



REQUEST FOR TENDERS

Hillman Marsh Barrier Beach and Wetland Restoration – Phase 1

The project involves the construction of interim upgrades to the south headland (rock revetment) at Hillman Marsh, located at the northern terminus of East Beach Road, Leamington, for the purpose of improved erosion protection. The project also includes the construction of a 40 m long pilot section of artificial barrier (emergent/submergent rock breakwater) anchored on the east side of East Beach Road, and extending northwest into Hillman Marsh, as well as wetland restoration activities on the marsh side of the newly placed artificial barrier.

Plans, Specifications, Tender Forms and all necessary information may be downloaded via the Essex Region Conservation Authority website, or the Heavy Construction Association of Windsor website.

Sealed Tenders, plainly marked "Hillman Marsh Barrier Beach and Wetland Restoration – Phase 1" shall be submitted to:

Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311
Essex, Ontario, N8M 1Y6
Telephone (519) 776-5209
Fax (519) 776-8688

Tenders will be received up until 3:00 p.m., local time, Wednesday, May 29, 2024. A public opening of this Tender will be held at the offices of the Essex Region Conservation Authority at 9:00 a.m., local time, Thursday, May 30, 2024. Interested Tenderers may attend the opening.

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Essex Region Conservation Authority
360 Fairview Ave, West, suite 311
Essex, ON, N8M 1Y6
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HILLMAN MARSH BARRIER BEACH AND WETLAND RESTORATION – PHASE 1 TENDER PACKAGE

FINAL

DATE: 2024-MAY-10

PROJECT No.: 1098.02



Prepared for:

Essex Region Conservation Authority
360 Fairview Ave. W., Essex, ON,
N8M 1Y6



Prepared by:



SJL Engineering Inc.

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Date: 2024-MAY-10
Project Number: 1098.02

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SECTION 1.0

INFORMATION TO TENDERERS

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1.1 PROJECT DESCRIPTION

The project includes the construction of interim upgrades to the south headland at Hillman Marsh, located at the northern terminus of East Beach Road, Leamington, for the purpose of improved erosion protection and stabilization of the landmass. The project also includes the construction of a 40 m long pilot section of artificial barrier (emergent/submergent rock breakwater) anchored on the east side of East Beach Road, and extending northwest into Hillman Marsh, as well as wetland restoration activities in lee of the newly placed artificial barrier.

The work to be completed under this Contract will include the furnishing of all labour, supervision, equipment, and materials necessary to carry out the following:

1. Construction of the interim south headland upgrades, as shown in the attached project drawings (010 – 030)
2. Construction of the artificial barrier, as shown in the attached project drawings (040)
3. Construction of pilot wetland restoration items, as shown in the attached project drawings (040)

Each of the three project components are described in more detail as follows:

South Headland Interim Upgrades:

The south headland at Hillman Marsh (north end of East Beach Road) presently features armour stone placed directly against the existing bank on the west, north and east sides of the headland (roundhead), backed by trenched precast concrete blocks. Armour stones are resting directly on the native lakebed and bank, which continues to erode. The crest elevation of the structure is variable, and the structure is extremely porous. Due to wave transmission through and over the structure, erosion of the north end of East Beach Road continues beneath and behind the structure. The existing structure is depicted in the project drawings (drawing 010).

The selected Contractor will be responsible for implementing upgrades to the south headland erosion protection structure, as shown on the project drawings (drawings 010 – 030). The upgraded structure consists of a berm-style revetment, whereby a 4 m wide berm (bench) of armour stone is placed in front of a conventional, engineered, multi-layer, sloping armour stone revetment. Armour stone and precast concrete blocks in the existing structure are first to be removed. A portion of the salvaged armour stone meeting the gradations and specifications shown on the project drawings and construction specifications provided herein is to be placed at the lakeward edge (toe) of the new bench to the neat lines shown on the project drawings, creating a perimeter around the work area (drawing 020). Temporary geofabric can be anchored to the perimeter stones creating an effective turbidity/fish barrier. The slope behind the perimeter stones will be prepared to the specified slope and excavated to the specified depth shown on the project drawings (drawing 020). Successive stone courses and geofabric are then to be placed on the graded slope to the neat lines, slopes and elevations shown on the project drawings, and with each stone course meeting the specified gradation (drawing 030). The remainder of the salvaged armour stone from the existing structure meeting the gradations shown on the project drawings and specifications outlined in Section 4.0 of this Tender can be re-used in the bench and the toe of the revetment (as depicted by the shaded stones on drawing 030). The remainder of the armour stone layer and successive stone courses are to be comprised of new stone procured by the Contractor. The Contractor is responsible for producing as-built surveys (4) of the constructed cross-section synonymous with the sections shown on the project drawings confirming adherence to the specified slopes, elevations, layer thicknesses, footprint and overall geometry of the structure, within the tolerances outlined in Section 4.0 of this Tender.

Artificial Barrier Pilot Section (Rock Breakwater):

The artificial barrier pilot section consists of a low-crested, 5 m wide rip rap core, extending 40 m from the west side of East Beach Road into Hillman Marsh, following the alignment and to the specific geographic coordinates shown on the project drawings (drawing 040). The rip rap core is to be placed over a layer of bedding stone. The native substrate within the structure footprint will first be gently compacted to a specified elevation below grade, as shown on the project drawings, and backfilled with bedding stone to achieve a 600 mm (minimum) total bedding layer thickness. The bedding stone layer should be gently compacted with the back of the excavator bucket prior to placing the overlying stone courses. The east-facing (exposed) side of the structure and the northern terminus (roundhead) is to be protected with two layers of armour stone including a 1.5 m wide toe. The west-facing (sheltered) side of the structure is to be protected with a single layer of armour stone including a 1.5 m wide toe. The structure is to be constructed building outward from land, such that the operation of machinery in water is not required. The artificial barrier is a pilot section only, in that future phases of work (not included in this Tender) will extend the barrier further into Hillman Marsh, as indicated on the project drawings. The Contractor is responsible for producing as-built surveys of the structure cross-section at 5 m intervals along its length confirming adherence to the specified slopes, elevations, layer thicknesses, footprint and overall geometry of the structure, within the tolerances outlined in Section 4.0 of this Tender.

Wetland Restoration Works:

The wetland restoration works included in this Tender are shown on drawing 040. They include the creation of marsh vegetation zones at target elevations in lee of the artificial barrier pilot section by placing excavated material from other aspects of the works, namely sand, silt, clay and organics (peat), to the specified grades and elevations shown on the project drawings. The elevation zones are to be achieved through placement of the fill material at approximately a 10H:1V slope against the sheltered side of the pilot artificial barrier section and against the west side of East Beach Road, as shown in the project drawings. The specific slope and grade-lines are to be field-fit under the onsite guidance of the Owner's Representative to achieve some variability in topography. Slope and grades of fill material are to be achieved by driving T-bars into the existing marsh bottom at specific elevation transitions shown on the project drawings and clearly marked at the target elevation for fill. The T-bars are to remain after placement of the fill to provide visual delineation between vegetation zones for the planting efforts undertaken by others (lead by ERCA, and not included in this Tender).

Interspersed throughout the infilled area are habitat islands comprised of central woody debris, stumps or rootwads, surrounded by a perimiter / clusters of placed stone, as shown on the project drawings. The material used in the creation of the woody debris, stump, rootwad and stone clusters (habitat islands) is to be sourced or salvaged from the working area or otherwise within the reach of an excavator. The creation and placement of these features are to be field fit, guided by the onsite Owner's Representative.

The above descriptions of the project components are general only, and must not be considered as limiting the scope of work. The selected Contractor will be responsible for completing all works as shown on the project drawings, and to the specifications provided in Section 4.0 of this Tender. The means and methods employed to achieve the successful implementation of the works are the responsibility of the selected Contractor.

1.2 PARTIES

For the purpose of this Tender, the Owner is “The Essex Region Conservation Authority”. Any reference in these documents to Owner shall mean the Owner listed herein. For the purpose of this Tender, the Engineer is “SJL Engineering Inc.”. Any reference in these documents to Engineer shall mean the Engineer listed herein.

1.3 GENERAL INSTRUCTION FOR TENDERERS

Tenderers are required to complete all blank spaces in the Form of Tender found in Section 2.0 of this tender package, and submit with the complete tender document package including any Addenda issued. All entries in the Form of Tender shall be made in ink (handwritten or printed). Tenders which are incomplete, conditional, illegible, or obscure, or that contain additions not called for, reservations, erasures, alterations (unless properly and clearly made and initialed by the Tenderer’s signing officer) or irregularities of any kind, may be rejected as informal.

The Tenderer shall give the Total Tender Price both in words and in figures and except as is otherwise specifically permitted in the Form of Tender, shall fill in all blank spaces or item prices, lump sums, Time of Completion, and other information in the Form of Tender.

1.4 TENDER SUBMISSION

Sealed Tenders, plainly marked “Hillman Marsh Barrier Beach and Wetland Restoration – Phase 1” shall be submitted to:

Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311
Essex, Ontario
N8M 1Y6

and will be received up until 3:00 p.m., local time, Wednesday, May 29, 2024. A public opening of this Tender will be held at the offices of the Essex Region Conservation Authority at 9:00 a.m., local time, Thursday May 30, 2024. Interested Tenderers may attend the opening.

Essex Region Conservation Authority office hours are Tuesday, Wednesday and Thursday from 8:30 am until 4:00 pm each week.

1.5 ACCEPTANCE OR REJECTION OF TENDERS

The Tender shall take note of the Privilege Clause contained in the Form of Tender concerning acceptance and rejection of Tenders. The Owner reserves the right to reject any or all Tenders or to waive or not to waive any informalities as they may deem advantageous.

Except as provided hereunder, neither the Engineer nor any officer or employee of the Engineer has authority to make or accept an offer or to enter into a Contract on behalf of the Owner nor to create any rights against or to impose any obligations on the Owner. The recommendation for acceptance of a Tender to the Owner by the Engineer does not constitute acceptance of the Tender by the Owner.

A Tender is accepted by the Owner when an agreement in the form found herein is executed by the Owner and by the Tenderer; or when the Engineer, with the written authorization of the Owner, has issued a written order to commence work to the Tenderer. The latter is subject to the express

condition that the Owner receives a Performance Bond and a Labour and Material Payment Bond in accordance with the requirements of the Agreement.

The Owner shall not be responsible for any liabilities, costs, expenses, loss, or damage incurred, sustained, or suffered by any Tenderer prior or subsequent to or by reason of the acceptance or the non-acceptance by the Owner of any Tender or by reason of any delay in the acceptance of a Tender same as provided in the Contract. Tenders are subject to a formal Contract being prepared and executed. The Owner reserves the right to reject any or all tenders and to waive the formalities as the interests of the Owner may require without stating reasons therefore and the lowest or any Tender will not necessarily be accepted.

The Owner reserves the right at any time prior to the award of the Contract, to cancel this Tender and resubmit a proposed contract for tender. The Owner also reserves the right at any time prior to the award of the Contract to extend the time for the submission of Bids; to modify these instructions, the tender notice, the form of tender, the specifications, the description of the work, or to change the terms of reference or contract documents.

1.6 POST-BID NEGOTIATIONS AND RE-BIDDING

Where all price offers among eligible, qualified proposals exceed the Owner's budget for the project and the Owner is unwilling or unable to award the contract at the bid price and does not wish to abandon the project, the Owner reserves the right to negotiate and to re-bid in accordance with the following terms:

- a) The Owner will negotiate with the selected Bidder to identify changes in the scope or quality of the work and their corresponding bid price reduction. In the event that the Owner and the selected bidder agree on acceptable changes and a corresponding bid price reduction, such changes will become a post-bid addendum, with the Owner awarding the contract, based on the negotiated reduced price.
- b) If a Contract cannot be negotiated within thirty (30) days of notification of the selected Bidder, the Owner may, at its sole discretion at any time thereafter, terminate negotiation with that Bidder.
- c) Should negotiations with the selected Bidder be terminated for any reason whatsoever, the Owner may, at its sole discretion, negotiate a Contract with the next qualified Bidder, terminate the Tender process and not enter into a Contract with any of the Bidders, or re-bid on modified bid documents without any attempt to negotiate.

1.7 EVALUATION OF TENDERS

The Owner or Engineer may request any Tenderer to submit additional information concerning their tender after tender closing. The Tenderer shall submit such information within 48 hours of this request.

The additional information may consist of, but not be limited to, the following:

- a) Details of proposed mobilization and progress schedule
- b) Details of the proposed labour force, hours of work and production rates
- c) Details of all proposed equipment to be used in the completion of this Contract; their condition and any necessary repairs or modifications required to prepare the equipment for the work and its impact on the schedule
- d) Details of any proposed subcontractors and equipment rentals

- e) Details of proposed methods and methodology planned to be used in the completion of this Contract

The Tenderer shall note that all information submitted will be used by the Owner to evaluate the tender.

1.8 ABILITY AND EXPERIENCE OF TENDERER

The Tenderer is responsible for producing satisfactory evidence that they have the ability and experience in this class of work and sufficient capital and resources to prosecute and complete the work following the schedule provided herein. To demonstrate that the Tenderer has the necessary ability and experience to complete the work, they shall list no fewer than three (3) similar projects on page 7 of the Form of Tender provided in Section 2.0, including a suitable project reference. The Owner and Engineer reserve the right to assess the adequacy of the experience indicated by the Tenderer.

1.9 QUALIFICATIONS

Prequalification procedures are not applicable to this Tender.

1.10 DISPROPORTIONATE BIDS

The Owner reserves the right to reject any Tender which would appear to contain disproportionate prices for the various works included in this Contract.

1.11 EXAMINATION OF SITE

The submission of a Tender shall be deemed proof that the Tenderer has satisfied themselves as to all the conditions which may enter into the carrying out of the Tender to a satisfactory conclusion and the quantities of the works required. NO claims will be entertained from a Tenderer who was uninformed as to any of the provisions or conditions intended to be covered by the Tender.

The Tenderer shall make their own estimate of the facilities and difficulties to be encountered including the nature of the subsurface materials and conditions. They are not to claim at any time after submission of their Tender that there was any misunderstanding of the terms and conditions of the Contract relating to site conditions.

The Owner has made no prior arrangements with private land owners for site investigations to be carried out by prospective Tenderers on private properties. If any person proposes to carry out any investigation on private property relative to the proposed works, they shall, before entering the property, and before commencing the investigation, contact the owner and occupant of the property and advise them of the nature and extent of the proposed investigation and obtain an agreement in writing thereto of all such owners and occupants. The individual (or company) who was responsible for carrying out such an investigation or for making use of any access as aforesaid shall reinstate promptly all property which has been disturbed by such investigation or by use of such access and shall be responsible for all damage and claims resulting therefrom in accordance with the said agreement with such owners and occupants.

With respect to any matter referred to in the foregoing paragraph, no person referred to therein is authorized to act as agent of or to make any representation on behalf of the Owner or the Engineer. The Owner and Engineer shall not be responsible for any disturbance to or reinstatement of any property or for any damage or claims referred to therein.

Any inquiries or questions concerning this project shall be directed to SJL Engineering Inc.

1.12 QUANTITIES

Any quantities as set out in the Form of Tender are approximate and have been prepared by the Engineer for his purposes. They are not warranted by the Owner or by the Engineer. The Tenderer shall note that quantities are subject to change and shall consider this in preparing their bid. NO claims for extra payment due to changes to final quantities shall be entertained by the Owner unless the Scope of Work is deemed by the Engineer not to logically fall within the specified Scope of Work for items contained in this Contract. Tenderers shall refer to Section 1.0 Item 1.36 – Unit Price Tender, for further clarification.

1.13 OMISSIONS, DISCREPANCIES, AND INTERPRETATIONS

Should a Tenderer find omissions from or discrepancies in any of the tender documents or should they be in doubt as to the meaning of any part of such documents, they should notify the Engineer in writing. If the Engineer considers that a correction, explanation, or interpretation is necessary or appropriate, they will issue an addendum to all who have taken out tender documents. No oral explanation or interpretation shall modify any of the requirements or provisions of the tender documents.

1.14 PLANS AND SPECIFICATIONS

It will be the Tenderer's responsibility to clarify any details in question in this Tender or shown on the accompanying engineering drawings before submitting their Tender. The Unit and Lump Sum Prices, as tendered, shall include the supply of all labour, materials, and equipment to complete this Tender to the satisfaction of the Engineer. No allowance will be made for the Tenderer not being familiar with this Tender.

Plans and specifications are attached to this document in digital form and form an essential component of the Tender Package. Tenders must not be separated from the Tender Package. Removal of the Form of Tender or separation of the Form of Tender from the accompanying construction specifications and plans may constitute an informality.

1.15 LIST OF DRAWINGS

The following drawings are part of this Contract:

Sheet No.	Drawing Title	Drawing No.
010	South Headland Existing Conditions, Plan View & Cross-Sections	1098.02-D-010
020	South Headland Existing Stone Relocation & Slope Preparation, Plan View & Cross-Sections	1098.02-D-020
030	South Headland Interim Upgrades, Plan View & Cross-Sections	1098.02-D-030
040	Artificial Barrier Pilot Section & Wetland Restoration, Plan View & Cross-Sections	1098.02-D-040

1.16 HARMONIZED SALES TAX (HST)

The Harmonized Sales Tax (H.S.T) is not to be included in any unit pricing, in any lump sum pricing, or in the Total Tender Price. For tender purposes, H.S.T is excluded from the Total Tender Price, and shall be considered as extra. H.S.T. shall be shown separately in the designated space (if provided) on the Form of Tender. H.S.T. will be added as extra to any payments or progress payments, with H.S.T. calculated at 13% (or such other rate as determined by Canada Revenue Agency).

1.17 MAINTENANCE AND WARRANTIES

The successful Tenderer shall guarantee the work furnished on this Tender for a period of one year from the Date of Substantial Completion thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause fail to do so, then the Owner may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges, and expenses so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Owner from the successful Tenderer.

The decision of the Engineer shall be final as to the necessity of repairs of any work required to be done under the provisions of this clause or any other clause or clauses, in the amounts expended, therefore.

1.18 PRIME TENDERER

The Tenderer shall bid on all sections of this Tender and the Engineer and Owner will deal only with the Prime Tenderer whose name is shown in the Agreement, or their appointed representative. This Contract will be awarded to one Tenderer only.

1.19 ADDENDA

Addenda to the Tender shall be delivered to Tender takers digitally by e-mail. The Addenda shall be inserted in the Tender Documents immediately preceding the Form of Tender. If any Addenda are issued, the Tenderer shall indicate the number of issued addenda in the appropriate blank space on the Form of Tender. If no Addenda are issued, the Tenderer shall strike out the words "and _____ addenda to the said documents" in the Form of Tender.

1.20 CONTRACT DEPOSIT OR BID BOND

No Tender shall be considered as bona fide unless accompanied by a Certified Cheque or Bid Bond in the amount of \$50,000.00 and made payable to The Essex Region Conservation Authority. The Certified Cheque or Bid Bond of the unsuccessful Tenderers will be returned without interest upon execution of the Tender with the successful Tenderer. The Tender shall remain open for acceptance by the Owner for a period of sixty (60) days from the Tender closing date.

The Certified Cheque or Bid Bond of the successful Tenderer will be retained as liquidated damages to indemnify the Owner in case of default until such time as the Contract is executed. All Certified Cheques or Bid Bonds will be returned without interest should a Contract not be executed within sixty (60) days of the date of closing of this Tender.

The successful Tenderer shall execute a Contract in writing with the Owner within ten (10) days after being notified in writing by the Engineer of the acceptance of his Tender. In the event that such Contract is not executed within the said period, the Certified Cheque or Bid Bond of the Tenderer whose Tender has been accepted and who has failed to execute a Contract, shall be forfeited to the Owner and thereafter the Contract between such Tenderer and the Owner shall be forthwith terminated, forfeited, and ended.

1.21 COMMENCEMENT AND COMPLETION

The work under this Contract shall be completed to the satisfaction of the Engineer within the time limit specified herein.

The Contractor shall mobilize to site and commence work within seven (7) days of written instructions from the Engineer to commence work, being no later than July 15, 2024. Once work has begun, the Contractor will be required to furnish a normal labour and equipment force, without interruption, until final completion of the Contract unless otherwise authorized by the Engineer. Work shall be expected to occur on all normal working days, defined as any day throughout the year except Saturdays, Sundays, Statutory Holidays, and days on which the Contractor is prevented from carrying out work due to inclement weather or conditions resulting immediately therefrom, as approved by the Engineer.

The Contractor shall prosecute their work on this Contract to completion by October 31st, 2024. If the time limit specified above is not sufficient to permit completion of the work by the Contractor working a normal number of hours each day or week on a single daylight shift basis, it is expected that additional and/or augmented daylight shifts will be required throughout the life of the Contract to the extent deemed necessary for the Contractor to ensure that the work will be completed within the time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices bid for the various items of work and no additional compensation will be allowed, therefore.

An extension of time may be granted in writing by the Engineer in the event of the work being delayed beyond the prescribed time for completion. Such extensions shall be for such time as the Engineer and/or Owner may prescribe, and the Engineer/Owner shall fix the terms on which said extension may be granted. An application for an extension of time shall be made in writing by the Contractor to the Engineer at least ten (10) days prior to the date of completion fixed by the Contractor. The date of expiry of all bonds or other surety furnished to the Owner by the Contractor shall be extended to the new date of completion, and the Contractor shall be extended to the new date of completion, and the Contractor shall furnish the Engineer with evidence of such

extension of the bond or other surety. The Engineer takes no responsibility in assuring that bonds and other surety are properly in force, this shall be the full responsibility of the Contractor.

Any extension of time that may be granted to the Contractor shall be so granted and accepted without prejudice to any rights of the Owner whatsoever under this Contract, and all such rights shall continue in full force and effect after the time limited in this Contract for the completion of the work and whenever in this Contract power or authority is given to the Owner or the Engineer or any person to take any action consequent upon the act, default, neglect, delay, breach, non-observance of non-performance by the Contractor in respect of the work or Contract, or any portion thereof, such power or authorities may be exercised from time to time, and not only in the event of the happening of such contingencies before the time limited in this Contract for the completion of the work but also in the event of the same happening after the time so limited in the case of the Contractor being permitted to proceed with execution of the work under an extension of time granted by the Engineer.

1.22 APPROVALS

This project is subject to the approvals of the Municipality of Leamington, the Essex Region Conservation Authority, and Fisheries and Oceans Canada. During the execution of this project, the Contractor shall be bound to comply with all conditions of approval from these authorities.

1.23 HOLDBACK

Progress Payments shall be subject to a holdback of ten percent (10%) of the price of the services and materials which have been supplied in accordance with the requirements of the Construction Act. In addition to the ten percent (10%) holdback, the Owner may withhold a sufficient and reasonable sum, as determined by the Engineer, until uncompleted work is finished or deficiencies in any part of the constructed works are rectified.

Provided that no liens are registered against the project, holdback amounts will be released in accordance with the Construction Lien Act and after the following required documentation has been submitted by the Contractor.

- a) Certificate of Clearance from the Workplace Safety and Insurance Board
- b) Issuance of a Certificate of Substantial Performance signed by the Engineer
- c) A Statutory Declaration stipulating that all accounts with regard to the Contract have been settled.

1.24 INSURANCE

The Tenderer's attention is drawn to Section GC 11.1 of the Form of Agreement – CCDC 2 Stipulated Price Contract, 2020, regarding insurance requirements. The Essex Region Conservation Authority, the Municipality of Leamington, SJL Engineering Inc., shall be named as additional insureds as well as any others required by the Owner or Engineer at the time of Bond preparation.

1.25 LIQUIDATED DAMAGES

In the event that the successful Tenderer has not completed the Contract upon the expiry of the date of completion, it is agreed by the parties of the Contract that damage will be sustained by the Owner and the parties, hereto, agree that the successful Tenderer will pay the Owner the sum of Two Thousand Dollars (\$2,000.00) per day, for liquidated damages for each and every calendar day's delay in finishing the work in excess of the time allowed. This amount is based on the per diem cost of inspection services by the Engineer.

If the successful Tenderer is delayed by reason of alterations or changes deemed necessary by the Engineer, not contemplated by the Contract, the time of completion shall be extended for a period to be determined by the Engineer, and the successful Tenderer shall not be liable for liquidated damages for the period of such extension.

A Certificate of Substantial Performance will be issued by the Engineer to the successful Tenderer when the work has been substantially performed in accordance with the definitions in the Construction Lien Act, 1990, and any amendments made thereto.

1.26 WORK SUBSIDIES

The successful Tenderer shall supply all information to the Owner required for recovery of any subsidies accruing to the Owner under a Federal or Provincial Works program or another relevant work incentive program. All subsidies shall be the property of the Owner and no claims will be allowed or payments made to the Tenderer by the Owner in respect of any subsidies.

1.27 LABOUR CONDITIONS

Labour conditions, as set out by the Ministry of Labour, must be adhered to during the course of this project.

1.28 WORKERS COMPENSATION

Certificates of Clearance from the Workplace Safety and Insurance Board (WSIB) will be required before commencement of the work and before final payment is made.

1.29 SAFETY

The successful Tenderer shall carry out this project in strict accordance with all applicable Occupational Health and Safety Acts, including the regulation for construction projects, Ontario Regulation 213/91 as amended by Ontario Regulation 631/94, and other prescribed legislation and regulations as they may pertain to the work.

1.30 SUPPLY OF MATERIALS

The Contractor is required to supply all products, equipment, articles and materials incorporated in the Work for the execution of this Contract to the satisfaction of the Engineer. All materials shall be free of defects or damage and conform to the relevant material specifications shown in Section 4.0 of this tender package. The Contractor shall deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact. When material or equipment is specified by standard or performance specifications, the Contractor shall upon request of the Engineer, obtain from the manufacturer an independent testing laboratory report

stating that the material or equipment meets or exceeds the specified requirements. The Contractor shall, unless otherwise specified, comply with manufacturer's latest printed instructions for material and installation methods. Any conflicts between manufacturer's instructions and these specifications should be reported to the Engineer for decision on which document is to be used.

The Contractor shall provide samples of selected materials, assemblies or components as requested by the Engineer.

1.31 TRAFFIC CONTROL

The successful Tenderer will be required to control traffic on the project at all times when construction vehicles interfere with or temporarily block traffic on existing roadways. The Contractor will be required to submit a Traffic Control Plan outlining their proposed traffic control methods for East Beach Road, from the intersection with Mersea Road B to the work site. This information shall incorporate signs, flashing lights and traffic control personnel in accordance with MTO procedures for traffic control as outlined in the Ontario Traffic Manual – Book 7, and all other applicable regulations in effect during the Contract.

All signs shall be kept clean and in good condition, and shall meet or exceed the standard of reflectorization set out in the Ontario Traffic Manual. The Contractor shall review the placement of these signs with the Engineer in advance of any on-site construction.

Payment for signage and traffic control shall be made at the lump sum price bid and shall be compensation in full for all labour, equipment and materials required to carry out this work. This item shall be paid out incrementally, such that: 50% of the lump sum price bid shall be paid for the submission of an acceptable Traffic Control Plan and the satisfactory erection of the approved traffic control measures; 40% of the lump sum price bid shall be paid over the course of the project for adequate maintenance of the traffic control measures; and 10% of the lump sum price bid shall be paid out for removal of the traffic control measures upon completion of the project.

1.32 PEDESTRIAN AND VEHICULAR ACCESS

The Contractor shall assume full responsibility for and be required to provide for and maintain pedestrian access and vehicular access to all private property and through the construction work as required or as directed by the Engineer. This may require the provision of adequate temporary board works, steps or ramps where necessary to allow pedestrian and/or vehicular traffic to pass.

1.33 SOILS INVESTIGATION

A soils investigation and geotechnical analysis has been completed and is included as Appendix B to this Tender.

With the permission of the Owner, bidders may visit and examine the site and sub-surface conditions to satisfy themselves of the conditions which may be encountered during execution of the work. Such a visit and investigation shall be done at the expense of the Tenderer.

1.34 PERFORMANCE BOND

The successful Tenderer with a Surety approved by the Owner, will be required to enter into and sign an approved Performance Bond jointly and severally with the Owner for the amount of one hundred percent (100%) of the Total Tender Price for due and proper fulfillment of the Tender and maintenance of the work for the duration of the maintenance period (refer to Item 1.17).

Individual members of the Tenderer's firm will not be accepted as sureties. The bond of a Guarantee Company approved by the Owner will be accepted.

1.35 LABOUR AND MATERIAL PAYMENT BOND

The successful Tenderer will be required to furnish a Labour and Material Payment Bond in a form suitable to the Owner in the amount equal to one hundred percent (100%) of the Total Tender Price for payment of all labour and material used in the completion of the project. The dollar limit noted herein does not relieve the successful Tenderer from any and all obligations which he may have regarding the full payment of all labour and material used in the completion of the work.

1.36 UNIT PRICE TENDER

The Tender Form may include estimated quantities which have been prepared by the Engineer for their purposes. Neither the Owner nor the Engineer guarantee the accuracy of the quantities shown therein. Each Tenderer shall verify for themselves the accuracy of any estimated quantity shown therein during the Tender period.

The Tenderer shall note that the quantities as set out in the Form of Tender may be altered by the Owner or Engineer at any time and for any reason. In addition, any Item of work may be deleted from the Contract at the discretion of the Owner. If any quantity is altered or Item deleted, the Contractor will have no claim against the Owner or Engineer for so doing. The Contractor is advised to take this requirement into consideration when determining their unit prices and Total Tender Price.

Measurement and payment will be based on the lump sum amounts, units and unit rates shown in the Form of Tender. Specific details on measurement and payment for individual items is provided in Section 4.1 – General Provisions (Construction Specifications).

1.37 INCIDENTAL COSTS

The following is a partial list of items, the cost of which is to be included in the unit prices of the Tender items. No additional payment will be made for the following:

- a) Cost of removing and relocating to temporary and/or final locations small signs, hedges, decks, mail boxes, and other minor obstructions interfering with construction
- b) Cost of maintaining vehicular traffic and pedestrian access as noted elsewhere in Item 1.31
- c) Cost of maintaining dust and turbidity controls as outlined elsewhere in the contract documents
- d) Cost of removing excess materials from the subject lands and restoring subject lands to the pre-construction state, where applicable
- e) Cost of supplying, installing, and removing project signs (if required)

1.38 EXTRA WORK

Extra work is work which is required, but not described in the Contract Documents or on the project drawings. No work shall be regarded as extra work nor initiated unless it is first approved in writing by the Engineer, and with the agreed price and method of payment for it specified in the said approval, provided the said price is not otherwise determined by this Contract. The Engineer reserves the right to negotiate prices for extra work.

1.39 CLAIMS

If the Contractor considers that he has a claim for compensation for costs which he had incurred or for loss he has suffered during performance of the Contract, they should immediately advise the Engineer of their Intent to Claim on any specific portion of the Contract and they must also advise the Engineer in writing of their said Intent within seven (7) calendar days of the commencement of work on which they intend to claim. They shall submit their claim no later than fifteen (15) days after the date of completion of the work. When notice of claim is not given or the claim is not submitted within the periods prescribed by this Section, the Claim may be disallowed.

1.40 PROGRESS SCHEDULE

The Contractor shall be required to submit a Progress Schedule to the Engineer one week prior to commencement of the work. Such schedule shall be in a form acceptable to the Engineer, and shall clearly indicate the proposed order and time allowance for the various phases of the work in sufficient detail to show weekly progress.

The approval of the Progress Schedule by the Engineer will not cast any responsibility upon the Engineer or the Owner in seeing to it that the Progress Schedule is adhered to since timely execution of the work is entirely the responsibility of the Contractor. As requested by the Engineer, the Contractor shall review the Progress Schedule and update as required. The Contractor shall make no changes to the Progress Schedule without prior written approval from the Engineer.

1.41 SUPERVISION

The Contractor shall be responsible to monitor his own work on an ongoing basis and to provide adequate supervision to ensure a workmanlike job. They shall provide a qualified foreman to ensure that the job proceeds in a proper and efficient manner. If in the opinion of the Engineer, such personnel are not competent to carry out their work, the Contractor shall replace these persons immediately upon written request of the Engineer.

Supervision is entirely the responsibility of the Contractor. The Engineer and Owner's Representative will make periodic visits on a pre-determined basis and as required through the course of the works.

1.42 CLEAN-UP AND HAUL ROUTES

The Contractor shall be required to keep the premises in a clean and orderly condition during construction, maintain project site free from accumulated waste and rubbish, and remove excess and unusable materials as required and requested by the Engineer and authorities having jurisdiction. Mud and other debris tracked into the travelled roadway shall be removed immediately. Open trenches will not be allowed overnight.

The Contractor shall be responsible for removing all materials, earth or debris which falls out of trucks or from their own vehicles, their subcontractors vehicles, and supplier's vehicles. Haulage routes to and from the site for the delivery of rock or other materials and for the removal of materials off site shall be one of two specified haul routes provided in Appendix A to this Tender. The Contractor shall be solely responsible for obtaining any required permits or approvals of haul routes, for repairing any damage and reinstating the haul routes to pre-construction conditions, and abiding by any truck load limits, whether physically posted or published online (<https://www.countyofessex.ca/en/news/seasonal-load-limits-in-effect-on-county-roads->

2023.aspx). The Contractor shall document pre-construction conditions along the selected haul route through photographs or video.

1.43 CONSTRUCTION AND STORAGE AREA

The primary construction area is at the north end of East Beach Road, and includes only those areas necessary to carry out the works as shown on the project drawings. Stockpiling of material and the operation of heavy equipment must not disrupt or impeded private landowners from safely accessing their properties, at all times.

The area at the east end of the Mersea Road 1 dyke at its intersection with East Beach Road is also available to the selected Contractor for use as a stockpiling/staging area and/or truck turnaround. A key will be provided to the selected Contractor for the gate, which may be opened each morning to provide additional space. The selected Contractor is responsible for ensuring the gate is secured and locked at the end of each working day. The intended use of this area is to be outlined in the Contractor's proposal. Any damage to the Mersea Road 1 dyke or gate will be the sole responsibility of the Contractor, with necessary repairs completed at their expense.

1.44 PRE-CLOSING MEETING

The Tenderers should note that no mandatory, pre-closing, informational site meeting is presently scheduled or anticipated to be held.

SECTION 2.0

FORM OF TENDER

To (Owner): Essex Region Conservation Authority
360 Fairview Ave. W.
Essex, ON
N8M 1Y6

Attn: Kevin Money, Project Coordinator

For (Project): Hillman Marsh Barrier Beach and Wetland Restoration – Phase 1

From (Tenderer):

The above listed Tenderer is a _____ registered under the laws of the province of _____. The Tenderer and undersigned, having had the opportunity to examine the site of the works, and having examined in detail the Information to Tenderers, Form of Tender, Form of Agreement, Specifications and Drawings prepared by SJL Engineering Inc., does hereby tender and agree to furnish all materials and perform all work necessary to construct and maintain all the works described in the Tender Documents in conformity with and as described in the said Documents and _____ attached Addenda to the said Documents, for the **Total Tender Price** of _____ (excluding HST), or such other sums as may be finally ascertained in accordance with the allowance for additions and deductions as set out in the Tender Documents. The aforesaid Tender Price is made up from the Schedule of Items and Unit Prices provided below.

The above listed and undersigned Tenderer agrees:

- a) that until the Form of Agreement is completed and executed, this Tender, together with the acceptance thereof by the Owner shall constitute a binding Contract between the Owner and the Tenderer, regardless of whether or not any other Tender has been previously accepted, and
- b) to leave this Tender open for acceptance for a period as specified in the Information to Tenderers, and
- c) that if this Tender is accepted, to furnish Liability Insurance and accept payments and complete the works as elsewhere outlined in the Documents, and
- d) also agrees that should the Tenderer default or fail in any matter contained herein, the Tenderer shall forfeit the Certified Cheque or Bid Bond to the Owner as liquidated damages for such default or failure and also agrees to pay to the Owner the difference between the price or prices set out in this Tender and any greater sum or sums which the Owner may expend or for which it may become liable by reason of such default or failure, including the cost of any advertisement for new Tenders and fully to indemnify and save harmless the Owner and/or its officers, agents, consultants, sub-consultants or servants from all loss, damage, liability, costs, charges or expenses whatever, whitt it, they or any of them may suffer, incur or be put to by reason of any such default or failure, and
- e) also agrees that the Owner has the right to accept or reject all or any portion of this Tender.

The above listed and undersigned Tenderer hereby proposes _____

(Name of Authorized Surety Bonding Company of Ontario)

which is willing to become bound with the Tender in the required amount for the due performance and fulfillment of the requirements contained in these Tender Documents.

Privilege Clause: With the execution of this Tender, the Tenderer acknowledges that the Owner shall have the right to reject any and all tenders for any reason or to accept any tender which the Owner in its sole unrestricted discretion deems most advantageous to itself. The Tenderer acknowledges that the Owner may rely upon criteria that the Owner deems relevant even though such criteria have not been disclosed to the Tenderer. By submitting a tender, the Tenderer acknowledges the Owner’s right under this clause and absolutely waives any right of action against the Owner and its consultants for the Owner’s failure to accept the Tenderer’s tender whether such right of action arises in contract, negligence, bad faith, or any other cause of action.

Note:

If this Tender is submitted by or on behalf of any Corporation, it must be signed in the name of such Corporation by some duly authorized officer or agent thereof, who shall subscribe his/her name and office.

TENDERER'S SIGNATURE

NAME AND TITLE

WITNESS SIGNATURE

NAME AND TITLE

DATE (DD/MM/YYYY)

SCHEDULE OF ITEMS AND UNIT PRICES

This schedule must be completed by all tenderers at the time of tender.

PART A – SOUTH HEADLAND UPGRADES

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE (CAD)	AMOUNT (CAD)
A-1	Excavation and slope preparation	LS	--	--	
A-2	Relocate/reposition existing armour stone	LS	--	--	
A-3	Relocate/reposition existing precast concrete blocks	LS	--	--	
A-4	New armour stone (3 – 5 tonne)	Tonne	1,010		
A-5	Rip rap (300 – 600 mm Ø)	Tonne	740		
A-6	Core Stone	Tonne	290		
A-7	Geotextile	m ²	650		
SUBTOTAL OF ITEMS LISTED UNDER PART A:					

*Unit prices are for “placed” material

PART B – ARTIFICIAL BARRIER PILOT SECTION

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE (CAD)	AMOUNT (CAD)
B-1	New armour stone (1 – 2 tonne)	Tonne	570		
B-2	Rip rap (225 – 450 mm Ø)	Tonne	900		
B-3	Bedding Stone (G-3 Gabion)	Tonne	770		
B-4	(OPTIONAL) G-10 Gabion stone	Tonne			
B-5	Substrate compaction	LS	--	--	
SUBTOTAL OF ITEMS LISTED UNDER PART B:					

*Unit prices are for “placed” material

PART C – WETLAND RESTORATION

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE (CAD)	AMOUNT (CAD)
C-1	Placement of fill (salvaged / excavated) material	LS	--	--	
C-2	Woody debris / stumps / rootwads / stone clusters	LS	--	--	
C-3	T-bars / Elevation Stakes	LS	--	--	
C-4	Temporary barrier fencing	LS	--	--	
SUBTOTAL OF ITEMS LISTED UNDER PART C:					

*Unit prices are for “placed” material

PART D – MISCELLANEOUS

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE (CAD)	AMOUNT (CAD)
D-1	Mobilization and Demobilization	LS	--	--	
D-2	Bonds (Performance and Labour & Material) and Insurance	LS	--	--	
D-3	Supply, install and maintain turbidity control measures in accordance with specifications and project permits	LS	--	--	
D-4	Traffic control measures	LS	--	--	
D-5	Contingency (allowance)	LS	--	--	\$10,000,00
SUBTOTAL OF ITEMS LISTED UNDER PART D:					

*Unit prices are for “placed” material

TOTAL TENDER PRICE (A+B+C+D): _____
(excluding HST)

SUBCONTRACTORS

The Tenderer shall list hereunder the names and trades of all subcontractors whom they propose to use under this Contract.

NAME:	ADDRESS:	TRADE:

It is understood by the Tenderer that the above list is complete and no additions or changes to this list will be permitted after the Closing Date of Tenders, except as authorized in writing by the Engineer.

The Tenderer agrees, if their Tender is accepted, to supply any additional materials and equipment and to execute any additional work, or to deduct any work as may be required in strict conformity with the requirements of the Contract and that the prices applicable to additions to the work and to deductions therefrom shall be determined as follows:

- a) The Schedule of Items and Unit Prices shall apply where applicable
- b) If, in the opinion of the Engineer, the Schedule of Items and Unit Prices is inapplicable, the Contractor and Engineer may agree on a price for extra work to be done or for work to be omitted, prior to its being performed; in which case, the price shall be comparable to prices quoted for work of a similar nature in the Schedule of Items and Unit Prices
- c) If the methods of evaluating extras described in a) and b) above are clearly inapplicable, then the Engineer may direct that such extra work shall be done in accordance with Clause GC 6 of the Standard Construction Document – CCDC 2 – 2020 and the attached Information to Tenderers

COMPLETED PROJECTS

I/We have in the past 5 years completed the following works which are similar to the work for which the present offer is made:

Description of Work:	Location:	Year Completed:	Client:	Value (CAD):

Note: The Tenderer must list no fewer than three (3) similar projects

EQUIPMENT STATEMENT

The Tenderer shall, in the space provided hereunder, furnish a list and a complete description of the plant and equipment available for the satisfactory completion of the work outlined in the Documents. The Engineer reserves the right to inspect all plant and equipment listed prior to award of a Contract.

Description of Unit (make, model & year):	Size, Capacity and Horsepower Rating:	Auxiliary and/or Special Attachments:	Condition:	Present Location:	Description of Ownership:

Description of Unit (make, model & year):	Size, Capacity and Horsepower Rating:	Auxiliary and/or Special Attachments:	Condition:	Present Location:	Description of Ownership:

SECTION 3.0

FORM OF AGREEMENT

Note:

The Form of Agreement for this Contract shall be the standard construction document 'CCDC 2 – 2020' (Stipulated Price Contract), as supplied by the Canadian Construction Documents Committee. Copies of the Form of Agreement will be included in the executed Contract and can be reviewed at the offices of the Owner during normal business hours prior to Contract execution.

SECTION 4.0

CONSTRUCTION SPECIFICATIONS

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4.1 GENERAL PROVISIONS

- 4.1.1 The Contractor shall assume sole and complete responsibility for job site conditions during the course of construction, including safety of all persons and property, that this requirement shall apply continuously and not be limited to normal working hours, and that the contractor shall defend, indemnify, and hold the Engineer and Owner harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the Engineer or Owner.
- 4.1.2 The Contractor shall be in compliance with all project specifications, and conditions of the relevant permits and authorizations issued by Governmental Authorities.
- 4.1.3 All dimensions shown on the project drawings are in millimeters unless otherwise stated. Elevations are in meters and are in reference to IGLD'85 vertical datum, unless otherwise stated. The conversion from IGLD'85 to Geodetic (CGVD2013) is approximately -0.47 m at the project location.
- 4.1.4 Existing topographic and bathymetric elevations shown on the project drawings are approximate and were collected in 2023. Relevant elevations shall be checked by Contractor prior to construction where necessary.
- 4.1.5 Survey Control Points (S.C.P.) are provided on project drawings where relevant, and are listed in meters in reference to NAD83 / UTM Zone 17N.
- 4.1.6 If there are any discrepancies between dimensions in drawing and existing conditions which will affect the work, the Contractor shall bring such discrepancies to the attention of the Engineer for adjustment before proceeding with the work.
- 4.1.7 Property boundaries shown on project drawings are approximate. Contractor to confirm property limits prior to start of construction as necessary. If work outside of the Owners property is required, the Contractor and/or Owner shall seek permission from the relevant land owner(s), and provide said permission, in writing, to the Engineer prior to commencing work on the property in question. The Engineer assumes no responsibility in verifying that permission to enter private property is granted. The Contractor shall assume full responsibility for crossing or making use of private property outside the limits of the Contract. Any costs associated with the above shall be at the Contractor's expense.
- 4.1.8 The Contractor's attention is drawn to the possible presence of utilities on this project. The locations of underground and overhead utilities if shown on the Contract Drawings are for the Engineer and Owner's use only, and is not guaranteed by the Owner or the Engineer. It is the Contractor's responsibility to contact Utility Companies for further information in regard to these utilities, and to exercise the necessary care in construction operations or take other precautions to safeguard the Utility Company from damage. The cost of all damages to utilities both overhead and underground caused by the Contractor's operations shall be borne solely by the Contractor.

- 4.1.9 The inability to construct the works in conformance with the construction drawings for any reason whatsoever should be reported to the Engineer immediately.
- 4.1.10 The Contractor shall hold harmless the Engineer and the Owner for defects or deficiencies as a result of production, transport, placement and construction or any non-approved deviations from the information shown in the project drawings and listed in the construction specifications.
- 4.1.11 The Contractor shall maintain at the job site, one of each of the following in a clean, dry and legible condition:
- i) Project Drawings,
 - ii) Construction Specifications,
 - iii) Addenda,
 - iv) Change Orders,
 - v) Other Modifications to the Contract,
 - vi) Copy of Approved Work Schedule,
 - vii) Copies of all work permits and letters of advice obtained for the project
- 4.1.12 The Contractor shall assume full responsibility for all damages done to the works throughout the course of construction through the influence of water (including waves), snow, frost, and ice. They shall at their sole expense immediately make good any damage so caused by the above. The lump sum prices provided in the Form of Tender shall include all costs which may be incurred as a result of carrying out work under winter conditions, or inclement weather. No claims due to hardship arising from winter work and/or inclement weather will be considered.
- 4.1.13 No part of the work shall be loaded with a load which will endanger its safety or will cause permanent deformation. The Contractor shall at their sole expense repair to original condition any part of the work damaged due to overloading.
- 4.1.14 Progress meetings shall be held at regular intervals either on site or virtually, as directed by the Engineer prior to initiation of the works. The Contractor shall provide a suitable, responsible representative for such meetings. Action items stemming from these meetings will be recorded and distributed by the Engineer.
- 4.1.15 No measurements shall be made for items shown in the Schedule of Items and Unit Prices in the Form of Tender as lump sum items (A-1, A-2, A-3, B-5, C-1, C-2, C-3, C-4, D-1, D-2, D-3, D-4, D-5). Payment for these items shall be made at the lump sum bid and shall be compensation in full for all labour, equipment and material required to carry out this work as described in the Contract Documents. Lump sum items may be paid in up to three (3) installments based on percent completion.
- 4.1.16 Quantities for all items shown in the Schedule of Items and Unit Prices in the Form of Tender as being based on units of “tonnes” (A-4, A-5, A-6, B-1, B-2, B-3, B-4) shall be based on the actual amount (tonnes) of material placed as determined by the weight bills provided by the Contractor. Payment of these items shall be made at the unit price bid and shall be compensation in full for all labour, equipment and material required to carry out this work as described in the Contract Documents.

- 4.1.17 Quantities for items shown in the Schedule of Items and Unit Prices in the Form of Tender as being based on “m²” or “m³” such as geofabric (A-7) shall be determined by a square metre or cubic metre field measurement. Payment shall be made at the unit prices bid and shall be compensation in full for all labour, equipment and material required to carry out this work as described above.
- 4.1.18 In executing the scope of work described in the Contract Documents, the Contractor shall be solely responsible for monitoring and controlling the quantities of materials used. If over the course of construction, the quantities required to execute the scope of work for any particular tender item are found to deviate significantly from the corresponding quantity in the Form of Tender (i.e., +/- 10%), the Contractor shall be obliged to notify the Engineer immediately so that measures can be taken to mitigate any potential cost overruns. Where quantities for payment are to be determined by weigh bills for materials delivered to the site, the Contractor shall be solely responsible for collecting and providing the weigh bills to the Engineer within 24 hours of delivery. In the event that the weigh bills or tickets are provided more than 24 hours after the deliver of the subject materials to the site, the Engineer shall have sole discretion in determining whether the materials are eligible for payment.

4.2 CONTRACTOR QUALITY CONTROL

- 4.2.1 The Contractor is responsible for quality control and shall establish and maintain an effective quality control plan. The quality control plan shall consist of personnel, procedures, services, documentation and organization necessary to produce an end product, which complies with the contract requirements. This includes documenting the quality of the as-built works through as built surveys and demonstrating adherence to the specific project tolerances listed in this section, and providing said documentation to the Engineer for review at specified intervals or in accordance with project milestones. Procedures for identifying, tracking, and remedying construction deficiencies should be clearly identified. Construction deficiencies are any works that do not conform to the construction specifications or project drawings forming part of this Contract. The quality control plan shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence.
- 4.2.2 The Contractor's proposed quality control plan should be provided to the Engineer for review and approval at least five (5) days prior to the initiation of work. Construction will be permitted to begin only after acceptance of the Contractor's quality control plan. No payment will be made for work performed without an approved Quality Control Plan.
- 4.2.3 The Contractor is responsible for monitoring quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- 4.2.4 The Engineer may, at their sole discretion, require documentary evidence to the effect that materials supplied by the Contractor comply with the terms of the construction specifications. No costs in connection with any tests, measurements or documentation of such necessary to provide said evidence shall be borne by the Owner or the Engineer.
- 4.2.5 Comply with relevant manufacturer's instructions and specifications. Should manufacturer's instructions conflict with Contract Documents, request clarification from the Engineer before proceeding.
- 4.2.6 The Contractor shall ensure that work is performed by persons with the necessary experience and qualifications to produce workmanship of specified quality.
- 4.2.7 The Contractor shall monitor tolerance control of installed aspects of the works to produce acceptable work. Tolerances are not permitted to accumulate. All earth works, stone courses and other aspects of the works shown in cross-section on the project drawings are to be placed to the neat lines, grades and elevations shown on the project drawings to within +/- 15 cm. Aspects of the works pertaining to spatial extent including structure footprints and locations are to be placed within +/- 30 cm of the neat lines shown on the project drawings.
- 4.2.8 Dewatering of excavated work areas is not required during placement of stone courses to achieve the design intent, but may be performed for other reasons at the Contractor's option. Any costs associated with dewatering are to be included in the lump sum

amounts provided in the Form of Tender. No additional claims for dewatering activities will be accepted.

- 4.2.9 The Contractor shall, at any time when directed by the Engineer, make openings for inspection to any part of the work. Should the work be found, in the opinion of the Engineer, to be defective in any respect, the whole of the work shall be corrected to the satisfaction of the Engineer and at the expense of the Contractor. Should such work be found not faulty, the cost incurred shall be accepted by the Owner.
- 4.2.10 At the completion of the work the Contractor's specified quality control manager shall conduct an inspection of the work with the Engineer and develop a "punch list" of items that do not conform to the approved plans and specifications. The Contractor's quality control manager and the Engineer shall agree on a date for a secondary inspection as required to ascertain that "punch list" items have been remedied.
- 4.2.11 Separate or direct payment will not be made for providing and maintaining an effective quality control program, and all costs associated therewith shall be included in the lump sum price shown on the Form of Tender.

4.3 SITE PREPARATION, MATERIAL TRANSPORT AND DEMOBILIZATION

- 4.3.1 The Contractor is responsible for furnishing all construction, labour, equipment, and materials and performing all operations in connection with the completion of the works as shown on the project drawings.
- 4.3.2 Work includes preparation of site access and stockpile areas. The Contractor shall implement measures to protect existing infrastructure, earth works, vegetation or other items in the vicinity of the access routes, stockpile, and work areas. Demolition and/or removal of items required to complete the specific work must be approved by the engineer.
- 4.3.3 The east end of the Mersea Road 1 dyke at the intersection with East Beach Road may be used for stockpiling/staging and/or as a turnaround location. A key will be provided to the selected Contractor for the gate. The gate can be opened in the morning to provide additional space, and must be closed by the Contractor at the end of the working day. Any damage to the Mersea Road 1 dyke or gate shall be the Contractor's responsibility and shall be repaired or reinstated to the pre-construction condition at the Contractor's expense.
- 4.3.4 Any damage to existing infrastructure, utilities, earth works, paved, vegetated, or otherwise landscaped areas resulting from Contractor's activities must be repaired/reinstated at the Contractor's expense.
- 4.3.5 No equipment, construction materials, excavated materials or waste shall be left on site after completion of the works unless directed by Owner. Disposal of any derived or excess material must be undertaken in a legal manner.
- 4.3.6 The Contractor shall exercise care in loading, hauling, and unloading of stone and other construction materials to prevent cracking, splitting or other forms of structural damage.
- 4.3.7 Contractor to identify overhead wires, underground utilities, wells, and septic systems if applicable prior to the start of construction.
- 4.3.8 The Contractor is required to utilize one of the two specified haul routes as outlined in Appendix A to these specifications for transporting stone materials and heavy machinery to site. Any damage incurred to haul routes due to the transportation of materials or heavy machinery will be the sole responsibility of the Contractor to repair or reinstate to pre-construction conditions, at their expense. The Contractor must document pre-construction conditions along the haul route through video or photos.
- 4.3.9 Contractor is responsible for abiding by any truck load limits, whether physically posted or published online (<https://www.countyofessex.ca/en/news/seasonal-load-limits-in-effect-on-county-roads-2023.aspx>).

- 4.3.10 The Contractor shall, at their own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses which may be encountered during the progress of work.
- 4.3.11 There is a municipal fire hydrant near the end of East Beach Road. The fire hydrant is shown on the project drawings. The Contractor shall be responsible for avoiding any contact with or damage to the fire hydrant or underground water main during the course of construction. Any damage to the fire hydrant or water main will be the sole responsibility of the Contractor with repairs undertaken at the Contractor's expense.
- 4.3.12 The Contractor shall not demobilize from site until the completion of the works. The works will not be deemed completed until the Engineer has inspected the works and issued a Certificate of Substantial Performance.
- 4.3.13 Upon completion of the works and the issuance of a Certificate of Substantial Performance, the Contractor shall inspect the entire site, remove all surplus and unusable materials and rubbish of every description incident to their work, leave the site neat and orderly, and in satisfactory working conditions, subject to the approval of the Owner.

4.4 EARTH WORKS

- 4.4.1 Native soils and substrate shall be undisturbed except for those areas explicitly shown as cut or fill on the project drawings. Excavation and backfilling (cut and fill) shall conform to OPSS 902.
- 4.4.2 All earth excavation shall be managed on-site in accordance with the construction specifications and Contract Documents. If boulders, rock, broken concrete, debris or similar non-earthen materials are encountered within the excavation limits shown on the project drawings, and are deemed detrimental by the Engineer, the Contractor shall make further excavation as may be required and shall backfill the excavation with suitable compacted material. The Contractor may be required to dispose of these unsuitable materials off-site at their own expense, in compliance with applicable municipal regulations and the provisions outlined in Section 4.8 of the construction specifications.
- 4.4.3 General fill material shall be clean native or imported soil material suitable for compaction. Use of substrate material from existing shoreline or lakebed is not permitted as general fill, other than that which is specifically permitted as per Specification 4.4.4 and shown on the project drawings. All fill material shall be compacted to minimum 95% S.P.D.
- 4.4.4 Native material excavated from the footprint of the interim headland upgrades (shown in project drawing 020) should be separated into native soil (e.g., sand, silt, clay), and organic material (e.g., peat). Excavated native soils are to be repurposed as fill material for the restoration area, and top dressed with the excavated organic material, as shown in project drawing 040.
- 4.4.5 No excavation shall take place outside of the structure footprints plus an allowance for stable slope, unless explicitly permitted or directed by the Engineer.

4.5 PRIMARY STONE MATERIALS (ARMOUR STONE)

- 4.5.1 Armour stone is to be hard, durable, quarry stone, free from cracks, seams or other defects, with a minimum density of 2,650 kg/m³. Stones to be roughly rectangular in shape.
- 4.5.2 Armour stones must conform to the weight gradations shown on the project drawings, with minimum 50% of stones exceeding the median weight of the specified gradation for each stone course. The specified stone gradation shall be consistently maintained throughout the structure.
- 4.5.3 Least dimension of individual stones shall not be less than 2/3 of the greatest dimension.
- 4.5.4 Armour stones to be placed to the neat lines and grades shown on the project drawings. Each stone shall be placed individually such that tight lateral packing is achieved. A spotter shall be used to direct the operator to ensure proper stone placement as per this specification.
- 4.5.5 Toe stones are to be placed such that the underside of the rock rests at the elevation specified on the project drawings. Stones are to be placed on a clean, sound footing of native substrate, bedding material or geofabric, as shown on the project drawings. The Contractor should take extra care in ensuring that toe stones are embedded to the specified elevation and are tightly seated to adjacent stones.
- 4.5.6 The lowest line of armour stones in the primary layer(s) should be keyed into the toe stones below. A line of stones should be placed in the saddle points of the next lower line.
- 4.5.7 Stones should not protrude excessively from the structure face or stone layer in order to prevent excessive wave action on individual stones. Nominally, a stone should not protrude more than one fifth of its dimension perpendicular to the structure.
- 4.5.8 Maximum void between adjacent armour stones = 300 mm.
- 4.5.9 Equipment proposed for primary stone placement shall be capable of placing each stone at its desired position before release and must be capable of moving and repositioning stone if necessary. Stones shall not be dropped from a height of more than 200 mm.
- 4.5.10 The use of existing/salvaged armour stone is permitted where the stones meet the requirements specified herein. Existing/salvaged armour stones should be used in areas designated for such on the project drawings.
- 4.5.11 OPSS Forms 511 (MUNI) and 1004 (MUNI) shall apply and govern except those items specifically addressed in this specification.

4.6 SECONDARY STONE MATERIALS

- 4.6.1 Stone used in secondary stone layers shall be hard, durable, angular, quarry stone (rip rap, bedding/gabion stone), free from cracks, seams or other defects with a minimum stone density of 2,650 kg/m³.
- 4.6.2 Stones gradations for rip rap are shown on the project drawings. Stone gradations for G-3 and G-10 Gabion Stone are as per OPSS.MUNI 1004. The specified stone gradation shall be consistently maintained throughout the structure.
- 4.6.3 Core stone shall be quarry run with a minimum bulk density of 2,650 kg/m³.
- 4.6.4 Secondary stone gradations shall be as indicated on the project drawings, with minimum 50% of total stone volume exceeding the median size of the specified gradation. Specified stone sizes represent the smallest dimension of individual rock pieces.
- 4.6.5 End dumping and dozing of secondary stone directly into place is not permitted. Material shall be carefully placed in such a manner that the material is uniformly distributed within the neat lines and grades shown on the construction drawings.
- 4.6.6 Secondary stone courses are to be compacted through careful and repeated tamping with the heel of an excavator bucket, or by vibratory compactor. The final layer thickness shall meet the thicknesses specified on the project drawings.
- 4.6.7 Use of existing/salvaged secondary stones is permitted where the stones meet the requirements specified herein.
- 4.6.8 OPSS Forms 511 (MUNI) and 1004 (MUNI) shall apply and govern except those items specifically addressed in this specification.

4.7 GEOTEXTILE

4.7.1 Geotextile shall be non-woven, pervious, inert and durable, meeting or exceeding the following criteria:

- Grab tensile strength = 1200 N (both directions)
- Tear resistance $\geq 400\text{N}$
- Puncture CBR strength $\geq 3200\text{ N}$
- Apparent opening size $\leq 0.20\text{ mm}$

Suggested product: Terrafix 800R or an approved equivalent.

4.7.2 Individual geotextile sheets shall be laid with minimum 600 mm overlap of adjacent sheets.

4.7.3 Material shall be free of defects or tears. Damaged, in-situ geotextile fabric shall be repaired by placing a second layer, overlaying the damaged area by not less than 600 mm in all directions.

4.7.4 The use of existing/salvaged geotextile material is not permitted.

4.8 ENVIRONMENTAL PROTECTION AND SEDIMENT CONTROLS

- 4.8.1 OPSS Forms 180 and 182 (MUNI) along with Section 4.8 of these Construction Specifications shall apply and form part of this Contract. All costs associated with conforming to these Special Provisions shall be included in the lump sum amounts shown on the Form of Tender.
- 4.8.2 The Contractor shall comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and regarding labelling and the provision of material safety data sheets acceptable to Labour Canada.
- 4.8.3 The contractor shall act in accordance with all instructions, permits and authorizations imposed by Governmental and Regulatory Agencies. The contractor shall abide by all terms and conditions imposed by those permits and authorizations, including relevant in-water work windows and seasonal truck load restrictions. It is the Contractors responsibility to review and be familiar with all relevant permits and authorizations, and to keep copies of such on site at all times during the execution of work.
- 4.8.4 The Contractor shall take necessary action to minimize and mitigate all detrimental effects on the environment, including but not limited to preventing debris and sediments from entering the water.
- 4.8.5 No in-water work should take place outside of DFO's prescribed timing window (i.e. NO in-water work between March 15th – July 15th).
- 4.8.6 The Contractor shall monitor the weather several days in advance to ensure that works will be conducted during favourable weather conditions. Avoid high flow/currents, wet, windy, wavy and rainy periods that may increase the risk of erosion, sedimentation or heightened turbidity.
- 4.8.7 If any portion of the works requires permissible construction activities lakeward of the water line, effective sediment, erosion and turbidity control measures shall be installed prior to beginning work, maintained during construction and fully removed once all disturbed areas have been stabilized. Sediment, erosion and turbidity controls must also act as an effective fish curtain. Controls must be installed by walking curtain out from the shoreline to prevent the entrapment of fish. Monitor site conditions and modify controls if site conditions warrant. The Contractors erosion and sediment control plan should be approved by the Engineer prior to commencement of any in-water works. The Contractor will be ordered to cease operations if, in the opinion of the Engineer or authorities having jurisdiction, the in-water work is producing unacceptable amounts of turbidity in the waterway. Based on this, the Contractor shall either adjust their operation(s) to produce lower turbidity levels, wait for more favourable conditions before operations will be allowed to continue, or undertake approved additional mitigating measures (e.g. sediment control, etc.). All costs associated with the above will be the sole responsibility of the Contractor, and no claims for extras or delays will be considered.

- 4.8.8 If permissible in-water work is to occur, the use of equipment in the water shall be minimized to the absolute extent possible and prohibited where it will harmfully alter, disrupt or destroy fish habitat.
- 4.8.9 It is the Contractor's duty to notify the Engineer immediately if it has caused, is about to cause, or is suspected of causing the death of fish or the harmful alteration, disruption or destruction of fish habitat, other than that which is shown specifically on the project drawings.
- 4.8.10 Equipment used must be clean of oil, grease, fuel and free of leaks. Vehicle maintenance, refueling and dewatering shall take place a sufficient distance from the waters edge or any waterway to prevent any deleterious substances interacting with a water body.
- 4.8.11 Spills of deleterious substances into waterways and on land shall be immediately contained by the Contractor and the Contractor shall cleanup in accordance with Provincial regulatory requirements. All spills shall be reported to the Ontario Spills Action Centre (1-800-268-6060), local authorities having jurisdiction, and the engineer. The Contractor shall note that the Engineer and the Owner takes no responsibility for spills. This shall be the sole responsibility of the Contractor.
- 4.8.12 In order to minimize the potential for unintentional introduction of invasive species from equipment, inspection and cleaning of all machinery and equipment must be performed in accordance with the procedures, checklists and diagrams provided in "Clean Equipment Protocol for Industry, June 2016", available at "www.ontarioinvasiveplants.ca". In general, inspection of machinery and equipment should occur prior to arrival on site, and should ensure that no clods of dirt are visible after wash down, and that radiators, grills, and the interiors of vehicles are free of accumulations of seed, soil, mud and plant materials parts including seeds, roots, flowers, fruit, and or stems.
- 4.8.12 Temporary stockpiles of excavated or construction materials shall be located sufficient distance from the waters edge such that stockpiles cannot interact with the water body.
- 4.8.13 Disturbance or destruction of vegetation should be avoided where possible and must be approved by owner(s). Appropriate measures should be taken to restore vegetated areas to their pre-construction state.
- 4.8.14 Waste or volatile materials shall not be disposed of into water bodies or storm sanitary sewers. Water containing suspended sediment or construction materials shall not be pumped into water bodies, sewers or drainage systems.
- 4.8.15 The site shall be maintained free of accumulated waste and rubbish, both above and below grade. All waste materials should be disposed of in a legal manner at a site approved by all local approving authorities and the Engineer.
- 4.8.16 The Contractor shall control emissions from equipment and plant to local authorities emission requirements.
- 4.8.17 The Contractor shall abide by local noise By-Laws for the duration of the works.

- 4.8.18 The Contractor will be solely responsible for controlling dust nuisance resulting from their operations, both on the site and within adjacent right-of-ways. Measures incorporated in the execution of the works to control dust shall be included in the lump sum amounts shown on the Form of Tender.
- 4.8.19 If any of the specifications outlined in Section 4.8 cannot be met, or in the event that any construction activity results in suspected impacts to the environment, including fish and fish habitat, the Engineer should be notified immediately.

4.9 WETLAND RESTORATION WORKS

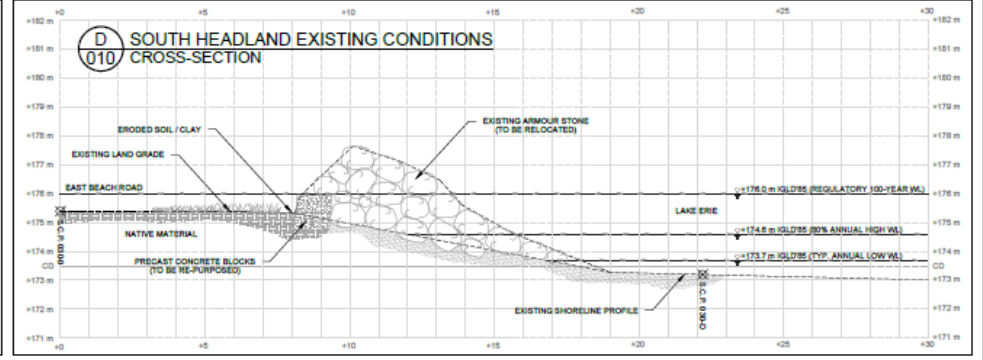
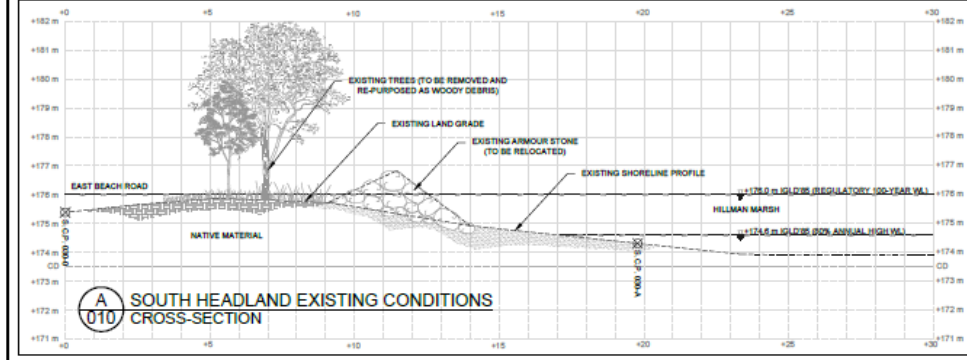
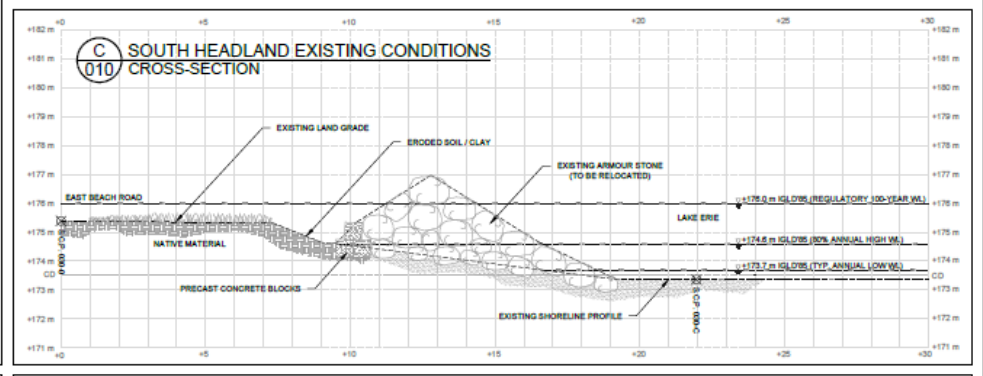
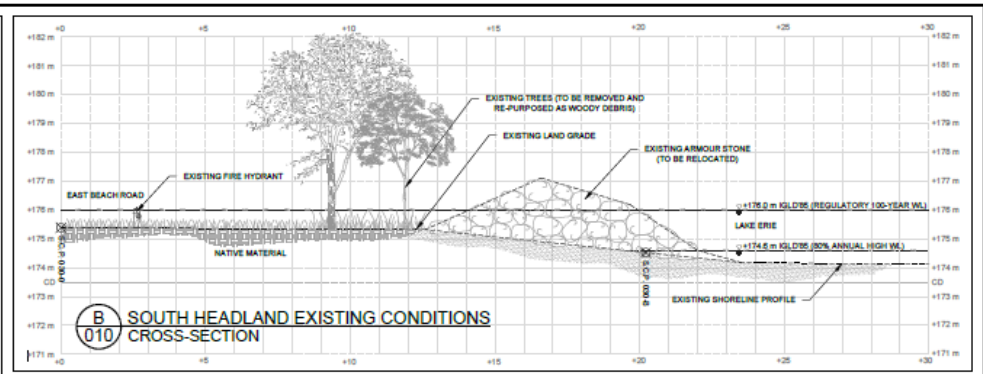
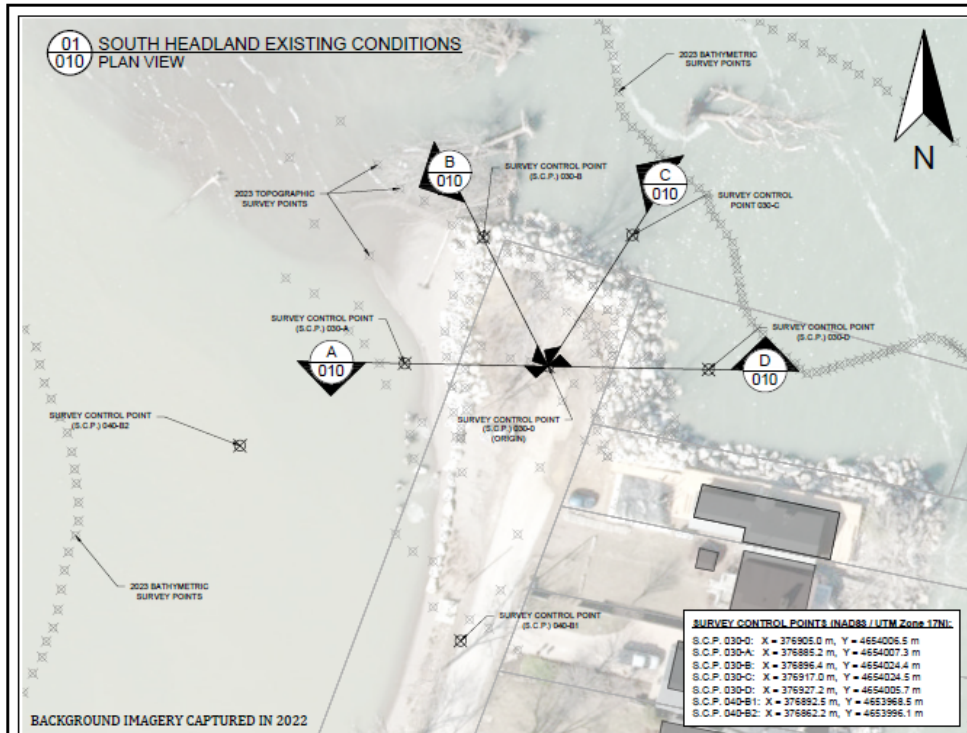
- 4.9.1 All glacial till (cobble/sand/silt/clay) and organic (peat) material excavated from footprint of South Headland and Pilot Barrier Section to be repurposed as fill material for the wetland restoration works, as shown on Sheet 040 of the project drawings. Organics (peat) to be separated and placed over glacial till material within wetland restoration area as directed onsite by Owner's Representative or Engineer.
- 4.9.2 Fill material to be placed at an approximate slope of 10H:1V with minor variances to achieve general layout and elevations shown on Drawing 01-040 in the project drawings. Target elevations marking vegetation zone transitions to be staked using driven T-bars spaced no greater than 5 metres apart prior to the placement of fill material with target fill elevations clearly indicated on each T-bar to permit efficient filling. T-bars to remain after Contractor has demobilized to guide vegetation planting efforts.
- 4.9.3 Woody debris, stumps and rootwads shown in wetland restoration works on the project drawings to be salvaged from removed/excavated trees and downed trees around the working area within the reach of excavator, as directed onsite by Owner's Representative or Engineer.
- 4.9.4 Stones shown in stone clusters around woody debris, stumps and rootwads to be sourced from salvaged / existing stones on site not meeting the specifications for use in the upgraded South Headland or Artificial Barrier Section. If additional stones are required beyond those salvaged on site, they are to be included in the lump sum price for woody debris / stump / rootwad / stone clusters listed in Section 2.0 – Form of Tender.
- 4.9.5 No heavy machinery or construction vehicles are permitted on the fill material once it has been placed.
- 4.9.6 Temporary barrier fencing to be put in place by Contractor throughout the wetland restoration area as directed by the Engineer or Owner's Representative following (and anchored to) the target elevation T-Bars and the vegetation zone transition contours shown on Drawing 01-040 to keep animals and waterfowl from wetland restoration area while plantings (by others) are establishing. Contractor to return to remove fencing once planting has established, as directed by the Owner's Representative.
- 4.9.6 Contractor is not responsible for vegetation planting.

SECTION 5.0

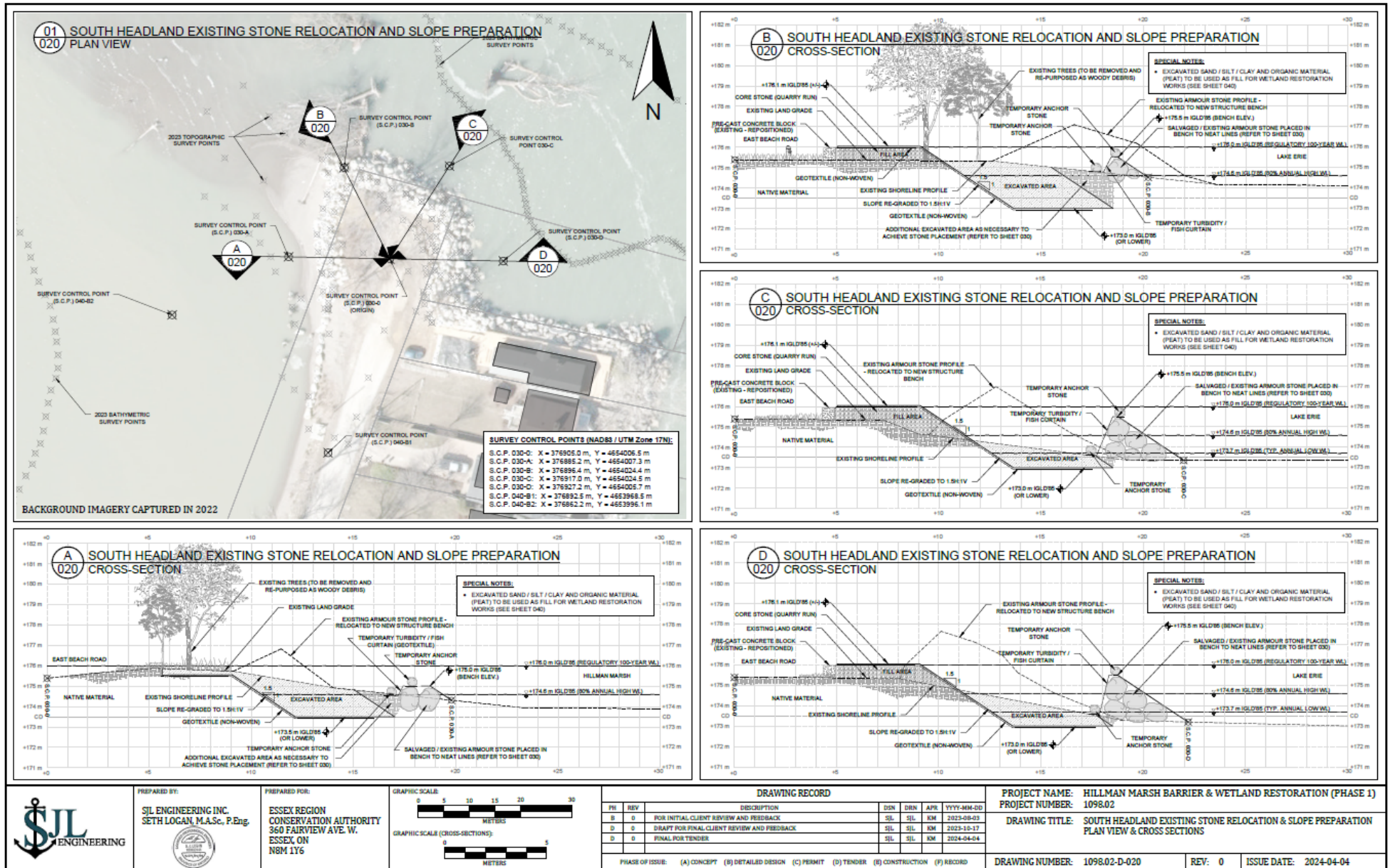
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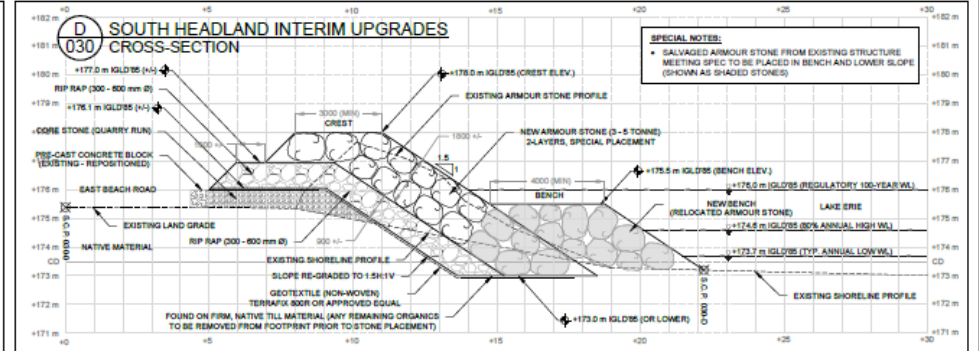
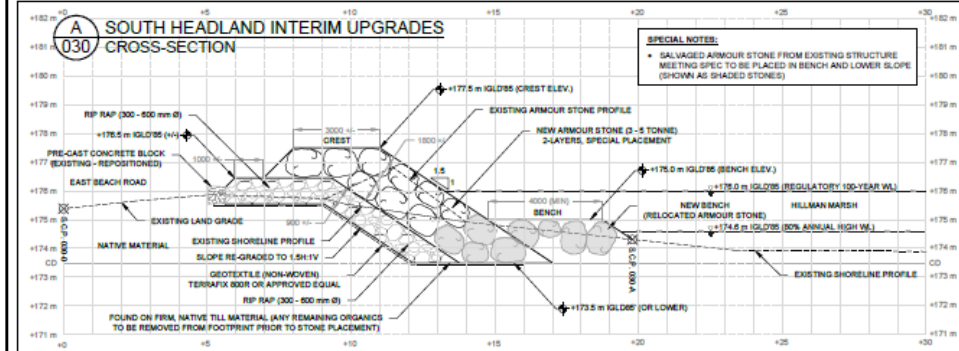
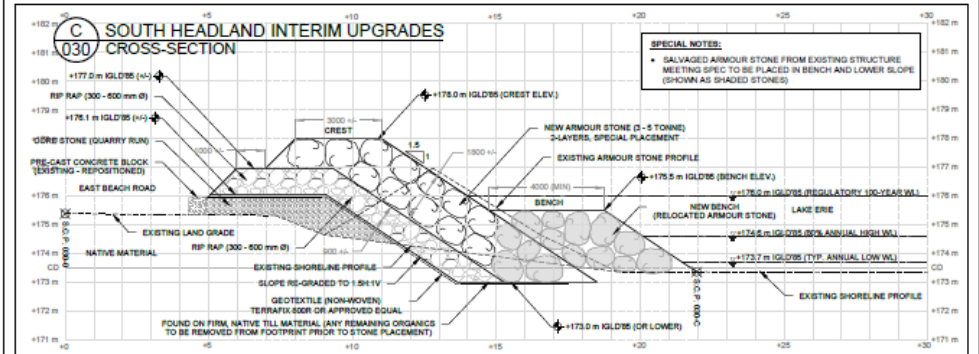
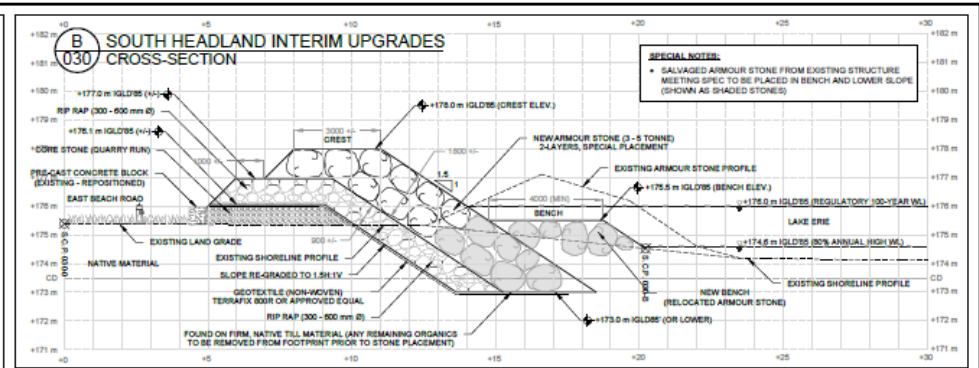
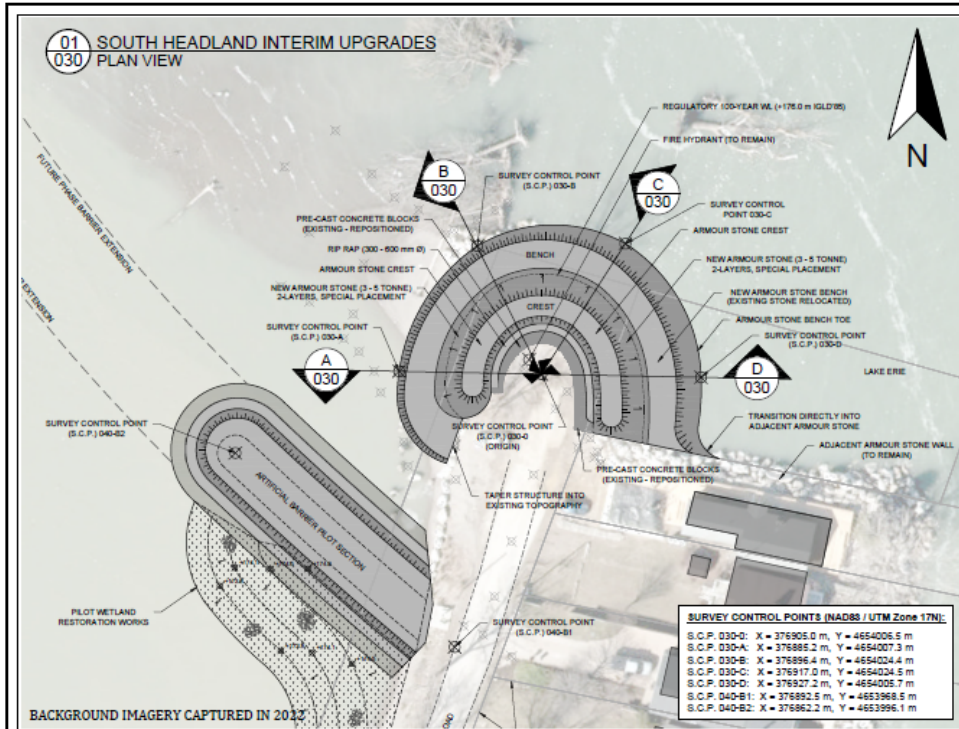
DRAWING LIST

<u>SHEET NO.</u>	<u>ITEM</u>	<u>DRAWING NO.</u>
1	South Headland Existing Conditions, Plan View & Cross-Sections	1098.02-D-010
2	South Headland Existing Stone Relocation & Slope Preparation, Plan View & Cross-Sections	1098.02-D-020
3	South Headland Interim Upgrades, Plan View & Cross-Sections	1098.02-D-030
4	Artificial Barrier Pilot Section & Wetland Restoration, Plan View & Cross-Sections	1098.02-D-040

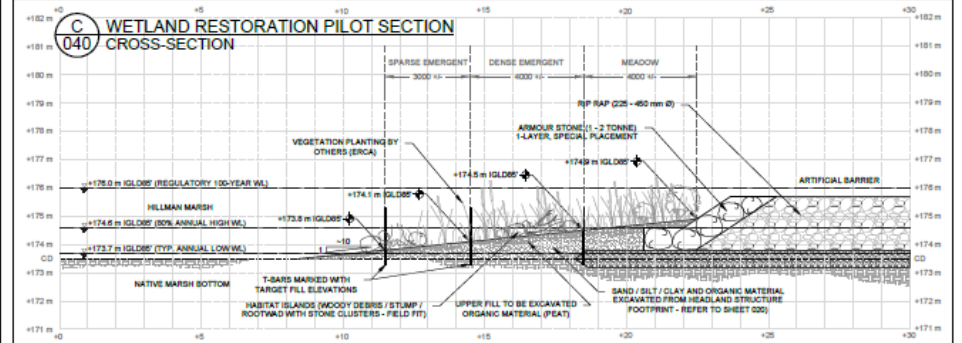
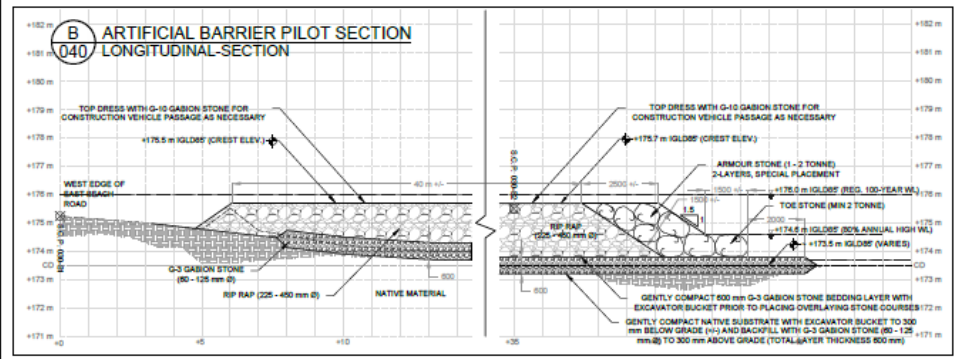
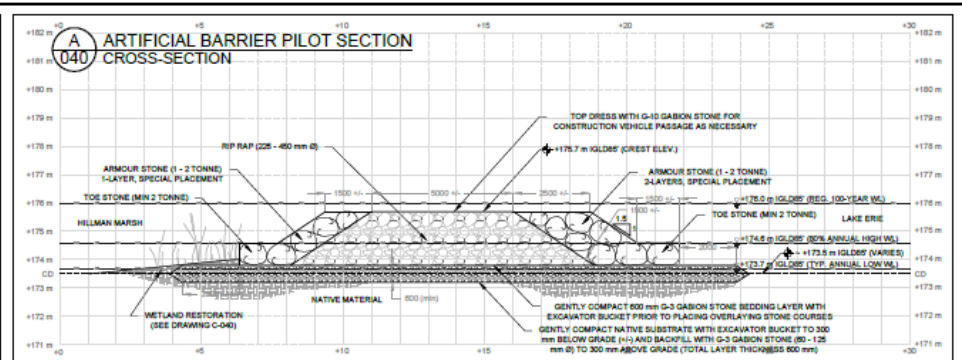
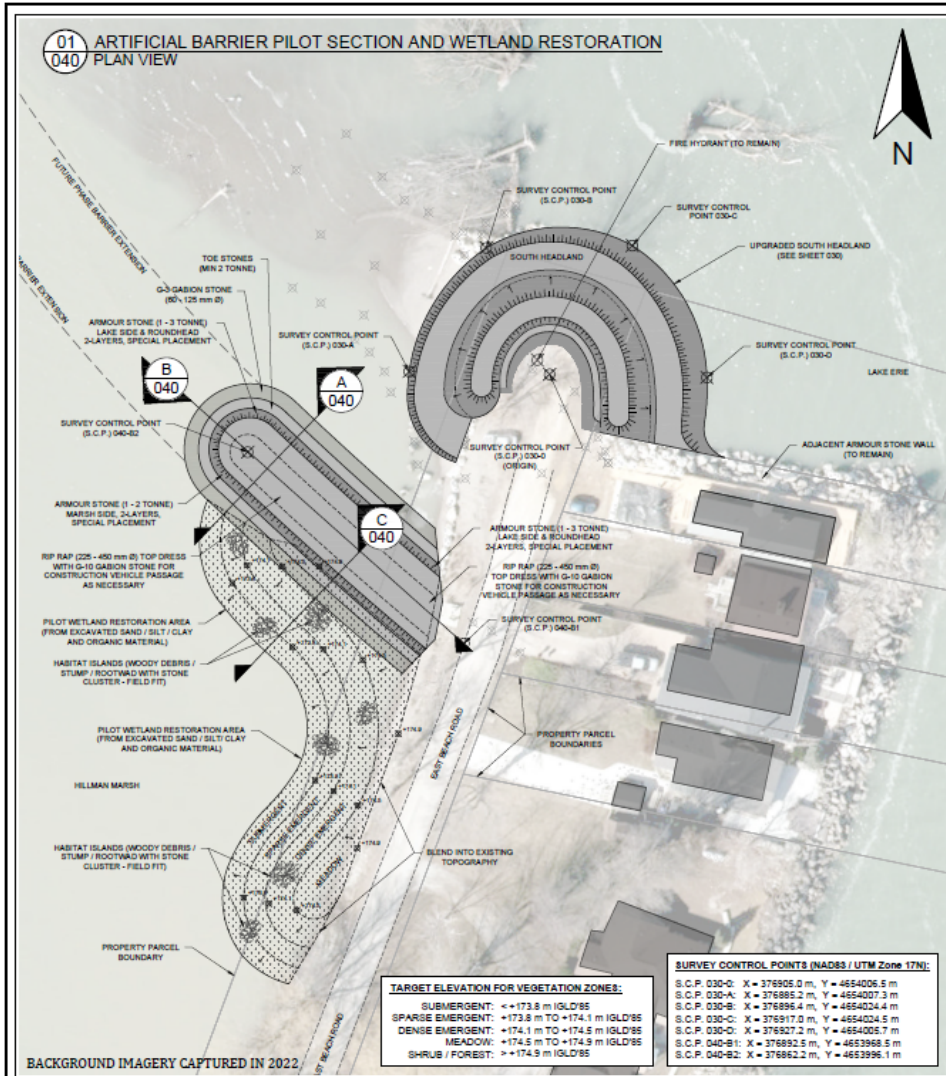


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APPENDIX A

Approved Haul Routes

Haul Route Option A – Arriving from west (e.g. Amherstburg):

County Road 20 or HWY 3 to Mersea Road 1 to Mersea Road 19 to Mersea Road B to East Beach Road.



Haul Route Option B – Arriving from north (e.g. Orillia):

Kent Road 1 to County Road 34 to Mersea Road 19 to Mersea Road B to East Beach Road.



APPENDIX B

Geotechnical Report

AVAILABLE ON REQUEST.

PLEASE CONTACT Seth Logan at (613) 574 1179 or by email at slogan@sjleng.ca

PLEASE NOTE: THE GEOTECHNICAL REPORT DOES NOT MEET ACCESSIBILITY REQUIREMENTS UNDER AODA. SHOULD YOU REQUIRE AN ACCESSIBLE COPY OF THIS DOCUMENT, PLEASE CONTACT admin@erca.org SO THAT WE MAY DISCUSS YOUR ACCESSIBILITY NEEDS.