6 **TIME AND MATERIAL PRICES:**

Provide unit prices for time and material work if no fixed price is requested in association with the work as outlined herein.

Item No.	Description	Unit of Measurement	Estimated Quantity	Unit Price
1.	_____	_____	_____	\$ _____
2.	_____	_____	_____	\$ _____
3.	_____	_____	_____	\$ _____
4.	_____	_____	_____	\$ _____
5.	_____	_____	_____	\$ _____
6.	_____	_____	_____	\$ _____

3.7 **PROPOSED FIXED PRICE**

The fixed price shall be the full inclusive value of the work. The prices submitted shall be all-inclusive and shall include for all the general and special requirements to meet the specifications of the work, including any contingent costs.

<u>Description</u>	<u>Total Fixed Price</u>
<i>PARKING LOT/SITE UPGRADES</i>	\$ _____
<i>EASTERN SHORE DISTRICT HIGH</i>	
<i>HST (15% OF TOTAL PRICE)</i>	\$ _____
<i>TOTAL CONTRACT PRICE</i>	\$ _____

SUBSTANTIAL PERFORMANCE DATE: _____

BIDDERS HST REGISTRATION NO. _____

3.8 **SIGNATURE:**

SIGNED AND DELIVERED
in the presence of:

CONTRACTOR

Company name

Witness

Signature of Signing Officer

Name and Title (printed)

SCHEDULE A

AGREEMENT FOR SUPPLY OF SERVICES

This Agreement made effective on the _____ day of _____ in the year 20

For:

Project Name:

Location:

Tender #

by and between:

HALIFAX REGIONAL SCHOOL BOARD ("HRSB")

and

COMPANY NAME:

ADDRESS:

CITY:

PROV:

Postal Code:

(the "Contractor")

The parties agree as follows:

1. Contractor shall provide to HRSB the services set forth in Appendix "C" – Description of Services, and accompanying Exhibits (which along with all other obligations of Contractor set forth in this Agreement shall constitute the "Services") in accordance with the terms of this Agreement.
2. This Agreement consists of the following parts (together, the "Agreement"), each of which shall be construed as an integral part of this Agreement:

This signature page

Appendix "A" – General Terms and Conditions

Appendix "B" – Risk Management & Safety

**Appendix "C" – Description of Services
Exhibit A – RFP or Invitation to Tender**

Exhibit B – Response to RFP or Tender

**Appendix "D" – Undertaking to Comply Form and Contractor Safety
Checklist**

Appendix "E" – Safety Plan

Appendix "F" – Contractor Checklist

The above Appendixes and Exhibits are intended to be complementary, and what is required by any one shall be as binding as if required by all.

3. Contractor confirms that it has read this Agreement before signing it.

4. The individual signing below for Contractor warrants by his/her signature hereon that he/she has authority to bind Contractor to this Agreement.

HALIFAX REGIONAL SCHOOL BOARD

CONTRACTOR

Signature: _____

Signature: _____

Name (print): Kathryn Burlton

Name (print): _____

Title (print): *Purchasing Manager*

Title (print): _____

Date: _____

Date: _____

SAMPLE ONLY

CONTRACTOR'S ATTENTION IS SPECIFICALLY DRAWN TO THE APPENDIX "A" TERMS AND CONDITIONS GOVERNING THIS AGREEMENT. EXECUTING PARTIES' ATTENTION IS DRAWN TO APPENDIX "C" AND APPENDIX "C" TO BE INITIALED OR EXECUTED BY EACH PARTY IN ACKNOWLEDGMENT OF THE TERMS THEREIN.

APPENDIX "A"

TERMS AND CONDITIONS

SERVICES

Services: Contractor shall provide the Services to HRSB in accordance with the terms of this Agreement, on the HRSB properties specified in Appendix "C" (the "**Description of Services**"). Except as may be otherwise expressly provided in Appendix "C", Contractor shall provide all the equipment, personnel, supplies, consumables, supervision and labour necessary to complete the Services in a good and workmanlike manner. No changes or modifications to the Services or otherwise to this Agreement shall be valid unless made in accordance with Article 5 of this Agreement. The Contractor shall employ a competent supervisor who shall be in attendance at the place of work at all times while Services are being performed.

Term: This Agreement shall commence upon and later expire upon the dates specified in Appendix "C" (such period being the "**Term**"), unless earlier terminated in accordance with the provisions of this Agreement. Should Contractor continue to provide, and HRSB continue to pay, for the Services beyond the Term, such provision of Services shall be deemed to be on a temporary basis only and terminable at any time by HRSB with or without cause, and the provisions of this Agreement shall apply in full force (save as to the termination provisions in Article 9) until such termination.

FINANCIAL TERMS, PAYMENT, LIENS

Contract Price: For and in consideration of the Contractor providing the Services in accordance with the terms of this Agreement, the HRSB agrees to pay to the Contractor the sum of

SAMPLE ONLY

\$

(*plus HST*) hereinafter referred to as the "**Contract Price**". Such Contract Price shall include any and all expenses Contractor may incur in the performance of the Services.

Invoices: The Contractor shall submit a single invoice to HRSB for all Services rendered under this Agreement unless Appendix "C" provides otherwise. Contractor's invoice shall indicate applicable sales and use taxes as separate amounts and indicate the net taxable value including all applicable discounts. HRSB shall not be obligated to pay any taxes to Contractor unless Contractor is registered with the applicable authorities and provides its registration number on the invoice. Contractor's invoice shall be in a form acceptable to HRSB and contain sufficient details to ascertain the scope of Services performed and, if requested, Contractor shall provide documentation in support of an invoice. If HRSB disputes any portion of the invoice, it shall pay such invoice less the disputed amount, subject to adjustment upon resolution of the dispute. Non-payment by HRSB of any amount in dispute shall not alleviate, diminish or modify in any respect Contractor's obligations to perform as required by and in accordance with this Agreement.

Payment of Invoices: Upon the HRSB certifying that the Services have been completed, the HRSB shall pay to the Contractor, thirty (30) calendar days from the date of such certification,

unless otherwise stipulated in Appendix "C", the full Contract Price due and payable hereunder, less any holdback required to be retained under the *Builder's Lien Act* of Nova Scotia (the "*Builder's Lien Act*"), other statutory obligation or as otherwise stipulated in Appendix "C", provided the Contractor has submitted the following:

a written statement from the supplier(s) of all materials used for the Services certifying that payment has been made in full for same or waivers of liens from such supplier(s) in due form;

a worker's wage statement containing all the information required by the HRSB pertaining to the Contractor's, and all of its subcontractors', workers. Such statement requires the name of the workers, hours worked, rate of pay, total wages received, and a signature from each worker certifying that they have received payment in full for all time worked on the job indicated on the form; and

certification that the statement is correct.

Release of Holdbacks: No holdback shall be paid to the Contractor until the Contractor has provided to the HRSB a statutory declaration in a form as set forth in Canadian Construction Documents Committee ("CCDC") Document 9A, together with evidence of compliance with the *Workers' Compensation Act*, and, if applicable, a copy of the Certificate of Title for the Lands, dated thirty (30) calendar days from the issuance of the Certificate of Substantial Performance (as defined in the *Builder's Lien Act*) of work by the Contractor, confirming that no liens have been placed against the Lands in association with Contractor's Services.

Liens: Contractor shall keep the Lands and all HRSB property free from any and all laborers', materialmen's and mechanics' liens and similar claims and encumbrances. To the fullest extent permitted by law, Contractor waives all rights to assert such liens against the Lands and all HRSB property. If Contractor fails to release and discharge any claim of lien of others against the Lands and HRSB property within FOUR (4) business days of receiving notice from HRSB, HRSB may at its option discharge or release the claim of lien, or otherwise deal with the lien claimant, and Contractor shall be liable to and shall pay HRSB any and all costs and expenses of HRSB in doing so, including all reasonable legal fees and expenses. Notwithstanding the foregoing, for the purpose of enforcing the terms of this Agreement, HRSB may apply for the following liens and rights when circumstances deem it necessary:

if the Contractor contracts for one or more jobs with HRSB, the HRSB shall have a lien on the Contract Price and extras on that job as well as on their other jobs with the HRSB;

the HRSB shall have a lien on the Contractor's equipment or supplies on any job; and

in the case of Contractor, without sufficient cause (in the opinion of the HRSB), suspending work on any job which continues for more than two (2) days, HRSB may take possession of any materials delivered to or for the Contractor on such job and use same, giving the Contractor credit for its value at not more than cost thereof to the Contractor, against any liability of the Contractor to the HRSB and may use any of the Contractor's equipment that was in use on any of the HRSB's premises until the completion of the unfinished work.

Tax: Contractor shall comply with all applicable tax laws, including but not limited to laws relating to: (i) the collection and remittance of HST; and (ii) the withholding of applicable taxes from those of its employees performing work under this Agreement. Contractor shall be liable for and shall indemnify HRSB in respect of any claims, penalties, interest or costs made or assessed against HRSB arising from Contractor's non-compliance with tax laws.

Audit: Contractor shall keep and maintain true and correct books, records and accounts with respect to the Services and any materials supplied in relation to the Services, along with invoices and monthly summaries, for a period of seven (7) years after Contractor ceases to provide the Services. Contractor shall, upon request of HRSB, make available and permit HRSB during such period to inspect, make copies of, and audit all such records. If there is any revision to charges as a result of an audit, within thirty (30) days of the audit Contractor shall pay to HRSB the full amount of any credit or HRSB shall pay to Contractor the full amount of any shortfall, as the case may be. The provisions of this Section shall survive the termination of this Agreement.

DUTIES OF THE CONTRACTOR

Sub-Contractors: Contractor shall not subcontract the whole or any part of the Services without first receiving the written consent of HRSB, which consent may be withheld in HRSB's sole discretion. Where such consent is granted, Contractor shall not be released or relieved from any obligations or liabilities of Contractor under this Agreement nor shall HRSB be prevented from pursuing any legal or equitable remedies it may be entitled to against Contractor. Contractor shall remain liable and responsible to HRSB for the actions and omissions of any subcontractor and shall ensure that any subcontractor strictly adheres to all terms of this Agreement, including any safety requirements referred to in this Agreement. When requested by HRSB, Contractor shall provide HRSB with all details concerning any and all subcontracted work.

Site Representative and Instructions: The Contractor shall identify in the Undertaking to Comply attached in Appendix "D" to this Agreement, a job site representative to act on the Contractor's behalf. This representative shall have the authority to represent the Contractor with relation to taking instruction on behalf of Contractor and entering agreements or taking such other actions on matters related to this Agreement. HRSB shall identify in Appendix "C" Description of Services, or through subsequent notice to Contractor, its project manager, who has the authority to represent HRSB and instruct Contractor on matters related to this Agreement. If the Contractor representative is not on the job site at the time of a visit by HRSB's project manager, the orders of the HRSB project manager to any worker present shall be carried out. Contractor shall not seek direction from any person on matters related to this Agreement, other than from the HRSB project manager.

DELAYS

Delays: If the Contractor is delayed in the performance of the Services, and such delay is outside the Contractor's direct control, then the schedule to perform the Services may be extended for such reasonable time as the HRSB may decide in consultation with the Contractor. No such extension shall operate to extend the Term of this Agreement. Weather is not considered a reason for delay. No extension shall be made for delay unless written notice of

delay is given to the HRSB not later than two (2) working days after the commencement of delay, providing however, that in the case of a continuing cause of delay only one notice of claim shall be necessary, and for only such period as approved by HRSB in writing, in its discretion.

Delay by HRSB: The HRSB will not, except by written notice to the Contractor, stop or delay the Services as a result of pending instructions or proposed changes in the Services.

Adherence to Schedule: If the Contractor is delayed in the performance of the Services by any cause within the Contractor's control, the Contractor shall at no cost to the HRSB take effective action to restore the Services to the original time schedule for their completion, whether or not such schedule is appended to this Agreement.

CHANGES IN THE WORK

Change Orders: The HRSB, without invalidating this Agreement, may make changes in the Services with the Contract Price and Term being adjusted accordingly, by written notice of change (a "Change Order"). No changes in the Services shall proceed without a Change Order signed by the HRSB and no claim for a change in the Contract Price or change in the Term shall be valid unless so ordered and at the same time valued by the Contractor as provided in Section 5.2.

Change Approvals: When a change in the Services is proposed or required, the Contractor shall present to the HRSB for its approval the value of the change whether an extra charge or a credit. Changes submitted for approval are to be accompanied by a detailed breakdown of labour and materials, to which shall be added supervision, overhead and profit charges. Change charges submitted shall be calculated in the following manner:

for work done by the Contractor, add to the net direct cost not more than ten (10%) percent for overhead, profit, supervision and bonding costs; and

for work done by any subcontractor, add to the net direct cost, not more than FIVE (5%) percent for overhead and profit payable to the subcontractor, and add not more than FIVE (5%) percent to the subcontractor's amount for supervision of the subcontractor by the Contractor and for bonding costs.

The HRSB will satisfy itself as to the correctness of such claim and, when approved by the HRSB, a Change Order shall be issued to the Contractor amending the Contract Price and Term as appropriate.

DEFECTIVE WORK & DISMISSAL OF WORKERS

Defective Work: Defective work is work that has been rejected by the HRSB as failing to conform to this Agreement. Contractor shall promptly correct defective work, as required to conform to this Agreement, with no change in Contract Price. If, in the HRSB's opinion, it is not expedient to correct defective work, the HRSB may deduct from the Contract Price the difference in value between the Services as performed and that required by this Agreement, the amount of which will be reasonably determined by the HRSB.

Dismissal of Workers: The Contractor shall, on the request of the HRSB, immediately dismiss from the job any person employed by the Contractor who may, in the opinion of the HRSB, be incompetent or for misconduct, and such persons shall not again be employed on the job without the prior written permission of the HRSB. Foul language will be considered as misconduct.

PRODUCT OPTIONS AND SUBSTITUTIONS

Product Selection: Contractor may:

for any products specified by non-proprietary specification in Appendix "C", select any product of any manufacturer which meets the requirements of this Agreement.

for products specified by proprietary specification and accompanied by words indicating that substitutions will not be accepted in Appendix "C", select any product or manufacturer named. Substitutions are not permitted; and

except where substitutions are not permitted, when a product is specified by proprietary specification, other unnamed products will be accepted, subject to such substitutions being the same generic type, and capable of performing the same functions and meeting or exceeding the standards of quality and performance, as the named product. Substitutions shall not require revisions to this Agreement or a Change Order.

Product Substitutions: When making a substitution, the Contractor shall represent in writing that:

Contractor has investigated substitute products and/or manufacturer and has determined that the substituted product meets the criteria specified in Section 7.1 (c);

Contractor will make any changes to the Services necessitated by the substitution as required for the Services to be complete in all respects; and

Contractor waives all claims for additional costs and time caused by substitution, which may subsequently become apparent.

COMPLIANCE WITH LAWS, SAFETY AND PRIME CONTRACTOR

Compliance with Laws: Contractor shall comply with, and shall ensure subcontractors comply with, all applicable federal, provincial, and municipal laws, regulations and by-laws and to all other applicable orders, rules and regulations of any authority having jurisdiction respecting the Services, including without restriction all applicable environmental legislation, employment standards codes and workers' compensation legislation or equivalent legislation. CONTRACTOR SHALL FURNISH HRSB WITH WRITTEN CONFIRMATION FROM THE APPLICABLE WORKERS' COMPENSATION AUTHORITIES, OR EQUIVALENT AUTHORITIES, THAT CONTRACTOR AND ANY SUBCONTRACTORS ARE IN GOOD STANDING WITH SUCH AUTHORITIES, AND NO CONTRACTOR INVOICE SHALL BE PAYABLE UNTIL SUCH CONFIRMATION IS RECEIVED.

Safety: Contractor shall comply with and shall ensure all of its agents, employees and subcontractors comply with all applicable fire, safety, health, and environmental laws and regulations, including all safety, health and environmental requirements pursuant to any government permit, license, or authorization. Contractor shall be solely responsible for ensuring the safety and health of its agents, employees and subcontractors and for ensuring that its activities do not compromise the safety of HRSB's operations.

Occupational Health and Safety Legislation: Contractor shall comply with all applicable provisions of the *Occupational Health and Safety Act* (Nova Scotia) (the "Act") regulations thereto. Contractor shall execute and provide to HRSB the Undertaking to Comply Form with attached Pre-Construction Meeting Contractor Safety Checklist attached as Appendix "D". Contractor shall also supply to HRSB a Certificate of Recognition (COR) form as required under the Act and other applicable legislation.

Designation of Prime Contractor: The parties agree to designate in Appendix "D" that the Contractor shall be the "prime contractor" for the work site on the Lands for the purposes of the Act, during the Term, under this Agreement. The Contractor hereby agrees that:

such obligation shall extend to protect all contractors, employees, workers and persons as specified in the Act concerning the work site notwithstanding that they have been retained by HRSB after the date of execution of Appendix "D" by the Contractor; and

HRSB may in its sole discretion notify the Contractor in writing that the Contractor shall, following the date of such notice, assume the role of the "prime contractor" under the Act with respect to the work site notwithstanding that the Contractor was not so designated in Appendix "D" at the time of its execution by the Contractor, and the Contractor hereby agrees to do so.

Responsibilities of the Prime Contractor: Contractor shall:

direct all subcontractors, other contractors, employers, workers and any other personnel at the work site on safety related matters, to the extent required to fulfill its "prime contractor" responsibilities pursuant to the Act, regardless of:

whether or not any contractual relationship exists between the Contractor and any of these entities, or

whether or not such entities have been specifically identified in this Agreement;

ensure all obligations under the Act are strictly adhered to by all personnel;

be diligent in ensuring that its subcontracts comply with all health, safety and environmental legislation;

take appropriate disciplinary action against subcontractors who contravene health, safety or environmental legislation, which includes but is not limited to the suspending of the work performed by the subcontractors, before allowing them to continue to work on the site; and

ensure that Contractor or subcontractors never place the HRSB students, staff, volunteers or the general public at risk of injury or illness related to work conducted under this Agreement.

The HRSB shall provide Contractor, where applicable, with a list of all subcontractors under contract to the HRSB, working on the work site at the same time as Contractor, as well as their contact information. Failure by the HRSB to provide such information to Contractor shall not relieve Contractor of its obligation under this Section 8.5.

HRSB Access: At all times during the Term, HRSB Project Managers, agents and designates shall have the right to access, ingress and egress any work site, building or facility where Contractor performs the Services, and any part thereof, for any purpose, and neither Contractor nor its subcontractors shall refuse such access, ingress or egress whatsoever.

TERMINATION

Insolvency: If the Contractor should be adjudged bankrupt, or makes a general assignment for the benefit of creditors because of insolvency or if a receiver is appointed, the HRSB may, without prejudice to any other right or remedy it may have, by giving the Contractor or receiver or trustee in bankruptcy written notice, immediately terminate this Agreement.

Breach by Contractor: If the Contractor should neglect to prosecute the Services properly or otherwise fail to comply with the requirements of this Agreement, the HRSB may notify the Contractor in writing that it is in default of its obligations and instruct it to correct such default within FOUR (4) business days immediately following the receipt of such notice. If the correction of the default cannot be completed in the FOUR (4) business days specified, the Contractor will be considered to be actually attempting to cure the default if it:

commences the correction of the default on a best efforts basis, in HRSB's sole opinion, within FOUR (4) business days of receiving a notice of default;

provides the HRSB with a schedule for such correction which HRSB approves by written notice to Contractor; and

completes the correction in accordance with such approved schedule and without any additional cost or delay to the HRSB.

If the Contractor fails to correct the default in the time specified or subsequently agreed upon, the HRSB, without prejudice to any other right or remedy it may have, may terminate the Contractor's right to continue with the Services in whole or in part, and/or terminate this Agreement. Such termination must be in writing to the Contractor upon thirty (30) days notice.

Other Remedies: If this Agreement is terminated in whole or in part by the HRSB as a result of the default of the Contractor, the HRSB shall be immediately entitled to withhold any and all further payments which may be due and owing to the Contractor, complete or hire a third party to complete the Services in a manner it determines to be expedient, or to do whatever else it deems prudent or expedient in the circumstances to complete the Services.

Safety Default: This Agreement may be immediately terminated by HRSB for non-compliance by Contractor of any of its obligations under Article 8 of this Agreement.

DISPUTE RESOLUTION

Disputes Generally: Disputes between the Contractor and the HRSB as to the interpretation, application or administration of this Agreement or any failure to agree where agreement between the parties is called for, which are to be resolved between the parties, shall be settled by mediation and/or by arbitration.

Use of Mediation. Should HRSB choose to mediate a dispute:

Mediation shall take place on a confidential, without prejudice, basis with a single trained mediator who is a member of the Nova Scotia Arbitration and Mediation Society, jointly selected by the Contractor and the HRSB (the “**Mediator**”). The Mediator must be impartial and independent with no involvement in the dispute. This impartiality must be assessed by each of the parties prior to mediation. If a bias or perception of bias develops during the mediation, either party or the Mediator may terminate the mediation.

The Contractor, the HRSB and the Mediator shall agree on the fees, timing and any specific procedures and shall share the costs of mediation equally. All parties shall agree to and sign an agreement to mediate drawn up by the Mediator prior to mediation.

10.3 Arbitration: By written notice by one party to the other (a "Notice of Arbitration"), all disputes arising out of this Agreement, including its interpretation, must be submitted to binding arbitration in accordance with the provisions of the *Commercial Arbitration Act* (Nova Scotia), subject to the following:

- (a) The arbitration panel will consist of one arbitrator. If the parties fail to reach agreement on the selection of the arbitrator within 10 days following delivery of the Notice of Arbitration, any party may apply to The Supreme Court of Nova Scotia to appoint the arbitrator. The arbitrator will be qualified by education, training and industry experience to rule upon the particular dispute to be resolved.
- (b) The arbitrator will be instructed that time is of the essence in the arbitration proceeding and, in any event, the arbitration award must be made within 90 days of the submission of the dispute to arbitration and within 15 days of the conclusion of any hearing, or if there is no hearing, within 15 days of the delivery of written submissions.
- (c) The arbitration will take place in Halifax, Nova Scotia or such place as the parties may agree and will be conducted in the English language.
- (d) The arbitration award will be given in writing and will be final and binding on the parties. The award will give reasons and will deal with the question of costs of the arbitration and all related matters. The contractor and the HRSB shall share the costs of arbitration equally, unless otherwise determined by the Arbitrator.
- (e) The parties will keep all matters relating to the arbitration strictly confidential. The existence of the proceeding and any element of it (including any pleadings, briefs or other documents submitted or exchanged, any testimony or other oral submission in any award) will not be disclosed except to the arbitrator, the parties, their counsel and any person necessary to the conduct of the proceeding, except as may be required by law or as may be lawfully required in judicial proceedings relating to the arbitration.

PERFORMANCE BOND

Bond Requirement: Contractor shall, on execution of this Agreement, provide and pay for a performance bond in the amount of fifty (50%) percent of the Contract Price and a labour and materials payment bond in the amount of fifty (50%) percent of the Contract Price issued by a bond company acceptable to the HRSB, to continue in force for one (1) year after substantial completion of the Services, covering the performance of all obligations of the Contractor and all warranties of the Contractor under this Agreement. **Required** **Not Required**

WARRANTY

Warranty: The Contractor hereby warrants that:

it shall correct promptly, at Contractor's sole expense, defects or deficiencies in the Services as a result of workmanship or materials, which appear prior to the first (1st) anniversary of the date of completion of the Services, or such longer periods as may be specified for certain products or work in Appendix "C"; and

during the construction and warranty periods, defects or deficiencies in the Services, causing an emergency condition on the Lands or premises requiring immediate remedial/emergency repairs, outside of normal working hours, will be responded to by the HRSB's operations or maintenance staff. Costs for this emergency response will be the responsibility of the Contractor, and Contractor is hereby liable to indemnify HRSB for all such costs.

CONFIDENTIALITY AND OWNERSHIP OF WORK PRODUCT

Confidentiality: Contractor shall:

not make use of any HRSB Confidential Information for its own personal gain or for any purpose other than is required to provide the Services;

not disclose any HRSB Confidential Information to any person except employees, consultants, subcontractors and agents who have a need to know such information consistent with the provision of the Services, but only after such person has properly assumed obligations identical in principle to those in this Section and Contractor ensures that such person at all times complies with those obligations

employ diligent efforts and exercise reasonable care to hold all HRSB Confidential Information in the strictest confidence;

not use HRSB's name for any marketing or promotional purposes and not make any public announcements or disclosure in respect of this Agreement or Contractor's relationship with HRSB without first obtaining written consent from HRSB; and

be liable to HRSB and indemnify HRSB for any breach of this Section by Contractor or its employees, consultants, subcontractors or agents.

Terms of Agreements: Neither party shall disclose the terms of this Agreement or amounts paid under it to any person without the other party's written consent, except to a party's employees, professional advisors and insurers who have a need to know such information, but only where the party ensures that such persons are under obligations of confidentiality identical in principle to those in this Section. HRSB shall not disclose Contractor's information respecting pricing or any information supplied by Contractor that is clearly marked "Confidential" to any person except HRSB's employees, consultants, subcontractors and agents who have a need to know such information.

"HRSB Confidential Information" refers to any and all information, material and data disclosed to Contractor by HRSB, or obtained by Contractor in connection with providing the Services, directly or indirectly, orally, in any written form, or in any magnetically or electronically recorded form, or by drawings or inspection of parts or equipment, and including but not limited to: (i) information, knowledge or data of an intellectual, technical, scientific, commercial or industrial nature, or of a financial, cost, pricing, or marketing nature relating to the business operations of HRSB; or (ii) any information supplied by HRSB that is clearly marked "Confidential"; but shall not include information in the public domain or information that at the time of disclosure was already known to Contractor on a non-confidential basis.

Ownership of Work Product: All property and intellectual property rights in all reports, designs, drawings, studies, specifications, software, materials, inventions and other work product created, produced or arising in connection with the performance of the Services, whether completed or in progress, and regardless of who was involved therewith, shall be owned exclusively by HRSB and either delivered to HRSB or made available for inspection by HRSB. HRSB's ownership of and title to the foregoing shall arise automatically upon its creation and not be subject to the payment of the Contract Price to Contractor. To the extent Contractor has any title to the foregoing, Contractor shall take and cause to be taken all necessary steps (including a waiver of any moral rights) to transfer title thereto to HRSB.

Survival: The provisions of this Article shall survive the expiration or termination of this Agreement.

MISCELLANEOUS PROVISIONS

Notices: Communications in writing between the parties shall be considered to have been received by the addressee on the date of delivery if delivered by hand or by facsimile, or if sent by post, to have been delivered within FOUR (4) business days of the date of mailing, when addressed to the addresses in Appendix "C":

Assignment: This Agreement is not assignable by Contractor without the prior written consent of HRSB, which consent may be withheld arbitrarily. Any purported assignment by Contractor of any of its rights, duties, or obligations under this Agreement without HRSB's written consent, shall be voidable by HRSB at its option. Contractor shall not in any event be released from its duties and obligations under this Agreement. HRSB may assign this Agreement upon providing notice to without obtaining Contractor's consent.

Binding Effect: This Agreement shall be binding upon and enure to the benefit of each of HRSB and Contractor and their respective successors and permitted assigns.

Interpretation: In this Agreement, all references to 'dollars' or '\$' are to Canadian dollars unless stated otherwise. The insertion of headings is solely for convenience of reference and shall not affect the interpretation of any provision.

Independent Contractor: The parties agree that Contractor is an independent contractor, that nothing in this Agreement shall be construed as establishing or implying a relationship of master and servant between the parties, or any joint venture or partnership between the parties, and that nothing in this Agreement shall be deemed to constitute either of the parties as the agent of the other party or authorize either party to incur any expenses on behalf of the other party or to commit the other party in any way whatsoever. Contractor and its servants, agents or employees shall at no time be deemed to be servants, agents or employees of HRSB, or be deemed to be under the control or supervision of HRSB when carrying out the Services. Without the prior written consent of HRSB.

No waiver: No party shall be deemed to have waived the exercise of any right that it holds under this Agreement unless such waiver is made in writing. No waiver made with respect to any instance involving the exercise of any such right shall be deemed to be a waiver with respect to any other instance involving the exercise of that right or with respect to any other right.

Governing Law: This Agreement shall be governed by and interpreted in accordance with the laws of the Province of Nova Scotia and the laws of Canada applicable therein, excluding any conflict of laws rules that may apply therein. The parties hereby attorn to the non-exclusive jurisdiction of the courts of the Province of Nova Scotia, without prejudice to the rights of HRSB to take proceedings in any other jurisdiction. The parties hereby waive any right to a trial by jury.

Time of the Essence: Time shall be of the essence in this Agreement.

Set-Off: HRSB shall be entitled at all times to set off any amount owing from Contractor to HRSB against any amount due or owing to Contractor with respect to this Agreement.

Entire Agreement; Invoice Terms of No Effect: This Agreement constitutes the entire agreement of the parties concerning its subject matter and no other representation, warranties or agreements, either oral or written, shall be binding upon HRSB or Contractor. This Agreement supercedes and invalidates all prior agreements, understandings, negotiations, representations and warranties, whether oral or written, with respect thereto. The terms of this Agreement shall supersede any terms attached to Contractor's invoice, which terms shall not be applicable to this Agreement and shall not be considered to be Contractor's exceptions to the provisions of this Agreement.

Counterparts: The parties may execute this Agreement by facsimile or other electronic means and in separate counterparts each of which when so executed and delivered shall be an original, and all such counterparts taken together shall constitute one instrument.

APPENDIX "B"

RISK MANAGEMENT AND SAFETY

A. INDEMNIFICATION AND INSURANCE

1. Indemnity and Waiver:

Contractor shall be liable to HRSB for and shall indemnify and save harmless HRSB from and against any and all claims, suits, demands, awards, actions, proceedings, losses, judgments, costs, damages, settlements or expenses (including legal costs on a solicitor and own client basis) suffered or incurred by HRSB that arise out of, result from, are based upon or are in any way connected with this Contract, including without limitation:

- (a) those resulting from any act or omission on the part of Contractor or its employees, agents and subcontractors;
- (b) those resulting from any action, suit or proceeding brought by any third party;
- (c) those brought in respect of personal injury (including injury resulting in death) or damage or destruction of tangible or intangible property, including HRSB's property;
- (d) those made under workers' compensation legislation;
- (e) those legal costs and fines resulting from the failure of Contractor, its employees, agents or subcontractors to comply with any applicable laws, regulations, by-laws, rules or orders of any government, authority or body having jurisdiction, whether identified in this Contract or applicable by-law;
- (f) those resulting from the release, discharge, seepage or other escape of any substance including chemicals, hazardous or toxic materials, substances, pollutants, contaminants or wastes, whether liquid, gaseous or of any other nature or for any breach of any applicable environmental legislation;
- (g) those resulting from any labourers', materialmen's, or mechanics' liens arising from or relating to the performance of the Contract;
- (h) those brought for actual, alleged, direct or contributory infringement of any patent, trademark, copyright, trade secret or other intellectual property right, including breach of obligations of confidentiality; and
- (i) any other claims, expenses, costs, and losses suffered, incurred or sustained by HRSB.

The foregoing liability, indemnification and hold harmless provisions shall apply to anything done or not done in connection with this Contract and by whomsoever made, regardless of whether it was caused by the negligence of Contractor or otherwise.

Contractor shall make no claim or demand against HRSB for any injury (including death), claim, expense, loss or damage to property suffered or sustained by Contractor or any other person which arises out of, or is connected, with this Contract or anything done or not done as required hereunder, or any other errors or omissions of Contractor, and hereby waives as against HRSB all such claims and demands.

The foregoing indemnity and waiver given by Contractor shall not apply to the extent of HRSB's own negligence. The onus of establishing that HRSB was negligent shall be upon Contractor. HRSB shall not be deemed to have caused or contributed thereto merely by reason of its knowledge, approval or acceptance of the materials, drawings,

specifications, supplies, equipment, procedures or services of Contractor.

For the purposes of this Section, any reference to "HRSB" shall include HRSB, together with the employees, directors, officers, superintendents, trustees, representatives and agents of HRSB; and any reference to "Contractor" shall include Contractor's directors, officers, employees, affiliates, representatives, agents and subcontractors.

2. Insurance:

Contractor shall, at its own expense, obtain and maintain during the term of this Contract, in a form and with an insurance company satisfactory to HRSB, policies of:

- (a) Commercial General Liability insurance with a limit of not less than Two Million Dollars (**\$5,000,000**) for any one loss or occurrence and in the aggregate with respect to bodily injury, personal injury and property damage, including loss of use thereof, which policy shall by its wording or by endorsement:
 - (i) include HRSB, its officers, directors, employees, agents and trustees as an additional insured with respect to the obligations assumed by Contractor under this Contract;
 - (ii) provide that, in relation to the interests of each additional insured, the Insurance shall not be invalidated by an action or inaction any other person other than the respective additional insured;
 - (iii) include a "cross liability" clause which shall have the effect of insuring each entity named in the policy as an insured in the same manner and to the same extent as if a separate policy had been issued to each;
 - (iv) extend to cover blanket Contractual liability, including the insurable liabilities assumed by Contractor under this Contract;
 - (v) extend to cover products and completed operations; such products and completed operations coverage, whether by specific policy endorsement respecting the services or by renewal of any annual practice policy, shall be kept in force during the supply of services and for a further period of 24 months following completion of supply of the services;
 - (vi) extend to cover non-owned auto liability coverage; and
 - (vii) not exclude any existing property of HRSB, but shall treat same as "third party property".
- (b) Employer's Liability Coverage which shall not be less than \$5,000,000 for each employee where Workers' Compensation coverage does not exist or the profession/trade has been indicated to be exempted from Workers' Compensation coverage.
- (c) Automobile public liability and property damage insurance in an amount not less than Two Million Dollars (\$2,000,000) all inclusive covering the ownership, use and operation of any motor vehicles and trailers which are owned, leased or controlled by the Contractor and used in connection with this Contract; and
- (d) Property "All Risks" insurance covering Contractor's owned property, including Contractor's equipment, where applicable, and property of others in the care, custody, or control of Contractor or for which the Contractor has assumed liability, all including while in transit or storage, on a replacement cost basis. With respect to any property of HRSB, such policy shall contain a loss payee

clause in favour of HRSB;
(collectively, the "Insurance").

Contractor shall ensure that the above Insurance policies:

- (a) are endorsed to provide HRSB with not less than thirty (30) days written notice in advance of cancellation, change or amendments restricting coverage;
- (b) do not include a deductible that exceeds such maximum amount that a reasonably prudent business person would consider reasonable; and
- (c) take the form of an occurrence basis policy and not a claims-made policy.

Contractor shall, before any services are performed, provide HRSB with a copy of the certificates of insurance and, if requested by HRSB, the insurance policies evidencing all the coverage stipulated above, and HRSB may withhold payment of any invoice until it receives evidence of such coverage. Failure for any reason to furnish this proof at any time shall be a breach of the contract, allowing the HRSB to terminate the contract or at the HRSB's option, to supply such insurance and charge the cost to Contractor. The HRSB may require Contractor to have the HRSB added as an insured party to the insurance policy and/or require Contractor to furnish a certified copy of the policy for such insurance.

Contractor shall not make or cause to be made any modification, or alteration to the Insurance, nor do or leave anything undone, which may invalidate the Insurance coverage. Contractor shall be responsible for any deductible and excluded loss under the Insurance.

Contractor shall cause all subcontractors performing services to obtain and maintain the Insurance policies required by this Section.

Contractor agrees that the insurance coverage required to be maintained by it under the provisions of this Contract shall in no manner limit or restrict its liabilities under this Contract. HRSB reserves the right to maintain the insurance in good standing at Contractor's expense and to require Contractor to obtain additional insurance where, in HRSB's reasonable opinion, the circumstances so warrant.

B. COMPLIANCE WITH LEGISLATION AND REGULATIONS

1. Compliance

Contractor shall comply with and shall ensure all of its agents, employees and subcontractors comply with all applicable laws and regulations, including all safety, health and environmental requirements pursuant to any government permit, license, or authorization. Contractor shall at its cost obtain all permits and licenses required by any governing authority in order to enable Contractor to provide its goods and services and otherwise perform its obligations under the Contract.

2. Labour Code

Contractor shall comply with all applicable provisions of the *Labour Code* (Nova Scotia) and the *Employment Standards Act* (Nova Scotia) and all regulations and amendments thereto.

3. Workers' Compensation Legislation

Contractor shall comply with the *Worker's Compensation Act* (Nova Scotia) and regulations and amendments thereto, and:

- (a) if any employees perform or assist in the performance of this Contract, the Contractor shall submit, at any time requested by the HRSB, a letter from the Workers' Compensation Board (Nova Scotia) stating that Contractor has an account in good standing with the Worker's Compensation Board;
- (b) the Contractor will make the necessary returns to the Workers' Compensation Board in accordance with government regulations and will pay all fees and contributions required in connection therewith. The cost of compensation will be included in the price payable under the Contract; and
- (c) the Contractor shall submit a clearance from the Workers' Compensation Board that all fees and contributions have been paid before final payment is made by the HRSB under the Contract.

4. Canada Safety Council and Associated Standards

All electrical, electronic and gas-fired equipment must bear the required approval markings, being C.S.A. approved for entirely electrical or electronic equipment and C.G.A. or C.S.A. approved for gas fired equipment. All other similar equipment approvals must also be obtained. It shall be the responsibility of the Contractor to obtain all applicable approvals, at its own expense.

5. Nova Scotia Occupational Health and Safety Legislation

Contractor shall comply at all times with the Nova Scotia Occupational Health and Safety Act, Regulation and Code, and it's amendments thereto.

C. SAFETY REQUIREMENTS

1. Safety Responsibility

Contractor shall be solely responsible for ensuring the safety and health of its agents, employees and subcontractors and for ensuring that its activities do not compromise the safety of HRSB's operations. Contractor shall provide to its agents, employees and subcontractors, at its own expense, any and all safety gear required to protect against injuries during the performance of the services and shall ensure that its agents, employees and subcontractors are knowledgeable of and utilize safe practices in the provision of the services, such practices to be at least as stringent as those set out in HRSB's safety standards provided to Contractor from time to time.

2. Project Site Protection and Safety

The Contractor shall protect the HRSB's property, staff and students, the Contractor's staff and the public, from damage or injury by providing adequate precautions to make the work site a safe environment at all times. In addition to complying with any safety standards provided to the Contractor by HRSB, the Contractor shall:

- (a) provide all guards and fences and other safety equipment;
- (b) respond to reports of hazards by HRSB;
- (c) do the following when work generating vibration, noise or safety concerns (including without limitation jack hammering, shot blasting, sandblasting, concrete cutting and use of powder actuated fasteners) may affect HRSB property, staff, students or operations.
 - (i) coordinate with HRSB representatives;
 - (ii) schedule and coordinate hours of work with HRSB input; and

- (iii) stop operations generating vibration, noise or safety concerns when instructed by HRSB.
- (d) Contractor responsible to ensure all spaces directly beneath the roof work area are protected from potential damage of dust, debris or water infiltration or any other impact resulting from the roof replacement project. Such protection shall include installation of effective cover using minimum 4 mil plastic vapour barrier sheeting over all furniture, equipment, instruction aids, floors areas and any other items underneath the work space. Contractor must remove all sheeting upon completion of work and will be responsible for costs of restoration of damages caused by process of roof project or lack of adequate protection of property.

3. Hazardous Materials

The Contractor shall:

- (a) develop and implement a written "Hazardous Materials Information" document to ensure that all persons at the work site are made aware of the existence of any hazardous materials such as asbestos, lead-based products, and PCB's;

D. CONTRACTOR EVALUATION

1. Audit

The HRSB reserves the right to audit Contractors and their subcontractor's health and safety performances during the term of the Contract and upon its conclusion.

2. Evaluation

The HRSB reserves the right to evaluate the performance of the Contractor and such evaluation will be based upon accident/injury data and adherence to this Schedule "C", the HRSB health and safety policies, applicable legislation, and periodic inspections and reports from HRSB employees. Information collected as part of such evaluations may be used for future reference.

E. HRSB REMEDIES FOR CONTRACTOR NON-COMPLIANCE

1. Emergency Work Stoppage

The HRSB has the authority to stop progress of the work whenever, in its opinion, such stoppage is desirable for any safety-related reason. The Contractor hereby agrees that no claim for loss of time or materials may be made with respect to such stoppage unless the claim for the time and materials and their value are certified in writing by the HRSB as allowable.

2. Termination for Non-Compliance

HRSB may terminate this Contract for non-compliance with health, safety, environmental and other applicable legislation and good industry practice on the part of the Contractor or any subcontractor of the Contractor, as constituting a material breach of this Contract. In addition, the HRSB reserves the right to stop the work of the Contractor in the event of Contractor's non-compliance with applicable legislation or good industry practice. Such work stoppages shall not postpone any agreed to completion dates and any additional cost

resulting from such work stoppages shall be borne by the Contractor. Work shall not resume until the Contractor rectifies the reason for non-compliance, to HRSB's satisfaction.

3. Non-Exclusive Remedies

Contractor acknowledges and agrees that the foregoing remedies available to HRSB are non-exclusive to, and may be exercised in conjunction with, any other rights or remedies available to HRSB, under the Contract, at law or in equity, in the event of threatened or actual breach of this Contract, including injunctive relief.

SAMPLE ONLY

APPENDIX "C"

DESCRIPTION OF SERVICES

- 1. Description of Services to be performed by Contractor, including any applicable standards of performance:

Description of Work:

As per Tender # drawings, specifications and scope of work

- 2. Municipal and Legal Description of the Lands:

Location of Work

- 3. Term: completion of work by ,

- 4. Invoicing: Services are to be paid for by HRSB:

- By scheduled progress payments (as agreed by both parties)
By single invoice upon project completion

- 5. Holdbacks: In compliance with "Section 13 - Holdbacks" of the Builder's Lien Act of Nova Scotia (incl. amendments), a holdback in the amount of ten percent (10%) of the contract may be held up to ninety (90) days after completion of the work, to the satisfaction of the Board.

- 6. HRSB Project Manager /Contractor Contact Information:

Table with Contractor and HRSB information fields. Includes fields for Name, Address, Telephone, E-mail, etc. Pre-filled with 'Operations Services' and '33 Spectacle Lake Drive Dartmouth, N.S., B3B 1X7'.

Contractor's Initials HRSB's Initials

Exhibit A

Invitation To Tender

PROJECT SPECIFICATIONS/DRAWINGS WERE INCLUDED IN TENDER DOCUMENT AND ARE CONSIDERED PART OF THIS CONTRACT EVEN THOUGH THEY ARE NOT ATTACHED TO THIS DOCUMENT

Exhibit B

Response to Invitation to Tender

**A COPY OF THE SUCCESSFUL CONTRACTOR'S BID SUBMISSION IS ON FILE IN
THE PURCHASING DEPARTMENT - TENDER #3768**

APPENDIX "D"

**UNDERTAKING TO COMPLY FORM
AND CONTRACTOR SAFETY CHECKLIST**

UNDERTAKING TO COMPLY

Name of Contractor:

(the "Contractor")

Description of Agreement:

Site Location:

(the "Agreement")

7. The Contractor hereby undertakes to HRSB:
to comply with all health, safety and environmental legislation in the performance of this Agreement; and
to maintain a safe and healthy work environment during the performance of this Agreement.
8. The Contractor hereby agrees with HRSB:
that compliance with all health, safety and environmental legislation is a condition of this Agreement and that non-compliance with the same may, in HRSB's discretion, lead to the termination of this Agreement; and
to permit HRSB to audit the Contractor's health, safety and environmental records during the term of this Agreement and upon its conclusion and to cooperate fully with any such audit(s).
9. The Contractor understands that, at HRSB's discretion, any Contractor safety deficiencies will be addressed by HRSB in the following progressive steps:
the problems will be identified to the Contractor (site supervisor);
the Contractor's head office will be contacted about the problem, orally and later in writing;
if required by law to report the problem to a Provincial and or Federal Ministry, HRSB will immediately do so;
if not required by law to report the problem, and the problem remains unresolved, HRSB may report the problem; and
the Agreement may, in HRSB's discretion, be suspended or terminated and/or payment withheld by HRSB.

- 10. The Contractor acknowledges and agrees with HRSB that, depending upon the nature and/or seriousness of the deficiency, HRSB reserves the right to bypass any or all of the steps described in Section 3.
- 11. **Prime Contractor Designation:** The Contractor and the HRSB hereby agree that the Contractor shall, pursuant to Section 8.4 of the Agreement shall be the Prime Contractor.

The undersigned hereby confirms that he/she has the authority to bind the Contractor:

CONTRACTOR

**HALIFAX REGIONAL
SCHOOL BOARD**

FULL COMPANY NAME

PRINT NAME

AUTHORIZED SIGNATURE

POSITION

DATE

PRINT NAME

AUTHORIZED SIGNATURE

POSITION

DATE

SAMPLE ONLY

PRE-CONSTRUCTION MEETING
CONTRACTOR SAFETY CHECKLIST PAGE 1

MEETING DATE:	TENDER #:
---------------	-----------

SITE LOCATION:

COMPANY NAME:

CONTRACTOR REPRESENTATIVE::

HRSB REPRESENTATIVE::

√ Means complied to	X Means not complied with	n/a means not applicable
---------------------	---------------------------	--------------------------

- | | | |
|--|---|--|
| <p>1. Notice of Project filed with Nova Scotia Infrastructure (if applicable) <input type="checkbox"/></p> <p>2. Review Board Safety Compliance Undertaking to Comply Form Signed <input type="checkbox"/></p> <p>Progressive Disciplinary Action Reviewed <input type="checkbox"/></p> <p>3. Contractor Health and Safety Policy <input type="checkbox"/></p> <p>Prime Contractor and Safety Management Certificate <input type="checkbox"/></p> <p>4. Health & Safety Representatives/Joint Site Health & Safety Committee <input type="checkbox"/></p> <p>Name and Phone _____</p> <p>5. Personal Protective Equipment:</p> <p>Hard Hats <input type="checkbox"/></p> <p>Footwear <input type="checkbox"/></p> <p>Safety Glasses <input type="checkbox"/></p> | <p>8.</p> <p>9.</p> <p>10.</p> <p>11.</p> | <p>Contractor Staff Training: Emergency Response <input type="checkbox"/></p> <p>WHMIS Training Verification <input type="checkbox"/></p> <p>O H & S <input type="checkbox"/></p> <p>MSDS Received <input type="checkbox"/></p> <p>Scaffold <input type="checkbox"/></p> <p>Confined Space Code of Practice <input type="checkbox"/></p> <p>TDG Training Verification <input type="checkbox"/></p> <p>Working Alone <input type="checkbox"/></p> <p>Review Contractor Signage & Barricades <input type="checkbox"/></p> <p>Written Work Site Hazard Assessment and Control Plan/Schedule Submitted <input type="checkbox"/></p> <p>Building Fire Plan <input type="checkbox"/></p> |
|--|---|--|

SAMPLE ONLY

CONTRACTOR SAFETY CHECKLIST – PAGE 2

- | | | | |
|---|--------------------------|---|--------------------------|
| Hearing | <input type="checkbox"/> | 12. Accident Investigation/Notification/Reporting Procedure | <input type="checkbox"/> |
| Dust & Fumes | <input type="checkbox"/> | | |
| Face Protection | <input type="checkbox"/> | | |
| Others: _____ | <input type="checkbox"/> | 13. Contingency Plan for Control & Clean up of a Spill | <input type="checkbox"/> |
| _____ | <input type="checkbox"/> | | |
| _____ | <input type="checkbox"/> | 14. Parking Upgrades/Extinguishers | <input type="checkbox"/> |
| | | | |
| 6. Equipment Certification | | 15. First Aid Kits on Site | <input type="checkbox"/> |
| Trench Boxes | <input type="checkbox"/> | | |
| | | 16. First Aiders on Staff | <input type="checkbox"/> |
| Boom Cranes | <input type="checkbox"/> | Names: _____ | |
| Scaffolds | <input type="checkbox"/> | | |
| Others: _____ | <input type="checkbox"/> | 17. Fall Protection /Safety Harness | <input type="checkbox"/> |
| _____ | <input type="checkbox"/> | | |
| _____ | <input type="checkbox"/> | 18. Methane gas Detection in Sewer | <input type="checkbox"/> |
| | | | |
| 7. Provision of Hazardous Material Information to Contract | <input type="checkbox"/> | 19. Clean Up - Good Housekeeping | <input type="checkbox"/> |
| Confirmation of Employee Awareness of Hazardous Material | <input type="checkbox"/> | | |
| Asbestos | <input type="checkbox"/> | 20. Weekly Safety Talks/Meetings | <input type="checkbox"/> |
| Lead | <input type="checkbox"/> | | |
| PCB | | | |
| Confirmation that Prime Contractor reviewed Asbestos Inventory at the work site | <input type="checkbox"/> | 21. Other Issues | <input type="checkbox"/> |

SAMPLE ONLY



APPENDIX E

Project Safety Plan Outline

During the planning of each project, environmental and occupational health and safety issues will be assessed like any other key project component.

Prior to beginning a new project, tendering Contractors shall examine the work area to identify potentially hazardous site specific situations.

Once identified, these hazards should be prioritized on this Hazard Assessments/Project Safety Plan Outline and corrective *actions* noted to eliminate or control each hazard. The dates of when and names of the persons who are responsible for completing the *action* should also be assigned.

Copies of the completed Safety Plan Outline shall be submitted as part of the tender document submittal, sent to the HRSB Operations Services Regional Manager, made available on the job site and communicated to the workers.

Project Name: _____

Project Location: _____

Project Start date: _____

Project End date: _____

Company Name: _____

Completed by: _____
(Contractor's project manager)

Date: _____

Copy to: _____

PLANNING:

Does the Contractor's Occupational Health and Safety Program deal with the work activities associated with this project? Yes No

Describe tasks to be undertaken: _____

HAZARDS ASSESSMENT:

Identify the hazards that could present themselves on this project (e.g. live electrical wires, over water, confined space, etc) and describe what steps will be taken to prevent an incident (e.g. cover up, de-energize, safe work practices, netting, etc). Prioritize from #1 as needing immediate action.

#	Hazard	Required Action	Completed by	Date
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

ENVIRONMENTAL ASSESSMENT:

Identify the environmental issues that could present themselves on this project (e.g. oil spills, asbestos, etc.) and describe the action that will be taken to eliminate or reduce the risk of occurrence (e.g. mop kits, air sampling, etc.)

#	Hazard	Required Action	Completed by	Date
1				
2				
3				
4				
5				

EMERGENCY RESPONSE:

In the event of an incident, pre-plan the response and write up the procedures. Minimally, the following list should be completed and posted on site:

Contact	Phone #	Contact	Phone #
Fire	911	Poison Control	428-8161
Ambulance	911	Dangerous Goods	1-800-565-1633
Doctor	911	Waste Disposal	
Police	911	Insurance	
HRSB Office	493-5110	Min/Dept of Labour	1-800-952-2687
Min./Dept.of Transport.		Min/Dept of Environment	1-800-565-1633

- Identify and arrange source of first aid, ambulance and rescue.
- Accidents will be reported to: _____
- Accidents will be investigated by: _____
- Back-up call to: _____
- HRSB # emergency/after hours: day 493-5110 after 4:00 pm 442-2476

SAFETY MEETINGS:

On this project, given the nature of the work and the anticipated size of the work force, the following frequency will apply:

Site meetings _____

Site Audits _____

Follow up with HRSB Manager: _____

SITE IMPLEMENTATION:

- Health and Safety Rep & Safety Committee:
Establish liaison between HRSB, Contractor, site administration
First Aid, PPE, other safety items as required.

- Documentation:
Applicable MSDS
Safety program
Applicable work procedures
Permits
First Aid Certification

TRAINING:

The following training/testing will be mandatory on site:

1) _____

2) _____

3) _____

TENTATIVE SCHEDULE OF WORK:

- 1) Date Project Will Commence: _____
- 2) Number of Weeks to Complete Project: _____ weeks
- 3) Expected Completion Date: _____

NOTE:

Within five (3) business days the successful bidder shall provide a schedule clearly indicating timelines for completion of all aspects of the project.

APPENDIX F

CONTRACTOR'S CHECKLIST

Enclose the following documents with your bid:

- Bid Security as required in Clause 1.3 (e)*** in the amount of 10% of the Contract Price (before HST).
- Contract Security for bids over \$100,000 as required in Clause 1.3 (f)***.
- Certificate of Insurance*** indicating a minimum of **\$5,000,000 Commercial General Liability Insurance** per occurrence and **Commercial Auto Liability Insurance** covering all owned, non-owned and hired vehicles for a minimum combined single limit of **\$2,000,000** per occurrence and **Builder's Risk Insurance** in the amount of the contract price.
- Tentative Work Schedule (Timelines)*** – Subsequently, within five (5) business days of tender award the successful bidder shall provide a schedule clearly indicating timelines for completion of all aspects of the project.
- Workers' Compensation Board Letter*** of Good Standing
- Certificate of Recognition from one of the seven safety audit companies that jointly sign with the WCB:***
 - East Coast Mobile Medical Inc.
 - HSE Integrated
 - Nova Scotia Construction Safety Association
 - Nova Scotia Trucking Safety Association
 - Occupational Health & Educational Services (2002) Inc.
 - Safety Services Nova Scotia
 - Stantec Inc.

This list can be found on WCB's website: www.wcb.ns.ca.
- Completed HRSB Safety Plan***
- Applicable Warranty Information***

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requirements for constructing cast-in-place concrete. Work includes supply and installation of formwork, reinforcement, concrete and accessories.

1.02 REFERENCES

- .1 Canadian Standards Association (CSA).
 - .1 CAN/CSA-A3000 Series-03, Cementitious Materials Compendium.
 - .2 CAN/CSA-A23.1 / A23.2-04, Concrete Materials and Methods of Concrete Construction / Methods of Test and Standard Practices for Concrete.
 - .3 CSA S269.3-M92 (R2008), Concrete Formwork.
 - .4 CSA G30.18-M92 (R2007), Billet-Steel Bars for Concrete Formwork.
- .2 American Society for Testing and Materials (ASTM).
 - .1 ASTM C171-07, Standard specification for Sheet Materials for Curing Concrete.
 - .2 ASTM C260-06, Air-Entraining Admixtures for Concrete.
 - .3 ASTM C309-07, Standard Specification for Liquid Membrane-Forming Compounds for Curing compounds.
 - .4 ASTM C494/C49M-08a, Standard Specification for Chemical Admixtures for Concrete.
 - .5 AASHTO M182 Burlap Cloth Made from Jute or Kenaf.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Portland Cement: to CSA Standard A3000, Type 10, Normal and CSA A23.1, Table 6, type GU.
- .2 Aggregates: to CSA-A23.1. For exposure Classes C-XL, C-1, C-2, C-3, C-4 and F-1, supply certification that the mixtures have been evaluated for alkali-aggregate reaction and that measures have been taken to improve the reaction.
- .3 Water: to CSA-A23.1, Table 9.
- .4 Admixtures:
 - .1 Air Entraining: to ASTM C260.
 - .2 Chemical: to ASTM C494/C49M or C1017 for flowing concrete.

- .5 Supplementary Cementing Materials:
 - .1 Low Calcium Fly Ash (Class F): to CSA A3000 and CSA 23.1, Table 8. Certification shall be provided for the fly ash used in the concrete.
- .6 Reinforcement:
 - .1 Welded Steel Wire Fabric: to CSA G30.5.
- .7 Formwork:
 - .1 Forms: to CSA-A23.1, plywood and timber, clean and free of loose knots, splits and metal.
 - .2 Form Ties: to CSA-A23.1, removable or snap-off metal ties, fixed or adjustable length. Form ties, tie wire, spacers or other embedded fixtures shall not be positioned closer than 20 mm of the surface. For severe environments, the dimension shall be as shown on the drawings.
 - .3 Release Agent: non-staining natural organic chemicals of sprayable consistency which prevents adhesion of concrete to forms.
 - .4 Design: to CSA S269.3.
- .8 Curing Compound: to CSA A23.1, white. Refer to AASHTO M182, ASTM C171, ASTM 309.
- .9 Waterstops: ribbed, extruded PVC of type and size indicated.
- .10 Non-shrink Grout: premixed, dry pack or pourable, containing non-metallic aggregate, plasticizing agents and cement, minimum compressive strength 45 MPa at 28 days.

2.02 CONCRETE MIX

- .1 Provide in accordance with CSA A23.1, Table 5, Alternative (1) or (2).
- .2 Mix proportions to provide workable concrete having required durability and strength.
- .3 Air entraining admixtures: to obtain Air Content Category as defined in CSA A23.1, Tables 1, 2 and 4.
- .4 Slump: to CAN/CSA A23.1, Section 4.3.2.3.
- .5 Compressive strength at 28 days: 35 MPa unless for mixtures containing supplementary cementing materials other ages may be appropriate as determined by the AVRSB. The strength shall be evaluated in accordance with CSA A23.1.
- .6 Water / cement ratio: to CSA A23.1, Tables 1, 2 and 4 as required for exposure conditions.

- .7 Ready mix plant shall conform to CSA and possess a current active membership in the Atlantic Provinces Ready Mix Concrete Association.

PART 3 EXECUTION

3.01 GENERAL

- .1 Do concrete work to CSA-A23.1 and as specified herein.
- .2 Use ready-mixed concrete unless on-site mixing approved.
- .3 Do not change concrete mix without prior approval of Project Manager. Changes in material supply will require submission of a new mix design for approval.
- .4 If on-site mixing is approved, equipment to be capable of accurately proportioning ingredients to produce require concrete.

3.02 FORMWORK

- .1 Construct formwork to CSA A23.1.
- .2 Construct formwork to produce finished concrete to required shape, dimensions and levels indicated within tolerances required by CSA-A23.1. Provide close fitting joints to prevent leakage of mortar, and form ties and bracing sufficient to withstand pressures of plastic concrete without deflection.
- .3 Use approved form release agent.
- .4 Formwork removal shall be in accordance with CSA A23.1.
- .5 Fill form tie holes with non-shrink mortar and finish to texture of adjacent concrete.

3.03 REINFORCEMENT AND EMBEDDED ITEMS

- .1 Clean reinforcing of rust build-up, mill scale of other coatings that prevent or reduce bond.

3.04 PLACING

- .1 Place concrete to CSA A23.1, Section 7.
- .2 Convey concrete from mixer to forms by methods that will maintain specified slump and prevent segregation.

- .3 Do not drop concrete more than 5 feet vertically unless it can be shown that the concrete will not segregate. Deposit concrete in final position in forms to avoid lateral movement.
- .4 Place concrete in continuous operation starting from lowest point in form, in lifts not greater than 18 inches.
- .5 Vibrate or tamp each layer to obtain dense homogenous structure free of cold joints, fill planes, voids and honeycombing. For vertical installation, vibrate at least 6 inches into previously placed layers. Concrete to be well bonded to all embedded parts.

3.05 JOINTS

- .1 Makes joints in accordance with CSA A23.1, Section 7.3 and Section 02770 - Concrete Pavement and Curbs.

3.06 FINISHING

- .1 Finish concrete in accordance with CSA A23.1, Section 7.5 and Section 02770 – Concrete Pavement and Curbs.

3.07 CURING AND PROTECTION

- .1 Provide curing and protection to CSA A23.1, Section 7.4. The temperature of the concrete as placed to be within the limits of Table 14.
- .2 Do not place concrete on frozen base. Remove all snow, ice and frost from area prior to placing concrete. Do not place concrete on, or against, any surface that will lower the temperature of the concrete in place below the minimum value shown in Table 14.
- .3 When air temperature may drop below 5 degrees Celsius or when there is a Probability that the temperature will drop below 5 degrees Celsius within 24 hours of placing, raise temperature of base, reinforcing steel, embedded parts and forms above 5 degrees Celsius prior to placing concrete. In addition, before placement, have available all materials and equipment needed for adequate curing and protection.
- .4 When air temperature is at or above 27 degrees Celsius, or when there is a probability of the temperature rising above 27 degrees Celsius during the placing period, provide facilities for the protection if the concrete in place from the effects of hot and / or drying weather conditions. Under severe drying conditions, protect formwork, reinforcing, and concreting equipment from direct rays of sun, or cool by fogging.

- .5 After placing is complete, maintain minimum curing conditions for the concrete in accordance with CSA-A23.1, Section 7.4.

3.08 CONCRETE QUALITY

- .1 Consultant may require inspection or testing of concrete in accordance with CSA-A23.1, using CSA certified concrete laboratory

3.09 DEFECTIVE WORK

- .1 Remediate defective concrete or remove and replace concrete not in accordance with these specifications, blemishes and embedded debris, and repair as directed.

END OF SECTION **03 30 00**

PART 1 GENERAL

1.01 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures
- .2 Section 03 33 00 - Cast-in-place Concrete

1.02 REFERENCES

- .1 ASTM A276-91a, Specification for Stainless Steel and Heat-Resisting Steel Bars and Shapes.
- .2 ASTM B209M-92a, Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- .3 CAN/CSA-G40.21, Perforated Square Steel Tube.
- .4 CAN/CSA-G164-M92, Hot Dipped Galvanizing of Irregularly Shaped Articles.
- .5 CGSB 1-GP-12c-65, Standard Paint Colours.
- .6 CAN/CGSB-1.59-M89, Alkyd Exterior Gloss Enamel.
- .7 CAN/CGSB-1.94-M89, Xylene Thinner (Xylol).
- .8 CAN/CGSB-1.99-92, Exterior and Marine Phenolic Resin Varnish.
- .9 CAN/CGSB-1.104-M91, Semigloss Alkyd Air Drying and Baking Enamel.
- .10 CAN/CGSB-1.132-M90, Zinc Chromate Primmer, Low Moisture Sensitivity.
- .11 CGSB 31-GP-3M-88, Corrosion Preventative Compound, Cold Application, Soft Film.
- .12 CSGB 62-GP-9M-80, Prefabricated Markings, Positional, Exterior, for aircraft Ground Equipment and Facilities.
- .13 CSGB 62-GP-11M-78, Marking Material, Retroflective, Enclosed Lens, Adhesive Backing.
- .14 TAC Manual on Uniform Traffic Control Devices, Latest Edition.

1.03 **SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures for steel posts and traffic signsboards.

PART 2 **PRODUCTS**

2.01 **MATERIALS**

- .1 Sign supports:
 - .1 Steel posts: to CAN/CSA-G40.21, 4.2 metres long, 50 mm x 50 mm perforated square steel tube. Metal thickness: 3.0 mm. Hot dipped galvanized to CAN/CSA-G164.
 - .2 Corrosion preventative compound: to CGSB31-GP-3M.
 - .3 Fasteners: bolts nuts, washers and other hardware for signs to be cast aluminum alloy, or galvanized steel, tamper resistant.
- .2 Signboards:
 - .1 Aluminum sheet: to ASTM B209M, precut to required dimensions. Thickness to 1.6 mm.
 - .2 Xylene thinner: to CAC/CGSB-1.94.
 - .3 Chemical conversion coating for aluminum: to CSGB 31-GP-3-88.
 - .4 Primer for aluminum: to CAN/CGSB-1.132.
 - .5 Finish paint: to CAN/CGSB-1.59.
 - .6 Silk screen ink: Transpaent or opaque colours to CSGB 1-GP-12c.
 - .7 Reflective sheeting and tape: to CGSB 62-GP-11M.
 - .8 Transparent tape: flexile, smooth-surfaced, moisture resistant tape with pressure sensitive adhesive.
 - .9 Clear varnish protective coat: to CAN/CGSB-1.99.

2.02 **FABRICATION**

- .1 Signboards:
 - .1 Aluminum Blanks:
 - .1 Degrease, etch and bonderize with chemical conversion coating.
 - .2 Clean surfaces with xylene thinner and dry.
 - .3 Spray and bake face of signboards with two coats of enamel in accordance with CN/CSGB-1.104.
- .2 Reflective background sheeting and lettering:
 - .1 Cut and apply in accordance with manufacturer's instructions.

- .2 Apply adhesive coated material with heat lamp vacuum applicator or by squeeze roll application method. Apply pressure sensitive material with roller or squeegee.
- .3 Edge wrap sheeting material on each extrusion prior to bolting extrusions. Match pieces of sheeting from different rolls for each signboard to ensure uniform appearance and brilliance by day and night.
- .4 Reflective signboard faces may be prepared using silk screen transparent ink.
- .3 Non-reflective lettering and symbols: cut from vinyl film as specified in CSGB 62-GP-9M, or paint using required colour or finish paint or silk screen transparent ink.
- .4 Clean signboards completely and apply transparent tape over top edge and extending 25 mm minimum down back and front of signboard.
- .5 Protect finished signboard faces with one coat of clear varnish.

PART 3 EXECUTION

3.01 INSTALLATION

- .1 Sign support:
 - .1 Install posts square with edge of gravel surface as indicated.
 - .2 Cast in galvanized sleeve as indicated.
 - .3 Permissible tolerance: 12 mm maximum departure from vertical.
- .2 Signboard:
 - .1 Fasten signboards square to supporting posts with tamper proof fasteners.

END OF SECTION 10 14 53

PART 1 GENERAL

1.01 SUMMARY OF WORK

This section specifies requirements for site grading including demolition and removal of existing pavement and site elements, clearing and grubbing, excavation, and disposal of surplus material

1.02 RELATED WORK

- | | | |
|----|--------------------------------------|-------------------------|
| .1 | Soil Placement and Grading: | Section 32 91 21 |
| .2 | Asphalt Concrete Pavement | Section 32 12 16 |
| .3 | Concrete Pavement, Curbs and Gutters | Section 32 16 15 |

1.03 REFERENCES

- .1 ASTM D698-91, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 600 kN-m/m³.
- .2 The Standard Specification of the Nova Scotia Department of Transportation and Infrastructure Renewal (NSDTIR), latest edition.

1.04 REGULATIONS

- .1 Shore and brace excavations, protect slopes and banks and perform all work in accordance with Provincial and Municipal regulations whichever is more stringent.

1.05 SITE CONDITIONS

- .1 Known underground and surface utility lines and buried objects are as indicated on site plan.

1.06 PROTECTION

- .1 Protect existing fencing, trees, landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines which are to remain. If damaged, restore to original or better condition unless directed otherwise.
- .2 Maintain access roads to prevent accumulation of mud on roads.

1.07 TESTS AND INSPECTIONS

- .1 Testing of materials and compaction of backfill and fill will be carried out by testing laboratory designated by HRSB.

- .2 Not later than one week before backfilling or filling, provide to designated testing agency, 22.7 kg / 50 lb. sample of fill material proposed for use.
- .3 Do not begin backfilling or filling operations until material has been approved for use by Project Manager.
- .4 Not later than 48 h before backfilling or filling with approved material, notify Project Manager so that compaction tests can be carried out by designated testing agency.
- .5 Before commencing work, conduct, with Project Manager, condition survey of existing structures, trees and other plants, lawns, fencing, service poles, wires, rail tracks and paving, survey bench marks and monuments which may be affected by work.

1.08 BURIED SERVICES

- .1 Before commencing work establish the location of all buried services on and adjacent to the site.
- .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work. Pay costs of relocating services.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Structural Fill:
 - .1 Well graded, granular material free from organic material, max. particle size 200mm, at a suitable moisture content to allow for compaction to 100% SPMDD or equivalent such as NSDTIR, Type 2 gravel or imported pit run gravel.
 - .2 Excavated till and fill material at the site may be used provided it meets the above.

PART 3 EXECUTION

3.01 REMOVAL OF EXISTING PAVEMENT AND CURBS

- .1 Remove all existing asphalt and concrete pavement and curbs necessary to complete the work as indicated on the drawings.

3.02 CLEARING & GRUBBING

- .1 Remove lawns, trees, stumps, logs, brush, shrubs, bushes, vines, under-growth, rotten wood, dead plant material, exposed boulders and debris necessary to complete the work as indicated on the drawings.
- .2 Remove stumps and tree roots below slabs and paving to 24 inches below finished grade elsewhere.

3.03 EXCAVATION

- .1 Strip topsoil over areas to be covered by new construction, over areas where grade changes are required.
- .2 Excavate as required to carry out work, in all materials met. Do not disturb soil or rock below bearing surfaces. Notify Project Manager when excavations are complete. If bearings are unsatisfactory, additional excavation will be authorized in writing and paid for as additional work. Excavation taken below depths shown without Project Manager's written authorization to be filled with concrete of same strength as for footings, at Contractor's expense.
- .3 Excavate trenches to provide uniform continuous bearing and support for 8 inch thickness of pipe bedding material on solid and undisturbed ground.
- .4 Excavate for slabs and paving to subgrade levels. In addition, remove all topsoil, organic matter, debris and other loose and harmful matter encountered at subgrade level.
- .5 If bedrock is encountered during excavations, immediately report exposure to Project Manager and do not recommence work until instructed to do so by Project Manager.
- .6 Do not expose sulphide bearing bedrock. If sulphide bearing bedrock is encountered during excavations, cover bedrock immediately, report exposure to Project Manager and do not recommence work until instructed to do so by Project Manager.

3.04 BACKFILLING

- .1 Inspection: do not commence backfilling until fill material and spaces to be filled have been inspected and approved by Project Manager.

- .2 Remove snow, ice, construction debris, organic soil and standing water from spaces to be filled.
- .3 Lateral support: maintain even levels of backfill around structures as work progresses, to equalize earth pressures.
- .4 Compaction of subgrade: compact existing subgrade under walks, paving, and slabs on grade, to same compaction as specified for fill. Fill excavated areas with specified material compacted as specified for fill.
- .5 Placing:
 - .1 Place backfill, fill and base course material in 6 inch lifts. Add water as required to achieve specified density.
- .6 Compaction: compact each layer of material to 100% SPD.
- .7 Under slabs and paving:
 - .1 Use structural fill up to bottom of granular base courses.
 - .2 Use NSDTIR Type 1 and Type 2 gravel for base courses.
- .8 In trenches:
 - .1 Up to 12 inches above pipe or conduit: granular for pipe, sand for conduit placed by hand.
 - .2 Over 12 inches above pipe or conduit: native material approved by Project Manager.
- .9 Under sodded areas: use site excavated material to bottom of topsoil except in trenches and within 24 inches of foundations.
- .10 Against foundations except as applicable to trenches and under slabs and paving: excavated material or imported material with no stones larger than 4 inches diameter within 12 inches of structures.

3.05 GRADING

- .1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.
- .2 Grade so that water will drain away from buildings, walls and paved areas, to catch basins and other disposal areas approved by the Project Manager. Grade to be gradual between finished spot elevations shown on drawings. Slope rough grade away from building 1:50 minimum.

- .3 Rough grade to following depths below finish grades:
 - .1 6 inches for sodded areas.
 - .2 22 inches for new heavy duty asphalt pavement
 - .3 15 inches for new standard duty asphalt.
 - .4 11 inches for cast-in-place concrete pavement
- .4 Prior to placing fill over existing ground, scarify surface to depth of 6 inches. Maintain fill and existing surface at approximately same moisture content to facilitate bonding.
- .5 Compact filled and disturbed areas to 100% SPD or highest possible density.

3.06 TESTING

- .1 Inspection and testing of soil compaction will be carried out by testing laboratory designated by ULC. Costs of tests will be paid by HRSB. Refer to **Section 0133 00** Testing Laboratory Services.
- .2 Submit testing procedure, frequency of tests, testing laboratory as designated by ULC or certified testing personnel to Project Manager for approval.

3.07 SHORTAGE AND SURPLUS

- .1 Supply all necessary fill to meet backfilling and grading requirements.
- .2 Dispose of surplus and unsuitable material off site.

3.08 DISPOSAL

- .1 Dispose of all concrete, asphalt and other existing elements to be removed an surplus materials off site in accordance with municipal regulations.

END OF SECTION 31 22 00

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requirements for asphalt pavement and granular base courses, Work includes fine grading, supply and placing of prime coat and hot mix asphalt concrete.

1.02 RELATED WORK

- .1 Site Grading: **Section 31 22 00**
- .2 Painted Traffic Lines and Markings: **Section 32 17 23**

1.03 REFERENCES

- .1 Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance, latest edition.

1.04 SUBMITTALS

- .1 Submit asphalt concrete mix design to project manger for approval.
- .2 Materials to be tested by testing laboratory approved by project manager.
- .3 Submit test certificates showing suitability of materials at least 4 weeks prior to commencing work.
- .4 Inform project manager of proposed source of aggregates and provide access for sampling at least 4 weeks prior to commencing work.
- .5 Submit samples of following materials proposed for use at least 4 weeks prior to commencing work:
 - .1 One 5 L container of asphalt cement.

1.05 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on site bins for recycling.
- .4 Divert unused asphalt materials from landfill to local facility.
- .5 Divert unused aggregate materials from landfill to facility for reuse.

- .6 Unused protective coating material must be disposed of at an official hazardous material collections site.
- .7 Unused protective coating material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .8 Fold up metal banding, flatten and place in designated area for recycling.

PART 2 PRODUCTS

2.01 GRANULAR BASE

- .1 Granular Base: Types 1 and 2 Gravels as specified in the Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance, latest edition.

2.02 APHALT MATERIALS

- .1 Asphalt mix to meet the specified requirements of the Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance, latest edition.
- .2 Asphalt base and surface course thicknesses shall be as shown on the drawings.

2.03 EQUIPMENT

- .1 Pavers mix to meet the specified requirements of the Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance, latest edition.

PART 3 EXECUTION

3.01 SITE INSPECTION / LAYOUT OF WORK

- .1 The contractor shall inspect the site with the project manager to confirm the layout and grading of the work.
- .2 The area of the work listed above shall be clearly marked on site with spray paint or other suitable method and confirmed by project manager, prior to commencement of work.

3.02 SURFACE PREPARATION & INSPECTION

- .1 Obtain approval of subgrade by project manager before placing granular sub-base and base.

3.03 GRANULAR SUB-BASE & GRANULAR BASE

- .1 Place granular base and sub-base material on clean unfrozen surface, free from snow and ice.
- .2 Place granular base and sub-base to compacted thicknesses as indicated. Do not place frozen material.
- .3 Place in layers not exceeding 6 inches mm compacted thickness. Compact to density not less than 100% Standard Proctor Density in accordance with ASTM D698.
- .4 Finished base surface to be within ¼ inch of specified grade, but not uniformly high or low. Contractor to provide topographic survey of gravel surface and obtain approval of granular base by Project Manager before placing asphalt.

3.04 PREPARATION

- .1 Prior to laying mix, clean surfaces of loose and foreign material.

3.05 PRIME COAT

- .1 Apply prime coat to Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance, Division 4, Section 5.

3.06 PAVING

- .1 Transport, place, and compact asphalt concrete mix to Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification for Highway Construction and Maintenance. Construct pavement within specified tolerances to lines, elevations, cross sections and dimensions at locations indicated.
- .2 Thickness of asphalt courses not to vary more than 6 mm from thicknesses indicated, with average thickness as indicated.

3.07 FINISHED TOLLERANCES

- .1 Finished asphalt surface to be within ¼ inch (6 mm) of design elevation but not uniformly high or low.

- .2 Finished asphalt surface not to have irregularities exceeding 1/4 inch (6 mm) when checked with 10 foot (3 m) long straight edge placed in any direction.

3.08 DEFECTIVE WORK

- .1 Correct irregularities which develop before completion of rolling by loosening surface mix and removing or adding material as required. If irregularities or defects remain after final compaction, remove surface course promptly and lay new material to form true and even surface and compact immediately to specified density.
- .2 Repair areas showing checking, rippling, or segregation.
- .3 Adjust roller operation and screed settings on paver to prevent further defects such as rippling and checking of pavement.
- .4 Replace defective asphalt areas showing checking, rippling or segregation, by cutting neat rectangular-shaped holes and patching with appropriate primers.

3.09 TESTING

- .1 Inspection and testing of asphalt pavement will be carried out by designated testing laboratory.
- .2 Costs of tests will be paid by owner.

3.10 PROTECTION

- .1 Keep traffic off newly paved areas until paving surface temperature has cooled below 38 degrees C. Do not permit stationary loads on pavement until 24 h after placement.
- .2 Arrange paving schedule so as not to interfere with normal use of premises.

END OF SECTION 32 12 16

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requirement for cast-in-place concrete pavement, curbs and curb and gutter granular base course.

1.02 RELATED SECTIONS

- .1 Cast-in-place Concrete: **Section 03 33 00**
- .2 Site Grading: **Section 31 22 00**

1.03 REFERENCES

- .1 Canadian Standards Association (CSA).
 - .1 CAN/CSA-A23.1-04 / A23.2-04, Concrete Materials and Methods of Concrete Construction / Methods of Test and Standard Practices for Concrete.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-1.2-M89, Boiled Linseed Oil.
 - .2 CAN/CGSB-3.3-99 (March 2004), Kerosene.
- .3 American Society for Testing and Materials (ASTM).
 - .1 ASTM D698-91, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 600 KN-m/m;.
- .4 Nova Scotia Department of Transportation Standard Specification for Highway Construction and Maintenance Manual, latest edition.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Fill material: to **Section 32 22 00** - Site Grading.
- .2 Granular Base: Type 1 Gravel as specified in the Nova Scotia Department of Transportation Standard Specification for Highway Construction and Maintenance Manual, latest edition.
- .3 Concrete mixes and materials: to **Section 03 33 00** - Cast-in-Place Concrete. Concrete strength 35 MPA after 28 days.
- .4 Joint filler: to **Section 03 33 00** - Cast-in-Place Concrete.

- .5 Non-staining mineral type form release agent: chemically active release agents containing compounds that react with free lime to provide water soluble soap.
- .6 Boiled linseed oil: to CAN/CGSB-1.2.
- .7 Kerosene: to CAN/CGSB-3.3.

PART 3 EXECUTION

3.01 AUTHORITY

- .1 Granular base material, thickness, compaction and related work to be approved by Project Manager.

3.02 GRADE PREPARATION

- .1 Do grade preparation work in accordance with **Section 31 22 00** - Site Grading.
- .2 Construct embankments using excavated material free from organic matter or other objectionable materials. Dispose of surplus and unsuitable excavated material off site.
- .3 Place fill in maximum 6 inch layers and compact to 100% Standard Proctor Density to ASTM D698.
- .4 When constructing embankment, provide minimum 18 inch shoulders, where applicable, outside neat lines of concrete.

3.03 GRANULAR BASE

- .1 Obtain Project Manager's approval of subgrade before placing granular base.
- .2 Place granular base material to lines, widths, and depths as indicated, maximum 6 inch layers.
- .3 Compact granular base to 100% Standard Proctor Maximum Dry Density to ASTM D698.

3.04 CONCRETE

- .1 Obtain Consultant's approval of granular base prior to placing concrete.
- .2 Do concrete work in accordance with **Section 03 33 00** - Cast-in-Place Concrete.

- .3 Immediately after floating, give pavement surface uniform broom finish to produce regular corrugations not exceeding 1/16 inch deep, by drawing broom in direction normal to centre line.
- .4 Provide edging with ½ inch radius edging tool.
- .5 Slip-form pavers equipped with string line system for line and grade control may be used if quality of work acceptable to Project Manager can be demonstrated. Hand finish surfaces when directed by Project Manager.

3.05 TOLERANCE

- .1 Finish surfaces to within 1/8 inch in 10 feet as measured with 10 foot straightedge placed on surface.

3.06 EXPANSION AND CONTRACTION JOINTS

- .1 Install tooled transverse contraction joints after floating, when concrete is stiff, but still plastic, at intervals not greater than 6 feet. Saw cutting may be allowed if done as soon as concrete has set sufficiently to resist raveling and before shrinkage cracks appear.
- .2 Install expansion joints at intervals of 30 feet.
- .3 Install expansion joints around manholes and catch basins and along length adjacent to concrete curbs, catch basins, buildings, or permanent structures.
- .4 When sidewalk is adjacent to curb, make joints of curb, gutters and sidewalk coincide.
- .5 Install joint filler in expansion joints in accordance with **Section 03 33 00 - Cast-in-Place Concrete**.
- .6 Seal expansion joints with sealant approved by Project Manager.

3.07 CURING

- .1 Cure concrete by adding moisture continuously in accordance with CAN/CSA-A23.1 to exposed finished surfaces for at least 1 day after placing, or sealing moisture in by curing compound approved by Project Manager.
- .2 Where burlap is used for moist curing, place two prewetted layers on concrete surface and keep continuously wet during curing period.

- .3 Apply curing compound evenly to form continuous film in accordance with manufacturer's requirements.

3.08 BACKFILL

- .1 Allow concrete to cure for 7 days prior to backfilling.
- .2 Backfill to designated elevations with material approved by Project Manager. Compact and shape to required contours as indicated or as directed by Project Manager.

3.09 LINSEED OIL TREATMENT

- .1 After concrete has cured for specified curing time and when surface of concrete is clean and dry, apply two coats of linseed oil mixture uniformly to surfaces of curbs, walks and gutters.
- .2 Linseed oil mixture to consist of 50% boiled linseed oil and 50% mineral spirits by volume.
- .3 Apply treatment when air temperature above 10 degree celsius.
- .4 Apply first coat at 135 mL/m².
- .5 Apply second coat at 90 mL/m² when first coat has dried.

3.10 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish tools and equipment.

END OF SECTION 32 16 15

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requirement for pavement markings.

1.02 RELATED WORK

- .1 Asphalt Concrete Pavement: **Section 32 12 16**

1.03 REFERENCES

- .1 CAN/CGSB-1.5-M91, Low Flash Petroleum Spirits Thinner.
.2 CGSB 1-GP-12c-68, Standard Paint Colours.
.3 CGSB 1-GP-71-83, Method, of Testing Paints and Pigments.
.4 CGSB 1-GP-74M-79, Paint, Traffic, Alkyd.
.5 Transportation Association of Canada Manual on Uniform Traffic Control Devices, latest edition.

1.04 SAMPLES

- .1 Submit samples in accordance with **Section 01 33 00** - Shop Drawings, Product Data, Samples and Mock-ups.
.2 Submit to Consultant following material sample quantities at least 4 weeks prior to commencing work.
.1 1 litre sample of paint.
.3 Mark sample with name of project and its location, paint manufacturer's name and address, name of paint, CGSB specification number, formulation number and batch number.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Paint:
 - .1 To CGSB 1-GP-74M, alkyd traffic paint.
 - .2 Colours: to CGSB 1-GP-12C, white, yellow and blue.
- .2 Thinner: to CAN/CGSB-1.5.

PART 3 EXECUTION

3.01 EQUIPMENT REQUIREMENTS

- .1 Paint applicator to be an approved pressure type mobile distributor capable of applying paint in single, double and dashed lines. Applicator to be capable of applying marking components uniformly, at rates specified, and to dimensions as indicated, and to have positive shut-off.

3.02 CONDITION OF SURFACES

- .1 Pavement surface to be dry, free from ponded water, frost, ice, dust, oil, grease and other foreign materials.

3.03 APPLICATION

- .1 Pavement markings to be marked on site and approved by Consultant prior to application of paint.
- .2 Apply lines as indicated.
- .3 Symbols, lines and arrows to conform to the Transportation Association of Canada Manual on Uniform Traffic Control Devices, latest edition.
- .4 Paint colour: white
- .5 Unless otherwise approved by Consultant, apply paint only when air temperature is above 10 degrees C, wind speed is less than 60 km/h and no rain is forecast within next 4 h.

- .6 Apply paint evenly at rate recommended by paint supplier.
- .7 Do not thin paint.
- .8 Paint lines to be of uniform colour and density with sharp edges.

3.04 TOLERANCE

- .1 Paint markings to be within plus or minus ¼ inch of dimensions indicated.
- .2 Completely remove incorrect markings.

3.05 PROTECTION OF COMPLETED WORK

- .1 Protect pavement markings until dry.

END OF SECTION 32 17 23

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requires for the supply, placement and grading of soil.

1.02 RELATED WORK

- .1 Site Grading: **Section 32 22 00**
- .2 Submittal Procedures: **Section 01 33 00**

1.03 SOURCE QUALITY CONTROL

- .1 Advise Project Manager of source of topsoil to be utilized 7 days in advance of starting work.
- .2 All topsoil used in this project shall be tested for compliance with soil texture specification by a laboratory approved by Project Manager. Soil sampling, testing and analysis to be in accordance with Provincial regulations and standards. Contractor will arrange and pay for cost of tests. Contractor shall submit copies of Soils Texture Report to the Project Manager for approval prior to delivery to the site.
- .3 Contractor is responsible for analysis of soil nutrients and requirements for amendments to topsoil as specified. All soil shall be tested by the N.S. Dept. of Agriculture & Marketing laboratory in Truro, NS and a copy of this analysis made available to the Project Manager prior to delivery of soil to the site. The Contractor shall make whatever modifications to the topsoil which are stated in the analysis. All soil shall be re-tested for compliance prior to acceptance. Contractor shall pay for the costs of all testing, as specified in **Section 01 33 00**.

1.04 SUBMITTALS

- .1 Submit copies of the topsoil analysis described above.

PART 2 PRODUCTS

2.01 TOPSOIL

- .1 Topsoil: imported material consisting of a mixture of mineral particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth. Topsoil stripped from the site may be used as project topsoil provided it meets the following specifications.
- .2 Soil texture: sandy loam, based on The Canadian System of Soil Classification, to consist of 20 to 70% sand and contain 2 to 10% organic matter by weight.
- .3 Fertility: major soil nutrients present in following ratios:
 - .1 Nitrogen (N): 20 to 40 micrograms of available N per gram of topsoil.
 - .2 Phosphorus (P): 10 to 20 micrograms of phosphate per gram of topsoil.
 - .3 Potassium (K): 80 to 120 micrograms of potash per gram of topsoil.
 - .4 Calcium, magnesium, sulfur and micro-nutrients present in balanced ratios to support germination and/or establishment of intended vegetation.
- .4 Ph value: 6.5 to 8.0
- .5 Contain no toxic elements or growth inhibiting materials.
- .6 Free from:
 - .1 Debris and stones over 1 inch diameter.
 - .2 Course vegetative material, ½ inch diameter and 4 inches in length, occupying more than 2% of soil volume.
- .7 Consistency: friable when moist.

2.02 PLANTING SOIL

- .1 Clay Loam to meet the following:
 - .1 an average of 35 percent by volume of sand content
 - .2 no more than 40 percent clay or silt content by volume (particles smaller than 0.16 mm)

- .3 no less than 10 percent dry weight of organic matter (carbon content), well decomposed
- .4 lime to bring the pH value to average 6.2 to 7.0 as per soil test or, lime to bring the pH value to meet the needs of the specific landscape plants.
- .2 Free from:
 - .1 Debris and stones over 25 mm diameter.
 - .2 Course vegetative material, 12 mm diameter and 100 mm length, occupying more than 2% of soil volume.
 - .3 Weeds and weed seed.

2.03 SOIL AMENDMENTS

- .1 Peatmoss:
 - .1 Derived from partially decomposed species of Sphagnum Mosses.
 - .2 Elastic and homogeneous, brown in colour.
 - .3 Free of wood and deleterious material which could prohibit growth.
 - .4 Shredded particle minimum size: ¼ inch mm.
 - .5 Acidity range: 4.5 - 6 pH.
- .2 Limestone:
 - .1 Ground agricultural limestone containing minimum calcium carbonate equivalent of 85%.
 - .2 Gradation requirements: percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve.
- .3 Fertilizer:
 - .1 Complete, commercial, with 35% soluble nitrogen.
 - .2 Well aged manure, free of seeds.

PART 3 EXECUTION

3.01 PREPARATION OF SUBGRADE

- .1 Verify that grades are correct. If discrepancies occur, notify Project Manager and do not commence work until instructed by Project Manager.
- .2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.

- .3 Remove debris, roots, branches, stones in excess of 1 inch diameter and other deleterious materials. Remove soil contaminated with calcium chloride, toxic materials and petroleum products. Remove debris which protrudes more than 50 mm above surface. Dispose of removed material off site.
- .4 Course cultivate entire area which is to receive topsoil to depth of 4 inches. Cross-cultivate those areas where equipment used for hauling and spreading has compacted soil.

3.02 PLACING AND SPREADING OF TOPSOIL

- .1 Place topsoil after Project Manager has accepted subgrade and placement of sand.
- .2 Spread topsoil in uniform layer over unfrozen subgrade free of standing water.
- .3 For sodded areas keep topsoil 1 inch below finished grade.
- .4 Spread topsoil to following minimum depths after settlement and compaction to 90% Standard Proctor density:
 - .1 6 inches for sodded areas
- .5 Manually spread topsoil/planting soil around trees, shrubs and obstacles.

3.03 FINISH GRADING

- .1 Grade to eliminate rough spots and low areas and ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
- .2 Consolidate topsoil to required bulk density using equipment approved by Project Manager. Leave surfaces smooth, uniform and firm against deep footprinting.

3.04 PLACING AND SPREADING OF PLANTING SOIL

- .1 Place planting soil after Project Manager has accepted preparation of planting areas and planters.
- .2 Place planting soil to depths indicated on the drawings.
- .3 Manually spread planting soil around trees, shrubs and obstacles.

3.05 **ACCEPTANCE**

- .1 Project Manager will inspect topsoil in place and determine acceptance of material, depth of topsoil and finish grading. Contractor will test soil in place. Approval of topsoil material subject to soil testing and analysis.

3.06 **RESTORATION OF STOCKPILE SITES**

- .1 Restore stockpile sites acceptable to Project Manager.

3.07 **SURPLUS MATERIALS**

- .1 Dispose of materials not required off site.

END OF SECTION 32 19 21

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 To provide and install all chain link fences and gates at locations indicated in the drawings.

1.02 RELATED WORK

- .1 Cast-in-place Concrete: **Section 03 33 00**

1.03 REFERENCES

- .1 CAN/CGSB-138.1-M Fabric for Chain Link Fence
.2 CAN/CGSB-138.2-M Steel Framework for Chain Link Fence
.3 CAN/CGSB-138.3-M Installation of Chain Link Fence
.4 CAN/CGSB-138.4-M Gates for Chain Link Fence
.5 CAN/CGSB-1.181 Organic Zinc-Rich Coating

1.04 CERTIFICATES

- .1 Submit manufacturer's test data and certification that products and materials meet the requirements of the section.

1.05 HANDLING AND STORAGE

- .1 Handle and store fence materials in such a manner as to avoid damage. Do not damage coatings.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Concrete mixes and materials: to **Section 03 33 00** - Cast-in- place Concrete. Concrete, compressive strength: 20 MPa minimum at 28 days.

- .2 Chain-link fence fabric and coating : to CAN/CGSB-138.1.
 - .1 Type 1, Class A, galvanized 9 gauge wire, knuckled selvedge top and bottom.
 - .2 Height of fabric: as indicated.
- .3 Posts, braces and rails: to CAN/CGSB-138.2. Schedule 40, galvanized steel pipe. Dimensions in accordance with the following:

FENCE HEIGHT (Metres)

	1.0	1.2	1.5	1.8
<u>LINE POSTS</u>				
O.D. (mm)	48.3	48.3	48.3	60.3
Length (m)	1.8	2.0	2.3	2.6

END, GATES & CORNER POSTS

O.D. (mm)	73.0	73.0	73.0	88.9
Length (m)	2.1	2.3	2.6	2.9

RAILS

O.D. (mm)	42.2	42.2	42.2	42.2
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FENCE HEIGHT (Metres)

	2.1	2.4	3.0	3.6
<u>LINE POSTS</u>				
O.D. (mm)	60.3	60.3	73.0	73.0
Length (m)	2.9	3.8	4.4	5.0

END, GATES & CORNER POSTS

O.D. (mm)	88.9	88.9	114.3	114.3
Length (m)	3.2	3.5	4.7	5.3

RAILS

O.D. (mm)	42.2	42.2	42.2	42.2
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- .4 Bottom tension wire: to CAN/CGSB-138.1, Table 2, single strand, galvanized steel wire, 5 mm diameter.
- .5 Tie wire fasteners: to CAN/CGSB-138.1, Table 4 aluminum wire.
- .6 Tension bar: to ASTM A525M, 5 mm x 20 mm minimum galvanized steel.

- .7 Fittings and hardware: to CAN/CGSB-138.2, cast aluminum alloy, galvanized steel or malleable or ductile cast iron. Tension bar bands: 3 mm x 20 mm minimum galvanized steel or 5 mm x 20 mm minimum aluminum. Post caps to provide waterproof fit, to fasten securely over posts and to carry top rail. Turnbuckles to be drop forged.
- .8 Organic zinc rich coating: to CAN/CGSB-1.181.

PART 3 EXECUTION

3.01 GRADING

- .1 Remove debris and correct ground undulations along fence line to obtain smooth uniform gradient between posts. Provide clearance between bottom of fence and ground surface of 30 mm to 50 mm.

3.02 ERECTION OF FENCE

- .1 Erect fence along lines as indicated and in accordance with CAN/CGSB-138.3.
- .2 Excavate post holes to depth of 1.2 metres by methods approved by Project Manager. Core drill post holes in top of precast concrete retaining wall as indicated on the drawings.
- .3 Space line posts 3.0 m apart max., measured parallel to ground surface.
- .4 Install end posts at end of fence and at buildings. Install gate posts on both sides of gate openings.
- .5 Install straining posts at sharp changes of grade and where directed by Project Manager.
- .6 Install corner posts where change in alignment exceeds 10 degrees.
- .7 Install end posts at end of fence and at buildings. Install gate posts on both sides of gate openings.
- .8 Place concrete in post holes, then embed posts in concrete to depths indicated. Extend concrete to underside of pavement. Brace to hold posts in plumb position and true to alignment and elevation until concrete has set.
- .9 When setting posts in bedrock, depth and diameter of drill holes and grouting compound shall be as approved by Project Manager.

- .10 Do not install fence fabric until concrete has cured sufficiently.
- .11 Install brace between end and gate posts and nearest line post, placed in centre of panel and parallel to ground surface. Install braces on both sides of corner and straining posts in similar manner.
- .12 Install caps on posts and gate frames.
- .13 Install top rail between posts and fasten securely to posts and secure waterproof caps.
- .14 Install bottom tension wire; stretch tightly and fasten securely to end, corner, gate and straining posts with turnbuckles and tension bar bands.
- .15 Lay out fence fabric. Stretch tightly to tension recommended by manufacturer and fasten to end, corner, gate and straining posts with tension bar secured to post with tension bar bands spaced at 300 mm intervals. Knuckled selvedge at top and bottom
- .
- .16 Secure fabric to top rails, line posts and bottom tension wire with tie wires at 450 mm intervals. Give tie wires minimum two twists.

3.03 TOUCH UP

- .1 Clean damaged surfaces with wire brush, removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc-rich paint.

3.04 CLEANING

- .1 Clean and trim areas disturbed by operations to approval of Project Manager. Reinststate disturbance to existing surfaces. Dispose of surplus materials.
- .

END OF SECTION 32 31 13

PART 1 GENERAL

1.01 WORK INCLUDED

- .1 This section specifies requirements for the supply, placement and maintenance of sod.

1.02 RELATED WORK

- .1 Soil Placement and Grading: **Section 32 19 21**

1.03 SCHEDULING

- .1 Schedule sod laying to coincide with preparation of soil surface.

1.04 WARRANTY PERIOD

- .1 1 year from date of acceptance.

PART 2 PRODUCTS

2.01 MATERIALS

- .1 Number One Turfgrass Nursery Sod: Sod that has been especially sown and cultivated in nursery fields as turfgrass crop.
 - .1 Number One Kentucky Bluegrass Sod - Fescue Sod: Nursery Sod grown solely from seed mixture of cultivars of Kentucky Bluegrass and Chewing Fescue or Creeping Red Fescue, containing not less than 40% Kentucky Bluegrass cultivars and 30% Chewing Fescue or Creeping Red Fescue cultivars.
- .2 Water:
 - .1 To be supplied by Contractor.
 - .2 Potable, free of impurities.
- .3 Fertilizer:
 - .1 To Canada "Fertilizers Act" and "Fertilizers Regulations".
 - .2 Complete, synthetic, slow release with 65% of nitrogen content in water-insoluble form.

2.02 **SOURCE QUALITY CONTROL**

- .1 Obtain approval from Project Manager of sod source.
- .2 When proposed source of sod is approved, use no other source without written authorization.

PART 3 **EXECUTION**

3.01 **PREPARATION**

- .1 Verify that grades are correct and prepared in accordance with **Section 32 19 21 - Soil Placement and Grading**. If discrepancies occur, notify Project Manager and do not commence work until instructed by Project Manager.
- .2 Do not perform work under adverse field conditions such as frozen soil, excessively wet or dry soil or soil covered with snow, ice, or standing water.
- .3 Fine grade surface free of humps and hollows to smooth, even grade, to contours and elevations indicated, to tolerance of plus or minus ¼ inch, surface to drain naturally.
- .4 Remove and dispose of weeds; debris; stones 1 inch in diameter and larger; soil contaminated by oil, gasoline and other deleterious materials; off site.
- .5 Cultivate fine grade approved by Project Manager to 1 inch depth immediately prior to sodding.

3.02 **SOD PLACEMENT**

- .1 Lay sod within 36 h of being lifted.
- .2 Lay sod sections in rows, longitudinally, along contours of slopes, joints staggered. Butt sections closely without overlapping or leaving gaps between sections. Cut out irregular or thin sections with sharp implements.
- .3 Provide close contact between sod and soil by light rolling. Use of heavy roller to correct irregularities in grade is not permitted.

3.03 FERTILIZING PROGRAM

- .1 Fertilize during establishment and warranty periods to following program:

<u>Date</u>	<u>Date</u>	<u>Rate</u>	<u>Ratio</u>
April 15 to May 15		3-0-0	0.33 lb/sq.y
July 1 to July 15		3-1-3	0.33 lb/sq.y
Sept.15 to Oct. 15		1-2-3	0.33 lb/sq.y

3.04 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Perform following operations from time of installation until acceptance.
- .2 Water sodded areas in sufficient quantities and at frequency required to maintain optimum soil moisture condition to depth of 3-4 inches.
- .3 Cut grass to 2 inches when it reaches height of 4 inches. Remove clippings which will smother grassed areas.
- .4 Maintain sodded areas weed free.
- .5 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.

3.05 ACCEPTANCE

- .1 Turfgrass Nursery Sod areas will be accepted by Project Manager provided that:
- .1 Sodded areas are properly established.
 - .2 Sod is free of bare and dead spots and without weeds.
 - .3 No surface soil is visible from height of 5 feet when grass has been cut to height of 2 inches.
 - .4 Sodded areas have been cut minimum 2 times, and within 24 h prior to acceptance.
 - .5 Fertilizing in accordance with fertilizer program has been carried out at least once.
- .2 Areas sodded in fall will be accepted in following spring one month after start of growing season provided acceptance conditions are fulfilled.

3.06 MAINTENANCE DURING WARRANTY PERIOD

- .1 Perform following operations from time of acceptance until end of warranty period:

- .1 Water sodded areas at weekly intervals to obtain optimum soil moisture conditions to depth of 4 inches.
- .2 Repair and resod dead or bare spots to satisfaction of Project Manager.
- .3 Cut grass to a height of 2 inches when it reaches height of 4 inches and remove clippings that will smother grass
- .4 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.
- .5 Eliminate weeds by mechanical or chemical means using methods approved to extent acceptable to Project Manager.

END OF SECTION 32 91 21

PART 1 **GENERAL**

1.01 **WORK INCLUDED**

- .1 This section specifies requirements for the transplanting of existing trees, shrubs and perennials, complete with all related components and accessories and the warranty and maintenance of all plant material for a period of 1 year from date of acceptance.

1.02 **RELATED WORK**

- .1 Section 01 33 00 - Submittal Procedures
- .2 Section 01 74 21 - Waste Management and Disposal
- .3 Section 32 91 21 - Soil Placement and Grading

1.03 **REFERENCE STANDARDS**

- .1 Do trees, shrubs and ground covers work in accordance with the Metric Guide Specification for Nursery Stock of the Canadian Nursery Trades Association, latest edition.
- .2 Work to be done under the supervision of a Certified Horticulturalist, Red Seal or equivalent.

1.04 **SCHEDULING**

- .1 Schedule digging of new plant holes and plant material and transplanting so that all work is completed within one day.

1.05 **SAMPLES**

- .1 Mulch.

1.07 **PROTECTION**

- .1 Protect plant material from frost, excessive heat, wind and sun.

1.07 **WARRANTY**

- .1 The Contractor hereby warrants that plant material will remain free of defects in for 1 year following date of Acceptance.
- .2 End-of-warranty inspection will be conducted by Project Manager.

- .3 Project Manager reserves the right to extend Contractor's warranty responsibilities for an additional year if, at end of initial warranty period, leaf development and growth is not sufficient to ensure future survival.

1.08 REPLACEMENTS

1. During warranty period, remove from site any plant material that has died or failed to grow satisfactorily as determined by Project Manager.
2. Replace plant material at the beginning of the next planting season if balled and burlapped or wire basket material. Container grown plants of equal size can be replaced during suitable growing conditions.
3. Extend warranty period.

PART 2 PRODUCTS

2.01 PLANT MATERIAL

- .1 Type of root preparation, sizing, grading and quality: comply with Metric Guide Specification for Nursery Stock, Latest Edition of Canadian Nursery Trades Association.
- .2 Source of plant material: grown in Zone 5b in accordance with Agriculture Canada Plant Hardiness Zone Map.
- .3 Free of disease, insects, defects or injuries and structurally sound with strong fibrous root system.
- .4 Root pruned regularly, but not later than one growing season prior to arrival on site.
- .5 Trees:
 - .1 with straight trunks, well and characteristically branched for species.
 - .2 half root pruned during each of two successive growing seasons, the latter at least one growing season prior to arrival on site.

2.02 WATER

- .1 To be supplied by Contractor.
- .2 Free of impurities that would inhibit plant growth.

2.03 **MULCH**

- .1 Shredded bark: varying in size from 1 to 3 inches, at least 2 years old, from coniferous trees.

2.04 **FERTILIZER**

- .1 Complete slow release commercial type ratio as determined by soil test. Organic product acceptable substitute, provided it will supply the nutrient requirements determined by soil sample test. Fertilizer not to contain a herbicide.

2.05 **STAKES**

- .1 100 mm diameter x 2400 long untreated wood posts.

2.06 **GUYING WIRE**

- .1 Galvanized steel, 3 mm wire.

2.07 **GUYING COLLAR**

- .1 Tube: plastic, 12mm diameter, nylon reinforced.

PART 3 **EXECUTION**

3.01 **PRE-PLANTING OPERATIONS**

- .1 All locations to be marked on site by Contractor and approved by Project Manager prior to commencement of work.
- .2 Do not plant trees under overhead utility lines.
- .3 Remove damaged roots and branches from plant material.

3.02 **EXCAVATION & PREPARATION OF PLANTING BEDS**

- .1 Ensure that establishment of sub-grade for planting beds is as specified on the drawings and has been approved by Project Manager.
- .2 Preparation of planting beds is specified in Section 32 91 21 – Soil Placement and Grading.
- .3 For individual planting holes:
 - .1 Stake out location and obtain approval from Project Manager.
 - .2 Excavate to depth and width as indicated.

- .3 Remove subsoil, rocks, roots, debris and toxic material from excavated material that will be used as planting soil for trees and individual shrubs. Dispose of excess material.
- .4 Scarify sides of planting hole.
- .5 Remove water which enters excavations prior to planting. Notify Project Manager if water source is ground water.
- .6 Place trees in pits. Place stakes on either side of root ball and drive into subgrade.

3.03 TRANSPLANTING

- .1 Dig trees using large excavator or other approved equipment capable of digging, removing and relocating trees with trees with minimal damage.
- .2 Dig around tree at the drip line and scoop out root ball with minimal disturbance to roots.
- .3 Immediately following digging, move tree to new location.
- .4 Plant vertically in locations as indicated. Orient plant material to give best appearance in relation to structure, roads and walks.
- .5 Backfill with planting soil in 150 mm lifts. Tamp each lift to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated soil, backfill to finish grade.
- .6 Form watering saucer as indicated.
- .7 Water plant material thoroughly after planting operations are complete. Ensure that transplanted trees are kept well watered until freeze up..
- .8 After soil settlement has occurred, fill with soil to finish grade.

3.04 TREE SUPPORTS

- .1 Install tree supports as indicated.
- .2 Drive stakes minimum 300 mm into undisturbed soil beneath root ball Ensure stakes are secure, vertical and un-split.
- .3 Install 2 guying collars above lowest branch crotch a minimum 1500mm above grade.

- .4 Thread guying wire through collar tube. Twist wire to form collar and secure firmly to stake. Cut off excess wire. Ensure collar is minimum 25 mm diameter larger than tree.
- .5 After tree supports have been installed, pruned and removed broken branches with clean, sharp tools.

3.05 MULCHING

- .1 Ensure soil settlement has been corrected and weeds removed prior to mulching.
- .2 Water plant material thoroughly prior to placement of mulch.
- .3 Spread mulch to depth indicated.

3.06 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Once plant material is fully installed and inspected by the Project Manager, the Establishment Period will begin and continue until the date of Acceptance, at which time the project shall be considered substantially complete and the warranty period will begin.
- .2 Perform following maintenance operations during the Establishment Period until date of Acceptance as determined by Project Manager.
- .3 Water to maintain soil moisture for optimum establishment, growth and health of plant material without causing erosion.
- .4 Remove weeds monthly. Planting areas to be maintained 100% weed free.
- .5 Replace or respread damaged, missing or disturbed mulch.
- .6 Apply pesticides in accordance with Federal, Provincial and Municipal regulations as and when required to control insects, fungus and disease. Obtain product approval from Project Manager prior to application.
- .7 Keep stakes and guy wires in proper repair and adjustment.
- .8 Apply fertilizer in early spring at manufacturer's suggested rate and as required by plant material.
- .9 Remove dead or broken branches from plant material.
- .10 Remove and replace dead plants, and plants not in healthy growing condition. Make replacements in same manner as specified for original plantings.

3.07 **ACCEPTANCE**

- .1 Plant material will be accepted by Project Manager 90 days after planting operation is completed provided plant material exhibits healthy growing condition and is free from disease, insects and fungal organisms and planting areas are 100% weed free.
- .2 Plant material installed less than 90 days prior to frost will be accepted in following spring, 30 days after start of growing season provided acceptance conditions are fulfilled.

3.08 **MAINTENANCE DURING WARRANTY PERIOD**

- .1 Warranty Period to commence on date of Acceptance and continue for one year following date of Acceptance.
- .2 From time of acceptance by Project Manager to end of warranty period, perform following maintenance operations.
- .3 Water to maintain soil moisture conditions for optimum growth and health of plant material without causing erosion. Contractor shall ensure that plant material receives sufficient water during hot, dry periods.
- .4 Reform damaged watering saucers.
- .5 Remove weeds monthly. Planting areas to be maintained 100% weed free.
- .6 Replace or respread damaged, missing or disturbed mulch.
- .7 Apply fertilizer in early spring at manufacturer's suggested rate and as required by plant material.
- .8 Keep stakes and guy wires in proper repair and adjustment.
- .9 Remove and replace dead plants and plants not in healthy growing condition. Make replacements with same species as original plantings.
- .10 Submit monthly written reports to Project Manager identifying:
 - .1 Maintenance work carried out.
 - .2 Development and condition of plant material.
 - .3 Preventative or corrective measures required which are outside Contractor's responsibility.
- .11 Notify Project Manager when warranty period is completed to arrange inspection and transfer of maintenance responsibility to owner.

3.09 **CLEAN-UP**

- .1 Immediately, remove materials which have spilled onto adjacent surfaces during work of this contract.

END OF SECTION **32 93 10**

CLIENT :



PROJECT TITLE :

EASTERN SHORE HIGH SCHOOL RETROFIT

LANDSCAPE PACKAGE - ISSUED FOR TENDER

PROJECT LOCATION:

EASTERN SHORE, N.S.

PROJECT NUMBER:

159-00214-00

CONTRACT NUMBER:

DATE:

08.25.2015

DRAWING LIST

LANDSCAPE

L-101 - SITE PLAN: LAYOUT AND GRADING
L-102 - SITE WORK DETAILS

ARCHITECTURAL

A-101 - EXTERIOR SIGNAGE DETAILS

STRUCTURAL

S-101 - SIGN BASE PLAN, SECTIONS AND NOTES

ELECTRICAL

E-001 - ELECTRICAL SITE PLAN
E-002 - ELECTRICAL DETAILS
E-003 - ELECTRICAL SPECIFICATIONS

ARCHITECT:

ARCHITECTURE | 49

1640 Market Street, Halifax, Nova Scotia, Canada, B3J 2C8
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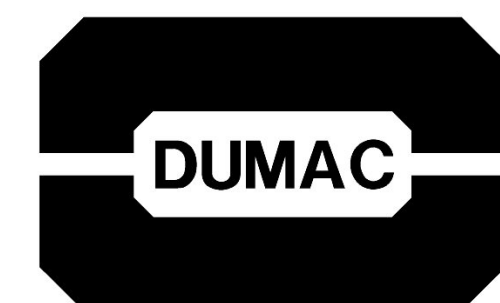
LANDSCAPE:

Gordon Ratcliffe
LANDscape ARCHITECTS

STRUCTURAL:



MECHANICAL / ELECTRICAL:



DUMAC ENERGY LTD.
CONSULTING ENGINEERS
752 BEDFORD HIGHWAY
HALIFAX, N.S.
Tel: (902) 457-1300
Fax: (902) 457-1777
Email: dumac@dumac.ns.ca

GENERAL NOTES

- EXISTING LOCATIONS AND ELEVATIONS TAKEN FROM PLAN OF SURVEY PREPARED BY SDMM LIMITED, AUGUST 24, 2015.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS AND THE PROJECT SPECIFICATIONS.
- ALL LOCATIONS SHOWN ARE APPROXIMATE. ALL NEW LOCATIONS AND ELEVATIONS TO BE MARKED ON SITE BY CONTRACTOR AND APPROVED BY PROJECT MANAGER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- CONTRACTORS TO PROVIDE AND MAINTAIN ENVIRONMENTAL PROTECTION MEASURES. ALL WORK TO BE CONDUCTED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE NS DEPT. OF ENVIRONMENT.
- CONTRACTOR TO CONFIRM LOCATION OF EXISTING SANITARY SEWER LINE S AND ALL OTHER EXISTING UNDERGROUND SERVICES. PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL DISTURBANCE TO EXISTING UNDERGROUND SERVICES TO BE REPAIRED BY CONTRACTOR AT CONTRACTOR'S EXPENSE.
- ALL PRECAST CONCRETE PRODUCTS INCLUDING CATCH BASINS, STORM PIPE AND HEADWALLS TO BE AS SUPPLIED BY SHAW PRECAST SOLUTIONS, OR APPROVED EQUAL. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL PRODUCTS TO CONSULTANT FOR APPROVAL PRIOR TO PROCUREMENT.
- ALL NEW CONCRETE CURB TO BE CURB ONLY EXCEPT WHERE MOUNTABLE CURB IS INDICATED AT BARRIER FREE PARKING AND WHERE CURB AND GUTTER IS INDICATED ALONG SOUTH SIDE OF BUS DRIVEWAY.
- ALL CURB RAMP TO BE BARRIER FREE IN ACCORDANCE WITH CSA B651-12. CURB RAMP TO BE 7'-6" WIDE.
- ALL DISTURBED AREAS TO BE GRADED EVEN AND COVERED WITH 6 INCHES OF TOPSOIL AND SODDED.

TRAFFIC SIGN SCHEDULE

SYMBOL	QUANTITY	DESCRIPTION
A	4	STOP
B	1	DO NOT ENTER
C	2	DO NOT ENTER BUSES AND AUTHORIZED VEHICLES ONLY MON-FRI 7:30 AM - 4:30 PM SEPT. 1 - JUNE 30
D	3	BARRIER FREE PARKING
E	3	ONE WAY (2 WITH ARROW LEFT, 1 WITH ARROW RIGHT)
F	2	NO PARKING MON-FRI 7:30 AM - 4:30 PM

LEGEND

- EXISTING ELEVATION: $\times 100.00$
- PROPOSED ELEVATION: $\square 100.00$
- DIRECTION / GRADIENT OF SURFACE DRAINAGE: $\rightarrow 2.0\%$
- NEW HEAVY DUTY ASPHALT PAVEMENT: $\square 1$ (L102)
- NEW STANDARD DUTY ASPHALT PAVEMENT: $\square 2$ (L102)
- NEW CAST-IN-PLACE CONCRETE PAVEMENT: $\square 3$ (L102)
- NEW CATCH BASIN: 40 INCH DIA. PRECAST CONCRETE WITH S441 FRAME AND GRATE (SEE NOTE NO. 6): \bullet CB
- EXISTING LIGHT POLES TO BE REMOVED (TOTAL 5): \otimes
- NEW LIGHT POLES (SEE ELEC. DWG): \oplus
- NEW TRAFFIC SIGNS: $\square 9$ (L102)
- MOUNTABLE ROLLED CURB (AT BARRIER FREE PARKING): $\square 6$ (L102)

CONSTRUCTION PHASING / TEMPORARY FENCING

- ACCESS TO THE SCHOOL IS TO BE MAINTAINED AT ALL TIME DURING CONSTRUCTION. THE PHASING AND SCHEDULING OF THE WORK IS TO BE COORDINATED WITH SCHOOL STAFF AND THE PROJECT MANAGER.
- SAFE PUBLIC ACCESS TO THE SCHOOL AND SITE SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL SUPPLY AND MAINTAIN TEMPORARY FENCING (MODULOC OR APPROVED EQUAL) AS REQUIRED TO ENSURE PUBLIC SAFETY DURING ALL PHASES OF THE WORK. FENCE LOCATIONS ARE TO BE COORDINATED WITH SCHOOL STAFF AND THE PROJECT MANAGER.

DEMOLITION, REMOVALS AND RELOCATIONS

- REMOVE AND DISPOSE OF OFF SITE ALL EXISTING SITE ELEMENTS AS REQUIRED TO COMPLETE THE WORK INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - CURBS
 - PAVEMENT
 - LIGHT POLES AND OVERHEAD POWER LINES (COORDINATE REMOVAL OF LIGHT FIXTURES WITH NSPC)
 - TRAFFIC SIGNS
 - SCHOOL SIGN AND TIMBER PLANTER BASE
 - CHAIN LINK FENCE ENCLOSURE AT SEWAGE LIFT STATION
- RELOCATE THE FOLLOWING SITE ELEMENTS:
 - BENCHES (TOTAL 7)
 - TREES (TOTAL 3)
 - SHRUBS AND PERENNIALS (APPROX. TOTAL 15)
 - BOULDERS
 - BLEACHERS
- NEW LOCATIONS AS SHOWN ON DRAWING OR AS DIRECTED ON SITE BY PROJECT MANAGER.
- RELOCATE TO COURTYARD AT EAST SIDE OF SCHOOL. CONTRACTOR TO PROVIDE NEW 2'-0" X 8'-0" X 4" THICK CONCRETE SLAB AND GALV. CONCRETE ANCHORS.



Client:
Halifax Regional School Board

Architect:
ARCHITECTURE 49
1640 Market Street, Halifax, Nova Scotia, Canada, B3J 2C8
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Consultant:
Gordon Ratcliffe
LANDSCAPE ARCHITECTS
2059 Route 325, RR #1 HURBARON, NOVA SCOTIA CANADA, B0L 1T0
TEL: (902) 478-3883 FAX: (902) 807-1108 g.ratcliffe@rs.ca

Key Plan:



No.	ISSUED FOR REVIEW	2015 08 25
1	Description	Date

Revisions

No.	Description	Date

Seal:

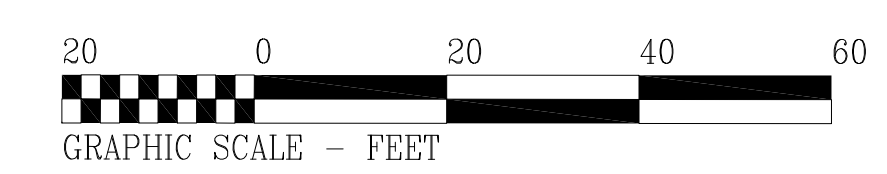
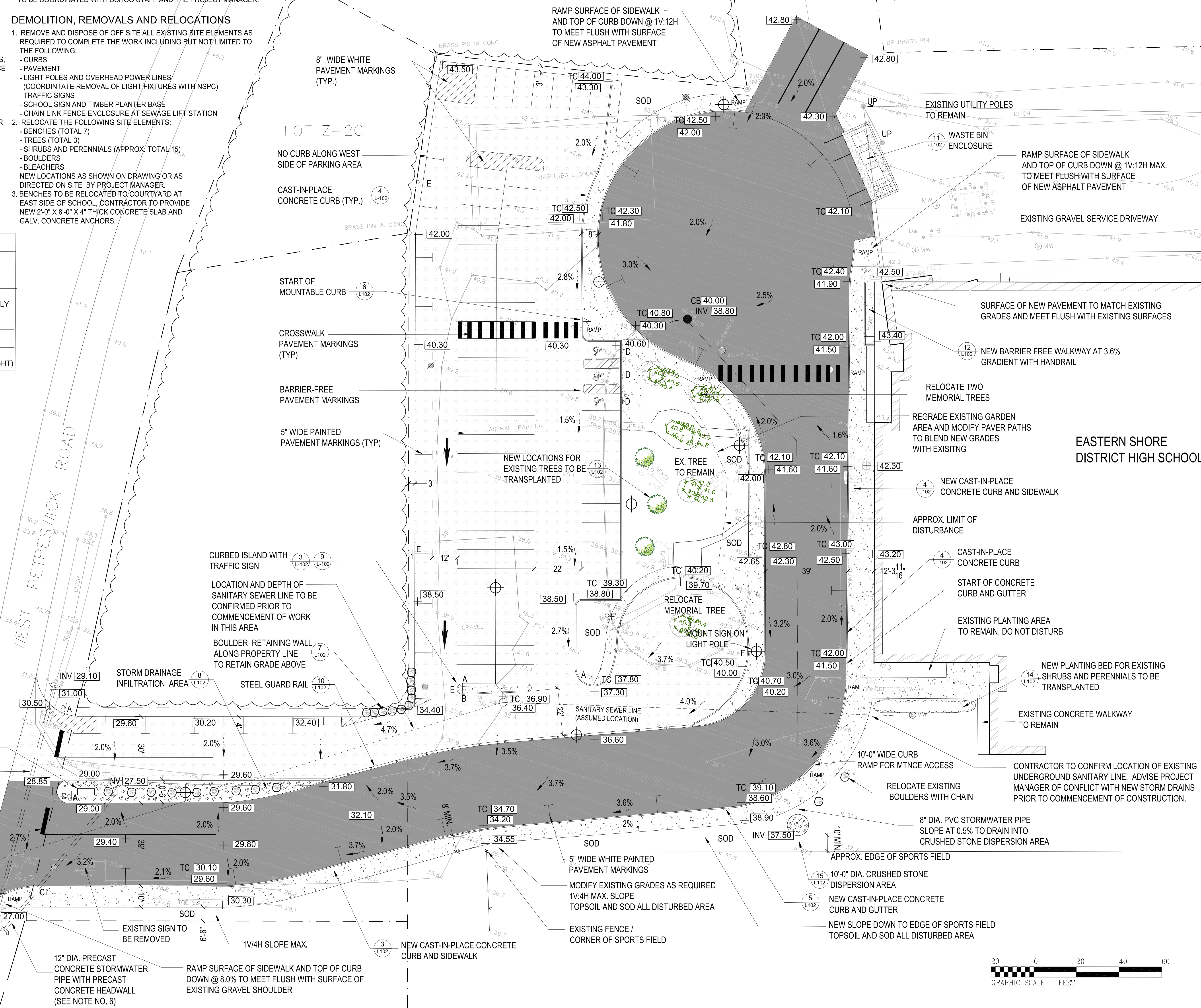
GORDON RATCLIFFE

Drawn: MDP **Scale:** AS NOTED
Checked: GR **Date:** AUGUST 2015

Approved:
Project: EASTERN SHORE DISTRICT HIGH SCHOOL SITE IMPROVEMENTS
City: MUSQUODOBIT HARBOUR **Province:** N.S.

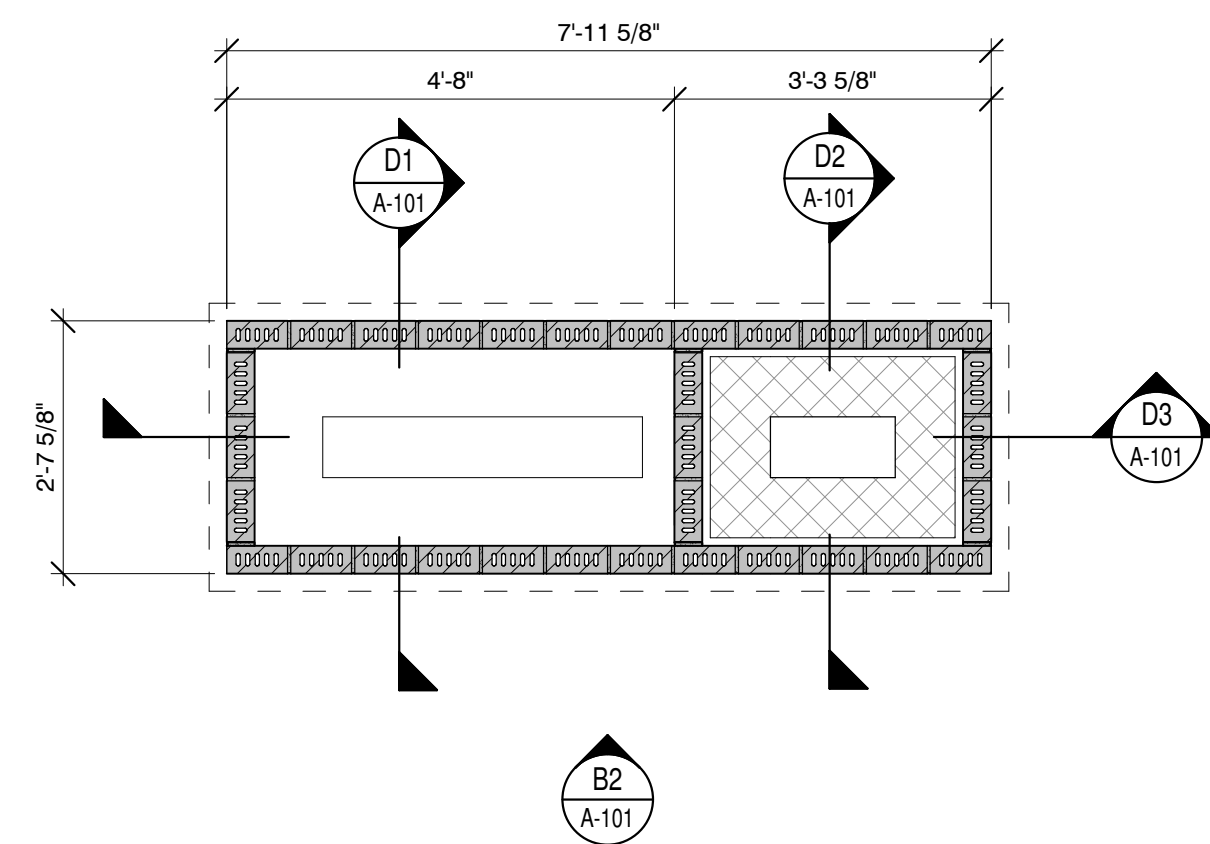
Title: SITE PLAN: LAYOUT AND GRADING

Commission No.:
Project No.:
Contract No.:
DWG No.: L101



A

B



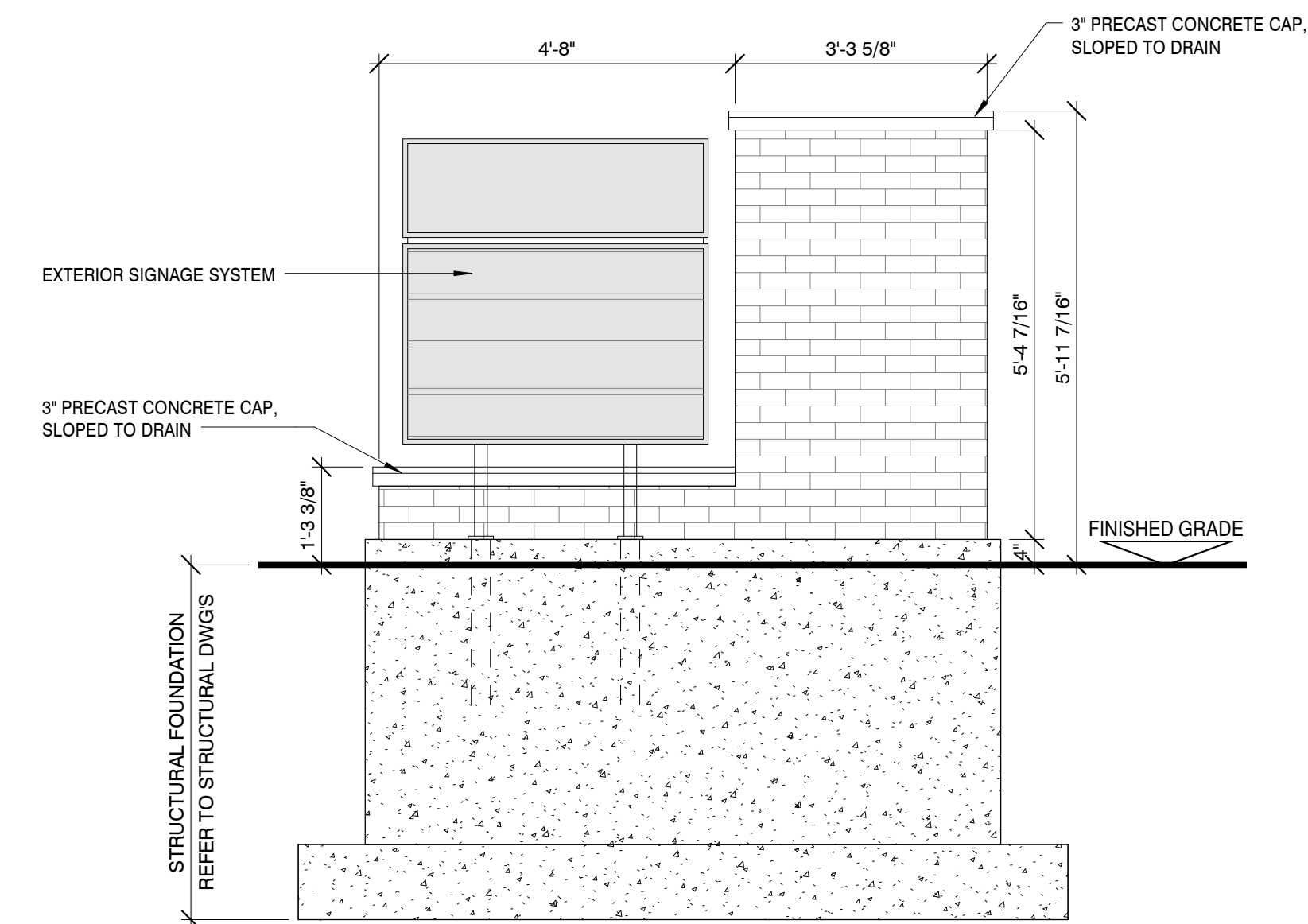
NOTES

- PROVIDE SAMPLES OF BRICK FOR CONSULTANT REVIEW
- PROVIDE SHOP DRAWINGS FOR CONSULTANT REVIEW FOR EXTERIOR SIGNAGE SYSTEM

1/2" = 1'-0" **B1** PLAN ENLARGEMENT - EXTERIOR SIGN
A-101

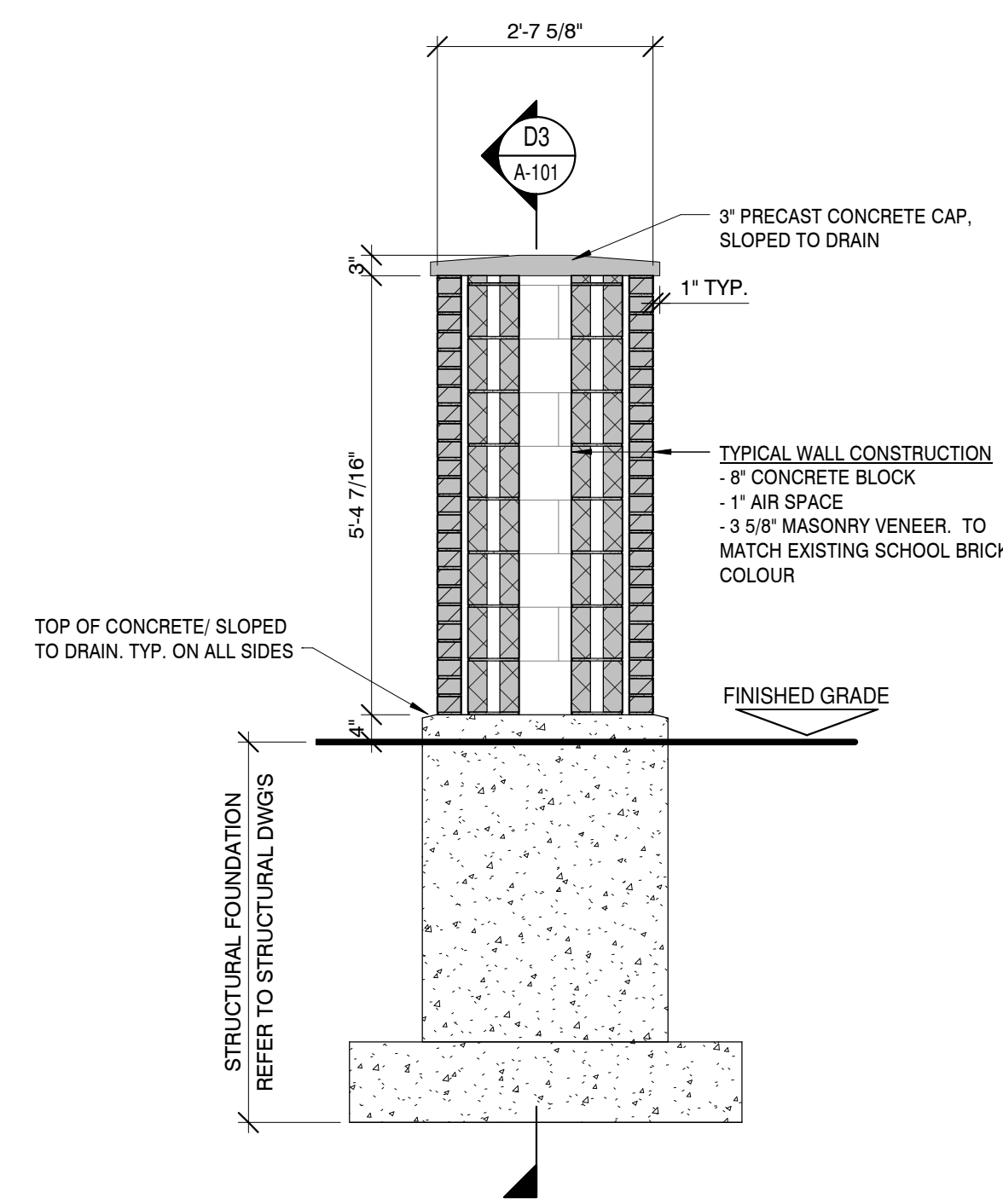
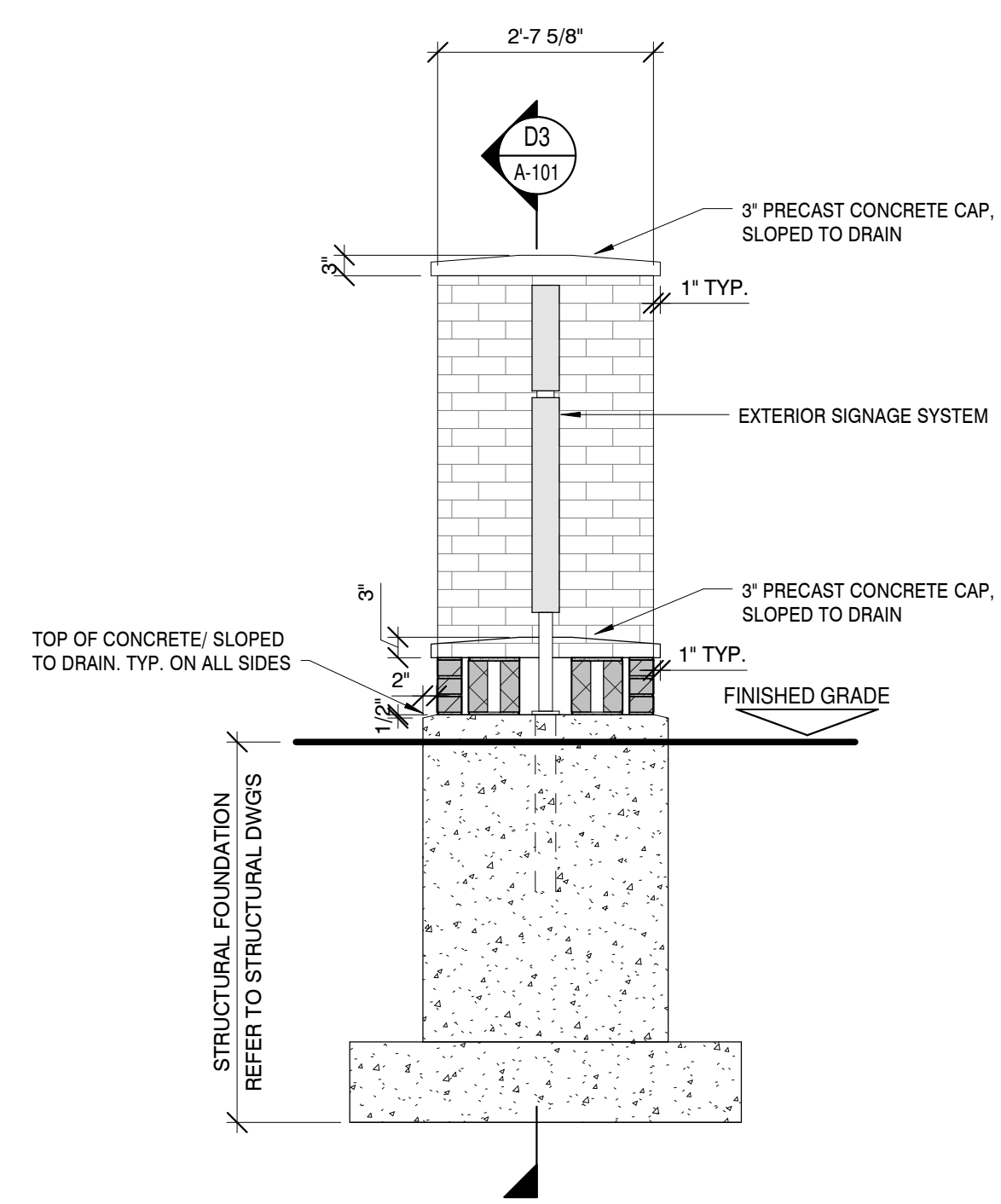
3

1/2" = 1'-0" **B2** ELEVATION - EXTERIOR SIGN
A-101



C

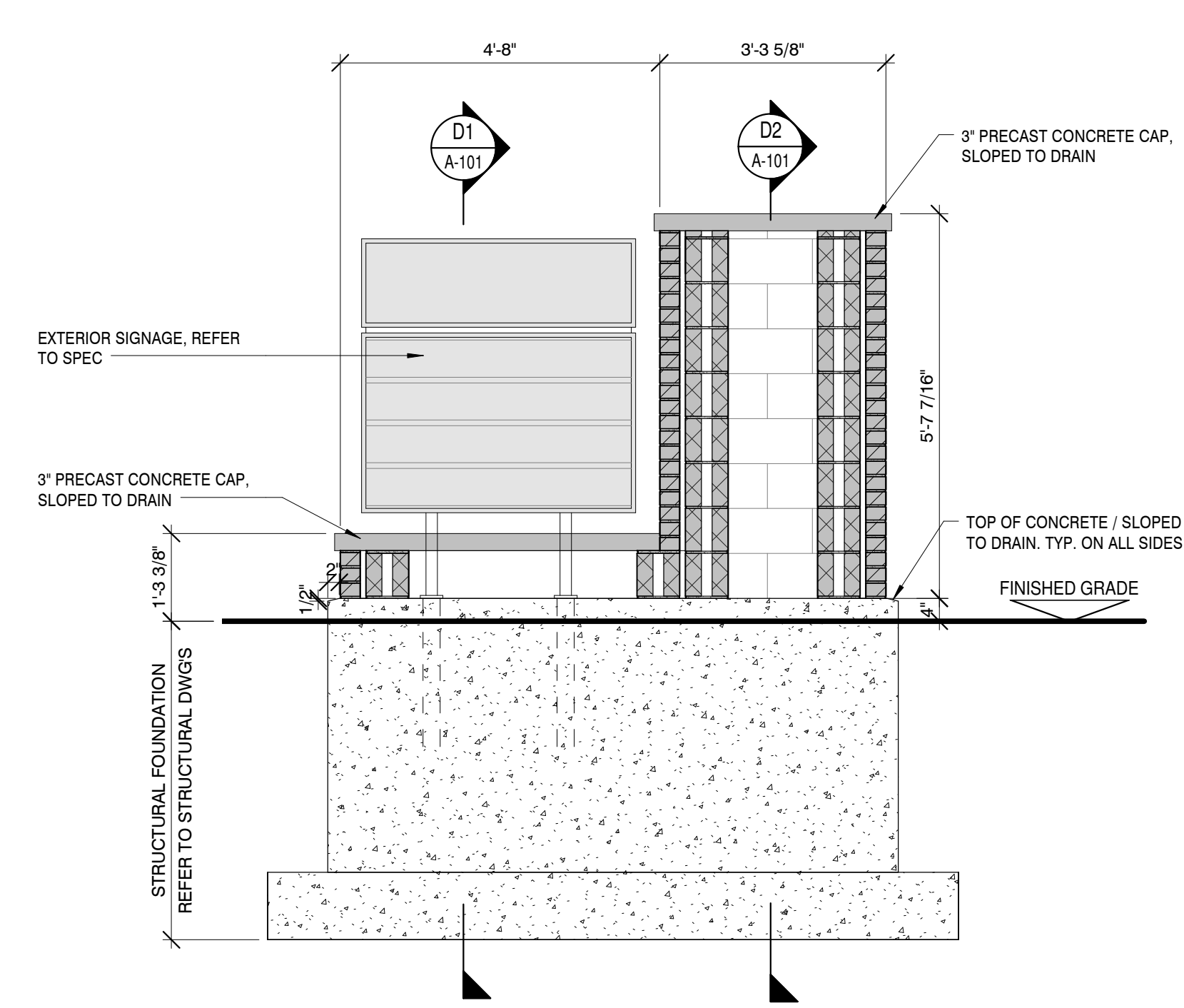
D



1/2" = 1'-0" **D1** Section 1
A-101

1/2" = 1'-0" **D2** Section 2
A-101

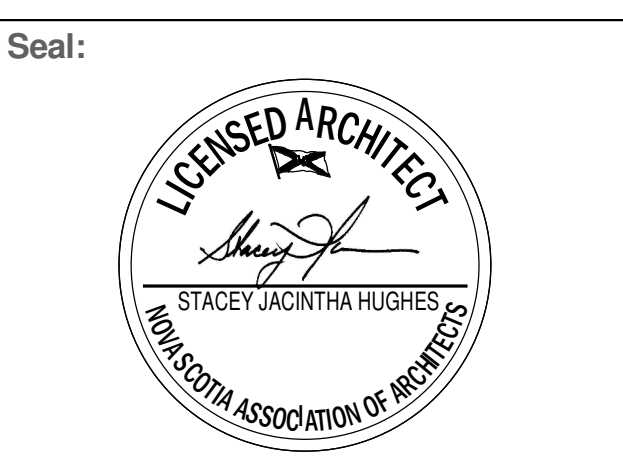
1/2" = 1'-0" **D3** Section 3
A-101



Consultants:

No.	Description	Date
1	ISSUED FOR TENDER	08.06.2015

Revisions



Drawn: LD Scale: 1/2" = 1'-0"
Checked: AM Date: 08.25.2015
Approved: SJH

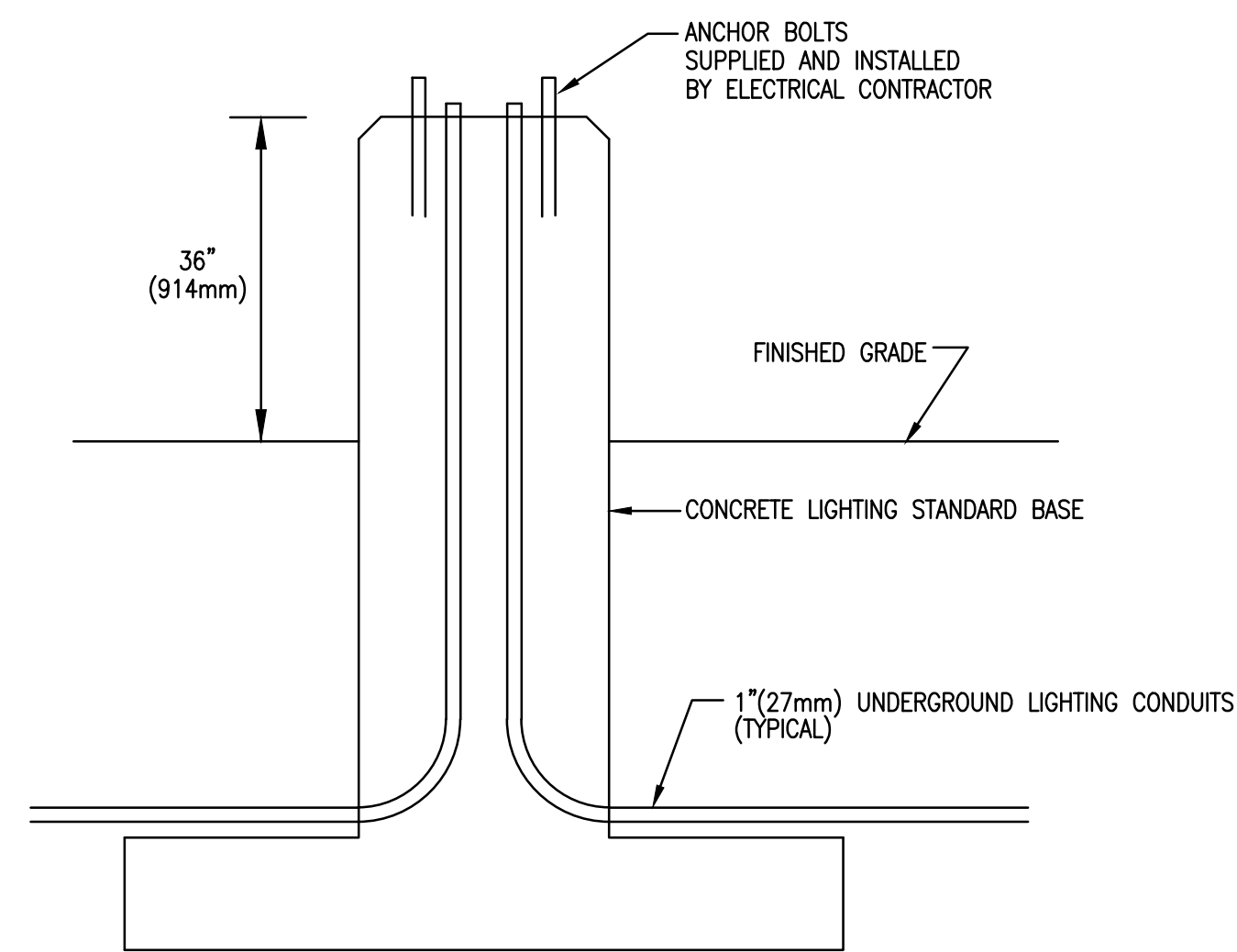
Project:
EASTERN SHORE HIGH SCHOOL RETROFIT
LANDSCAPE
City: Eastern Shore Province: N.S.
Title:

EXTERIOR SIGNAGE DETAILS

Project No.: 159-00214-00

Contract No.:

DWG No.: **A-101**



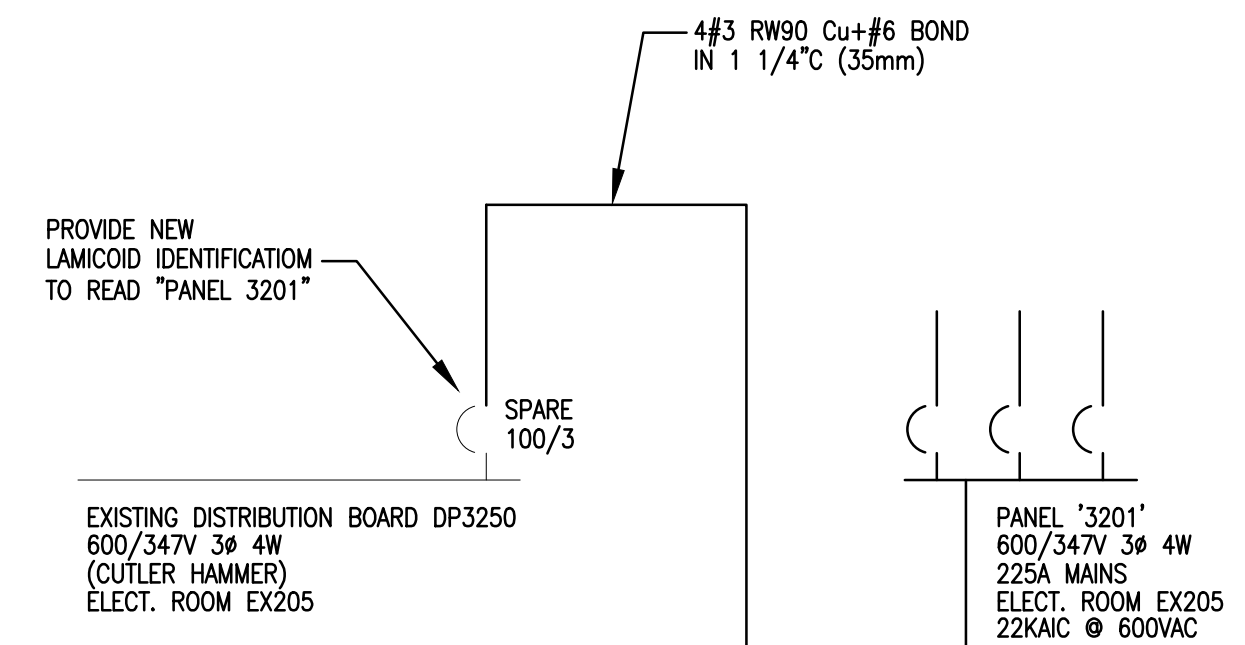
1
E-002
N.T.S.

NOTE: CONCRETE BASE BY GENERAL CONTRACTOR REFER TO STRUCTURAL DRAWINGS

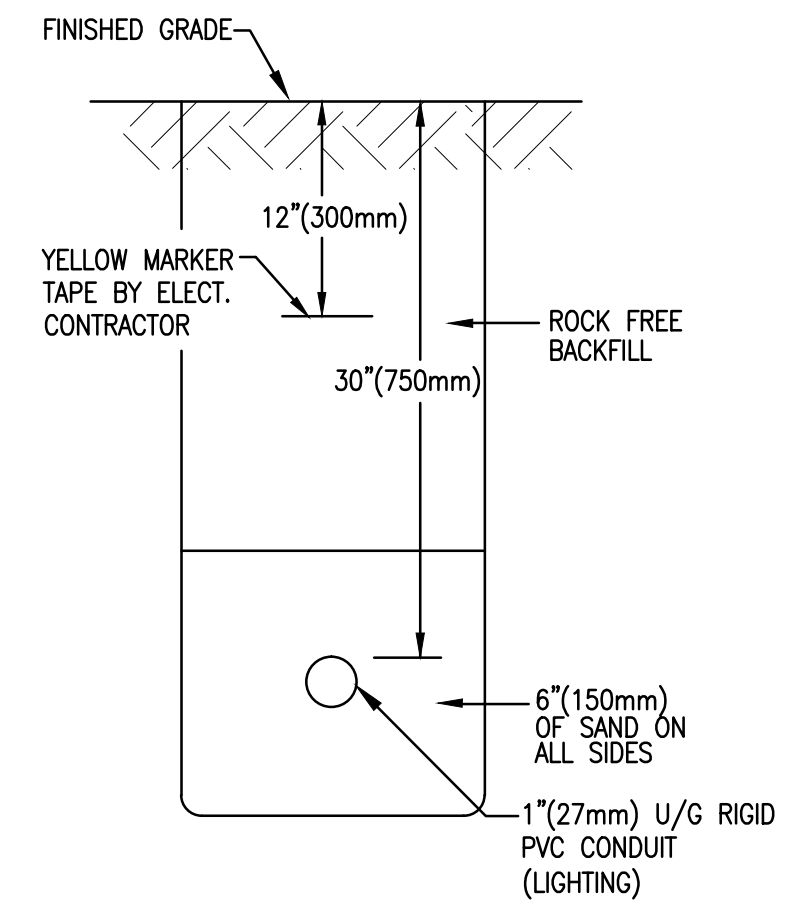
PANEL: RP201		LTG. PANEL "3201", CCT # 1								
CABINET: PWES-W12M-S3	LEVEL: TWO	ROOM: ELECT ROOM EX205								
CAPACITY: 12 RELAYS	MOUNTING: SURFACE		LOCAL XFMR: <input type="checkbox"/> 347 <input type="checkbox"/> 120							
LTG. PNL. NAME	CIRCUIT NO.	RELAYS NO.	SWITCHES ASSIGNMENT				OTHER DEVICES			COMMENT
			QTY.	IDENTIFY.	DESCRIPTION	MASTER	QTY.	IDENTIFY.	PHOTOCELL	
1	1				EXTERIOR LIGHT STANDARDS					OFF TIME 1
3	2				EXTERIOR LIGHT STANDARDS					OFF TIME 1
5	3				EXTERIOR LIGHT STANDARDS					OFF TIME 1
7	4				BUILDING MOUNTED LIGHTS					OFF TIME 2
5	6									
7	7									
8	8									SPARE
9	9									SPARE
10	10									SPARE
11	11									SPARE
12	12									SPARE

-PANEL TO BE C/W ALUMINIUM BONDING TERMINAL BLOCK SIZED FOR MINIMUM 12 BONDING CONDUCTORS AND ALUMINIUM NEUTRAL TERMINAL BLOCK SIZED FOR MINIMUM 12 NEUTRAL CONDUCTORS

-PANEL TO BE C/W ASTRONOMIC TIME CLOCK, BYPASS SWITCH, SCANNER AND BAS INPUT



2
E-002
N.T.S.



A
E-002
N.T.S.

VOLTS	600/347	PANEL	'3201'	TYPE	POWER LINE 3A
PHASE	3	LOCATION	ELECT RM EX205	MAINS	250 AMPS
WIRE	4	FED FROM	EXISTING DP3250	ENTER AT	MTG. s

DESIGNATION	WATTS			CIR. No.	BKR NO	A B C	BKR NO	CIR. No.	WATTS			DESIGNATION
	A	B	C						A	B	C	
EXTERIOR LIGHT STANDARDS/RP201	400			1	20A	+		2				
EXTERIOR LIGHT STANDARDS/RP201		960		3	20A	+		4				
EXTERIOR LIGHT STANDARDS/RP201			720	5	20A	+		6				
BUILDING MOUNTED LIGHTING	500			7	20A	+		8				
				9				10				
				11				12				
				13				14				
				15				16				
				17				18				
				19				20				
				21				22				
SPARE				23	20A			24				
SPARE				25	20A			26				
SPARE				27	20A			28				
SPARE				29	20A			30				
Ø 'A' TOTAL												
Ø 'B' TOTAL												
Ø 'C' TOTAL												
TOTAL LOAD				KW				AMP				

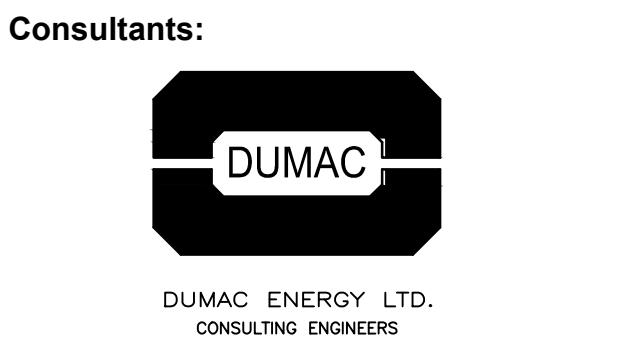
NOTES:
-EACH LIGHTING CIRCUIT TO HAVE SEPARATE NEUTRAL
22KAIC @ 600VAC

FIXTURE SCHEDULE

TYPE	STANDARD OF ACCEPTANCE MANUFACTURER CAT No.	DESCRIPTION	LAMP WATTAGE	VOLTS	MOUNTING	REMARKS	ALTERNATES
31	PHILIPS RFM-108W32LED4K-T-R3M-347V-DMG-RCD-PH9-GY3	EXTERIOR LED POLE MOUNTED FIXTURE & POLE TYPE 3 DISTRIBUTION	108W LED 11,000 lumens	347V	POLE MOUNTED	SQUARE STRAIGHT STEEL (24"-Ø) POLE, HOT DIPPED GALVANIZED, SANDBLASTED AND POWDER COAT GRAY TO MATCH EXISTING. COMPLETE WITH FUSED DISCONNECT SWITCH IN BASE. CONCRETE BASE BY GENERAL CONTRACTOR	COOPER/VISIONEERING
32	PHILIPS RFM-108W32LED4K-T-R2M-347V-DMG-RCD-PH9-GY3	EXTERIOR LED POLE MOUNTED FIXTURE & POLE TYPE 2 DISTRIBUTION	108W LED 11,000 lumens	347V	POLE MOUNTED	SQUARE STRAIGHT STEEL (24"-Ø) POLE HOT DIPPED GALVANIZED, SANDBLASTED AND POWDER COAT GRAY TO MATCH EXISTING. COMPLETE WITH FUSED DISCONNECT SWITCH IN BASE. CONCRETE BASE BY GENERAL CONTRACTOR	COOPER/VISIONEERING
33	PHILIPS LP32-P-H	EXTERIOR WALL MOUNTED FIXTURE. TEMPERED LENS, DARK SKY COMPLIANT.	85W LED 6000 lumens	347V	WALL MOUNTED AT UPPER FLOOR CEILING SPACE HEIGHT		COOPER/VISIONEERING



Architect:
ARCHITECTURE 49
1640 Market Street, Halifax, Nova Scotia, Canada, B3J 2C8
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Keyplan:

1	ISSUED FOR TENDER	2015-08-20
No.	Description	Date

Revisions

North:



Drawn: STAFF
Checked: STAFF
Approved:

Scale: N.T.S.
Date: AUGUST 2015

Project:
EASTERN SHORE HIGH SCHOOL RETROFIT

City: Halifax Province: N.S.

Title:
ELECTRICAL DETAILS

Project No.: 159-00214-00

Contract No.:

DWG No.: E-002

DUMAC #15-026

S:\159-00214-00 Eastern Shore District HS Reno4 Drawings\Architectural\159-00214-00 HR8B Eastern Shore Retrofit - CENTRAL.rvt

1. GENERAL CONDITIONS

- A) DIVISION 00, TENDER REQUIREMENTS, THE PROJECT CONTRACT, RELATED DOCUMENTATION AND DIVISION 01, GENERAL REQUIREMENTS GOVERN THE WORK OF THIS DIVISION.
- B) ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOUR, MATERIAL, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.
- C) THE ENGINEER RESERVES THE RIGHT TO APPROVE THE QUALITY OF MATERIAL AND WORKMANSHIP, AND TO CALL FOR ANY TEST WHICH HE DEEMS NECESSARY TO ESTABLISH THE INTEGRITY OF THE INSTALLATION DURING THE PROGRESS OF THE WORK AND A COMPLETE TEST OF EACH SYSTEM AT THE COMPLETION OF THE WORK. THE COST OF SUCH TESTS ARE NOT TO BE CONSIDERED AS EXTRAS.
- D) THE "OWNER" SHALL REFER TO HRSB.

2. SCOPE OF WORK

THE WORK SHALL CONSIST OF, BUT NOT BE LIMITED TO THE FOLLOWING:

- A) LIGHTING, RELAY PANEL, AND LIGHTING CONTROL EQUIPMENT
- B) DISTRIBUTION EQUIPMENT.
- C) ALL CABLE AND CONDUIT INSTALLATION.
- D) ALL NECESSARY CONNECTIONS AND COMMISSIONING FOR A COMPLETE INSTALLATION.

3. CODES, PERMITS AND INSPECTION

- A) ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC) AND THE NATIONAL BUILDING CODE (NBC)
- B) ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL OBTAIN ALL PERMITS, INSPECTIONS, ETC. AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND SHALL PAY FOR SAME. THESE COSTS SHALL BE INCLUDED IN THE TENDER PRICE. ALL PERMITS SHALL BE DELIVERED TO THE OWNERS REPRESENTATIVE AS SOON AS THEY BECOME AVAILABLE.

4. DRAWINGS

PREPARE AT OWN EXPENSE, ANY LARGE SCALE WORKING DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES OR TO FACILITATE INSTALLATION.

5. AS - BUILT DRAWINGS

PROVIDE AS BUILT DRAWINGS TO DIVISION 01 REQUIREMENTS.

6. SHOP DRAWINGS

SUBMIT SHOP DRAWINGS OF ALL ELECTRICAL EQUIPMENT FOR REVIEW BY THE ENGINEER. SUBMITTAL TO CONFIRM TO DIVISION 01. THEY SHALL INCLUDE DISTRIBUTION, LIGHTING CONTROL EQUIPMENT, AND LIGHTING FIXTURES.

7. MAINTENANCE MANUALS

AT COMPLETION OF CONTRACT PROVIDE THREE COPIES OF MAINTENANCE MANUALS TO DIVISION 01 REQUIREMENTS. INCLUDE ALL SHOP DRAWINGS, CERTIFICATES, TEST SHEETS, GUARANTEES, WARRANTIES AND MAINTENANCE INFORMATION, NAME, ADDRESS AND TELEPHONE NUMBER OF CONTRACTOR, PLUS NAMES, ADDRESSES AND TELEPHONE NUMBERS OF DISTRIBUTORS AND MANUFACTURERS OF SUPPLIERS OF EQUIPMENT.

8. EXAMINATION OF SITE AND DRAWINGS

EXAMINE ARCHITECTURAL, CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS, VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT. ANY DEVIATION AND/OR CONFLICTS ON THE PLANS OR SITE SHALL BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING TENDER. OTHERWISE IT SHALL BE CONSIDERED THAT THEY HAVE BEEN ACCOUNTED FOR IN TOTAL TENDERED PRICE.

9. CONSTRUCTION SCHEDULE

A) SCHEDULE AND PERFORM WORK TO MEET THE COMPLETION SCHEDULE. ANY OVERTIME WORK DEEMED NECESSARY SHALL BE INCLUDED IN TOTAL TENDERED PRICE.

10. BILLINGS, REVISIONS AND EXTRAS

- A) BILLINGS FOR WORK SHALL BE BROKEN DOWN INTO A NUMBER OF SUBSECTIONS TO INDICATE HOW VALUES WERE DERIVED. SUBMIT PROPOSED BREAKDOWN TO ENGINEER FOR APPROVAL, PRIOR TO FIRST BILLING. MATERIALS ON SITE TO BE SUPPORTED WITH PACKING SLIPS.
- B) NO ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.

11. CLEAN UP

PERIODICALLY REMOVE ALL DEBRIS AND KEEP THE WORK AREA CLEAN AT ALL TIMES.

12. CUTTING AND PATCHING

BE RESPONSIBLE FOR ANY CUTTING, PATCHING AND OPENINGS NECESSARY FOR WORK. USE APPROPRIATE POWER DRIVEN TOOLS TO MAKE ANY OPENINGS.

13. EXISTING STRUCTURES

BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO SERVICES DUE TO CUTTING INTO EXISTING STRUCTURES OR SERVICES.

14. DELIVERY DATES

PLACE ORDER FOR ALL MATERIAL AND EQUIPMENT IMMEDIATELY AFTER SIGNING OF CONTRACT. SUBMIT A LIST OF DELIVERY DATES FOR EACH TYPE OF EQUIPMENT WITHIN 10 DAYS OF AWARDED OF THE CONTRACT. THE LIST SHALL INCLUDE SUPPLIER'S AND MANUFACTURER'S NAMES. USE ONLY MATERIALS THAT CAN BE DELIVERED ON TIME TO MEET CONSTRUCTION SCHEDULE, OTHERWISE PROVIDE TEMPORARY AT NO COST TO OWNER.

15. EQUIPMENT AND MATERIAL

ALL EQUIPMENT AND MATERIAL, UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL MATERIAL AND EQUIPMENT SHALL BE APPROVED FOR USE BY THE APPROPRIATE AUTHORITY AND HAVE ALL REQUIRED LABELS PERMANENTLY AFFIXED.

16. TESTING

PERFORM TEST ON EACH SYSTEM TO THE SATISFACTION OF THE ENGINEER AND SUBMIT TEST RESULTS FOR APPROVAL PRIOR TO THE FINAL ACCEPTANCE OF THE WORK.

- A) PANELS SHALL BE BALANCED WITHIN 5%. INCLUDE LOAD BALANCE SHEETS IN MAINTENANCE MANUALS.
- B) TEST ALL SYSTEM GROUNDING CONDUCTORS FOR PHASE TO GROUND LOADS, AMMETER SHALL READ LESS THAN ONE AMPERE. SUBMIT TEST SHEETS IN MAINTENANCE MANUALS.
- C) MEGGER ALL CIRCUITS PHASE TO PHASE AND PHASE TO GROUND. SUBMIT TEST SHEETS IN MAINTENANCE MANUALS.
- D) ALL POWER AND CONTROL CABLES TO BE TESTED FOR OPENS, SHORTS, GROUNDS AND CONTINUITY. RECORD RESULTS ON TEST SHEETS, SIGN, AND DATE AND INCLUDE IN MAINTENANCE MANUALS.
- E) ALL ELECTRICAL EQUIPMENT AND SYSTEMS TO BE COMMISSIONED BY ELECTRICAL CONTRACTOR, READY FOR USE BY OWNER.

17. DEMONSTRATION OF THE SYSTEM

DEMONSTRATE THE FUNCTION AND OPERATION OF LIGHTING CONTROL SYSTEM TO THE OWNER.

18. IDENTIFICATION

- A) PROVIDE LAMACOID IDENTIFICATION NAMEPLATES. THESE SHALL BE BLACK FACE, WHITE CORE AND SHALL BE INSTALLED WITH POP RIVETS ON ALL EQUIPMENT, DISCONNECT SWITCHES, PANELS, RECEPTACLES ETC. INDICATING THE LOAD SERVED AND CIRCUIT NUMBER WHERE APPLICABLE. EACH BRANCH PANEL SHALL HAVE A TYPEWRITTEN DIRECTORY SHOWING LIGHTS OR EQUIPMENT CONNECTED TO EACH CIRCUIT. DIRECTORIES SHALL BE MOUNTED ON THE INSIDE OF THE PANEL DOOR WITH A TRANSPARENT PLASTIC COVER.
- B) EACH WIRE TO HAVE SELF LAMINATING OR HEAT SHRINK STYLE CABLE MARKER INDICATING CIRCUIT NUMBER IT IS CONNECTED TO.
- C) COLOR CODE JUNCTION/PULL BOXES INSIDE AND OUT WITH ORANGE PAINT. IDENTIFY CIRCUITS ON BOX COVER.

19. COORDINATION

BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF EQUIPMENT, CONDUIT AND CABLE WORK, LIGHTING FIXTURES, ETC. WITH OTHER DIVISIONS PRIOR TO THE ACTUAL INSTALLATION.

20. ACCESSIBILITY

ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIRS.

21. RESPONSIBILITY

BE RESPONSIBLE FOR WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, INCLUDING REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.

22. WARRANTY

WARRANT ALL WORK AND APPARATUS INSTALLED UNDER THIS CONTRACT, AGAINST ALL DEFECTS OR WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR, UNLESS INDICATED OTHERWISE, AFTER ACCEPTANCE OF SAME BY OWNER.

23. FASTENING & SUPPORTS

- A) PROVIDE FASTENINGS AND SUPPORTS DESIGNED TO SUPPORT THE LOAD FOR ALL ELECTRICAL EQUIPMENT.
- B) SURFACE MOUNTED EQUIPMENT REQUIRING ADDITIONAL SUPPORT TO BE INSTALLED USING HOT DIPPED GALVANIZED BOLTED METAL FRAMING OF CHANNELS, FITTINGS AND HARDWARE.
- C) SECURE EQUIPMENT TO HOLLOW MASONRY WALLS WITH TOGGLE BOLTS AND TO POURED CONCRETE WITH EXPANDABLE INSERTS.
- D) PROVIDE METAL BRACKETS, FRAMES, HANGERS, CLAMPS AND RELATED TYPES OF SUPPORT AS REQUIRED TO SUPPORT CONDUIT AND CABLE. DO NOT USE WIRE LASHING OR PERFORATED STRAP. USE SCREW GUN METAL BRACKETS FOR SUPPORTING OUTLET BOXES IN STEEL STUD WALLS.
- E) ENSURE ADEQUATE SUPPORT FOR RACEWAYS AND CABLES DROPPED VERTICALLY. PROVIDE CHANNEL, AS REQUIRED.
- F) DO NOT USE SUPPORTS OR EQUIPMENT INSTALLED FOR OTHER TRADES FOR CONDUIT OR CABLE SUPPORT UNLESS SPECIFIC APPROVAL IS OBTAINED FROM THE ENGINEER.

24. CONDUIT AND FITTINGS

A) WHEN SHOWN, CONDUIT SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE REDUCED IN SIZE WITHOUT AUTHORIZATION. OTHERWISE, SIZE CONDUIT TO CEC REQUIREMENTS. CONDUIT IN FINISHED AREAS SHALL BE CONCEALED. ALL CONDUIT SHALL BE INSTALLED PARALLEL TO BUILDING LINES.

B) EMT (THIN WALL) COMPLETE WITH STEEL SET SCREW COUPLINGS AND STEEL CONNECTORS TO BE USED FOR PANEL FEEDERS AND ALL CONDUIT INSTALLED WITHIN BUILDING. RAIN TIGHT COUPLING AND CONNECTORS TO BE USED FOR TOP ENTRY TO SURFACE MOUNTED PANEL BOARDS. WHEN USED FOR FEEDERS INSTALL SEPARATE INSULATED BONDING CONDUCTOR SIZED IN ACCORDANCE WITH TABLE 16A OF THE CEC.

C) RIGID PVC CONDUIT TO BE USED UNDERGROUND AND BELOW SLAB WHERE PERMITTED BY THE CODE, MINIMUM SIZE 1" (27mm). NO PVC CONDUIT IS PERMITTED INSIDE BUILDING.

D) FOR FIREPROOFING WHERE HOLES ARE DRILLED THROUGH FIRE RATED WALLS, THEY SHALL BE PACKED AROUND CONDUIT WITH "3M" BRAND FIRE BARRIER CAULK CP 25 OR 303 PUTTY COMPOUND.

E) MINIMUM CONDUIT SIZE SHALL BE 1/2in, UNLESS OTHERWISE NOTED.

F) CONDUIT SHALL BE SUPPORTED INDEPENDENTLY OF OTHER EQUIPMENT USING STEEL STRAPS, BEAM CLAMPS, AND SPRING STEEL FASTENERS.

25. OUTLET, PULL AND JUNCTION BOXES

- A) BOXES SHALL BE CODE GAUGE STEEL, SIZED TO MEET CEC REQUIREMENTS AND BE SUITABLE FOR THE TYPE OF CONSTRUCTION.
- B) EXTERIOR BOXES TO BE WATERTIGHT.
- C) PROVIDE BARRIERS IN BOXES WHERE DIFFERENT VOLTAGES ARE USED.
- D) PROVIDE PULL BOXES ON CONDUIT AT 90-FOOT INTERVALS MAXIMUM.
- E) BOXES SHALL BE SUPPORTED INDEPENDENT OF CONDUIT RUNS.

26. WIRE AND CABLE

- A) BUILDING WIRES SHALL BE COPPER RW90, RATED 600V, INSTALLED IN CONDUIT.
- B) ALL WIRING TO BE SIZED TO MEET ALL REQUIREMENTS OF THE CEC. THE MINIMUM PERMISSIBLE SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 UNLESS INDICATED OTHERWISE.
- C) ALL WIRES SHALL BE NEW AND DELIVERED TO THE SITE OF THE PROJECT IN THEIR ORIGINAL PACKING. WIRES #12 AND LARGER SHALL BE STRANDED. WIRES SHALL BE FACTORY IDENTIFIED, SHOWING SIZE, VOLTAGE RATING AND INSULATION TYPE.
- D) NEUTRAL CONDUCTOR SHALL BE WHITE THROUGHOUT. THREE PHASE WIRES SHALL BE: ONE RED, ONE BLACK AND ONE BLUE.

27. CONNECTORS FOR WIRES

- A) PROVIDE AN APPROVED PRESSURE TYPE WIRE CONNECTOR SIMILAR TO IDEAL OR MARETTE FOR #8 TO #14 WIRES.
- B) USE CRIMP STYLE COPPER ALLOY WIRE CONNECTORS, NYLON INSULATED FOR #16 AND SMALLER WIRES AND FOR CONNECTING SOLID TO STRANDED CONDUCTORS.

28. GROUNDING

- A) THE ENTIRE ELECTRICAL SYSTEM SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEC AND LOCAL AUTHORITIES.
- B) EACH DERIVED NEUTRAL CONDUCTOR SHALL BE GROUNDED WITH AN INSULATED WIRE SIZED TO CEC REQUIREMENT. EACH NEUTRAL IS TO BE GROUNDED AT ONE POINT ONLY.
- C) ALL UNDERGROUND CONDUITS TO HAVE SEPARATE INSULATED BONDING CONDUCTOR SIZED IN ACCORDANCE WITH TABLE 16A OF THE CEC.

29. POWER DISTRIBUTION SYSTEM

- A) PANELBOARDS
 - 1) PANELBOARDS SHALL BE OF THE VOLTAGE INDICATED ON THE DRAWINGS AND SHALL BE COMPLETE WITH CIRCUIT BREAKERS, AND MAINS CURRENT RATING AS INDICATED. MINIMUM DIMENSION TO BE 20" WIDE AND 6" DEEP.
 - 2) FLUSH OR SURFACE AS INDICATED COMPLETE WITH DOOR, LATCH, LOCK AND DIRECTORY.
 - 3) CIRCUIT BREAKERS SHALL HAVE THERMAL MAGNETIC TRIP PROTECTION WITH BIMETALLIC ELEMENTS FOR DELAY OVERLOAD PROTECTION. TWO AND THREE POLE BREAKERS SHALL HAVE INTERNAL COMMON TRIP. BREAKERS SHALL BE BOLT-IN FIELD INTERCHANGEABLE, 22 KAIC, UNLESS NOTED OTHERWISE.
 - 4) BUS BARS TO BE TIN PLATED COPPER;
 - 5) ALL PANELS SHALL BE OF THE SAME MANUFACTURER.

30. LIGHTING EQUIPMENT

- A) PROVIDE LUMINAIRES AND LAMPS AS INDICATED ON THE FIXTURE SCHEDULE AND/OR AS SPECIFIED UNDER THIS SECTION. THESE SHALL BE COMPLETE WITH ALL NECESSARY HANGERS, LAMPS, POLES, SUPPORTS, ETC.
- B) COORDINATE THE MOUNTING AND LOCATION OF LIGHT STANDARDS WITH OTHER TRADES TO AVOID CONFLICTS.

31. LOW VOLTAGE RELAY PANEL

- A) RELAY PANEL TO BE PAINTED STEEL, SURFACE MOUNT, C/W VOLTAGE BARRIER, HINGED COVER, INTEGRAL NEUTRAL AND BONDING TERMINAL STRIP, PANEL DIRECTORY, 20A, HEAVY DUTY HID RELAYS, BYPASS SWITCH IN COVER, AND DRIP HOOD.
- B) PROVIDE PROGRAMMABLE RELAY SCANNER, ASTRONOMIC TIME CLOCK, AND BAS INTERFACE.
- C) PROGRAM TIME CLOCK ON SITE TO SUIT HRSB.
- D) STANDARD OF ACCEPTANCE - DOUGLAS LIGHTING CONTROLS PWEX RELAY PANEL C/W WR 6161 RELAYS, 347/24 VAC TRANSFORMER, WR8812 RELAY SCANNER, WTP-4408 TIMER.

NOTES

THE PLANS FOR THE WORK ACCOMPANYING THESE SPECIFICATIONS ARE MADE AS ACCURATELY AS POSSIBLE, BUT ABSOLUTE ACCURACY OF DIMENSIONS CANNOT BE GUARANTEED. THEY ARE INTENDED TO SUPPLEMENT AND SIMPLIFY THE GENERAL CONTRACT DRAWINGS. NO CLAIMS FOR EXTRA PAYMENT ON ACCOUNT OF THE DIFFERENCE OF ACTUAL AND ESTIMATED DIMENSIONS SHALL BE ALLOWED.

IN THE CASE OF DISCREPANCY OF FIGURE DIMENSIONS OR ANY OTHER CONFLICT ON THE PLANS OR THE SPECIFICATIONS, THE MATTER SHALL BE IMMEDIATELY DIRECTED TO THE OWNER AND ENGINEER FOR THEIR DECISION. WITHOUT A DECISION THE DISCREPANCY SHALL NOT BE ADJUSTED BY THIS CONTRACTOR SAVE AT HIS OWN RISK, AND IN THE SETTLEMENT OF ANY COMPLICATIONS ARISING FROM SUCH ADJUSTING, THIS CONTRACTOR SHALL BEAR ALL EXTRA EXPENSE INVOLVED.

ANY REPRESENTATIONS IN THE TENDER DOCUMENTS WERE FURNISHED MERELY FOR THE GENERAL INFORMATION OF BIDDERS AND WERE NOT IN ANY WAY WARRANTED OR GUARANTEED BY OR ON BEHALF OF THE OWNER OF THE OWNER'S CONSULTANT OR EMPLOYEES, AND NEITHER THE OWNER NOR ITS CONSULTANT OR ITS EMPLOYEES SHALL BE LIABLE FOR ANY REPRESENTATIONS NEGLIGENT OR OTHERWISE CONTAINED.

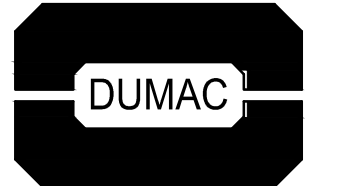
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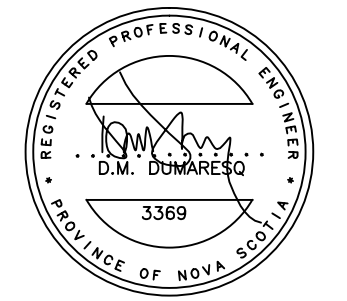
Keyplan:

1	ISSUED FOR TENDER	2015-08-20
No.	Description	Date

Revisions

North:

Seal:



Drawn:	STAFF	Scale:	N.T.S.
Checked:	STAFF	Date:	AUGUST 2015

Approved:

Project:
**EASTERN SHORE
HIGH SCHOOL
RETROFIT**

City: Halifax Province: N.S.

Title:
**ELECTRICAL
SPECIFICATIONS**

Project No.: 159-00214-00

Contract No.:

DWG No.:
E-003

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B

C

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DUMAC #15-026

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