TOWNSHIP OF PERRY

INVITES TENDERS

FOR THE CONSTRUCTION OF A COVERED RINK

In NOVAR COMMUNITY PARK

CONTRACT 2025-011

The project involves constructing a covered ice rink facility with an ice refrigeration plant, work includes site work with a paved parking lot. The site is located in Novar, Ontario.

TENDERS DUE: AT 2:00 PM local time, August 27, 2025.

TENDERS TO BE DELIVERED TO the Township of Perry municipal office at
1695 Emsdale Road, P.O. Box 70,
Emsdale, ON P0A 1JO
Att: Kim Seguin, Treasurer
(705) 636-5941

DIGITAL TENDER PACKAGES are available from the municipal office on August 7, 2025. By emailing treasurer@townshipofperry.ca

Plan takers must be registered on the bidders list.

BID DEPOSITS AND BONDING ARE REQUIRED .

ENGINEERS: RHH ENGINEERING
70 Isabella, Street, Unit 111,
Parry Sound, ON, P2A 1M6
(705) 746-1196
Att: Mr. Bob Hughes P. Eng.

Contract No. 2025 - 011

Construction of a Covered Rink
in the
Novar Community Park

Township of Perry
District of Parry Sound

RHH Engineering

70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND,
ONT P2A 2Z1 705-746-1196 PH

TOWNSHIP OF PERRY

Invites tenders for

Contract No. 2025 - 011

Construction of a Covered Rink
in the
Novar Community Park

Tender Closing Date and Time:	**August 27, 2025, 2:00 p.m.** local time.
Tender Delivery Location delivered to:	Township of Perry Municipal Office Box 70, 1695 Emsdale Road, Emsdale, Ontario Att: Kim Seguin
Tender Opening Date, Time and Location:	**August 27, 2025, 2:15 p.m.** local time, Township of McKellar Municipal Office 1695 Emsdale Road, Emsdale, Ontario
Contact Person:	Kim Seguin, Treasurer (705) 636-5941
Technical Contact Person:	Bob Hughes P. Eng. RHH Engineering 70 Isabella Street, Unit 111, Parry Sound, ON P2A 1M6 Office 705 746-1196 Bob.rhhengineering@cogeco.net
Owner:	Township of Perry Box 70, 1695 Emsdale Road, Emsdale, ON P0A 1J0 (705) 636-5941

Contents

Attachments

Appendix A – Soils Report by Peto MacCallum Ltd. dated May 9, 2025

Appendix B – Septic Application to NBMCA submitted July 17, 2025

Appendix C – Ice Rink Proposal by Custom Ice Inc. dated July 24, 2025

Appendix D – Hydro One NCCI Form Summary submitted July 30, 2025

Tender Letter SECTION 00 11 21

The Township of Perry invites contractors to submit tenders for Design and Construction of a Covered Rink in the Novar Community Park in the Township of Perry, in the District of Parry Sound.

TENDERS DUE DATE	Delivered to Perry Municipal Offices, before **2:00 PM local time, August 27, 2025**
CONTRACT OWNER	Township of Perry Box 70, 1695 Emsdale Road, Emsdale, ON P0A 1J0
CONTACT PERSON	Tenders to be submitted to the above address. Att: Kim Seguin
MANDATORY SITE MEETING	**Meeting at 54 McCrandle St, Novar, Ontario Date and Time to be Determined**
TENDER SETS	Electronic, Deposit NA
BID/SECURITY DEPOSIT	Bid Bond or Certified Cheque for $ 150,000.00 required
PROJECT SECURITY	100% Performance Bond, 100% Material and Payment Bond.
OWNER'S ADVISORS / CONTRACT ADMINISTRATORS	RHH Engineering 70 Isabella Street, Unit 111, Parry Sound, Ontario P2A 1M6 Att: Mr. Bob Hughes P. Eng. (705) 746-1196 bob.rhhengineering@cogeco.net

Lowest or any tender not necessarily accepted.

FORM OF TENDER

Project Township of Perry
Construction of a Covered Rink
in the Novar Community Park
Tender 2025-011

To Township of Perry
Box 70, 1695 Emsdale Road,
Emsdale, ON
P0A 1J0

From Tenderer

_____
NAME

_____
ADDRESS

_____

1. We have carefully examined the Tender Letter, the Form of Tender, Instructions to Bidders, Specifications, Sketches, Addenda ____ to ____, and have attended and examined the project site.

2. We the undersigned, agree to provide, execute, complete the whole of the said work as set out in the tender documents for the total Tender Price of;

   _____

   _____

   ($_____), in Canadian Dollars, which includes all prime costs, allowances, taxes (including H.S.T.).

   The above price includes all costs, including applicable permits. The above cost includes the allowance portion of the contract as set out in Section 12 of the Instructions to Bidders

3. We agree that this tender price shall be open for acceptance for sixty (60) days after the closing date.

4. We agree that the owner may not accept the lowest tender, or any tender, and further that the owner will not defray any costs incurred in the preparation of this tender.

5. We agree not to withdraw this tender before the owner has considered all tenders, accepted any tender, or until sixty (60) days after the closing date.

6. We agree that if this tender is accepted, we shall execute the contract documents, submit an acceptable detailed project unit price breakdown, submit an acceptable construction schedule, and submit proof of insurance within fourteen (14) days after being notified of contract award.

7. We agree to start the works as per the following date and to finish the works by the date listed below. Note that timely construction and adherence to an acceptable schedule is an element that will be considered in the selection of the successful bidder. The Township expects completion by June 30, 2026.

   i) Start Date _____

   ii) Completion Date _____

8. We agree that owner shall retain a maintenance holdback of 2.5% of the full tender price as per item 2 for a period of one year. The period shall start on the date of Total Performance.

9. Tenders will be evaluated on the basis of the proposed building assembly components, experience of trades, and costs. No changes to trades or design personnel will be permitted after acceptance of the tender unless approved in writing by the Owners. A complete list of all proposed sub trades for all elements of the construction shall be submitted with the Contractor's tender.

10. Design Team

    1. Prime Consultant _____

    2. Architectural Consultant _____

    3. Structural Consultant _____

    4. Electrical Consultant _____

    5. Mechanical Consultant _____

    6. Civil Engineer Consultant _____

11. Price Breakdown

    Part 1
    Design Cost _____

    Part 2
    Building Cost _____

    Site Work Cost _____

Offered on behalf of:

Contractor: _____

Address: _____

_____

Telephone: _____

Authorized Signature: _____ Seal:

Name: _____
(Please Print or Type)

Witness: _____

Date: _____

FORM OF TENDER
STATEMENT "A"
Tenderer's Experience

As an integral part of this tender, the tenderer shall list here his/her experience in work of a similar nature to that being tendered, which he/she, has successfully completed.

YEAR	DESCRIPTION OF CONTRACT	FOR WHOM PERFORMED	APPROXIMATE VALUE

FORM OF TENDER
STATEMENT "B"
Proposed Work and Equipment

As an integral part of this tender, the tenderer shall provide below, a statement of the work and equipment he/she proposes to use for the work.

WORK	EQUIPMENT

FORM OF TENDER
STATEMENT "C"
List of Proposed Sub-Contractors

Section 11 and 12 of the "*Instructions to Bidders"* requires the tenderer to list on this statement sheet the name of each proposed sub-contractor.

SUB-TRADE	PROPOSED SUB-CONTRACTORS

INSTRUCTIONS TO BIDDERS SECTION 00 21 13

1. REGISTRATION, DELIVERY AND OPENING OF TENDERS

1.1. Bidder's name, address and telephone number shall be recorded on the "Request for Tender Obtained Register" and contract documents and plans (where applicable) will be issued thereafter. All Bidders must obtain contract documents and be listed on the *"Request for Tender Obtained Register".*

1.2. Tenders, sealed in an envelope and **clearly** marked with the project/contract title, the project/contract number and the Bidder's name, will be received by the Township of Perry, Box 70 1695 Emsdale Road, Emsdale, Ontario P0A 1J0 until **2:00 p.m.**, Local Time on the advertised closing date for receipt of tenders. The use of mails for delivery of a tender will be at the risk of the Bidder.

1.3. On the closing day, commencing at **2:15 p.m.** Local Time, the tenders will be opened and the tenders will be read and recorded publicly at the above mentioned address. Tenders will then be checked and analyzed.

2. DISQUALIFICATION OF TENDERS

Under no circumstances will tenders be considered which:

a) Are received after **2:00 p.m.** Local Time on the advertised closing date for tenders
b) Are not accompanied by a bid deposit **(if applicable)** in the form of a certified cheque, **original** bid bond, money order or bank draft, in the amount specified.
c) Are sent by fax
d) Are not accompanied by a properly executed Agreement to Bond
e) Are submitted by Bidders **not** on the *"Request for Tender Obtained Register"*

3. WITHDRAWAL OR QUALIFYING OF TENDERS

A Bidder who has already submitted a tender may submit further tenders at any time up to the official closing time. The last tender received shall supersede and invalidate all tenders previously submitted by that Bidder for this contract. A Bidder may withdraw their tender at any time up to the official closing time by submitting a letter bearing their signature and deal as in their tender to the Township of Perry, Box 70 1695 Emsdale Road, Emsdale, Ontario P0A 1J0. Such a submission must be received in sufficient time to be marked before **2:00 p.m.** Local Time on the date for closing of tenders. The Bidder shall show their name and the project and contract numbers on the envelope containing such letter. No faxes or telephone calls for the withdrawal of tenders will be considered.

4. DOCUMENTS

4.1. A summary of the work is the complete design and the supply of all materials required to undertake the construction of the Covered Rink building in the Novar Community Park as described in the drawing set prepared by RHH Engineering. These drawings list and detail mandatory requirements that the contractor must incorporate into the design. In addition to the mandatory requirements, the contractor must fulfill all requirements of the Ontario Building Code and all applicable law as defined by the code and the Act.

4.2. Drawings and specifications are complementary and work required is described on both documents.

5. EXAMINATION OF THE SITE AND DOCUMENTS

5.1. Before submitting a tenders, bidders shall carefully examine the general conditions, drawings, specifications, visit the site and fully inform themselves of all existing conditions and limitations. Any failure to fully investigate the site or the foregoing conditions shall not relieve the bidder from the responsibility of properly estimating the difficulty or the cost of performing the work.

Attendance at a site meeting is mandatory.
Site meeting date and time to be determined.

5.2. The drawings and specifications are complementary so that the details shown on the drawings and not mentioned in the specifications, or vice versa, shall be executed in the same manner as if contained in the specifications and shown on the drawings. Any apparent inconsistency between drawings and specifications must be brought to the consultant's attention in writing two days prior to the closing date to permit clarification to all bidders. Otherwise, the successful bidder will be deemed to have accepted these specifications and drawings as consistent.

5.3. The owner or their Engineer/advisors shall not be held responsible for any oral instructions. Questions requiring written clarifications shall be issued as addenda and distributed to all bidders. Addenda shall be issued only by email up to within 48 hours of the tender closing.

5.4. Questions shall be directed to:
Bob Hughes P.Eng. - RHH Engineering
(705) 746-1196
bob.rhhengineering@cogeco.net

Time Limit for Questions: **August 22, 2025 at 3:00 p.m.**
Where the Contract Administrator deems that an explanation or interpretation is necessary or desirable, an Addendum will be issued to all Bidders. Addenda will normally be issued via email.

6. MANDATORY SITE MEETING

A site meeting **date and time is to be determined.** Attendance is **mandatory**. Contractor shall check in at the site. The contractor administrators will check in the contractors and be available for questions.

7. TENDER PROPOSALS

7.1. Bidders shall submit their tender on the form provided.

7.2. Late tenders or incomplete tenders will not be considered. Tenders shall be delivered by hand and tenders may not be modified by email or facsimile. Delivery of tenders must allow sufficient time to time and date stamp the tenders prior to the time of closing.

7.3. Tenders shall include a package specifying general details or the proposed design. As a minimum provide;

1) Pages 6 to 11 of this Tender Package
2) Concept elevations showing proposed materials and finishes, show any proposed changes in building mass from Drawing A2
3) Floor plans where there is a divergence from Drawing A2
4) Details specifying the building frame construction and insulation, note that aspects of the construction have minimum requirements pre engineered steel building, cavity wall construction for washrooms, change rooms and utility room as shown, minimum rink size as shown,
5) Details specifying any proposed changes to the ice rink surface and refrigeration system
6) A full description of electrical distribution, fixture types, receptacle & switch layout
7) A full description of plumbing elements where not specified in the tender documents

Include any other design information or information that you feel the owners should consider during tender evaluation. Detail design drawings are not required for the tender submission. Any drawings submitted need only show scope of work. The Township at their choice may request a presentation by the bidder.

Note that Drawing A2 details the minimum square footage sizes required for all areas, changes in the footprint of the areas outside of the Utility Room may be made where the appearance or functionality of the building is improved or to meet Code requirements.

8. SUBSTITUIONS

There shall not be any substitutions of equipment or products where specifically detailed or specified on the drawings or listed in these specifications.

9. DEPOSIT FOR DRAWINGS

Drawings shall be distributed digitally at no expense.

10. TENDER DEPOSIT

10.1. The bidders shall provide a **BID DEPOSIT in the amount of $150,000.00 payable to the Township of Perry.** Each Tender shall include tender deposit in the form of an **ORIGINAL** certified cheque, bank draft, or original bid bond, payable to the Township of Perry. **(PHOTOCOPIES, FACSIMILE SOPIES AND OTHER REPRODUCTIONS OF ORIGINAL DOCUMENTS ARE NOT ACCEPTABLE).**

10.2. The tender deposits of all bidders, except two, will be returned within ten days after the date of opening tenders. The tender deposits of the two bidders will be retained until a tender has been accepted and the specified bonds have been furnished to the satisfaction of the Owner, save that if a bidder has not been notified that their tender has been recommended to the Township of Perry for acceptance within 30 days after the date of opening tenders, their tender deposit will be returned. After the execution of the Contract and the receipt by the Township of the specified bonds, or other as per Item #12, the tender deposit of the successful bidder will be returned.

10.3. If either of the above mentioned two bidders has not been notified within 30 days after the date of opening tenders that their tender has been recommended to the Owner for acceptance, they may apply to the Township of Perry for the return of their tender deposit. Unless otherwise determined by the Township of Perry, the tender deposit of one of the said two tenders (normally the one who submitted the second lowest tender) will be returned when so applied for. The tender deposit of the other bidder will be retained or returned by the Township of Perry as provided for elsewhere in this section.

10.4. The Township may, at its discretion;

10.4.1. Cash a tender deposit cheque and deposit the proceeds to its account, without prejudice to the ultimate disposition of such tender deposit provided for herein, or

10.4.2. Return a tender deposit to a bidder at an earlier time than provided for herein, or

10.4.3. Return a tender deposit to a bidder on receipt from said bidder of an alternative security acceptable to the Owner in lieu of the said tender deposit, and

10.4.4. No such action shall prejudice the validity of the tender to which such tender deposit relates.

Except as otherwise herein provided, the bidder guarantees that if their tender is withdrawn after the tenders are opened, before the Township has made a decision or before they have been notified that their tender has been recommended to the Township for acceptance or that if the Township does not for any reason receive within the period of ten calendar days as stipulated and as required herein, the Agreement executed by the bidder, the bonds executed by the bidder and the surety company and the other documents required herein, the Township may retain the tender deposit for the use of the Township and may accept any tender as the Township deems advisable.

11. SECURITY AND BONDING REQUIREMENTS

11.1. The contractor is required to supply a 100% Performance Bond and a Labour and Materials Payment Bond 100% of the project value.

11.2. The contractor is to submit an agreement to bond with the tender submission. The Township will retain bonds for one hundred and twenty (120) days after final acceptance of the work.

11.3. The bidder agrees that they will furnish the bonds or other noted above in supplicate as required herein within fourteen calendar days after the notification of award of the Contract by the Township. One copy of the said bonds or other as notes above shall be attaches to each of the two executed sets of the Contract

12. ALLOWANCES

12.1. Provide the following allowances in the tendered price as follows;

1)	Testing Allowance	$15,000.00
2)	Door Hardware Allowance	$20,000.00
3)	Water Treatment Equipment	$15,000.00
4)	Washroom Accessories	$15,000.00

12.2. Allowances shall be spent only as directed by the Engineer. Monies not spent from the allowance shall be credited towards the owner. No contractor mark ups are permitted to be applied on any of the allowances.

12.3. Allowance to cover the following items

1) Testing Allowance
Soil bearing confirmation, soil compaction, concrete testing and other testing as required by the consultants and confirmed by the owners.

2) Door Hardware
All door hardware with the exception of power operators, hinges, openers, panic sets, lock sets, push pulls, sweeps, smoke seals, kick plates, storm chains, weather stripping, master keying. The dressing room and washroom locks shall additionally be controlled by an electronic timer located in the mechanical room.

3) Water Treatment
Water treatment including a filter system and UV treatment for a proposed drilled well.

4) Washroom Accessories
Shelving, mirrors, power hand dryers, waste receptacles, paper dispensers, coat hooks, change tables, grab bars and toilet partitions.

13. WARRANTY

13.1. The successful bidder shall be required to supply a warranty which guarantees all work performed and any equipment specified to be free of defects of material and workmanship for a period of one year from the date of Total Performance. This shall not limit any standard warranty issued by suppliers whereby the product, service or equipment has a longer manufacturer's warranty period. Corrections shall be made at no cost to the owner during the warranty period.

13.2. A maintenance holdback of 2.5% of the contract price shall be retained by the owner. The maintenance period shall be one year from the date of Total Performance as certified by the payment certifier or the owner. The Contractor has a maximum of 30 days to address and correct any deficiencies during the maintenance period or less time if it is critical to the operation of the facility. Failure to make corrections within the prescribed time frames will result in the Owners making the corrections at the expense of the Contractor.

14. CODES

14.1. All work shall conform to the latest editions of all applicable codes including but not limited to the Ontario Building Code, C.D.A Standards, Municipal Codes, T.S.S.A., Ontario Hydro Codes, Ministry of the Environment, Department of Labour, and the National Building Code.

14.2. Prior to the acceptance of work the appropriate approval agencies shall inspect the work to ensure code conformity. Sign offs from all Design Engineers stating that the engineer has attended the site during construction and that the work is in general conformance with their design is required.

15. INSURANCE

15.1. The contractor shall provide and maintain a Builder's All Risk Broad Form Insurance Policy, plus Comprehensive & General Liability Insurance subject to limits of not less than two million dollars ($5,000,000.00) inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof. The insurance shall include but is not limited to;

1) Comprehensive Liability covering all operations under the contract for the works
2) Contain additional named insurance parties for the Owner and for RHH Engineering
3) Contain a provision for a 30-day notification to the Owner where the policy is altered or cancelled
4) Does not contain any limitations of exclusions to operations including demolition, underpinning, excavations, pile driving, foundation works, or building collapse
5) Include any occurrence related to any contractor owned, rented, leased equipment including licensed vehicles
6) Contain a cross-liability clause
7) Contain contractual liability coverage

15.2. The contractor shall ensure that individual members of the design team have errors and omissions insurance policies in place. At the request of the Owner or the Owner's consultants, proof of insurance shall be submitted. Policies shall meet the requirements of the Professional Engineers of Ontario, and the Ontario Association of Architects.

16. PROOF OF ABILITY AND SUB-CONTRACTORS

In order to aid the Township in determining the responsibility of each bidder, the bidder shall complete the following statement sheets which are attached herein;

STATEMENT 'A' – Stating the bidder's experience in similar work which they have successfully completed
STATEMENT 'B' – Stating the work and equipment the bidder proposes to use to perform the work
STATEMENT 'C' – Giving a list of any sub-contractor who will be carrying out any part of this contract. This list shall show the names of the proposed sub-contractors and for what work each sub-contractor will be responsible.

17. LIST OF SUB-CONTRACTORS

17.1. The bidder agrees to submit a list of any sub-contractors (Statement 'C') who will be carrying out any part of this contract. This list shall shown the names of the proposed sub-contractors and for what work each sub-contractor will be responsible. The township has the right to reject any of the sub-contractors so names. In this event, the bidder shall arrange to have the proposed work done by such other sub-contractor that may be approved by the Township. Only one name shall be shown for each sub-trade.

17.2. The bidder shall not be allowed to substitute the other sub-contractors in place of those named in the tender without written approval from the **Owner**. Should the bidder cease operations, under no circumstances shall sub-contractors be allowed to continue work on the site unless an authorized representative of the bidder is present on the site at all times. The bidder shall notify the **Owner** in writing of the names and positions of the person, or persons so representing the bidder.

18. RIGHT TO ACCEPT OR REJECT TENDERS

The Township shall not be responsible for any liabilities, costs, expenses, loss or damages incurred, sustained or suffered by any bidder prior or subsequent to or by reason of the acceptance or the non-acceptance by the Township of any tender or by reason of any delay in the acceptance of a contract being prepared and executed. The township reserves the right to reject any or all tenders and to waive formalities, as the interests of the Township may require, without stating the reasons and the lowest or any tender will not necessarily be accepted.

19. AGREEMENT AND CONTRACT EXECUTION

If the successful bidder fails to provide the Township, within the fourteen (14) day period, the executed agreement, together with requirements as specified within, the Township may accept another tender, advertise for new tenders, negotiate a contract or not accept any tender, as the Township may deem advisable.

20. CONTRACT

20.1. The form of contract to be used shall be CCDC Design Build contract.

20.2. Progress payments are to be based on the requirements of the CCDC contract. The first draw submission shall not be made until a minimum of 30 days from the date that the owner signs the contract.

21. PROJECT START UP

No work may start on site until the following has been completed;

1) Certificate of Insurance Submission
2) Submission of Workmen's Compensation Clearance Form
3) Submission of the Notice of Project to the Department of Labour
4) Submission of the Construction Schedule
5) Securement of a Building Permit
6) Execution of the Contract

22. WORK PLACE SAFETY

22.1. Occupational Health & Safety Act
For purposes of the Occupational Health and Safety Act, the successful bidder shall become the "Constructor" as defined by the Occupational Health and Safety Act. Under the terms of the CCDC contract, the successful bidder will be the Contractor. The bidder hereby acknowledges that the Contractor and the Constructor are one and the same firms.
Under the Act, the Contractor is responsible but not limited to;

22.1.1. Ensuring that all persons, contractors, sub contractors conform to the requirements of the Act and enforcement of the regulations

22.1.2. Every employer on the site complies with the Act

22.1.3. Fencing of the site, erection of barriers, fall safety barriers

22.1.4. The health and safety of workers on the project is protected

The Contractor agrees to hold harmless the Owners and their consultants from any claims or liabilities resulting from the failure in applying the regulations of the Act.

22.2. WSIB
The Contractor shall at the time of entering into the contract with the Township, make a statutory declaration or furnish a satisfactory clearance letter from the Workplace Safety and Insurance Board stating that all assessments or compensation payable to the Workplace Safety and Insurance Board have been paid. The selected bidder shall submit such a statutory declaration or clearance letter to the Township in duplicate together with the Agreement executed by the said bidder. One copy of the statutory declaration or clearance letter shall be attached to each of the two executed sets of the contract.

23. SITE SECURITY

During the work, the Contractor is responsible for securing the work area from any use or occupation of the work area by anyone other than the Owners and their consultants including construction fencing. Access to the playground area from the existing entrance and site shall be blocked off with construction fencing.

24. DESIGN

24.1. The Contract is a Design-Build contract. The Contractor is to provide a Prime Consultant to undertake total design responsibility for the project as a whole. The Prime Consultant shall be responsible for conformance with the Ontario Building Code.

24.2. Each of the Contractor's consultants shall submit stamped and sealed design drawings with the application for the building permit. A "Commitment to General Review by Architect and Engineer" shall be submitted to the Township prior to the signing of the contract.

24.3. Site reviews shall be conducted by each discipline to verify design compliance. Each consultant shall be required to submit a certificate indicating the construction complies with their design and is constructed in accordance with Code Requirements.

25. SOILS

The Township arranged for the preparation of a Soil Report, completed by Peto MacCallum Ltd. On May 9, 2025 to assist with the design.

The Soils Report has been included in this Tender Package, see Appendix 'A'.

26. SEPTIC APPROVAL

The Scope of Work for the project includes work to re-construct the existing Septic Filter Bed and install an additional septic tank and pump chamber for the new rink facility and altering the existing pump chamber/forcemain as detailed.

An application for Septic Approval was made to the North Bay Mattawa Conservation Authority by RHH Engineering on July 17, 2025, see Appendix 'B'.

The application is currently pending approval and is expected to be approved during the tender period and prior to the commencement of construction. The successful bidder shall construct the replacement septic bed to the designs as specified.

The existing vault privy shown on SP-1 is to be moved to the location shown on SP-2. The contractor is responsible for all permits, fees, and pump outs required to move the privy.

27. RINK DESIGN

The ice rink is to have a refrigeration system to maintain ice when temperature are above freezing to approximately 50 degrees F. The Township has arranged for the preparation of a proposal from Custom Ice Inc. for the supply and installation of a concrete ice rink slab with piping and a refrigeration system, dated July 24, 2025.

The Proposal, with budget pricing, has been included in this Tender Package, see Appendix ‘C’.

While Custom Ice Inc. is the preferred supplier for the Rink installation and refrigeration system, Bidders can provide alternate suppliers if judged to be an approved equivalent.

Custom Ice Inc Contact Person: Jake Miller
Contact No: (905) 978-3060

28. HYDRO SERVICE

RHH Engineering has made application to Hydro One for service on behalf of the Township. At the time of tender, a layout has not yet been received. The new hydro service is to be 347/600V, 600Amp, 3 Phase, 4 Wire connection.

The application is currently pending approval and is expected to be approved prior to the commencement of construction. The successful bidder shall coordinate the installation of the hydro service with Hydro One.

The New Customer Connection Information Form has been attached in this Tender Package, see Appendix ‘D’.

SUMMARY OF WORK SECTION 01 11 00

1. SCOPE OF WORK

The tender is a Design – Build tender for the construction of a covered rink with ice making facilities and related site work

The Rink Building

The ice rink building is to be a pre-engineered steel building approximately 80’ x 180’ in size. The building is to have snow guards on the roof with eaves trough and heating cables including the downspouts. The steel building is to have partial side walls as shown with liner panels on the inside of the walls.

The ice rink slab is to be approximately 62’ x 134’ with the refrigerate piping embedded in the concrete floor slab. Additional concrete floor shall extend from the refrigerate slab to the outside of the building.

The ice plant is to be a glycol system with the capacity to retain the ice surface to approximately 10 degrees Celsius. The preferred refrigeration system is the system proposed by Custom Ice Inc. in Appendix C. Other approved equal systems are acceptable. Prices to be negotiated directly with supplier.

The dasher board system shall measure 60’ x 130’ with 20’ corner radii. The dasher boards shall be 42” high with aluminum frames, and gates as shown. The dasher board system shall have 4’ high glass panels on the side boards and 5’ high glass panels on the end boards and radii. 12” high netting shall be installed above the glass on the end boards and radii.

The sport court shall have two standard basketball nets and frames fastened to the concrete floor with steel mounting plates as shown on the project drawings.

Bird netting shall be installed over the rink area and roof overhangs.

The north end of the facility shall have an insulated concrete enclosure housing two dressing rooms, two washrooms and a mechanical/zamboni room under the pre-engineered steel building roof. The enclosure shall be cavity wall construction with an insulated roof as shown on the project drawings.

The area over the concrete enclosure is to act as a storage area and shall be accessed by a concrete / block stairwell a minimum 5’ wide (inside dimension). There shall be a lockable door at the bottom of the stairwell. The storage area shall have a steel railing along the edge and a PVC coated wire enclosure/wall extending from the mezzanine slab to the under side of the roof mounted on metal framing to isolate mezzanine area from birds.

The floor area between the dressing rooms, players benches, and washrooms is to be covered with resilient sports flooring.

Bleachers are to be installed on the east side of the rink as shown on drawing A-2 with a full wall behind the bleachers extending down to the concrete slab.

The dressing rooms, washrooms and Zamboni room are to have ceiling mounted electric heaters with protective cages. All heat controls are to be located in the Zamboni/utility room. The change room, washrooms and Zamboni room are to have paint finishes to the colours approved by the township.

The lighting in the dressing rooms and washrooms is to be controlled by motion detectors.

All footings and foundations are to be designed by the structural engineer in compliance with the soils report.

All lighting is to be designed to the recommended light levels required by the O.B.C. and tender specifications. All lighting is to be energy efficient.

The rink lights shall have an ON/OFF switch located near the stairwell and shall additionally be connected to a 7 day electronic timer located in the Zamboni room.

The Contractor is to install CAT6 wiring for cameras (supplied by others) as shown on drawing ES-2.

The Site Work

The Contractor shall clear and grub areas on the west and south side of the new rink building, and on the north side of the entrance road as shown on the project drawings.

The site work includes installing a new 2,250 litre filter bed, 4,500 litre septic tank, a 680 litre pump chamber and rerouting the existing pump chamber forcemain for the parks and rec building. The existing septic tank of the parks and rec building will temporarily need to be converted to a holding tank to allow use of the washrooms in the parks and rec building during construction.

A new drilled well is to be constructed with a minimum depth of 33 metres, 3/4 h.p. well pump and controls, pressure tanks located in the Zamboni room, and electric hot water tanks capable of delivering 450 litres of hot water to the Zamboni.

The existing rink, including rink boards, change room lights, asphalt rink surface and existing services (including electrical) are to be removed. The contractor is responsible for permitting and removal of the existing electrical service.

The entrance and parking lot are to be excavated, graded and have a gravel base installed (150mm granular A and 300mm granular B). The entrance and parking lot are to be surfaced with 50mm of HL4. The area in front of the parks and rec building overhead doors is also to be surfaced with 50mm of HL4.

The existing chain link fence along the west side of the property and partially along the south side of the parks and rec building property is to be removed and a new wooden privacy fence is to be installed on the property line. The existing chain link fence is to be salvaged and given to the appropriate adjacent property owners.

New yard lights are to be installed as shown on ES-1 with light shields to eliminate all glare on the adjacent properties. Additionally the exterior building lights shown shall also have light shields.

The existing vault privy shown on SP-1 is to be moved to the location shown on SP-2. The contractor is responsible for all permits, fees, and pump out required to move the privy.

A new 600 amp 3 phase 600 volt service is required for the new facility. An application has been made to Hydro One. Documents regarding the hydro service will be issued when received. The Township will pay all Hydro One costs directly for the cost of service to the property. The Contractor will be responsible for all onsite installation costs not included in Hydro One costs.

The refrigeration (ice making) unit is located outside of the rink building as shown and sits on a concrete pad. The Contractor is responsible for constructing the concrete pad including 150mm granular A and 300mm granular B base. The concrete pad and refrigeration unit is to have 2.4 metre high privacy/sound damping fence around the pad. There shall be a man gate located along the side of the concrete pad and a 2.4 metre wide double fence gate located at the end of the pad.

The Contractor shall install 150mm topsoil and sod in the landscaping areas shown on drawing SP-2.

Drainage ditches are to be installed along the south side of the rink and along the west property line to the creek. The ditch is to be rip rapped from the end of the asphalt parking lot swale to the creek.

A culvert is to be installed under the entrance at the parking lot and ditched to the creek.

2. CONTRACT DOCUMENTS

The documents and drawings prepared by RHH Engineering represent the minimum acceptable scope of work. The Building Permit Drawing Submission shall be entirely prepared by the proponent's consultants as a stand alone design. The RHH Engineering site plans and other drawings are available in CAD and available to the designers to assist in preparing their drawings.

3. OVERVIEW OF WORK OF THIS CONTRACT

3.1. All design work, for a complete turn key project including all building design in accordance with the minimum requirements shown in the tender documents.

3.2. Preparation of all required design drawings and preparation of the building permit application and submission to the Building Department. As a minimum, provide;

Site Services
Refer to the attached document for a full description of the work content for the site, required removals, demolition, and co-ordination with the Owner.

Structural
- Foundation Plan and Specifications
- Framing Plan
- Roof Plan
- Sections

Mechanical
- Plumbing and Drainage
- HVAC Mechanical Floor Plan
- Heating & Make up Air Systems

Architectural
- General Notes and Specifications
- OBC Matrix, Wall Assemblies & Ratings
- Schedules, Details
- Site Plan
- Foundation Plan
- Ground Floor Plan
- Roof Plan
- Building Elevations
- Sections

Electrical
- Lighting Floor Plan
- Life Safety Systems
- Electrical Load & Service Entrance Details
- Panel Layout, Circuit Design & Specifications

3.3. Engage the services of a Civil Engineer for the following;

3.3.1. Undertake civil design required as a result of the site work construction changes made to the design and specifications prepared by RHH Engineering.

3.3.2. Inspection and certification of all site work shown on RHH Engineering's site plans by the Contractor.

3.4. Payment of all permits and fees applicable to any agency other than the Township and North Bay Mattawa Conservation Authority are to be paid for by the Contractor.

3.5. All final site grading & clean up as shown on the drawings.

3.6. All new building construction work as indicated on the tender drawings and permit drawings prepared by the Contractor.

3.7. Finished roof assemblies, flashing, gutters, rain ware and penetrations.

3.8. All interior and exterior walls as shown on the tender drawings and permit drawings by the Contractor.

3.9. All floors, foundations with finishes as shown on the tender drawings and permit drawings by the Contractor.

3.10. All doors, frames, screens, windows and vestibules including thresholds, glazing, entry doors, finishing hardware as identified on door schedule shown on the tender drawings and the permit drawings prepared by the Contractor.

3.11. All plumbing rough-in to locations of fixtures and supply and install equipment, trim and fixtures as shown on the tender drawings and the permit drawings prepares by the Contractor.

3.12. All miscellaneous under and slab piping and conduits as shown on the tender drawings and the permit drawings prepared by the Contractor.

3.13. All HVAC work and design within premises.

3.14. Co-ordination with Hydro One and Bell as required for the contractor to complete his work, and as required for the proper sequence of the installation of underground utility services.

3.15. All interior and exterior electrical work as shown on the tender drawings and the permit drawings prepared by the Contractor. This includes coordinating wall space in the Utility Room and the provisions of mounting boards.

3.16. Co-ordination with the well driller as required for the installation of the well pump, and mounting and wiring of the pump controller, pressure tanks, etc., by the Building Contractor.

3.17. Record drawings, the Contractor is required to maintain as-built record drawings, clearly located all services located underground and services located within concrete floor slabs.

4. FORM OF THE CONTRACT

4.1. The latest edition of the Standard Construction Document CCDC for Design Build, shall bind the Contract Documents as described herein and therein.

4.2. A modification to the Agreement shall only be made by written Change Orders as described in the contract documents, and as approved by written agreement from the Owner or the Owner’s representatives.

5. WORK OF THE CONTRACT

5.1. The Contractor shall;

5.1.1. Be responsible for inclusion of all work required for completion of the project including all labour, material and equipment (unless otherwise stated) to construct, completely finish and install fixtures and items of construction as listed in the specifications and drawings.

5.1.2. Co-ordinate the work of his sub-contractors and review work to ensure that work meets best standards.

5.1.3. Assist and cooperate with the trades and suppliers contracted directly to the owner not under this contract.

5.2. General Requirements, Specified Work and Co-ordination of the Work that is the direct responsibility of the Contractor. It shall not be interpreted to define absolutely the limits of responsibility that must be established between the Contractor and his sub-contractors.

5.3. Ensure that the Sub-contractors understand that the General Conditions of the Contracts, Supplementary General Conditions, and General Requirements, apply to the sections of the Specification governing their work.

5.4. Check and verify all dimensions at the site before fabrication of on site or factory made items. If dimensions are not stated on drawings or available before commencing work, the dimensions shall be agreed upon between the trades involved and approved by the Consultant.

6. STANDARDS

6.1. Construct work to conform to be equal to, or exceed minimum standards specified in latest version of the Ontario Building Code and of the requirements imposed by;

6.1.1. References to other parts of the O.B.C.,

6.1.2. Local jurisdictional authorities,

6.1.3. The Drawings, Specifications, specified reference standards, and other instructions included with or issued in relation to, these documents.

6.2. The Ontario Building Code is referred to as O.B.C. and the National Building Code is referred to as the N.B.C. throughout this Specification.

6.3. Conform to latest edition (revision) of specified reference standards except for specific editions designated in latest (revision) of O.B.C.

6.4. The General Contractor and all Sub-Contractors shall adhere to the hours of the work, the working conditions under prevailing local by laws and conditions.

7. APPROVALS OF METHODS AND MATERIALS

Wherever the works “approval”, “approved”, “direction”, “directed”, “selection”, “selected”, “request”, “requested”, “report”, and similar words are used, such approvals, directions, selections, requests, and reports shall be given by the Owner’s representative unless specifically stated otherwise.

8. REGULATORY AGENCIES

8.1. Jurisdictional authorities whose requirements must be met for this Project shall include, but not be restricted to;

8.1.1. Township of Perry, Building, Fire Dept, & By Law
8.1.2. Hydro One
8.1.3. E.S.A.
8.1.4. T.S.S.A.
8.1.5. M.T.O.
8.1.6. North Bay Mattawa Conservation Authority
8.1.7. Ministry of the Environment, Conservation and Parks
8.1.8. Ministry of Labour

GENERAL INSTRUCTIONS SECTION 01 12 20

1. CO-ORDINATION AND CO-OPERATION

1.1. Ensure that each sub-contractor informs the Contractor of the construction, substrate, surface and environmental conditions required for the successful execution of his work, and that these conditions are met in the executions of all work.

1.2. Ensure that fastenings, connections, access panels and such other requirements as may be necessary for the installation of each Sub-contractor's work are installed in the proper locations, and that each Sub-contractor delivers work to be built-in, to the site, before layout and installation work commences.

1.3. Sub-contractors who fail to give installation information or materials in time for incorporation on the work of others, and after a request by the Contractor, shall be responsible for additional work and costs made necessary by their failure to perform, otherwise the Contractor shall assume responsibility for the additional work and costs.

1.4. Where co-ordination conflicts exist, the drawings shall govern over the specifications, larger scale details over smaller ones; however the Contractor's Consultant's ruling must be sought before proceeding with the work.

2. SITE EXAMINATION

Examine the site, and ensure that each Sub-contractor whose work is related to site conditions has examined it, and is fully informed as to the effect on their work including safety and access.

3. LOCATION OF BUILDING ON SITE

3.1. The Contractor is responsible for verification of the building location as determined from the site plan prepared by RHH Engineering and or survey plans and to report in writing any discrepancies to RHH Engineering.

3.2. The Contractor shall establish location of the building, and benchmarks for convenient reference in setting levels. A project benchmark is shown on Drawing SP-2.

3.3. The Contractor shall verify with RHH Engineering that the staked-out building location and benchmarks are satisfactory before commencing work.

3.4. The Contractor shall verify the accuracy of dimensions on drawings and report any discrepancies to RHH Engineering.

4. WORK AT PUBLIC PROPERTY

4.1. Verify that required notifications/permissions related to work at adjoining public properties are obtained before commencing work and obtain and pay costs of Road Occupancy Permits if required

4.2. Pay all charges levied by public bodies for this work in Contract, with the exception of municipal permits, fees and charges

4.3. Pay all charges levied by the Township for repair of damage to Township property cause by this construction.

5. PUBLIC UTILITIES AND SERVICES

5.1. Verify limitations imposed on work by presence of utilities and services and ensure that no damage occurs to them.

5.2. Notify service authorities concerned so that they locate, protect, remove, relocate, or discontinue services as they may require

5.3. Make arrangements and pay for all connection charges not clearly identified otherwise in the Contract Documents, for services required for work. The Contractor is responsible for payment of final connection charges. The Contractor is responsible for ensuring all metering and connections are made within the Contract.

5.4. Locate poles, pipes, conduit, wires, vents, regulators, meters, and similar Project service work in inconspicuous locations. If not located on Drawings, verify location of service work with RHH Engineering before commencing installation. Coordinate with authorities.

6. EXAMINATION BEFORE EXECUTION OF WORK

6.1. Examine completed work in place before fabrication or execution, or both, of work to be incorporated with it. Include dimensional and location checks, examination of surfaces and other site conditions contributing to Sub-contractor’s work, and fabricate to suit where applicable.

6.2. Sub-contractors and the Contractor shall ensure that completed work with which their work is incorporated, is satisfactory.

6.3. The General Contractor shall ensure that work installed in an unsatisfactory manner is rectified by those responsible for its installation before further work proceeds.

6.4. Defective work resulting from application to, installation on, or incorporation with unsatisfactory previous work shall be considered the responsibility of those performing the later work. The General Contractor is ultimately responsible to the owner for quality control.

7. PROTECTION OF WORK AND PROPERTY

7.1. Work shall include necessary methods, materials and construction to ensure that no damage or harm to Work, materials, property and persons results from the work of this Contract. Conform to eh Occupational Health and Safety Act, latest version, of the Province of Ontario. Provide WHMIS clearance certificates at beginning and end of job.

7.2. Pump dry excavations, pits, and other construction holes or depressions.

7.3. Remove snow and ice immediately from all parts of the buildings except from finished roofing.

7.4. Protect and make good adjacent private and public property to a similar condition or better than as existed before the start of the work.

7.5. Do not store materials in a manner to overload the structure beyond its design capacity.

7.6. Brace and shore masonry walls until their designate lateral support is incorporated at both top and bottom. Backfilling at foundation walls shall be carried out uniformly on both sides of wall simultaneously.

7.7. Keep site broom clean, free of dirt, grease, oil, or other materials detrimental to the successful application of applied finish materials.

7.8. Schedule finish work at end of construction when interference from tradesmen is at a minimum.

7.9. Do not allow heavy or rough items to rest against finished surfaces. Take particular care that resilient floors are not scarred or other side damaged by workers, construction aids, stored materials or imposition of concentrated static loading.

7.10. Protect each finished surface of completed work by methods approved by its applicator.

7.11. Protect waterproofing or roof membranes or finishes from damage following their installation, until Project completion.

7.12. Enforce fire prevention methods at site. Do not permit bonfire, open flame heating devices or accumulation of debris. Use flammable material only if proper safety precautions are taken, both in use and storage. Do not store flammable materials in the building. Take necessary measures to prevent spontaneous combustion.

7.13. Place cloths and other disposable materials that are a fire hazard in closed metal containers and remove them from the buildings every night.

7.14. Where flammable materials are stores and applied, ensure that adequate ventilation is provided, spark-proof equipment is used, and smoke and open flame prohibited.

7.15. Protect designated vegetation growing on, or immediately adjacent to the site by whatever physical means may be necessary to prevent damage.

7.16. Construct enclosers to protect work against the elements so that it can be carried forward during inclement or freezing weather without damage.

7.17. Maintain security of buildings at all times by provisions or barriers, temporary lockable doors or security watchmen as required appropriate to the stage of completion. Prevent entry to the Work by unauthorized persons and guard against theft, fire and damage of any kind.

7.18. Erect barricades around open excavations and open holes in construction.

8. CUTTING, FITTING, PATCHING, REPLACEMENT

8.1. Obtain approval with a written request in advance of cutting or alteration which effects:

8.1.1. Structural integrity of any element of the Project.
8.1.2. Integrity of weather exposed or moisture resistant elements.
8.1.3. Efficiency, maintenance, or safety of any operation elements.
8.1.4. Visual qualities of site exposed elements.
8.1.5. Work of Owner or separate contractor.

8.2. Only the original trade who has executed work shall cut, drill or patch it, unless otherwise approved.

8.3. The trade requiring cutting, drilling or patching to install his own work shall pay for it.

8.4. Restore work with new products. Fit construction closely to ducts, pipes, and conduit, and pack voids tightly to prevent air movement. Do not use impact tools. Preform work to avoid damage to other work and refinish surfaces to match adjacent finishes.

8.5. Fire separation integrity shall be maintained.

8.6. Inspect existing conditions, including elements subject to damage or movement during cutting and patching. After uncovering, inspect conditions affecting performance or the work. Beginning of cutting or patching means acceptance of existing conditions.

8.7. Provide openings in non-structural elements of Work for penetrations of Work by mechanical and electrical work.

8.8. Emergency measure:

8.8.1. Provide ULC approved fire extinguishers and other fire fighting services and equipment as required to protect the workers and property.
8.8.2. Maintain clear emergency exit paths for personnel at all times.
8.8.3. Provide first aid kit and comply with the safety procedures as required by safety legislation.

9. FASTENINGS

9.1. Supply and install fastening, anchors and accessories as required for complete installation of work or parts of that work.

9.2. Ensure delivery of fastening to site in ample time for installation by other that the supplied when applicable, and ensure that the supplier gives assistance in setting if requested.

9.3. Install fastening to provide anchorage that is permanent and of sufficient strength, and that will not loosen from vibration or other causes normal to building use. Space exposed fastening evenly and keep number to a minimum, use same material, texture, colour and finish as material to be fastened.

9.4. Do not used fastening of wood plugs or blocking in masonry or concrete unless shown on Drawings or approved, or which cause spalling or cracking of materials in which installed, or which will set up electrolytic action between them and other work with which they are in contact, or that are powder actuated unless approval is given in each instance.

10. ADJUSTING

10.1. Ensure that all parts of work fit snugly, accurately, and in true plans, and that moving parts operate positively and freely without binding and scraping.

10.2. Verify that work functions properly; adjust it accordingly to ensure satisfactory operation.

10.3. Lubricate products as recommended by the supplier.

11. CLEANING AND DISPOSAL

11.1. Each Contractor shall remove soil, spatters, dropping, labels, and debris from their work and from adjacent work immediately on installation. Leave work in new condition.

11.2. Maintain premises “broom clean” at all times during construction.

11.3. Final cleaning is specified in Section 01 77 00 Closeout Procedures and Submittals.

11.4. Unless otherwise specified, salvages and surplus materials and construction debris shall become the property of the Contractor, who must legally dispose of material off site.

12. PROJECT MEETINGS

12.1. Upon award of the Contract, an orientation meeting will be called by RHH Engineering. Those required to be present will include representatives from the General Contractor, Site Supervisor, Owner, major Sub-trades and the Contractor's consultant's.

12.2. Arrange site meetings at monthly intervals at a time and location approved by RHH Engineering. Notify all parties concerned to attend, to ensure proper co-ordination of project work. Provide written or verbal confirmation of each meeting at least four (4) days prior to meeting.

12.3. Minutes of these meetings shall be taken by the Contract Administrator and circulate to all parties within four (4) days of meeting.

13. SITE PROGRESS REPORTS

13.1. Maintain a record of significant construction events at the site.

13.2. Included in this record, but not restricted to:

13.2.1. Extreme weather conditions;
13.2.2. Unusual conditions of each concrete pour;
13.2.3. Dates and conditions of each concrete pour;
13.2.4. Dates when form work removed;
13.2.5. Attendance of Sub-contractor's forces to record details of construction, location and depth of all buried services;
13.2.6. Dates of site visits of jurisdictional authorities and a record of their pertinent comments.

14. CONSTRUCTION SCHEDULE

14.1. Submit, within fourteen (14) days of award of the contract, a construction schedule in the form of a bar chart, for completion of the work by agreed upon date. The owner shall review the schedule and return reviewed copy within 5 days of receipt. Final schedule shall be resubmitted within 7 days after return of reviewed copy.

14.2. This schedule is to:

14.2.1. Indicate the start and completion of the work of each trade

14.2.2. Indicate the proposed dates of all activities, particularly those critical for inspections and for the uninterrupted progression of the work.

14.3. Revise the schedule during construction to accurately reflect and predict the progress of the work.

14.4. Submit in writing a letter informing the Owner of the date of occupancy 60 days prior to that date in accordance with Section 01 77 00 Closeout Procedures.

15. SUPERINTENDANTS

Employ a competent superintendent and necessary assistants to be in attendance at the work site at all time during working hours.

16. MUNICIPAL REGULATIONS

Conform to Municipal By-laws and Regulations governing the restrictions on generation of noise and dust, obstructions, interference with public traffic, access to site and permitted hours of work.

17. HAZARDOUS MATERIALS

17.1. Asbestos

17.1.1. Friable asbestos is to be removed in accordance with the Ontario Health and Safety Act 654/85 (Type 3 Removal) and disposed of in accordance with Ontario Regulation 309 (as amended) under Environmental Protection Act.

17.1.2. Non-friable asbestos, such as V.A.T. tile, to be removed as a Type 1 Removal.

17.1.3. Contractor to submit a completed Hazardous Waste Manifest verifying that the material was transported and disposed of in accordance with the transportation of Dangerous Goods Act.

17.2. PCB

17.2.1. If PCBs are encountered, the Contractor shall take all the necessary precautionary measures to safeguard the building occupants and Contractor's staff from direct contact with PCBs. The Contractor shall notify the Owner immediately of any leakage of spillage observed.

17.2.2. PCBs shall be removed in accordance with Ministry of Labour guidelines on the prevention and control of occupational exposure to polychlorinated biphenyls (PCBs) Latest Version.

18. LOCATION OF FIXTURES AND SERVICES

18.1. Location of fixtures, apparatus, equipment, fittings, outlets, conduits, pipes and ducts shown or specified, but not dimensioned, shall be considered approximate. Any relocations within 10ft. shall be neither a credit or an extra.

18.2. Consult with the Owners to establish exact location. Any relocation cause by the Contractor's failure to consult shall be done at no extra cost.

18.3. Ductwork, piping, conduit and wiring located in finished areas shall be concealed unless specifically specified as exposed.

18.4. Except where locations are specifically noted on Drawings, install exposed mechanical and electrical fixtures, including outlets, switches, thermostats, panels and other items located on walls, in orderly and neatly laid out manner, lining up with each other and group together where possible. Relocate at no cost to Owner any work which does not meet this requirement.

18.5. Conserve space and co-ordinate with work of the other Sections to ensure that the ducts, pipes and conduits will fit into allocated space.

18.6. Run exposed piping, ducts and conduits in straight lines, neatly arranged, parallel to adjacent building surfaces and where they run in the same direction, parallel to each other.

INSURANCE AND BONDING SECTION 01 13 00

1. GENERAL LIABILITY INSURANCE

Within fourteen (14) days of the start of Construction, supply proof of the Contractor's General Liability Insurance in the minimum amount of $5,000,000.00 per occurrence and as per CCDC 41. Include an extension to the policy naming those parties insured as follows:

1.1. Owner
1.2. Contract Administrator (RHH Engineering)

2. BUILDER'S RISK INSURANCE

Within fourteen (14) days of the start of Construction, supply proof of the Contractor's Builder's Risk Insurance in the minimum amount of 1.1 times the construction contract amount and as per CCDC 41 recommendations.

3. PERFORMANCE BOND

Within fourteen (14) days of the written notification of the Award of Contract, furnish a Performance Bond in the amount of 100% of the Contract Price on CCDC Form 221, covering faithful performance of the Contract in strict accordance with the Drawings and Specifications, including corrections after final payment provided in the Contract hereof and issued by licensed Surety Company of Canda. The Performance Bond shall cover obligations arising under the Contract including:

3.1. Payment of Legal, Architectural, Mechanical, Electrical and Structural Engineering expenses incurred by the Owner as a result of Contractor's default and required to schedule extent of work executed and to re-supervise relationship accordingly.

3.2. Payment of additional expenses cause to Owner in form for watchman's services, light, heat and power temporarily payable by Owner, over the period between default of original Contract and re-commencement of operations.

4. LABOUR AND MATERIALS PAYMENT BOND

Within fourteen (14) days of the written notification of the Award of Contract, furnish Labour and Materials Payment Bond in the amount of 100% of the Contract Price on CCDC Form 222. Labour and Materials Payment Bond shall cover obligations arising under the Contract including:

4.1. Payment of wages and material to Sub-contractors and Suppliers and discharge liens and debts, including commitments in Law such as Unemployment Insurance, Compensation and Vacation Pay to enable project to be successfully completed.

5. BID BOND

Each bid shall be accompanied by bid bond in the amount of $150,000.00, naming the Owner as the oblige and issued by a surety licensed to conduct surety and insurance business in Ontario, Canada. The security is for the sole benefit of the owner and shall be valid for a period of sixty (60) days from the date of bid submission, to be put in force if the successful contractor fails to execute the contract or provide performance security.

ALLOWANCES SECTION 01 21 00

1. ALLOWANCES

1.1. Include in the Contract Price cash allowances for the following work:

1)	Testing Allowance	$15,000.00
2)	Door Hardware Allowance	$20,000.00
3)	Water Treatment Equipment	$15,000.00
4)	Washroom Accessories	$15,000.00

1.2. The Contract shall govern the Cash Allowances.

1.3. Expend cash allowance only on written instructions of the Owner's consultants. Quotations must be approved and receipts presented prior to the release of any allowance funds. Unexpected balance of cash allowances shall be returned to the Owner.

1.4. The Contractor will be allowed a 10% markup on the testing invoices from the selected testing firm.

2. CONTINGENCY

A contingency budget is not included in this tender.

SUBMITTAL PROCEDURES SECTION 01 33 00

1. GENERAL

1.1. Required submittals are specified under certain Sections of this Specification and generally in Section 01 77 00 Closeout.

1.2. Deliver submittal to the Owner or Owner's consultants in sufficient time to ensure that construction schedule is not delayed. Allow minimum of ten (10) working days for review and comment.

1.3. Mock-ups will be required for interior and exterior paint samples and for metal building colours.

1.4. Ensure when final review is given, that additional submissions are made to other concerned parties for their information when it is required for proper performance of their work.

2. SHOP DRAWINGS

2.1. Submit shop drawings only after Contractor has review them, made necessary notations and signed them. The term 'shop drawings' means drawings, diagrams, illustrations, schedules, performance charts, templates, brochures and other data which are to be provided by the Contractor to illustrate detail of a portion of the Work

Submit the following Shop Drawings:

2.1.1. Four (4) Copies of each catalogue cut, and printed engineering and data sheet;

2.1.2. Four (4) Prints of each drawing with an additional print for review of engineer consultant as requested.

2.2. Shop Drawings which have evidently not been review by the Contractor, whether he has signed them or not, will be returned for re-submittal. Shop drawings shall be submitted to the appropriate project consultant for approval. Approved copies shall be submitted to Owner/advisors for review.

2.3. Corrections of more than a minor nature will be noted by the Engineer on shop drawings and they will be returned for revision. Re-submit when revised. Adjustments made on shop drawings on the Owner's behalf are not intended to change the Contract Price.

2.4. Shop drawings that require minor or no corrections will be returned except for two copies retained for each review.

2.5. Shop drawing review by the Owner of the Owner's consultants is for the sole purpose of ascertaining general conformance with the design concept. This review shall not mean that the Owner or the Owner's consultants approve the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors, or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract.

The General Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques or construction and installation and for co-ordination of the work of all subtrades.

2.6. Do not proceed with work dependent on shop drawings until they have been reviewed and the Owners or their consultant's comments and the Contractor's approval has been given.

2.7. Fabricate work exactly as shown on shop drawings. Indicate on shop drawings, materials, methods of construction and attachment, or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.

2.8. Keep one copy of each final corrected shop drawing at the Project site at all times.

2.9. Provide copies of final corrected shop drawings to jurisdictional authorities when requested.

2.10. All dimensions and performance data indicated shall be metric.

2.11. The contractor shall notify the Owner or their consultants in writing at the time of submission of any deviations in submittals from the requirements or the Contract Documents.

2.12. The following shop drawings and product cuts are required for submittal;

2.12.1. Structural systems, Pre-engineered portions of structural systems, trusses, beams, joists and columns, all bearing the seal of a Professional Engineer licensed to practice in Ontario.

2.12.2. Door schedules, hardware schedules

2.12.3. Commercial entrance systems, windows

2.12.4. Mechanical equipment

2.12.5. Electrical Equipment (fixtures and devices)

3. SAMPLES

3.1. Submit to the Engineer before starting the work, 2 samples of adequate size to represent material, or as otherwise specified. Submit an extreme range of samples with Project name and date. (See relevant specification Sections).

3.2. When samples are very large, require assembly, or require evaluation at the site, they may be delivered to the site, but only with approval.

3.3. Include cost of delivery and handling, assembly, and return to supplier of samples in the Contract work.

3.4. Disapproved samples will both be returned for re-submission.

3.5. Do not proceed with work until samples are approved by the Owners or their consultants. Do not install materials that do not match approved samples.

4. EXTENDED GUARANTEES

4.1. Commence extended guarantee period on termination of the standard one year warranty granted in the Contract.

4.2. If separate warranty from responsible trade or supplier is not provided to the Owner, the warranty is automatically deemed to be carried by the General Contractor under this section.

4.3. The following extended guarantees are required beyond the standard guarantee:

Division 7 – Thermal and Moisture	
Flashing and Sheet Metal	+ 1 years
Roofing	+ 4 years
Sealants	+ 1 years
Division 8 – Doors and Windows	
Windows	+ 2 years
Metal Doors and Frames	+ 2 years
Glass and Glazing	+ 2 years
Division 15 – Mechanical	
Mechanical Units	+ 2 years
Division 16 – Electrical	
Emergency Power Systems	+ 2 years
Light Fixture and Devices	+ 2 years
Refrigeration Unit	+ 2 years

5. AFFIDAVITS

5.1. Submit specified affidavits in duplicate with each copy signed by responsible officer of the issuing organization.

5.2. Submit Statutory Declarations that all trades and suppliers have been paid in full to the date at each draw.

6. INSPECTION LABORATORY REPORTS

6.1. Independent Inspection . Testing Agencies will be engaged by the Owner from time to time, for the purpose of inspecting and / or testing portions of Work. Cost of such services shall be borne by the Owner and paid for by the Contractor from the Cash Allowance. Submit test reports as specified in duplicate. Sign each copy by a responsible officer of the testing laboratory or company.

6.2. Inspection of Testing Reports are required but not limited to the following:

6.2.1. Concrete Footings, Foundation, Slabs and Sidewalks

6.2.2. Soil bearing capacities

6.2.3. Structural Steel

7. INSPECTION

7.1. The Owner and their Consultants shall have access to the Work.

7.2. Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Owner and Consultant’s instructions.

7.3. If the Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, shall uncover such Work, have the inspections or test satisfactorily completed and make good such Work, whether or not the hidden work is ultimately deemed to be acceptable.

TEMPORARY FACILITIES SECTION 01 51 00

1. GENERAL

Include construction and safety aids required by nature of the work, jurisdictional authorities, the Occupational Health and Safety Act, latest version, of the Providence of Ontario and in order to execute the work expeditiously. Remove from site all such work after use.

2. CONSTRUCTION AIDS

2.1. Provide ladders, steps, ramps, temporary flooring, scaffolds, and similar facilities for workers and placing of material equipment.

2.2. Erect scaffolds clear of walls. Do not let them interfere with continuing work and work of other sections as much as possible.

2.3. Contractor is responsible for the design, supply, installation and maintenance of any shoring, bracing or similar type of systems, required during the execution of the work. Co-ordinate with the Consultant. Provide certification of any such work, as directed by the Consultant or as required by authorities having jurisdiction.

3. PROTECTIONAL AND WINTER CONSTRUCTION

3.1. Provide temporary construction to ensure that continuing and completed work is protected as required under the Contract and as specified in Section 01 12 20 General Requirements.

3.2. Ensure that temporary protections and barricades damaged during work, or that are removed to permit ongoing work, are repaired or replaced promptly to maintain protection.

3.3. Provide weather tight closures to unfinished door and window openings, and other openings in wall and roofs, box in sills, jambs, and other similar work.

3.4. Cover finished flooring with materials sufficiently rugged to withstand work and traffic over.

3.5. The General Contractor shall supply and maintain all temporary heat, to ensure protection against damage from the elements to any and all work and material until completion. The permanent heating system may be used for temporary heat providing conditions set out by the Engineers are met.

3.6. All materials shall be protected from the elements including wind, water, sun, snow and freezing temperatures and shall be stored under cover and heated as required.

3.7. If low temperatures make it impossible to continue operations safely in spite of cold weather precautions, cease work until safe to resume.

3.8. Snow and ice shall be removed as may be required for the protection and/or execution of the Work but shall not be removed from the finished roofs.

3.9. Backfill material which is frozen or contains snow will be rejected if installed.

3.10. Protect excavation, trenches and building from damage by rainwater, groundwater, backing up drains or sewers and other water, frost and other weather conditions.

3.11. Provide dust tight screens or partitions between phased areas and dust generating activities and for the protection or workers, finished areas of Work and the Public.

3.12. Confine the Work and the operations of employees to limits indicated by the Contract Documents. Do not unreasonably encumber the premise with products.

4. DEMOLITION

4.1. Removal and disposal of the existing site products and material shall be in conformance with Municipal regulations and Ministry of the Environment, Conservation and Parks.

4.2. The owner reserves the right to re-use any material or equipment specified to be removed or disposed of off the site. The owner representative will give instructions in the regard as the work proceeds.

5. SHELTERS, ACCESS AND STAGING

5.1. Contractor's Site Office

Provide office heated to 22°C. lighted to 150 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing layout table.

5.2. Storage Sheds

Provide adequate weather tight sheds with raised floors, for storage or materials, tools and equipment which are subject to damage by weather.

5.3. Site Access and Staging

Site access and contractor staging areas shall be designated and separated from the remainder of the property to ensure the safety of users during the construction. Protect the infrastructure and hard surfaces from vehicular use and damage during the work. At the conclusion of the work, restore to previous condition site access and staging areas.

6. SERVICES

6.1. Temporary Water

The Contractor may make arrangements with the Owner to provide the continuous supply of drinking quality water for construction use.

6.2. The Contractor shall provide his own electrical power.

6.3. The General Contractor shall provide, maintain and remove upon completion of the work the following temporary services

6.3.1. Heat

To ensure that conditions for working surfaces and curing is maintained. Use methods approved by the Consultant and jurisdictional authorities. Permanent heating systems may be used during construction only with written permission of Consultant and shall be turned over to the Owner in “as new” condition under full specified warranty.

6.3.2. Power

Of characteristics and at locations required by machines used for execution of specified work. Provide weatherproof distribution panels as required for the efficient execution of the work and in accordance with O.H.P.C. regulations.

6.3.3. Lighting

At locations and at sufficient illumination levels to ensure that work may be properly executed and emergencies evacuated safely.

6.3.4. Ventilation

Provide one (1) air change per hour during finishes installation.

6.4. Each Contractor shall install or have installed required temporary branch lines and controls for power and water as required for their work.

6.5. Temporary use of permanent system:

6.5.1. Permanent services and equipment shall be substantially complete and certified by Consultant to be in proper operating condition before they may be used as temporary facilities.
6.5.2. Contractor shall pay for fuel and operating costs.
6.5.3. Inspect permanent services and equipment being used on a regular basis during use.
6.5.4. Provide competent persons to operate and maintain permanent systems for duration of temporary use.
6.5.5. If required, perform repairs and maintenance immediately after each inspection. Upon termination of temporary use, services and equipment shall be inspected, tested, adjusted, balanced and cleaned.
6.5.6. Permanent services shall be turned over to the Owner in reconditioned and perfect operating condition.
6.5.7. Use of permanent services shall not affect the warranty conditions and period for such systems and equipment. Make due allowance to ensure that the Owner will receive full benefits of warranty after project takeover.

7. UTILITIES

The General Contractor shall make arrangements with the Owner for utility services for temporary construction use. Pay for connections and disconnection charges.

8. PROJECT IDENTIFICATION

8.1. Erect only signs approved by the Consultant. On completion, dispose of the sign as directed by the Consultant.

8.2. Erect signs relating to safety of the Work or mandatory regulation notices.

8.3. Barricade entire area where volatile substances are used and post an adequate number of no smoking signs in the area.

9. FIRE PROTECTION AND SECURITY

9.1. Supply and maintain adequate temporary fire protection during the construction period.

9.2. Extinguishers shall be ten pounds (10 lbs) capacity ABC type, ULC approved and shall be placed in sufficient quantities and locations to adequately protect the work and workers.

9.3. Maintain clear emergency exit pathways for personnel and users at all times.

9.4. Ensure nothing subverts the integrity of fire protection provided for the building structure.

9.5. Enforce fire protection methods and adhere to local and Underwriter's fire regulations.

9.6. Security of all areas by the work of this Contract until taken over by the Owner is required. Take steps to prevent entry to the Work by unauthorized persons and guard against theft, fire and damage of any kind. Erect and maintain adequate barriers and temporary lockable doors or security watchmen.

10. TEMPORARY SANITARY FACILITIES

10.1. Provide sanitary facilities for workforce in accordance with governing regulations and ordinances. Keep facilities clean and sanitary and provided with the required supplies at all times.

10.2. Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

10.3. Permanent water closets and drain connections are not to be used by Contractor; provide temporary water closets (portable) and wash basins. Complete with temporary enclosures as required. Permanent or existing facilities may not be used the Contractor, suppliers or sub-trades.

11. REMOVAL

Remove all temporary facilities from site when directed by the Consultant.

COMMON PRODUCT REQUIREMENTS SECTION 01 61 00

1. PRODUCTS

1.1. Do not substitute materials, products, finishes, equipment, or methods different from that shown on Drawings and specified without written approval. Only the Contractor shall make application for substitutions.

1.2. Any product of several specified by reference standard designation in O.B.C. may be used unless limited by specific products named in this Specification. When the phrase ‘or equivalent’ or ‘equal’, appear in the specifications after the specific named products, it shall mean that any material used in lieu of the specified product shall be similar in dimensions, stability, quality, performance and serve identical purposes. The acceptance of said ‘alternate’ shall be at the Owner’s or their Consultant’s discretion.

1.3. The supplier shall validate in an approved manner that the product supplied is in compliance with the specified reference standard. The Owners or their Consultants shall have the final say should any dispute arise as to the quality or fitness of Products.

1.4. Submit in accordance with Section 01 33 00, a written affidavit from an independent authority to verify that each product supplied which is specified to meet requirements of a reference standard meets the specified requirements if requested.

1.5. Any product of several specified in this Specification may be used.

1.6. Install products only by methods and using application materials that are specified and approved by their manufacturers.

1.7. Reject all damaged products and remove from site immediately. Inspection does no relieve responsibility but is a precaution against oversight or error.

1.8. Labels attesting that materials conform to specified reference specifications will be acceptable as verification that contents meet specified requirements. In absence of labels, submit affidavits to validate conformance of material to reference specifications.

2. HANDLING

2.1. Ensure that materials and products are packed, protectively wrapped, packaged, crated or bagged, and shipped, delivered, and stored as required to prevent damage to their structural and performance qualities, and finished appearance, and that their moisture content is not increased beyond manufactured or specified installation limits. Label packed goods to completely describe contents.

2.2. Label fire-rated products to indicate Underwriters’ Laboratories of Canada approval.

2.3. Brace work such as door frames, large window units and similar products to prevent distortion or breakage in handling.

2.4. Protect prefinished metal surfaces by protective coating or wrappings until time of final clean-up specified in Section 01 77 00. Protection shall be easily removable under work of Section 01 77 00 without damage to finishes.

2.5. Do not allow products to be placed in contact with the ground nor with other materials that could stain them.

2.6. Store packaged materials unopened, with their labels intact and as recommended by their manufacturers.

2.7. Store lumber, masonry units and steel on platforms clear of the ground.

2.8. Store woodwork and finish millwork, and finished and packaged products under cover.

2.9. Any product damaged or stored in an inappropriate manner will be rejected.

3. SUBSTITUTIONS AND AVAILABILITY

3.1. Products which are specified by their proprietary names or by part of catalogue number, form the basis for Contract. No substitutions for these may be used without the Owner's or their Consultant's approval in writing.

3.2. Where it is found that specified materials have become unavailable for incorporation into work, notify the Owners or their Consultants immediately of proposed substitution.

3.3. Products proposed as substitutions, which are considered by Consultant to be suitable for purpose intended, but which are in his opinion of lesser value and quality than those specified, shall only be accepted as submission if reasonable credits are allowed for their use.

3.4. In order to substantiate equivalency of proposed materials, products or processes, submit samples, printed product descriptions, test data, installation instructions, standards, certification, sample guarantee/warranty forms, list of successful projects incorporating such proposals and similar information requested by the Owners or their Consultants.

3.5. Prevent any substitution or request for substitution from delaying construction progress in any way.

3.6. Request for substitution resulting from failure to place orders in time will not be entertained. Be responsible for ordering products in time to ensure their required delivery.

4. STANDARDS AND TERMINOLOGY

4.1. Where a standard has been adopted by these Specifications, incorporate minimum requirements of such standard into the work. Where requirements of Specifications are more stringent than those of the standard, follow the more stringent requirement. Where a standard is in conflict with specifications follow the specifications.

4.2. Reference to standards, specification, handbooks, and manufacturer's catalogues refers to latest edition thereof and all amendments or revisions applicable, at date on month prior to the Tender Closing date unless date suffix is included in the tender document.

4.3. For products specified by reference standard it shall be the supplier's responsibility to verify that such products meet specified requirements.

4.4. Whenever words "acceptable", "approved", "satisfactory", "selected", "directed", "designated", "permitted", "instructed", "required", "submit", or similar words or phrases are used in standards or elsewhere in the Contract Documents it shall be understood, that "by the Owner's or the Consultant's" follow, unless context provides otherwise.

4.5. Where the word "provide" is used in these Contract Documents, it shall be taken to mean "supply and install" unless specifically noted otherwise.

4.6. Where the word "Consultant", "Engineer" or "Architect" is used in these Contract Documents, it shall be taken to mean the Owner of their Consultants unless specifically noted otherwise.

OPERATION AND MAINENANCE MANUAL SECTION 01 73 03

1. MAINTENANCE MANUAL

1.1. On completion of the project, submit to the Owner or their Consultant's for delivery to the Owner, two (2) copies of Operations Data and Maintenance Manual in English, made up as follows:

1.1.1. Bind data in a black vinyl hard covered, 3 ring loose leaf binder.

1.1.2. Enclose title sheet labeled "Operation Data and Maintenance Manual", project name, date and list of contents.

1.1.3. Organize contents into applicable sections of work to parallel project specification break-down. Mark each section by labeled tabs protected with celluloid covers fastened to hard paper dividing sheets.

1.2. Include the following information plus data specified.

1.2.1. Maintenance instruction for finished surfaces and materials;

1.2.2. Copy of hardware, door schedules and room finish schedules;

1.2.3. Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Standard name plate information such as make, size, capacity, serial number;

1.2.4. Addresses and phone numbers of sub-contractors and suppliers;

1.2.5. Guarantees, warranties, and bonds showing:

1.2.5.1. Name and address of project.
1.2.5.2. Guarantee commencement date (date of final Certificate of Completion).
1.2.5.3. Duration of guarantees and extended guarantees.
1.2.5.4. Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
1.2.5.5. Signature and seal of Contractor.
1.2.5.6. Additional material used in project listed under various Sections showing name of manufacturer and source of supply.

1.3. Neatly type lists and notes. Use clear drawings, diagrams, or manufacturers literature

1.4. Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

1.5. If applicable, give colour of paints and materials and area where material is used. Include a list of manufacturers trade names of finishes and coatings applied.

1.6. Contain sources of supply for all proprietary products used in the work. Contain list of supply sources for maintenance of all equipment in Project of which more detailed information is not included above.

1.7. Contain charts, diagrams and reports specified in Division 15 and 16, including copy of sprinkler schematics.

2. DIVISION LISTING

The following is an outline of items, organized to correspond with the Specification Divisions. It provides only a sample or items to be covered and should not be viewed as complete. Contractors shall ensure that all materials and products requiring regular maintenance within the first five years of the project are covered by the manual.

DIVISION 1 – GENERAL REQUIREMENTS
- List, in alphabetical order, all warranties, including their anniversary and servicing dates.
- Individual warranty documents shall be filed with their respective Specifications Division.

DIVISION 3 – CONCRETE
- Provide copies of all approved pre-cast structural concrete shop drawings.

DIVISION 5 – METALS
- Provide copies of all approved steel shop drawings

DIVISION 6 – WOOD AND PLASTICS
Include in Schedule:
- Built-in Millwork re: Hardware, applied finish etc.
- Fasteners and Supports re: Structural maintenance procedures.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION
Include in Schedule:
- Roofing and Flashing Materials
- Metal Siding

DIVISION 8 – OPENINGS
Include in Schedule:
- Doors and Windows re: Shop Drawings or Manufacturers Literature
- Hardware
- Applied Finish
- Glazing

DIVISION 9 – FINISHES
Include in Schedule:
- List of all applied finishes re: Upkeep (cleaning, etc.)
- Repair
- Replacement – colour, texture, manufacturer
- Including: Walls, Ceiling and Floors

DIVISION 15/16 – MECHANICAL and ELECTRICAL
Include in Schedule:
- List of all equipment and fixtures complete with Manufacturers operational maintenance instruct.

CLOSEOUT AND SUBMITTAL PROCEDURES SECTION 01 77 00

1. FINAL CLEANING

1.1. Remove temporary facilities from site, make good all defects and replace broken and damaged glass and other materials before final inspections.

1.2. Be responsible for the following final cleaning prior to Substantial Performance, in addition to requirements for the continuous cleaning up and Contractor's cleaning specified in the General Conditions of the Contract and Section 01 12 20:

1.2.1. Washing down of exterior masonry, stucco and concrete surfaces;
1.2.2. Removal of protective coatings from prefinished metal surfaces;
1.2.3. Leave the work broom clean prior to the commencement of the inspection;
1.2.4. Cleaning and polishing of glass, mirrors, tile, porcelain, enamel, finish metals;
1.2.5. Cleaning and polishing of ceramic tile and sealing prior to occupancy;
1.2.6. Cleaning and buffing of VCT and waxing with acrylic wax prior to occupancy;
1.2.7. Vacuum clean and dust all doors, windows, walls, ceilings, floors, fixtures, fittings, lights and all other materials throughout to remove all dust, building debris, stickers, paint, and plaster droppings, and all other material to produce clean and spotless work;
1.2.8. Including cleaning of hardware, and mechanical and electrical equipment and polishing of their finished metal, vitreous, plastic, glass components;
1.2.9. Remove stains, spots, marks and dirt from work;
1.2.10. Removal of all visible labels except for those required for operational instructions and fire rating;
1.2.11. Clean site, removing all debris and waste material. Replace all broken glass, and re-lamp all burned out fixture lamps.
1.2.12. Remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining work.

2. AS-BUILT / RECORD DRAWINGS

2.1. Record on the contract drawings accurate location of all hidden services located within the scope of work including but not limited to: concealed plumbing, electrical work within the buildings and Work constructed differently than that shown on the Contract Documents. Clearly identify drawings as 'Project Record Copy', maintain in new condition and make available for inspection by Owner and Owner's Consultants as requested.

2.2. Return original record drawings plus one copy to the Owner or their Consultants before requesting final payment on the Contract.

3. FINAL INSPECTIONS AND CLOSEOUT

3.1. Arrange near completion of work, for a meeting with the Owner or their Consultants, to discuss closeout procedures. Submit proposed inspection, take-over and close-out procedures for approval at least two weeks before final inspection is contemplated.

3.2. O.A.A./O.G.C.A. Take-over Procedures, O.A.A./O.G.C.A. Document No. 100, (latest version), shall govern for procedures concerning substantial and total performance of work of this Contract and completion take-over of the construction.

3.3. Thirty (30) days prior to substantial performance, the Contractor shall set up a meeting with Sub-contractors and Suppliers to go over their various disciplines with the Owner. Provide a systems demonstration instruction of each system to Owner's designated operator. Instruct personnel in operation, adjustment and maintenance of equipment and systems, using provided operation and maintenance of equipment and systems, using provided operation and maintenance data as the basis for instruction. At this time, one copy of the approval brochures and operating manuals will be given to the Owner's representative.

3.4. Sixty (60) days prior to occupancy the Contractor shall submit a letter to the Owner indicating the date of occupancy.

3.5. Prior to the Owner accepting Substantial Performance of occupancy, the Contractor shall provide to the Owners or their Consultants with the following documents:

3.5.1. All outstanding shop drawings;
3.5.2. Completion all interior deficiencies;
3.5.3. All buildings have been professionally cleaned;
3.5.4. Statutory Declaration that all Sub-trades / Suppliers have been paid to date;
3.5.5. All extended, standard and manufacturers warranties;
3.5.6. Hydro inspection certificates;
3.5.7. Air balancing report on forced air systems if specified;
3.5.8. Keys tagged, boxed and received by Owners;
3.5.9. Updated certificate of good standing from WHMIS;
3.5.10. Supply and installation of all signage;
3.5.11. Additional paint, tiles etc…for future repair work;
3.5.12. As-built / Record drawings;
3.5.13. Maintenance Manual.

3.6. Within two (2) weeks of Substantial Performance, the Contractor shall ensure that the Owner or his designate staff is fully instructed on the use and operation of the various electrical and mechanical equipment. Submit a written report that this has been done.

4. KEYING SCHEDULE

4.1. Owner to receive two (2) copies of the following:

4.1.1. Key all new locks to the entire complex grandmaster;
4.1.2. Individual room and exterior door keys.

4.2. General Contractor shall be allocated two (2) construction master keys which must be presented to the Owner prior to occupancy.

FIRE AND SOUND RATED ASSEMBLIES SECTION 01 85 00

1. GENERAL

Division 1 General Requirements shall apply as if written here.

2. PRODUCTS

2.1. Products shall be listed by:

2.1.1. Underwriters' Laboratories of Canada
2.1.2. Fire Performance Ratings (Volume 2 to the O.B.C. Latest Version)

2.2. No substitutions shall be allowed unless approval is obtained in writing from the Architect.

3. FABRICATION

3.1. Construct separation to ensure that in no place is the rating lessened by voids or diminishing of their construction.

3.2. Provide fire protection of individual members for their entire length and girth.

3.3. Ensure that integrity of separations, protections, and fire stopping is maintained by methods approved by jurisdictional authorities.

3.4. Fire separations shall be continuous on the underside of joists and along the entire length of party walls, i.e. over and past all unrated stud partitions including bearing partitions.

3.5. Avoid installation of electrical outlets, plumbing and noise producing equipment such as door bells and telephones on sound rated partitions.

3.6. Where the assembly is penetrated by such items as conduit, pipe or electrical boxes, wall penetrations must be carefully sealed using non-hardening sealant such as Dow Corning Firestop Foam and Sealant. Fill oversize openings with like material. e.g. fill concrete or block with grout or masonry.

3.7. Ensure where devices such as fire dampers, fire flaps or fire collars are used that the installation meets or exceeds the recommendations of the manufacturer's written specifications.

3.8. Ensure that the undercut of doors required as 'closures', to be no greater that 1/4" (6mm).

SITEWORK SPECIFICATIONS DIVISION 02

1. GENERAL

The site work herein described is for the construction of a new covered rink and related workings including a new parking lot, replacement of the existing septic system, construction of new drilled well and domestic water system. The work also includes the removal of the existing asphalt rink surface and related fixtures and services. An existing chain link fence is to be replaced with a privacy fence.

The site work is described on project drawings SP-1, SP-2 and SP-3. The bidders shall include the costs of all work described on the project drawings, specifications and as required by the Contractor's design build proposal. Bidders cannot eliminate the cost of any work described in the tender documents in their tender price.

All site work shall comply with all federal, provincial, and municipal regulations.

2. SITE WORK ENGINEERS

The Contractor shall engage the services of an independent qualified Civil Engineer to complete or make modifications to the project as required by the Contractor's Design-Build tender.

All modifications required to the tender's site work during the Design-Build process shall be detailed by the Contractor's Engineers and submitted to the Owners and their Consultants for approval, and other agencies as required.

The Contractor's Engineers shall inspect and certify all of the Contractor's site work including site work applied for in the monthly progress draws. The Contractor's site Engineers shall certify the Contractor's monthly work in writing, addressed to the Owners.

The Contractor's Engineers shall be responsible for all approved changes to the site work and approvals including the electrical layout, drainage approvals, septic system, and MTO approvals.

The Contractor shall obtain underground locates prior to construction and provide a copy of the located to the Engineers and Owners.

3. REPORTS

A Soils Report by Peto MacCallum Ltd. was completed in 2025 and is available to Bidders. See Appendix A.

An Ice Rink Proposal by Custom Ice Inc. was completed in 2025 and is available to Bidders. See Appendix C. The specifications listed in this proposal have been incorporated into Project Drawings.

4. PROJECT STAGING

The Contractor shall begin the project with the re-location of the existing privy, into the playground area as indicated on the Project Drawings. The Contractor shall be responsible for any provincial or municipal applications related to the re-location of the privy. Upon re-location of the privy, the Contractor shall assemble construction fencing to separate the playground area from the work site.

When re-construction of the septic bed is to take place, the Contractor shall convert the existing septic tank servicing the Parks and Rec Building into a temporary holding tank. The Contractor shall be responsible for all pump-outs of the temporary holding tank, ensuring the facilities in the Parks and Rec Building remain operational. Upon completion of the septic system, the Contractor shall re-connect into the existing pump chamber.

5. PUBLIC AREAS DURING CONSTRUCTION

During construction, Township staff will require continued access to the Parks and Rec Building on site.

After re-locating the privy, the Contractor shall install construction fencing to separate the playground / baseball diamond area from the work site. The playground / baseball diamond will continue to have access via Florence Street, through a gate at the North limit of the property. The Contractor shall post signage on the closed areas as required to prevent the public from entering the work site.

6. SITE PREPARATION

The Contractor shall clear and grub the site as required. All grubbing material, wood, concrete and asphalt products are to be disposed of offsite. All materials removed from the site shall adhere to O. Reg. 406/19.

Clean subgrade soils can be disposed of on site in locations approved by the Township or their consultants.

The Covered Rink building site shall be grubbed and sub excavated as per the building design requirements and as per the Soils Report by Peto MacCallum Ltd. (See Appendix ‘A’). The Contractor shall import subgrade material approved by the Soils Consultants as necessary to achieve the floor elevation shown on the Project Drawings.

The Contractor shall install silt curtains around the perimeter of the construction area and install sediment traps and straw bales as needed to prevent erosion during construction.

7. PROJECT LAYOUT

The Contractor shall layout the new building and sitework as per the project drawings. The Contractor shall have an O.L.S. or approved equivalent layout/check the location of the new covered rink building.

RHH Engineering will provide offset data from property lines for site layout or provide AutoCAD input information for Contractors using GPS survey system or other layout methods.

8. GRADING

The Contractor shall clear and grub the site, removing all vegetation, topsoil, organics, and deleterious materials. All grubbing material, including wood, topsoil, organics, septic bed materials, and tanks are to be removed from the site as per O. Reg. 406/19.

The Contractor shall cut and fill the site as indicated on the Site Plan and other Project Drawings. All subgrades are to be proof rolled prior to filling. All subgrades are to be compacted to a minimum 98% standard proctor density or as specified by the Soils Consultant.

The top approximate 600MM of material throughout the site is generally sandy material which could be used as subgrade fill for landscaping areas around the rink and site. The rink site elevation is to be raised using Type II Granular B.

All grading elevations are to be checked by the Contractor's Engineers and verified.

9. CULVERTS

All new culverts to be corrugated plastic pipe (CPP), high density polyethylene (HDPE) round smooth wall, pipe stiffness 320KPA at 5% deflection, ASTM 3350, OPSS.MUNI1840, CAN/CSA B182.6 M92. Culverts to be installed in dry conditions.

Culvert installation as per OPSD-802.010 in Earth, OPSD-802.013 in Rock.
OPSD-803.031 Frost Treatment (Modified taper 4H:1V)

10. ROOF WATER LEADERS

The building is to be equipped with eaves troughs with downspouts (and heating cables), and shall outlet into the new ditch / swale on the South side of the building. The locations of the downspouts are to be approved by the Owner's Engineer's prior to installation. The downspouts shall not interfere with any doors or access to the building. The Contractor shall supply and install all piping required.

Perforated drain pipe to be HDPE corrugated tubing with regular geotextile filter sock, ASTM D 1248, with 19MM clear stone wrapped in filter cloth.

11. CONCRETE SLABS

All concrete slabs shall be constructed on 150MM Granular 'A', and 300MM Granular 'B', all compacted to 100% standard proctor density.

Rink Refrigeration Unit – The Contractor shall design a single reinforced concrete slab for the Chiller and Mechanical units to sit on, in the location specified on the Project Drawings. The slab is to be enclosed with an 8FT (2.4M) high privacy / soundproof fence, with the goal of providing both a visual and noise barrier.

12. PARKING LOT CONSTRUCTION

The parking lot is to be paved and shall be constructed with 50MM of HL4 Asphalt, 150MM of Granular 'A', and 300MM of Granular 'B'. All Granular A and Granular B materials shall be OPSS.MUNI 1010, Type II material from 100% locally quarried bedrock.

The gradation of the Granular A materials shall be 22MM minus and Granular B 50MM minus.

The Contractor shall provide test sample of the Granular A and B, along with current gradation test results from an independent Soils Consultant verifying conformance with OPSS.MUNI 1010 specifications for Type II material. The Contractor shall specify the source of the granular materials and shall not change the granular source without prior approval from the Owner or Engineers. All granulars shall be compacted to 100% standard proctor density.

The Contractor shall be charged for all failed testing by the soils consultant.

The granular materials shall extend 1 metre beyond the edge of the asphalt shoulder, and extend at the edge of the gravel on a 2H:1V slope to the subbase or as indicated.

The asphalt is to be a 50MM layer of HL4 surface course. The Contractor shall construct the parking lot, including asphalt swale, and site to the grades shown on the grading plan.

The asphalt swale shall outlet into the new ditch along the West property line. The Contractor shall line the new ditch with 100 – 150MM rip rap from the asphalt swale to the creek, as shown on the Project Drawings.

The Contractor shall install white parking lot markings on the asphalt. The Contractor shall use regular dry road paint (or approved equal) for the parking space markings as shown on the Project Drawings and include all markings required for the accessible parking spaces.

Accessible Parking Spaces as per O. Reg. 413/12, s.6
Regular Parking Space Dimensions – 3M x 6.2M
Accessible Parking Space Dimensions – 3.6M x 6.2M with 1.5M aisle
The Contractor shall provide accessible parking signage on posts for the accessible parking spaces.

13. LANDSCAPING

All areas requiring landscaping shall as a minimum have 150MM topsoil and sod, hydroseed or other ground cover approved by the Township. The septic area must have grass cover. All ground cover is to be maintained by the Contractor until fully established and make all repairs as necessary during the grown in period.

Sod – OPSS.MUNI803
Hydroseed – OPSS.MUNI804
River Stone – 75MM-125MM, geotextile fabric 360R by Terrafix or approved equal.

Wood Privacy Fence – as per Detail 1, Drawing SP-2, replacing the existing Chain Link Fence along the property line of FR42/44/48 (Plan 39, Lots 49-51).

14. HYDRO SERVICE

The owner has applied to Hydro One for a hydro service layout for the new Covered Rink building. The proposed hydro service is 600AMP, three phase service. RHH Engineering has submitted an application for service to Hydro One. See Appendix D.

The service proposed is underground from the hydro pole indicated on the service layout and through the parking lot the new Covered Rink utility room.

The Contractor shall co-ordinate the hydro service as part of their scope of work and provide all additional work required by Hydro One including trenching. The Contractor shall be responsible for all panels, wiring, fixtures onsite trenching and duct bank installation.

The Township shall pay all application, administration, off site & hookup fees directly to Hydro One.

See project specifications for additional information and Hydro One requirements.

The Contractor shall remove the existing underground hydro lines servicing the existing rink change room and outdoor light posts.

15. YARD LIGHTING

Existing lighting shown is conceptual. See building specifications for additional details.

The Contractor is to design and provide yard lighting for the parking lot and building exterior. The parking lot lighting is to be dark sky friendly and energy efficient. The Contractor shall provide a parking lot lighting diagram acceptable to the Township showing the illumination levels. The Contractor shall take care to note the nearby residential areas, ensuring illumination does not adversely affect any neighboring properties. All exterior lights must have light shields to eliminate glare onto neighboring properties.

The existing playground light is presently connected to the Parks and Rec Building power system. A new connection for the light is required from the new Covered Rink.

16. ENVIRONMENTAL

The Contractor shall install silt fences to isolate the site and prevent soil erosion.

The Contractor shall repair / make good all damage caused by construction.

All disturbed areas unless otherwise noted are to be restored with 150MM topsoil and sod with a grass mixture suitable for local climate.

Silt Fence – OPSD 219.011
Light Duty Straw Bale – OPSD 219.100
Straw Bale Check Flow – OPSD 219.180
Sod – OPSS.MUNI803
Hydroseed – OPSS.MUNI804
Erosion Blankets – As specified by Site Engineers

17. TELEPHONE / INTERNET SERVICE

The Contractor is to install two (2) 100MM diameter communication conduits in the same trench as the hydro service.

The Contractor shall provide all co-ordination for the installation of the telephone and internet service.

18. SEPTIC SYSTEM

The Contractor shall re-locate the existing privy, into the playground area in the location specified on the Contract Drawings. The Contractor shall be responsible for any provincial or municipal approvals required related to the re-location of the privy.

RHH Engineering has made application for septic permit to the North Bay Mattawa Conservation Authority.
The new septic system is a 2,250 litre / day Class 4F Filter Bed, consisting of:

- Septic Bed Area 6M x 5M;
- 4,500L Septic Tank with effluent filter;
- 675L Septic Pump Chamber;
- Distribution Box;
- Septic Bed with 5 Runs, each 5M long, 100MM diameter distribution pipe;
- Two (2) 40MM diameter HDPE forcemains;
    - Ex Pump Chamber to New Pump Chamber
    - New Pump Chamber to Septic Distribution Box
- Septic area to be hydroseeded and contractor to maintain / water until grass is fully grown in;
- The mantle area is to be restored with topsoil and sod, contractor to maintain
- The septic site in situ soils have T = 10 min / cm and an imported mantle is not required;
- RHH Engineering has made an application through the North Bay Mattawa Conservation Authority for septic approval, copy attached. Permit to be provided upon approval;
- If construction of the septic bed exceeds the timelines issued in the permit, the Contractor shall be responsible for making all applications for any required extensions and any additional fees;
- The Contractor is to provide installer information (BCIN#) to NBMCA and arrange for all inspections;
- Septic construction details available on Project Drawing SP-3;
- The Contractor shall obtain a Certificate of Use (approval) from NBMCA and provide a copy to the Township;
- The Contractor will be required to remove the existing onsite septic system (Permit 18/PE/92) to allow for the construction of the new septic system, and the Contractor shall convert the existing Parks and Rec Building septic tank to a temporary holding tank with alarms as per the OBC Part VIII. The Contractor is to obtain a permit / approval from NBMCA for the work. The Contractor shall be responsible for all pump-outs as required.

19. WATER SUPPLY

The Contractor shall drill a new well in the location shown on the Project Drawings, in order to service the new Covered Rink building.

The water line and power lines shall be installed in a 100MM conduit underground to the Utility Room. The water line is to be a 40MM diameter HDPE, 150PSI pipe installed with minimum 1.8M cover under the finished ground elevation.

Hot water tanks (2) to carry a minimum capacity of 450 Litres, to fill an Olympia 250 Ice Surfacing machine. Pressure tanks shall be two (2) 200 Gallon tanks.

The Contractor shall install a pump controller and pressure tanks for the well in the Utility Room. The Contractor shall allow for a drilled well a minimum of 30 metres deep including well screens and all other requirements.

The Contractor is to supply all material and equipment required for the water system including water treatment equipment. The Contractor shall design a water treatment system for the Covered Rink based on the building occupancy.

The work includes the installation of a pump, piping, and power connection from Utility Room, as well as the installation of pump controls and pressure tanks in the Utility Room.

20. UNDERGROUND CAT6 FOR SECURITY SYSTEM

The Contractor shall install one (1) 100MM diameter communication conduit in the same trench as the hydro service for the light posts, to the camera locations as shown on the Project Drawings.

The Contractor is responsible for trenching, conduits and wiring from the existing DVR/NVR System in the Parks and Rec Building to the camera locations as shown. Camera locations confirmed onsite by the Township. Cameras and connections by others.

The Contractor shall provide an armored CAT6 cable, suitable to provide Power over Ethernet (POE) to the security cameras.

The Contractor shall provide all co-ordination for the installation of the telephone and internet service.

21. MISCELLANEOUS REMOVALS

The Contractor shall remove the chain link fence along the property line of FR42/44/48 (Plan 39, Lots 49-51). Chain link mesh shall be rolled up and returned to the abutting property Owners.

The Contractor shall de-commission and remove the existing Dug Well near the creek, along the West limit of the property.

The Contractor shall remove all distribution piping within the existing septic bed, to facilitate the construction of a replacement septic bed. The existing septic tank and pump chambers are to be left in their existing locations and tied into the new septic system as specified in the Project Drawings.

22. DEMOLITION OF EXISTING RINK / CHANGE ROOMS

The bidder is to provide all labour, equipment, materials, reports, clearances, permits, licenses as required for the demolition of the existing rink with asphalt surface and the accompanying change room building at 54 McCrandle Street, Novar, Ontario.

GENERAL SPECIFICATIONS

1. The Contractor is responsible for the demolition and removal of the existing approximate 45 square metre change room and the existing approximate 1,000 square metre rink. The change room is a one storey wood frame building. The rink is comprised of the dasher boards, gates, light poles (power supplied underground), and has an asphalt rink surface with granular subgrade. The removal shall include all wall assemblies, roof assembly, wiring, underground services, light poles, piping, windows, doors, including foundation and floor assemblies. All contents within the building, and all fixtures related to the existing rink, are to be removed as part of the scope of work

2. All concrete and masonry foundation assemblies are to be removed including the foundation footings. All excavations are to be backfilled with clean granular fill as per the requirements to the Soils Report by Peto MacCallum Ltd.

3. All materials removed from the site are to be disposed of in facilities licensed to accept such waste or by companies licensed to accept such waste.

4. The Contractor must obtain a Demolition Permit from the Township and pay the required fees. The Contractor must be experienced in demolition work and comply with all conditions, codes and bylaws.

5. The Contractor shall provide protection for adjacent wells, and all items on the adjacent properties including trees, buildings, fences and driveways.

6. Bidders shall examine the site to determine the scope of work and shall be solely responsible for determining the extent of the work and the degree of difficulty to complete the work, including access, traffic control and protection of utilities.

7. The Contractor shall obtain all reports or clearances required by provincial laws to protect the Health and Safety of the workers and the surrounding community. The facility has not been cleared for designated substances.

   The Contractor shall be responsible for determining an acceptable method of demolition, including dust control and erosion, complying with all provincial regulations and local bylaws. The Contractor shall provide a description of the demolition method in their demolition permit application, including any machinery required.

8. The Contractor shall obtain and pay for all permits required by the authorities having jurisdiction and arrange for all inspections of the work required by the authorities.

9. The Township's Building Inspector shall carryout inspections of the demolition as prescribed by the Township. All work must be completed and written notice provided to the Township Building Inspector prior to final inspection.

   The area surrounding the demolition must be left in equal or better condition prior to the demolition. The site must be left clean and free of debris. The surface must be smooth and free of any ruts caused by demolition work.

   All backfilling shall be as per the Soils Report by Peto MacCallum Ltd. and by the Site Engineers.

10. The Contractor shall schedule their work as per the Township of Perry's requirements. The existing rink and change rooms will be demolished by methods as determined by the Contractor and approved by the Township.

    The demolition shall be carried out so as to cause the least amount of disruption to the neighboring dwellings, and other activities within the complex.

    The Contractor shall ensure all openings are closed up, and that suitable security / fencing is in place to prevent access to the site during working hours and at the end of each work day.

    The Contractor shall ensure proper traffic control and signage is in place for equipment and trucks entering and exiting the site.

GENERAL DEMOLITION SPECIFICATIONS

1. The Contractor shall be fully responsible for ensuring the safety in the areas underlying and adjacent to the construction site. The Contractor will be responsible for the loss or damage caused as a result of their actions. The Contractor shall prevent movement, settlement or damage to adjacent structures, grades or portions of existing structures to remain. If the safety of the structure being removed, or adjacent structures or grades appear in danger, the Contractor shall cease operations and notify the Owner immediately.

   Security fencing shall be provided and any additional measures as required to prevent unauthorized entry to the site at all times during the demolition.

2. The Contractor shall provide signage as necessary to warn pedestrians of the work.

3. The erection of hoardings, outriggers and scaffolding shall be constructed in accordance with the requirements of the relevant standards and regulations.

4. All services are to be disconnected prior to the start of the demolition. The relevant authorities shall be notified in advance of the services to be affected.

5. Any services in proximity to the demolitions shall be adequately protected and arrangements shall be made with relevant authorities to fully protect any overhead wires.

6. The Contractor shall obtain all permits necessary prior to demolition.

7. All protection works for adjacent properties shall be in place prior to demolition.

8. The handling of materials containing asbestos shall be in accordance with O. Reg. 278/05.

9. If hazardous materials are encountered during demolition, the Contractor shall immediately inform the Township.

10. No combustible material or rubbish will be left on the site as to cause a fire hazard.

11. No burning of any debris will occur on site.

12. Adequate fire extinguishing equipment will be available on site at all times and the Contractor's employees onsite shall be trained in the use of the equipment.

13. Manual demolitions shall be conducted on non-load bearing items and for walls adjacent property boundaries.

14. Mechanical demolition can be used where its use will not endanger adjacent structures and properties.

15. All practical precautions shall be taken to avoid danger from the collapse of a structure when a section of the structure is removed.

16. Dust creating materials shall be lowered by hoisting apparatus of removed by chutes.

17. Walls along property lines should be removed by hand.

18. Explosives shall NOT be used during the demolition process.

19. Walls shall not be left free standing without temporary braces and supports.

20. No wall, chimney or other structure shall be left unattended or unsupported in such a condition that it may collapse due to wind or vibration.

21. Any plant and equipment shall be dealt with as per the Occupational Health and Safety Regulations.

22. Containers for disposal of debris shall be provided as necessary by the Contractor.

23. The Contractor shall provide dust control as necessary.

24. All demolition works must be carried out within the hours of:

    8:00AM – 6:00PM, Monday to Friday.

25. No work is to occur on statutory holidays or weekends.

23. CONTRACT ADMINISTRATION COSTING DETAILS

The successful bidder shall break down their tender price for the sitework in the following categories:

- Fees: Engineering design, Contractor supervision, work and payment certification;
- Existing rink / change room removals;
- Parking lot construction: Sub excavation, installation of granular and asphalt;
- Septic bed construction, including excavation of existing system and soils;
- Site materials removals and disposals;
- Concrete slab for refrigeration unit;
- Water supply, including well construction, services, water treatment and decommissioning;
- Landscaping and Environmental;
- Construction fencing, signage;
- Hydro service and communication ducts;
- Miscellaneous items;
- Other items as deemed necessary based on the tender submission.

The Contractor's cost breakdown shall indicate the responsibility of each engineering discipline. The engineering discipline shall review the items they are responsible for in each monthly payment and certify/approve the applicable amount for the draw payment. The monthly progress certificate will be issued by the Contract Administrator based on the monthly certification by each designer.

END

APPENDIX A

Soils Report by Peto MacCallum Ltd.
Dated May 9, 2025

Peto MacCallum Ltd.
CONSULTING ENGINEERS

GEOTECHNICAL INVESTIGATION
PROPOSED NOVAR COVERED ICE RINK
54 MCCRANDLE STREET
TOWNSHIP OF PERRY, ONTARIO

for

THE CORPORATION OF THE TOWNSHIP OF PERRY

PETO MacCALLUM LTD.
19 CHURCHILL DRIVE
BARRIE, ONTARIO
L4N 8Z5
Phone: (705) 734-3900
Fax: (705) 734-9911
Email: barrie@petomaccallum.com

Distribution:
1 cc: The Corporation of the Township of Perry (email only)
1 cc: PML Hamilton
1 cc: PML Barrie

PML Ref.: 25BF001
May 9, 2025

Peto MacCallum Ltd.
CONSULTING ENGINEERS

May 9, 2025

PML Ref.: 25BF001
Report: 1

Ms. Kim Seguin
The Corporation of the Township of Perry
1695 Emsdale Road, P.O. Box 70,
Emsdale, Ontario
P0A 1J0

Dear Ms. Seguin

Geotechnical Investigation
Novar Covered Ice Rink
54 McCrandle Street
Township of Perry, Ontario

We are pleased to present the results of the geotechnical investigation recently completed for the above referenced project. Authorization to proceed with this assignment was provided by Ms. Kim Seguin, in an email dated March 6, 2025. Our services were provided in accordance with PML Proposal No. 25250007 dated February 27, 2025.

It is understood that a new covered ice rink facility is to be constructed to replace an outdoor rink at 54 McCrandle Street, Novar. The proposed 90' x 170' pre-engineered steel building will replace the existing outdoor rink.

A geotechnical investigation was requested to assess the subsurface conditions at the site, and based on this information, provide geotechnical engineering recommendations for site foundation design options, settlement projections, seismic site classification, slab-on-grade construction and parking lot pavement design.

We will retain the soil samples obtained during the investigation for three months from the date of this report. The samples will be discarded at the end of the three-month period, unless we are instructed otherwise. If you would like the samples stored beyond the three-month period, this can be arranged for a service fee.

We thank you for the opportunity to have been of service on this assignment and trust that this report is complete within the term of reference. Please contact this office should you have any questions and comments on this report.

Sincerely

Peto MacCallum Ltd.

Scott Jeffrey, P.Eng., QP$_{ESA}$, LEED$_{GA}$
Director
Regional Manager, Geotechnical and Geoenvironmental Services

NG/SJ:gs

19 Churchill Drive, Barrie, Ontario L4N 4Y8
Tel: (705) 734-3900 Fax: (705) 734-9911
E-mail: barrie@petomaccallum.com
BARRIE, COLLINGWOOD, HAMILTON, KITCHENER, LONDON, TORONTO

TABLE OF CONTENTS

ATTACHMENTS

1. INTRODUCTION

It is understood that a new covered ice rink facility is to be constructed to replace an outdoor rink at 54 McCrandle Street, Novar. The proposed 90’ x 170’ pre-engineered steel building will replace the existing outdoor rink. In addition, a fully paved parking lot will be constructed on the site as part of the proposed works.

The sites existing ground surface is relatively flat and consists of either grass, sand fill (in playground and volleyball court), gravel or asphalt (in existing rink).

The purpose of this investigation was to assess the subsurface soil and groundwater conditions at the site, and based on the information obtained provide geotechnical engineering recommendations for site foundation design options, settlement projections, seismic site classification, slab-on-grade construction and parking lot pavement design.

A limited chemical testing program was included with the Geotechnical work to check the geoenvironmental quality of the site soils in order to provide comments regarding on-site reuse or off-site disposal options for excess excavated soil. Results from the chemical sampling program are found later in this report.

The comments and recommendations provided in this report are based on the site conditions at the time of the investigation, and are applicable only to the proposed works as addressed in the report. Any changes in the proposed plans will require review by PML to re-assess the validity of the report, and may require modified recommendations, additional investigation and/or analysis.

This report is subject to the Statement of Limitations in Appendix A and should be read in conjunction with this report.

2. INVESTIGATION PROCEDURES

The field work for this investigation was carried out on April 9, 2025, and comprised a total of four boreholes and seven test pits carried out at the locations indicated on Drawing 1, appended. The boreholes ranged from 5.2 to 6.7 m depth and the test pits were excavated to depths between 1.2 and 2.0 m. A dynamic cone penetration test was completed beside each borehole to the same depths as the boreholes.

The locations of the boreholes were established in the field by PML, based on proposed locations provided by the Client. The ground surface elevation at the borehole locations was obtained with a Sokkia SHC5000 GPS System equipped with a GCX3 (network RTK rover) Global Navigation Satellite System (GNSS) Receiver. Vertical and horizontal accuracy of the GPS unit are 0.1 m and 0.5 m, respectively.

The underground services were cleared with assistance from Ontario-One-Call and a specialist utility locating company. The ground surface elevations at the test hole locations were determined by PML with a differential GPS. It should be noted that the ground surface elevations at the test holes are approximate and are referenced for describing the soil stratigraphy. The provided elevations should not be used or relied upon for any other purpose.

The boreholes were advanced using continuous flight hollow and solid stem augers, powered by a Geoprobe drill rig, supplied and operated by a specialist drilling contractor. The test pits were excavated using a backhoe provided by the Township of Perry. The drilling and excavation operations were both supervised by PML personnel.

Representative samples of the overburden were recovered at frequent depth intervals for identification purposes using a conventional 51 mm OD split spoon sampler. The sampler excludes particles larger than 38 mm. Standard penetration tests were carried out simultaneously with the sampling operations to assess the strength characteristics of the subsoil. The ground water conditions in the boreholes were assessed during drilling by visual examination of the soil samples, the sampler, and drill rods as the samples were retrieved, and measurement of the water level in the open boreholes, if any.

All boreholes were backfilled in accordance with O.Reg. 903.

All the recovered samples were returned to PML's geotechnical laboratory in Barrie for detailed visual examination and moisture content determinations. Six grain size analyses were conducted on representative samples of the major soil types found on site. Results of the grain size analyses are shown on Figures 1 and 2, appended.

3. SUMMARIZED SUBSURFACE CONDITIONS

Reference is made to the appended Log of Borehole and Test Pit sheets for details of the subsurface conditions, including soil classifications, inferred soil stratigraphy, standard penetration test data, groundwater observations as well as the results of laboratory grain size distributions and moisture content determinations.

Due to the soil sampling procedures and limited sample size, the depth/elevation demarcations on the borehole logs must be viewed as "transitional" zones between layers, and cannot be construed as exact geologic boundaries between layers. PML should be retained during site works for further guidance.

3.1. Topsoil

Surficial topsoil was encountered at Test Pit 1, 3 and 5 and ranged from 200 to 400 mm in thickness.

3.2. Pavement Structure

A pavement structure was encountered at the surface of most boreholes and test pits. The table below summarizes the pavement structure component thicknesses encountered;

TABLE 1
EXISTING PAVEMENT STRUCTURE

BOREHOLE/ TEST PIT	ASPHALT (mm)	GRANULAR BASE (mm)	GRANULAR SUBBASE (mm)	TOTAL THICKNESS (mm)
BH 1	--	150	--	150
BH 2	80	150	100	330
BH 3	80	150	100	330
BH 4	80	150	100	330
TP 4	--	200	--	200
TP 6	--	100	--	100
TP 7	--	150	--	150

3.3. Fill

An undocumented fill was encountered at the surface of Test Pit 3 and underlying either pavement or topsoil in Borehole 1, Test Pit 2, and Test Pits 4 to 7. The fill extended from 0.4 to 1.1 m depth (Elevations 324.1 to 325.1). The fill comprised sand, silty sand or gravelly sand with occasional cobbles noted locally in Test Pits 4, 6 and 7. Two samples of the fill were submitted to the laboratory for grain size analyses with the results presented on Figure 1, appended.

A major sand layer was encountered underlying either pavement or fill in all boreholes and test pits extending to the 1.2 to 6.7 m depths of exploration. Four samples of the sand were submitted to the laboratory for grain size analyses with the results presented on Figure 2, appended. The sand was very loose to compact with N values ranging from 2 to 15. Moisture contents within the sand were between 5 and 24% and was observed to be moist to wet.

3.4. Ground Water Levels

Ground water was observed upon completion of augering and/or excavating in Boreholes 1 to 4 and Test Pits 3, 5 and 7 from 1.0 to 2.1 m depths, at about elevation 323.4 to 324.4.

Groundwater levels are subject to seasonal fluctuation and should be expected to be somewhat higher during the spring months and in response to major weather events.

4. ENGINEERING DISCUSSION AND RECOMMENDATIONS

4.1. Building Foundations

Grading has not been established for the site at the time of this report, however it is expected that footings will be supported by either native soil or engineered fill. It is understood that a 90' x 170' pre-engineered steel building will replace the existing outdoor rink.

Boreholes 1 to 4 were drilled in or near the proposed building footprint. In general, the building can be supported on shallow spread footings bearing about 1.0 m below existing ground surface on native sand. Footings founded below all topsoil, fill, organic soil or otherwise deleterious soil on the native undisturbed loose to compact sand at 1.0 m below existing site grades may be designed for a Serviceability Limit State (SLS) bearing resistance of 100 kPa with a corresponding factored bearing resistance at Ultimate State Limit (ULS) of 150 kPa.

Footings may also be supported on adequately placed and well compacted engineered fill, provided that the upper loose fill, native soils or deleterious material is removed prior to engineered fill placement. Footings founded on engineered fill may be designed for an SLS bearing resistance of 100 kPa with a corresponding factored bearing resistance at ULS of 150 kPa.

The Geotechnical bearing resistance at SLS is based on 25 mm or settlement in the bearing stratum with differential settlement not exceeding 75% of the value.

Footings subject to frost action must be provided with a minimum 1.8 m of earth cover or equivalent insulation.

Geotechnical foundation design and construction recommendations should be reviewed by PML once building locations and elevations are finalized, and a provision should be made for supplementary investigations, recommendations and reporting, as needed.

4.2. Seismic Site Classification

Design provisions for earthquake loading should also be applied. Based on the characteristics of the subsoils encountered in the boreholes at this site and considering deeper subsurface information in the vicinity of the site from other available sources, the subject property should be classified as Site Class D or Site Designation X_D for footings bearing on native undisturbed compact sand or engineered fill as per the 2020 National Building Code of Canada (NBCC 2020) Section 4.1.8.4. It is possible that the site designation could be improved by carrying out a site-specific geophysical survey such as by a multi-channel analysis of shear wave velocity (MASW) testing.

4.3. Slab-on-Grade Floors

4.3.1. Conventional Slab-on-Grade Floors

Construction of the floor slabs as a conventional slab-on-grade is considered feasible for heated spaces provided that the subgrade is adequately prepared.

Preparation of the subgrade should include stripping of disturbed or otherwise deleterious material followed by proofrolling of the exposed subgrade with a heavy roller to ensure uniform adequate support. Excessively loose/soft or compressible materials revealed during the proofrolling operations should be sub-excavated and replaced with well compacted approved material.

Fill placed under the floor slab to achieve finished subgrade levels or as foundation excavation backfill should comprise approved inorganic material having a moisture content within 3% of the optimum value, placed in maximum 200 mm thick loose lifts, and compacted to at least 98% SPMDD.

A minimum 200 mm thick layer of well compacted free draining Granular A type material is recommended directly beneath the slab-on-grade. A polyethylene vapour barrier should be placed under the slab if a moisture sensitive finish is to be placed on the floor.

Finished floor slab elevations should be set a minimum of 150 mm above the exterior grades and exterior grades should be established to promote surface drainage away from the building.

4.3.2. Ice Rink Slab

It is understood the ice rink slab will be approximately 450 mm higher than the existing surface and the ice surface temperature is to be controlled by a refrigeration plant. Construction of the ice rink slab on engineered fill is considered to be feasible. Where grades need to be raised this should be carried out using OPSS 1010 Granular B compacted to 98% SPMDD. It is important to note that the underlying native soil at this site is considered to be moderately susceptible to frost heaving. The degree of potential heaving is subject to the depth of frost penetration below the artificial ice surface which depends on a number of factors such as ambient air temperature, ice temperature, duration of ice season and the thermal properties of the soil.

Consequently, the ice rink slab should be designed with a suitable frost control system typically comprising underfloor insulation, and subgrade drainage provisions. For seasonal operation, an underslab heating system below the insulation layer is not typically required, however this should be confirmed with the rink designer.

For guidance, conventional construction practices for a seasonally operated ice rink slab comprises (from top to bottom) Concrete surface slab with embedded refrigerant piping, at least 100 mm polystyrene insulation, 300 mm of compacted OPSS 1010 Granular A base, over adequately prepared subgrade compacted to a minimum of 98% SPMDD. The subgrade should be sloped to provide drainage to perforated subdrains spaced at minimum 6 m centres.

The insulation should extend at least 1.2 m beyond the edge of the refrigerated slab.

The ice rink floor slab should be constructed a minimum of 1.0 m above the highest ground water level.

4.3.3. Slab - General

Exterior grades should be maintained at least 300 mm below the finished floor slab level and sloped to promote drainage away from the building.

4.4. Excavation and Ground Water Control

It is assumed that excavations for rink foundations and any site servicing will extend as deep as 3.0 m and encounter topsoil or pavement, fill and a sand deposit.

Provided adequate ground water control is achieved, the site soils encountered at the site should be considered as Type 3 soil requiring excavation sidewalls to be constructed at no steeper than one horizontal to one vertical (1H:1V) from the base of the excavation in accordance with the Occupational Health and Safety Act. If an excavation contains more than one soil type, the excavation slope geometry shall be governed by the highest soil type.

Foundations of heavily loaded/settlement sensitive structures and/or utilities located within close proximity to the excavation may require underpinning or support to preserve the integrity of these structures. General guidelines regarding underpinning of foundations / utilities locate close to excavations is provided in Figure 3.

All work should be carried out in accordance with the Occupational Health and Safety Act, 1990 and Ontario Regulation 213/91 for construction projects and with local regulations.

It is recommended that trench excavations be supervised on a full-time basis by experienced geotechnical personnel from Peto MacCallum Ltd. to examine actual in-situ soil conditions and verify that proper trenching procedures are implemented.

No surcharge should be placed in close proximity of excavation and trenches.

Based on the boreholes, the ground water table was encountered at between elevations 323.4 to 324.4 m. The ground water table is expected to be encountered during excavation of the building footings and utility installations. Excavations above or slightly below the groundwater table can be managed with conventional sump pumping. However, deeper excavations below the groundwater table will require more intensive dewatering methods.

It is recommended the work be scheduled following periods of prolonged dry weather, and when the ground water table is usually at its lowest, in order to minimize the quantity of water to be handled.

Water taking in Ontario is governed by the Ontario Water Resources Act (OWRA) and the Water Takings and Transfer Regulation O. Reg. 387/04. Section 34 of the OWRA requires anyone taking more than 50,000 L/day to notify the MECP. This requirement applies to all withdrawals, whether for consumption, temporary construction dewatering, or permanent drainage improvements. Where it is assessed than more than 50,000 L/day but less than 400,000 L/day of ground water taking is required, the Owner can register online via the Environmental Activity and Sector Registry (EASR) system. Where it is assessed that more than 400,000 L/day of ground water taking is required then a MECP Permit-To-Take-Water (PTTW) is required.

A PTTW or registry on the EASR system may be required for the excavations that extend more than 0.3 m below the ground water level. When design and construction details are finalized, the project should be reviewed and a Hydrogeological Site Assessment may be required to assess the MECP requirements, and in support of registry on the EASR system or possibly a PTTW.

4.5. Underground Service

The invert level for the underground services is expected to be up to about 3.0 m below existing grade.

It is anticipated the subgrade for underground services will comprise native sand which is considered suitable for support of the underground services.

Prior to placement of bedding, the exposed subgrade at the bottom of the trench excavations should be examined to detect soft, loose, or unstable areas and all loose, disturbed material resulting from excavation disturbance removed to competent soil. If very loose or unstable areas are encountered, these areas should be over-excavated to a stable subgrade or otherwise compacted in place to provide a uniformly stable trench base as verified by PML. Where subexcavation is carried out, the material should be replaced with additional bedding material.

The normal 150 mm bedding thickness of granular material as per Ontario Provincial Standards (OPS) and/or local requirements should be satisfactory. The bedding material should be carried up

as backfill for at least 300 mm above the pipe obvert, and should be placed in 150 mm lifts compacted to 95% SPMDD.

Above the Granular A surrounding the pipe, the trenches should be backfilled with approved material comprising inorganic, debris free material that is within 3% of its optimum moisture. The backfill should be compacted to 95% SPMDD.

The trenching and backfilling operations should be carried out in a manner which minimizes the length of trench left open yet accommodates efficient pipe laying and compaction activities.

4.6. Pavement Design Recommendations

As discussed earlier, site grading has not been finalized, however given the near surface soils comprise of low to moderate frost susceptible sands, the following pavement thicknesses have been provided for the preliminary consideration. The following pavement thickness recommendation must be reviewed when the subgrade soil has been confirmed and the parking and driveway area locations are finalized.

TABLE 2
PAVEMENT THICKNESS RECOMMENDATIONS

PAVEMENT COMPONENT	THICKNESS (mm)
Asphalt Surface Course (HL3)	30
Asphalt Binder Course (HL8)	50
Granular A Base Course	150
Granular B Type I Subbase Course	300
TOTAL THICKNESS	530

The pavement granular courses should conform to the Ontario Provincial Standard (OPS) specifications for select granular materials. They should be placed in maximum 200 mm thick lifts and compacted to at least 100% of Standard Proctor Maximum Dry Density (SPMDD).

Preparation of the subgrade for pavement construction should involve removing obvious deleterious materials followed by proofrolling of the subgrade with a heavy roller. Excessively wet or deleterious material revealed by the proofrolling operations should be subexcavated and replaced. The subgrade surface should be compacted to at least 95% SPMDD.

The pavement design considers that construction will be carried out during the drier time of the year and that the subgrade is stable, as determined by proofrolling operations. If the subgrade should become excessively wet or rutted during construction activities, additional subbase material may be required. The need for additional subbase is best determined during construction.

For the pavement to function properly, provision must be made for water to drain out of, and not collect in, the granular courses. In this regard, the pavement subgrade should be sloped to promote drainage towards catch basins or manholes.

The excavation around catchbasins and manholes should be backfilled with free-draining granular material to minimize differential movements between the pavement and structures due to frost action. The structures should be perforated and screened just above the drain level to permit drainage.

5. GEOTECHNICAL REVIEW AND CONSTRUCTION INSPECTION AND TESTING

It is recommended that the final design drawings be submitted to PML for geotechnical review for compatibility with site conditions and recommendations of this report.

Earthworks operations should be carried out under the supervision of PML to approve subgrade preparation, backfill materials, placement and compaction procedures, and verify that the specified compaction standards are achieved throughout fill materials.

Prior to placement of structural concrete, all founding surfaces must be inspected by PML to verify the design bearing capacity is available, or to reassess the design parameters based on the actual conditions.

The comments and recommendations provided in the report are based on the information revealed in the boreholes and test pits. Conditions away from and between boreholes may vary, considering

previous activity at the site. Geotechnical review during construction should be on going to confirm the subsurface conditions are substantially similar to those encountered in the boreholes, which may otherwise require modification to the original recommendations.

6. GEOENVIRONMENTAL CONSIDERATIONS

6.1. General

A limited chemical testing program was carried out to check the geoenvironmental quality of the soil at selected sampling locations in order to provide comments regarding on-site reuse or off-site disposal options for excess excavated soil.

A Phase One Environmental Site Assessment (ESA) or Assessment of Past Uses (APU) was not carried out for this assignment. Accordingly, soil impairment that has not been identified by the limited chemical testing program may exist at the site. The limited chemical testing program does not constitute an Environmental Site Assessment as defined under the Environmental Protection Act and O. Reg. 153/04, as amended

6.2. Chemical Testing Protocols

Representative samples collected during the geotechnical investigation were returned to our laboratory for detailed visual examination. Selected soil samples were submitted for chemical analysis to SGS Canada Inc. (SGS), a Canadian Association for Laboratory Accreditation Inc. (CALA) accredited laboratory in Lakefield, Ontario. The chemical analyses conducted by SGS were in accordance with the O. Reg. 153/04, as amended and Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act dated March 9, 2004, amended as of July 1, 2011.

As part of the geoenvironmental procedural protocol, all recovered soil samples were examined for visual and olfactory evidence of potential contamination.

Since a Phase One ESA or APU were not completed to identify project specific Contaminants of Potential Concern (COPCs), samples were reviewed and selected for chemical testing in accordance with the proposal whereby eleven (11) soil samples were selected and analyzed for

common contaminant groups including general testing for Metals and Inorganic parameters (M&I); Petroleum Hydrocarbons (PHCs) fractions F1 to F4; Benzene, Toluene, Ethylbenzene and Xylene (BTEX).

The rationale for sample selection was also based on materials exhibiting visual and/or olfactory evidence of contamination, material most likely to be contaminated (i.e., fill materials), site coverage and materials most likely to be excavated during construction.

A list of all samples submitted for analysis is presented in the attached Table C1 along with a summary of the test results. SGS Certificates of Analysis are enclosed in Appendix B.

6.3. Site Condition Standards

6.3.1. On-Site Re-Use

The Ontario Ministry of the Environment, Conservation and Parks (MECP) has developed a set of Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011) and O. Reg. 153/04, as amended. The standards consist of nine tables (Table 1 through Table 9) that provide criteria for maximum concentrations of various contaminants. In general, the applicable O. Reg. 153/04, as amended Site Condition Standards (SCSs) depend on the site location, land use, soil texture, bedrock depth, soil pH and source of potable water at the investigation site. In order to determine the Site Sensitivity, Sections 41 and 43.1 of O. Reg. 153/04, as amended were evaluated by PML as per the following table:

Site Condition Standard and Site Sensitivity Analysis

Criteria	Result
Proposed Property Use O. Reg. 153/04, as amended Part I Section 1	Community
Potable vs. Non-Potable Ground Water O. Reg. 153/04, as amended Part IX Section 35	potable
Proximity to Areas of Natural Significance O. Reg. 153/04, as amended Part IX Section 41 (1) (a)	> 30 m

Criteria	Result
Soil pH O. Reg. 15/04, as amended Section 41 (1) b	Surface Soil: 5 to 9 Subsurface Soil: 5 to 11
Soil Texture O. Reg. 153/04, as amended Part IX Section 42	Coarse
Proximity to a Water Body O. Reg. 153/04, as amended Part IX Section 43.1	< 30 m
Shallow Soil O. Reg. 153/04, as amended Part IX Section 43.1	No
Site Condition Standards for On-Site Re-Use	Table 8 (T8) Site Condition Standards (SCSs) for use within 30 m of a Water Body in a potable ground water condition for Industrial/Commercial/ Community (ICC) Property Use

6.3.2. Off-Site Reuse

For preliminary evaluation of potential off-Site beneficial reuse options for excess soil, if required, the generic Excess Soil Quality Standards (ESQS) of O. Reg. 406/19 were used. These standards consist of nine tables (Table 1 and Tables 2.1 through Table 9.1) that provide criteria for maximum concentrations of various contaminants. Similar to O. Reg. 153/04, as amended, the O. Reg. 406/19 ESQSs depend on the site location, land use, soil texture, bedrock depth, soil pH and source of potable water at the investigation site.

- For the option of re-using the excess soils with minimal environmental restrictions, the O. Reg. 406/19 Full Depth Background Table 1 (T1) SCSs for Residential/Parkland/Institutional/Industrial/Commercial/Community (RPI/ICC) property uses was considered.

- For the option of re-using the excess soils at a property (or properties) with a potable ground water condition, results were compared to the O. Reg. 406/19 Table 2.1 (T2.1) ESQSs for both RPI and ICC land uses.

- For the option of re-using the excess soils at a property (or properties) with a non-potable ground water condition, results were compared to the O. Reg. 406/19 Table 3.1 (T3.1) ESQSs for both RPI and ICC land uses.

It is noted that a comparison to other ESQS Tables was not conducted as part of this assignment. If the potential receiving site for excess soil falls within one of these other categories, additional evaluation by PML will be required to confirm conformance.

6.4. Analytical Findings and Conclusions

The Certificates of Analyses for Chemical Testing are included in Appendix C.

Laboratory Certificates of Analysis compared to T1 RPI/ICC are included in Appendix C. The measured values and corresponding SCSs are shown on the certificates of analysis. In the event of an exceedance of the SCSs, the level is shown highlighted in orange, where applicable.

6.4.1. On-Site Re-Use

Based on the results of chemical testing, the measured concentration of the tested parameters complied with the applicable T8 ICC SCSs for all samples taken within the project area. The test results are supportive of the on-site re-use of the excavated soil from a geoenvironmental perspective.

6.4.2. Off-Site Re-Use

For evaluation of potential off-site reuse options, a comparison of the results was carried out against the more common O. Reg. 406/19 ESQSs of T1, T2.1 and T3.1 for both RPI and ICC property uses. Based on the test results, the measured concentration of the tested parameters complied with the most stringent Table 1 RPI/ICC standards. The results also meet the Table 2.1 and 3.1 ESQs for both RPI and ICC property use. As such, the test results are supportive of off-site beneficial reuse of excess soil that may be generated during construction. Excess soil containing debris, deleterious material or fill soils visually suspected of containing potential contaminants of concern should be separated from the native excavated excess soil and should be subjected to further environmental review for appropriate off-site disposal options.

7. Discussion and Recommendations

In general, excess soil management planning should include, but not necessarily be limited to, the following general planning considerations:

- The work must be completed in accordance with O. Reg. 406/19 and all local by-laws governing soil movement and/or placement at other sites. Additional excess soil management planning including additional sampling testing and reporting may be required for full compliance with O. Reg. 406/19;

- All analytical results and environmental assessment reports must be fully disclosed to the receiving site owners/authorities and they have agreed in writing to receive the material;

- The applicable ESQSs for the receiving site have been determined, as confirmed by the environmental consultant and the ESQSs are consistent with the chemical quality of the soil originating at the Source Site;

- Transportation and placement of the excess soil is monitored by the environmental consultant to check the material is appropriately placed at the pre-approved site; and,

- The Receiving Site must be arranged and/or approved well in advance of excavation in order to avoid delays during construction. As well, it is noted the chemical testing requirements for various Receiving Sites is site-specific and additional testing may be required, beyond that provided in this report.

All chemical testing must satisfy the specific requirements of the selected Receiving Site(s), which may be more or less than the limited testing included with this Report. As such, additional sampling, and chemical testing (including testing for additional parameters) may be required at the time of construction in order to verify that the chemical quality of the excess soil leaving the Site meets the minimum requirements of the Receiving Site(s)

It should be noted that the soil conditions between and beyond the sampled locations may differ from those encountered during this assignment. PML should be contacted if impacted soil conditions become apparent during future development to further assess and appropriately handle

the materials, if any, and evaluate whether modifications to the conclusions documented in this report are necessary.

8. CLOSURE

The discussions and recommendations in this report have been made based on the findings in the boreholes. Soil and groundwater conditions may vary between and beyond the boreholes. These variations may necessitate modifications to our recommendations and design considerations.

We trust that the information presented in this report is sufficient for your present purposes. Please do not hesitate to contact our office should you have any questions.

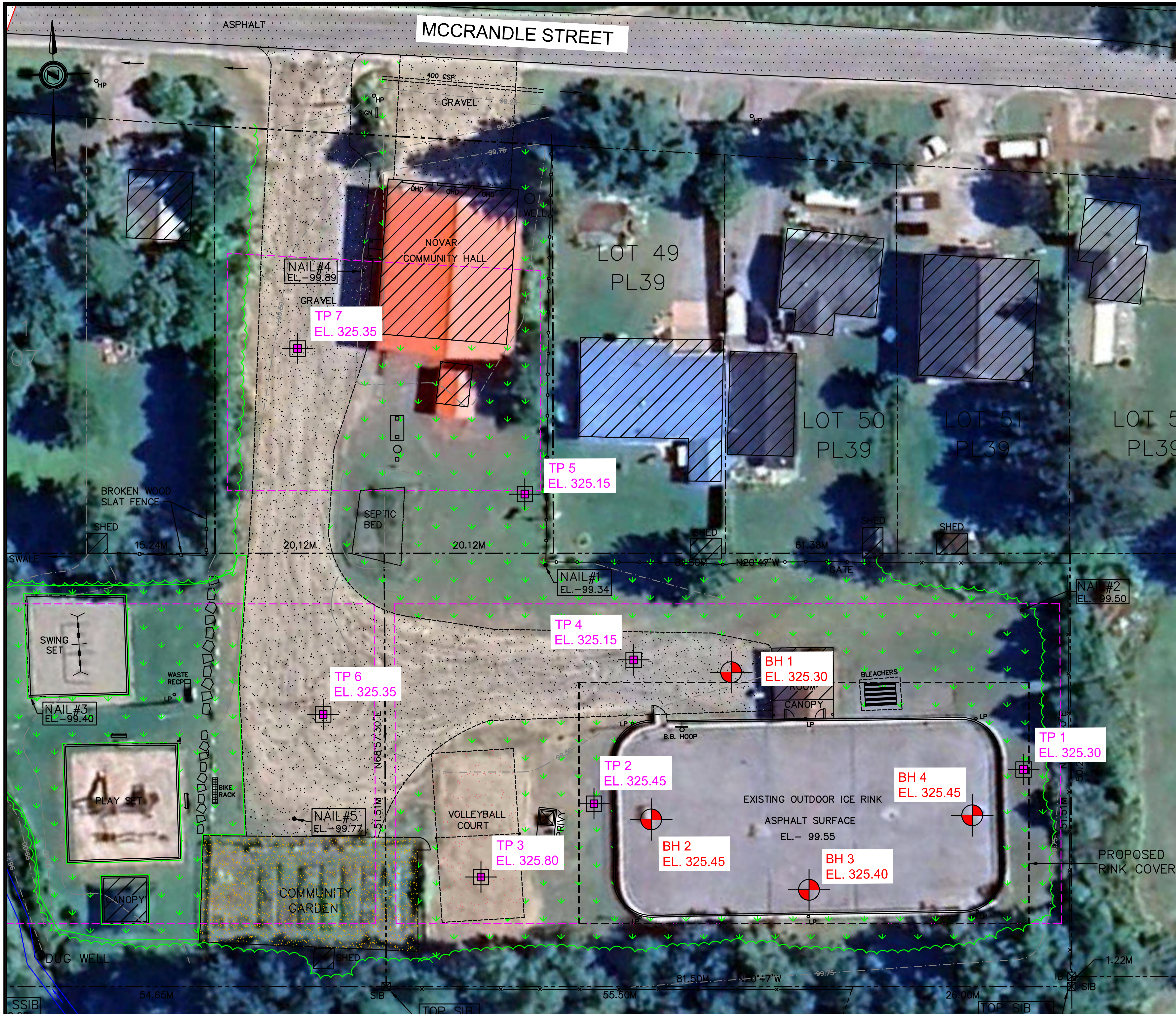
Sincerely
Peto MacCallum Ltd.

N Gardlund

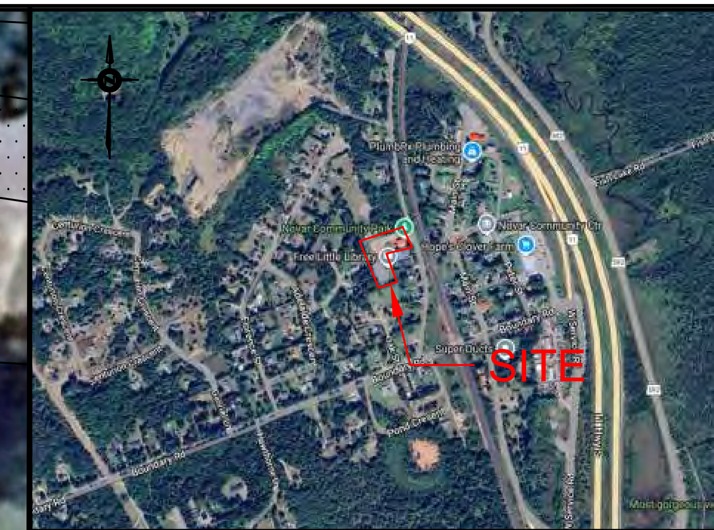
Niklas Gardlund, EIT
Project Supervisor, Geotechnical Services

Scott Jeffrey, P.Eng., QP_{ESA}, $LEED_{GA}$
Director
Regional Manager, Geotechnical and Geoenvironmental Services

NG/SJ:gs



MCCRANDLE STREET
ASPHALT
400 CSP
GRAVEL
NOVAR COMMUNITY HALL
LOT 49 PL39
LOT 50 PL39
LOT 51 PL39
NAIL #4 EL.–99.89
TP 7 EL. 325.35
TP 5 EL. 325.15
BROKEN WOOD SLAT FENCE
SHED
SEPTIC BED
NAIL #1 EL.–99.34
NAIL #2 EL.–99.50
TP 4 EL. 325.15
BH 1 EL. 325.30
BLEACHERS
CANOPY
SWING SET
WASTE RECP
NAIL #3 EL.–99.40
TP 6 EL. 325.35
TP 1 EL. 325.30
TP 2 EL. 325.45
BH 4 EL. 325.45
B.B. HOOP
EXISTING OUTDOOR ICE RINK
ASPHALT SURFACE
EL.– 99.55
PLAY SET
BIKE RACK
NAIL #5 EL.–99.77
VOLLEYBALL COURT
PRIVY
TP 3 EL. 325.80
BH 2 EL. 325.45
BH 3 EL. 325.40
PROPOSED RINK COVER
COMMUNITY GARDEN
CANOPY
DUG WELL
SHED
SWALE
15.24M
20.12M
20.12M
61.38M
81.50M
N20°47'W
GATE
1.22M
54.65M
55.50M
26.00M
SSIB
SIB
TOP SIB



KEY PLAN
NOVAR, ONTARIO

LEGEND:

APPROXIMATE BOREHOLE LOCATION

APPROXIMATE TESTPIT LOCATION

REFERENCE:
BASE PLAN PRODUCED USING DRAWING PROVIDED BY THE CLIENT.

0m 5 10 15 20 25 30

SCALE

BOREHOLE AND TESTPIT LOCATION PLAN

GEOTECHNICAL INVESTIGATION
NOVAR PARK COVERED ICE RINK
NOVAR, ONTARIO

Peto MacCallum Ltd.
CONSULTING ENGINEERS

DRAWN NG	DATE	SCALE	PML REF.	DRAWING NO.
CHECKED SJ	MAY 2025	AS SHOWN	25BF001	1
APPROVED SJ				

LIST OF ABBREVIATIONS

PENETRATION RESISTANCE

Standard Penetration Resistance N: - The number of blows required to advance a standard split spoon sampler 0.3 m into the subsoil. Driven by means of a 63.5 kg hammer falling freely a distance of 0.76 m.

Dynamic Penetration Resistance: - The number of blows required to advance a 51 mm, 60 degree cone, fitted to the end of drill rods, 0.3 m into the subsoil. The driving energy being 475 J per blow.

DESCRIPTION OF SOIL

The consistency of cohesive soils and the relative density or denseness of cohesionless soils are described in the following terms:

CONSISTENCY	N (blows/0.3 m)	c (kPa)	DENSENESS	N (blows/0.3 m)
Very Soft	0 - 2	0 - 12	Very Loose	0 - 4
Soft	2 - 4	12 - 25	Loose	4 - 10
Firm	4 - 8	25 - 50	Compact	10 - 30
Stiff	8 - 15	50 - 100	Dense	30 - 50
Very Stiff	15 - 30	100 - 200	Very Dense	> 50
Hard	> 30	> 200		

WTLL	Wetter Than Liquid Limit
WTPL	Wetter Than Plastic Limit
APL	About Plastic Limit
DTPL	Drier Than Plastic Limit

TYPE OF SAMPLE

SS	Split Spoon	ST	Slotted Tube Sample
WS	Washed Sample	TW	Thinwall Open
SB	Scraper Bucket Sample	TP	Thinwall Piston
AS	Auger Sample	OS	Oesterberg Sample
CS	Chunk Sample	FS	Foil Sample
GS	Grab Sample	RC	Rock Core

PH	Sample Advanced Hydraulically
PM	Sample Advanced Manually

SOIL TESTS

Qu	Unconfined Compression	LV	Laboratory Vane
Q	Undrained Triaxial	FV	Field Vane
Qcu	Consolidated Undrained Triaxial	C	Consolidation
Qd	Drained Triaxial		

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 1

17T 636704.8E 5034500N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION Novar, Ontario
BORING DATE April 9, 2025
ENGINEER S. Jeffrey
BORING METHOD Continuous Flight Hollow Stem Augers
TECHNICIAN T.A

DEPTH (metres)	ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE
0.0		SURFACE ELEVATION 325.30					
0.15		PAVEMENT STRUCTURE:		1A	GS	-	
0.35		150 mm granular base, frozen to moist		2	GS	-	
	324.95	FILL: Brown, silty sand, some gravel, trace organics, moist					325
1.0		SAND: Compact to loose, brown to grey, sand, some silt, trace gravel, trace clay, moist to wet		2	SS	19	
							324
2.0				3	SS	17	
							323
3.0				4	SS	7	
							322
4.0				5	SS	7	
				6	SS	8	321
5.0				7	SS	13	
	5.2						
	320.1	BOREHOLE TERMINATED AT 5.2 m					
6.0							
7.0							
8.0							
9.0							
10.0							
11.0							
12.0							
13.0							
14.0							
15.0							

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

First water strike at 2.0 m

GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL
1 78 20 1

Upon completion of augering
Water at 1.8 m
Cave at 2.1 m

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 2

17T 636683.7E 5034501N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION Novar, Ontario
BORING DATE April 9, 2025
ENGINEER S. Jeffrey
BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN T.A

DEPTH (metres) / ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE
	SURFACE ELEVATION 325.45					
0.33 / 325.12	PAVEMENT STRUCTURE: 80 mm asphalt, over 150 mm granular base, over 100 mm granular subbase, moist		1A, 1B	GS	-	325
	SAND: Loose to compact, brown to grey, sand, trace to some silt, trace gravel, trace clay, moist to wet		2	SS	7	
			3	SS	14	324
			4	SS	6	323
			5	SS	5	322
			6	SS	7	
			7	SS	6	321
						320
			8	SS	9	319
6.7 / 318.8	BOREHOLE TERMINATED AT 6.7 m					

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ● Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
First water strike at 2.1 m
Upon completion of augering
Water at 2.1 m
Cave at 2.7 m

GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 3

17T 636683.9E 5034479N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION Novar, Ontario
BORING DATE April 9, 2025
ENGINEER S. Jeffrey
BORING METHOD Continuous Flight Hollow Stem Augers
TECHNICIAN T.A

DEPTH (metres)	ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE
	325.40	SURFACE ELEVATION 325.40					
0.0	325.40	PAVEMENT STRUCTURE:		1A	GS	-	
0.33	325.07	80 mm asphalt, over		1B			
		150 mm granular base, over					
		100 mm granular subbase, moist					
		SAND: Compact to loose, brown to grey, sand, trace to some silt, trace gravel, trace clay, moist to wet		2	SS	13	325
1.0							
				3	SS	10	324
2.0							
				4	SS	7	323
3.0							
				5	SS	8	322
4.0				6	SS	10	321
				7	SS	11	
5.0							
5.2	320.2	BOREHOLE TERMINATED AT 5.2 m					
6.0							
7.0							
8.0							
9.0							
10.0							
11.0							
12.0							
13.0							
14.0							
15.0							

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

First water strike at 2.3 m

GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL
1 84 13 2

Upon completion of augering
Water at 1.9 m
Cave at 2.2 m

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 4

17T 636699.5E 5034468N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION Novar, Ontario
BORING DATE April 9, 2025
ENGINEER S. Jeffrey
BORING METHOD Continuous Flight Hollow Stem Augers
TECHNICIAN T.A

DEPTH (metres) / ELEV	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	ELEVATION SCALE
	SURFACE ELEVATION 325.45					
0.0 / 325.45	PAVEMENT STRUCTURE:		1A	GS	-	325
0.33 / 325.12	80 mm asphalt, over 150 mm granular base, over 100 mm granular subbase, moist		1B			
	SAND: Compact, brown to grey, sand, trace to some silt, trace gravel, trace clay, moist to wet		2	SS	15	324
			3	SS	11	
	Becoming loose to very loose		4	SS	9	323
			5	SS	2	322
			6	SS	14	
			7	SS	12	321
5.2 / 320.3	BOREHOLE TERMINATED AT 5.2 m					

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ● Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
First water strike at 2.1 m
Upon completion of augering
No free water
Cave at 1.8 m

GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 1

17T 636705E 5034462N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres)	ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
		SURFACE ELEVATION 325.30									
0.0		TOPSOIL: Dark brown, sandy silt, some organics, frozen		1	GS	-					
0.20	325.10	SAND: Loose to compact, dark brown, sand, some gravel, trace silt, trace organics, moist		2	GS	-	325		o		
0.50	324.80	becoming brown, very moist		3	GS	-			o		0 97 3 0
1.0											
1.2	324.1	TESTPIT TERMINATED AT 1.2 m									Upon completion of excavating No seepage No sloughing
2.0											
3.0											
4.0											
5.0											

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 2

17T 636694E 5034510N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres) / ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION 325.45						SHEAR STRENGTH (kPa): +FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ● Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80. PLASTIC LIMIT w_P NATURAL MOISTURE CONTENT w LIQUID LIMIT w_L; WATER CONTENT (%) 10 20 30 40		
0.0	TOPSOIL: Dark brown, sandy silt, some organics, trace gravel, frozen		1	GS	-				
0.30									
325.15	FILL/SAND: Dark brown, sand, trace silt, trace gravel, trace clay, trace organics, frozen to moist		2	GS	-	325	○		8 89 2 1
0.80									
324.65	SAND: Loose to compact, brown, sand, some silt, trace gravel, very moist		3	GS	-		○		
1.0									
1.5						324			
324.0	TESTPIT TERMINATED AT 1.5 m								Upon completion of excavating No seepage No sloughing
2.0									
3.0									
4.0									
5.0									

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 3

17T 636669E 5034517N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres)	ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
		SURFACE ELEVATION 325.80									
0.0		FILL: Brown, sand, trace silt, trace gravel, moist		1	GS	-					
0.25	325.55	FILL: Dark brown, sandy silt, some organics, trace gravel, topsoil layer, frozen to moist		2	GS	-					
0.70	325.10	SAND: Loose to compact, brown, sand, some silt, trace gravel, moist to wet		3	GS	-	325				
1.0											
2.0							324				
2.0	323.8	TEST PIT TERMINATED AT 2.0 m									Upon completion of excavating Seepage at 1.4 m No sloughing
3.0											
4.0											
5.0											

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 4

17T 636702.7E 5034514N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres) / ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION 325.15						SHEAR STRENGTH (kPa): + FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ● Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80; PLASTIC LIMIT w_P NATURAL MOISTURE CONTENT w LIQUID LIMIT w_L; WATER CONTENT (%) 10 20 30 40		
0.0	PAVEMENT STRUCTURE: 200 mm of granular base, frozen		1A	GS	-	325			
0.20									
324.95	FILL: Dark brown, sand, some gravel, trace silt, occasional cobbles, moist		2	GS	-		○		
0.60									
324.55	SAND: Loose to compact, brown, sand, some silt, trace gravel, frozen to very moist		3	GS	-		○		
1.0						324			
1.4									
323.8	TEST PIT TERMINATED AT 1.4 m								Upon completion of excavating No seepage No sloughing
2.0									
3.0									
4.0									
5.0									

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 5

17T 636714E 5034531N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres)	ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
		SURFACE ELEVATION 325.15									
0.0		TOPSOIL: Dark brown/black, silt, some organics, trace sand, trace gravel, occasional cobbles and boulders, frozen		1	GS	-	325				
0.40	324.75	FILL: Brown, coarse sand, some gravel, trace silt, wet		2	GS	-			○		
1.0	1.1										
	324.1	SAND: Loose, brown, sand, some silt, trace gravel, very moist to wet		3	GS	-	324		○		
1.5	323.7	TEST PIT TERMINATED AT 1.5 m									Upon completion of excavating Seepage at 1.0 m No sloughing
2.0											
3.0											
4.0											
5.0											

SHEAR STRENGTH (kPa): + FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ○ Q; 50 100 150 200; DYNAMIC CONE PENETRATION ×; STANDARD PENETRATION TEST ●; 20 40 60 80

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L; WATER CONTENT (%) 10 20 30 40

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF TEST PIT NO. 6

17T 636682E 5034541N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH (metres) / ELEV	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION 325.35									
0.0	PAVEMENT STRUCTURE: 100 mm of granular base, frozen		1A	GS	-					
325.25	FILL: Dark brown/black, sandy silt, some gravel, occasional cobbles, frozen to moist		2	GS	-	325				
0.50										
324.85	SAND: Brown, coarse sand, trace silt, some gravel, very moist		3	GS	-					
0.80										
324.55	becoming medium sand, trace silt, trace gravel, very moist to wet		4	GS	-					
1.0										
1.4						324				
324.0	TEST PIT TERMINATED AT 1.4 m									Upon completion of excavating No seepage No sloughing
2.0										
3.0										
4.0										
5.0										

NOTES 1. Sample submitted for chemical testing

Peto MacCallum Ltd.
CONSULTING ENGINEERS

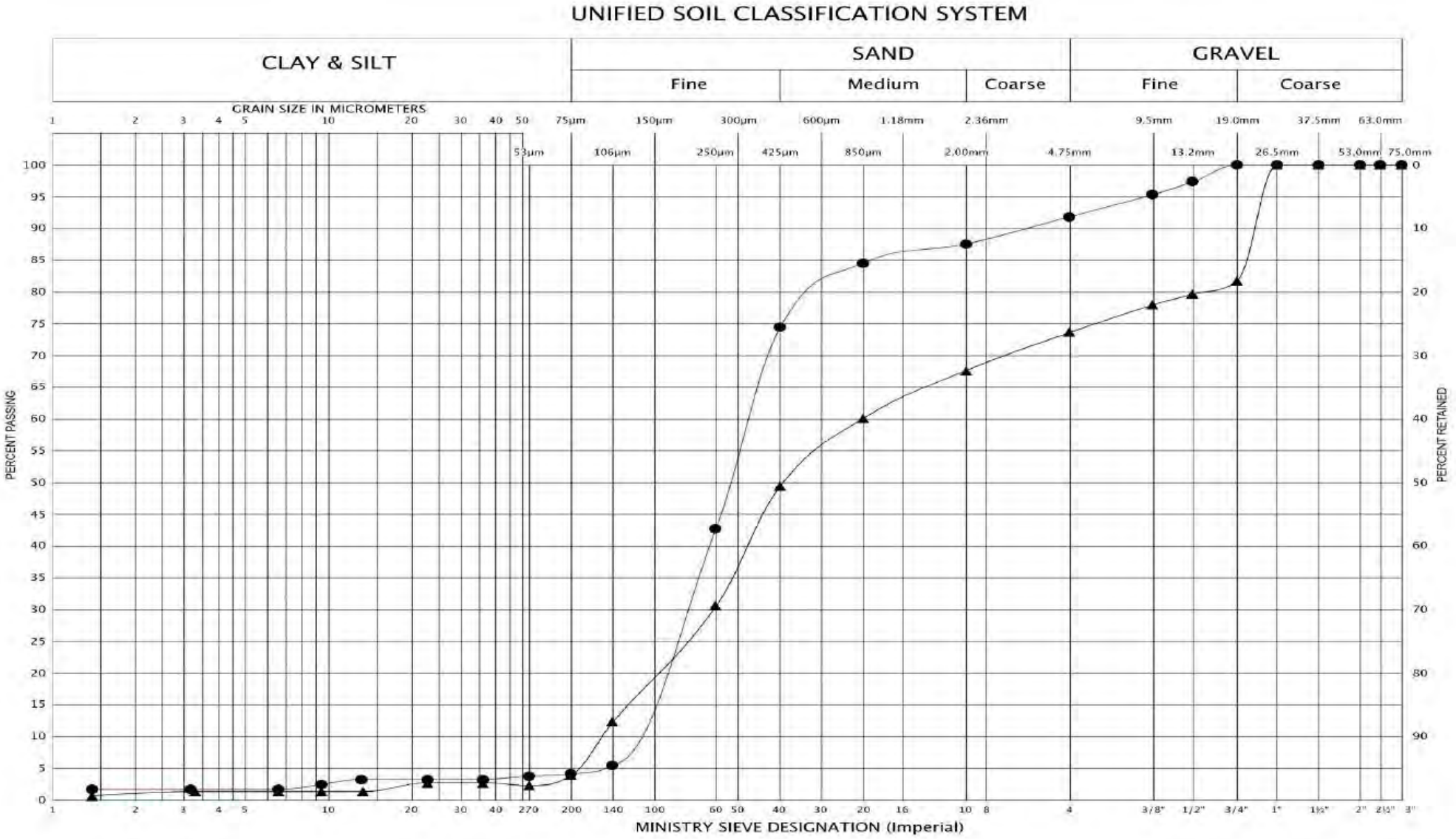
LOG OF TEST PIT NO. 7

17T 636717.9E 5034564N

PROJECT Novar Park Covered Ice Rink
PML REF. 25BF001
LOCATION 54 Mccrandle Street, Novar, Ontario
BORING DATE April 9, 2025
ENGINEER SJ
EXCAVATION METHOD Backhoe
TECHNICIAN NG

DEPTH / ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION 325.35									
0.15	PAVEMENT STRUCTURE: 150 mm of granular base, frozen		1A	GS	-					
325.20	FILL: Dark brown/brown, sand, some gravel, trace silt, concrete slab, occasional cobbles, moist		2	GS	-	325				
0.55										
324.80	SAND: Loose, brown, sand, trace gravel, trace to some silt, trace clay, very moist to wet		3	GS	-	324				1 68 10 3
1.8										
323.6	TEST PIT TERMINATED AT 1.8 m									Upon completion of excavating Sloughing at 1.4 m

NOTES 1. Sample submitted for chemical testing



LEGEND	BH	TP 2	TP 6
	SAMPLE	2	2
	SYMBOL	●	▲

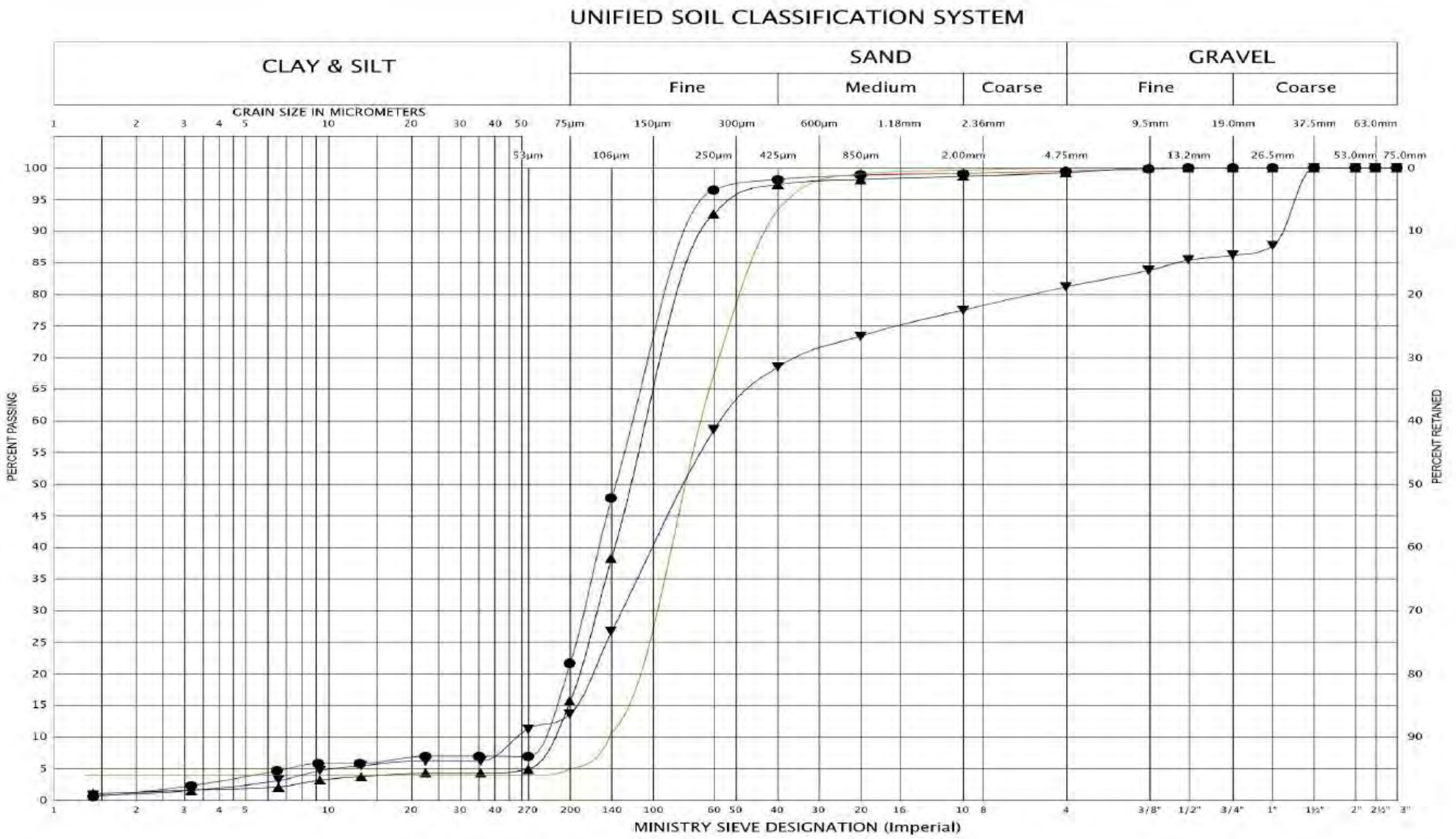
Peto MacCallum Ltd.
CONSULTING ENGINEERS

GRAIN SIZE DISTRIBUTION

FILL: Gravelly Sand/Sand

FIG No.: 1

Project No.: 25BF001



LEGEND	BH	TP 1	TP 7	BH 3	BH 1
	SAMPLE	3	3	4	5
	SYMBOL	✱	▼	▲	●

Peto MacCallum Ltd.
CONSULTING ENGINEERS

GRAIN SIZE DISTRIBUTION

SAND, Trace To Some Gravel, Trace To Some Silt, Trace Clay

FIG No.: 2

Project No.: 25BF001

NOTES

1. The need to underpin existing footings/utilities is dependent upon soil type, proximity of the existing facility to the face of the excavation, loads imposed on the foundation and permissible movements.

   ZONE A:
   Foundations of relatively heavy and/or settlement sensitive structures/ utilities located in Zone A generally require underpinning.

   ZONE B:
   Foundations of structures located within Zone B generally do not require underpinning. Consideration should be given to underpinning of settlement sensitive utilities or heavy foundation units located in this zone.

   ZONE C:

   Utilities and foundations located within Zone C do not normally require underpinning.

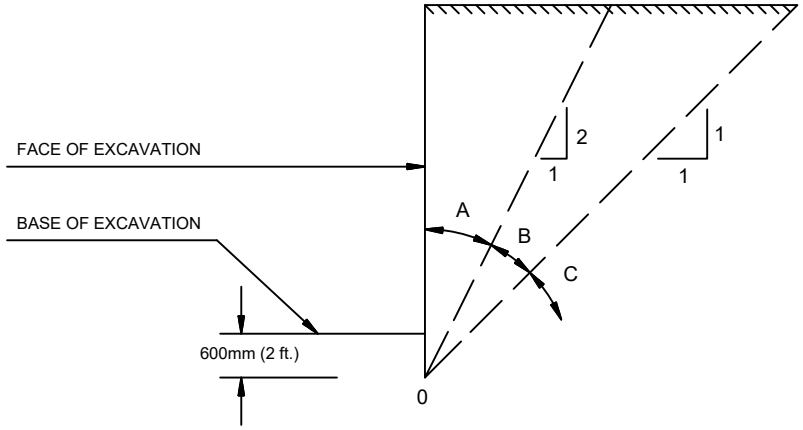
   Underpinning of foundations located in Zones A and B should extend at least into Zone C.

2. As an alternative to underpinning, it may be possible to control movement of existing utilities and foundations by supporting the face of the excavation with bracing/tiebacks or a rigid (caisson) wall. Horizontal and vertical earth pressures imposed on the excavation wall by non-underpinned foundations must be considered in the design of the support system.

3. A condition survey should be conducted prior to construction and appropriate monitoring (surface and insitu) carried out during construction to monitor any movement which may occur.

4. All work should be carried out in accordance with the Occupational Health and Safety Act and local regulations. Good quality workmanship and construction practices are to be employed.

5. This sheet is to be read in conjunction with text of report for this project. Additional comments and recommendations concerning these general guidelines will be provided if required.



- If the base of excavation is in bedrock, point "0" is drawn through the intersection point of the wall and the surface of sound bedrock.

THE CORPORATION OF THE TOWNSHIP OF PERRY

GEOTECHNICAL INVESTIGATION - NOVAR PARK COVERED ICE RINK

TOWNSHIP OF PERRY, ONTARIO

GENERAL GUIDELINES REGARDING UNDERPINNING OF FOUNDATIONS/UTILITIES LOCATED CLOSE TO EXCAVATION

Peto MacCallum Ltd.
CONSULTING ENGINEERS

		DATE	SCALE	JOB NO.	FIGURE NO.
DRAWN:	NG	MAY 2025	N.T.S.	25BF001	3
CHECKED:	SJ				
APPROVED:	SJ				

APPENDIX A

Statement of Limitations

STATEMENT OF LIMITATIONS

This report is prepared for and made available for the sole use of the client named. Peto MacCallum Ltd. (PML) hereby disclaims any liability or responsibility to any person or entity, other than those for whom this report is specifically issued, for any loss, damage, expenses, or penalties that may arise or result from the use of any information or recommendations contained in this report. The contents of this report may not be used or relied upon by any other person without the express written consent and authorization of PML.

This report shall not be relied upon for any purpose other than as agreed with the client named without the written consent of PML. It shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. A portion of this report may not be used as a separate entity: that is to say the report is to be read in its entirety at all times.

The report is based solely on the scope of services which are specifically referred to in this report. No physical or intrusive testing has been performed, except as specifically referenced in this report. This report is not a certification of compliance with past or present regulations, codes, guidelines and policies.

The scope of services carried out by PML is based on details of the proposed development and land use to address certain issues, purposes and objectives with respect to the specific site as identified by the client. Services not expressly set forth in writing are expressly excluded from the services provided by PML. In other words, PML has not performed any observations, investigations, study analysis, engineering evaluation or testing that is not specifically listed in the scope of services in this report. PML assumes no responsibility or duty to the client for any such services and shall not be liable for failing to discover any condition, whose discovery would require the performance of services not specifically referred to in this report.

STATEMENT OF LIMITATIONS
(continued)

The findings and comments made by PML in this report are based on the conditions observed at the time of PML's site reconnaissance. No assurances can be made and no assurances are given with respect to any potential changes in site conditions following the time of completion of PML's field work. Furthermore, regulations, codes and guidelines may change at any time subsequent to the date of this report and these changes may affect the validity of the findings and recommendations given in this report.

The results and conclusions with respect to site conditions are therefore in no way intended to be taken as a guarantee or representation, expressed or implied, that the site is free from any contaminants from past or current land use activities or that the conditions in all areas of the site and beneath or within structures are the same as those areas specifically sampled.

Any investigation, examination, measurements or sampling explorations at a particular location may not be representative of conditions between sampled locations. Soil, ground water, surface water, or building material conditions between and beyond the sampled locations may differ from those encountered at the sampling locations and conditions may become apparent during construction which could not be detected or anticipated at the time of the intrusive sampling investigation.

Budget estimates contained in this report are to be viewed as an engineering estimate of probable costs and provided solely for the purposes of assisting the client in its budgeting process. It is understood and agreed that PML will not in any way be held liable as a result of any budget figures provided by it.

The Client expressly waives its right to withhold PML's fees, either in whole or in part, or to make any claim or commence an action or bring any other proceedings, whether in contract, tort, or otherwise against PML in anyway connected with advice or information given by PML relating to the cost estimate or Environmental Remediation/Cleanup and Restoration or Soil and Ground Water Management Plan Cost Estimate.

APPENDIX B

Engineered Fill

ENGINEERED FILL

The information presented in this appendix is intended for general guidance only. Site specific conditions and prevailing weather may require modification of compaction standards, backfill type or procedures. Each site must be discussed, and procedures agreed with Peto MacCallum Ltd. prior to the start of the earthworks and must be subject to ongoing review during construction. This appendix is not intended to apply to embankments. Steeply sloping ravine residential lots require special consideration.

For fill to be classified as engineered fill suitable for supporting structural loads, a number of conditions must be satisfied, including but not necessarily limited to the following:

1. Purpose

The site specific purpose of the engineered fill must be recognized. In advance of construction, all parties should discuss the project and its requirements and agree on an appropriate set of standards and procedures.

2. Minimum Extent

The engineered fill envelope must extend beyond the footprint of the structure to be supported. The minimum extent of the envelope should be defined from a geotechnical perspective by:

- at founding level, extend a minimum 1.0 m beyond the outer edge of the foundations, greater if adequate layout has not yet been completed as noted below; and
- extend downward and outward at a slope no greater than 45° to meet the subgrade

All fill within the envelope established above must meet the requirements of engineered fill in order to support the structure safely. Other considerations such as survey control, or construction methods may require an envelope that is larger, as noted in the following sections.

Once the minimum envelope has been established, structures must not be moved or extended without consultation with Peto MacCallum Ltd. Similarly, Peto MacCallum Ltd. should be consulted prior to any excavation within the minimum envelope.

3. Survey Control

Accurate survey control is essential to the success of an engineered fill project. The boundaries of the engineered fill must be laid out by a surveyor in consultation with engineering staff from Peto MacCallum Ltd. Careful consideration of the maximum building envelope is required.

During construction it is necessary to have a qualified surveyor provide total station control on the three dimensional extent of filling.

4. Subsurface Preparation

Prior to placement of fill, the subgrade must be prepared to the satisfaction of Peto MacCallum Ltd. All deleterious material must be removed and in some cases, excavation of native mineral soils may be required.

Particular attention must be paid to wet subgrades and possible additional measures required to achieve sufficient compaction. Where fill is placed against a slope, benching may be necessary and natural drainage paths must not be blocked.

5. Suitable Fill Materials

All material to be used as fill must be approved by Peto MacCallum Ltd. Such approval will be influenced by many factors and must be site and project specific. External fill sources must be sampled, tested and approved prior to material being hauled to site.

6. Test Section

In advance of the start of construction of the engineered fill pad, the Contractor should conduct a test section. The compaction criterion will be assessed in consultation with Peto MacCallum Ltd. for the various fill material types using different lift thicknesses and number of passes for the compaction equipment proposed by the Contractor.

Additional test sections may be required throughout the course of the project to reflect changes in fill sources, natural moisture content of the material and weather conditions.

The Contractor should be particularly aware of changes in the moisture content of fill material. Site review by Peto MacCallum Ltd. is required to ensure the desired lift thickness is maintained and that each lift is systematically compacted, tested and approved before a subsequent lift is commenced.

7. Inspection and Testing

Uniform, thorough compaction is crucial to the performance of the engineered fill and the supported structure. Hence, all subgrade preparation, filling and compacting must be carried out under the full time inspection by Peto MacCallum Ltd.

All founding surfaces for all buildings and residential dwellings or any part thereof (including but not limited to footings and floor slabs) on structural fill or native soils must be inspected and approved by PML engineering personnel prior to placement of the base/subbase granular material and/or concrete. The purpose of the inspection is to ensure the subgrade soils are capable of supporting the building/house foundation and floor slab loads and to confirm the building/house envelope does not extend beyond the limits of any structural fill pads.

8. Protection of Fill

Fill is generally more susceptible to the effects of weather than natural soil. Fill placed and approved to the level at which structural support is required must be protected from excessive wetting, drying, erosion or freezing. Where adequate protection has not been provided, it may be necessary to provide deeper footings or to strip and recompact some of the fill.

9. Construction Delay Time Considerations

The integrity of the fill pad can deteriorate due to the harsh effects of our Canadian weather. Hence, particular care must be taken if the fill pad is constructed over a long time period.

It is necessary therefore, that all fill sources are tested to ensure the material compactability prior to the soil arriving at site. When there has been a lengthy delay between construction periods of the fill pad, it is necessary to conduct subgrade proof rolling, test pits or boreholes to verify the adequacy of the exposed subgrade to accept new fill material.

When the fill pad will be constructed over a lengthy period of time, a field survey should be completed at the end of each construction season to verify the areal extent and the level at which the compacted fill has been brought up to, tested and approved.

In the following spring, subexcavation may be necessary if the fill pad has been softened attributable to ponded surface water or freeze/thaw cycles.

A new survey is required at the beginning of the next construction season to verify that random dumping and/or spreading of fill has not been carried out at the site.

10. Approved Fill Pad Surveillance

It should be appreciated that once the fill pad has been brought to final grade and documented by field survey, there must be ongoing surveillance to ensure that the integrity of the fill pad is not threatened.

Grading operations adjacent to fill pads can often take place several months or years after completion of the fill pad.

It is imperative that all site management and supervision staff, the staff of Contractors and earthwork operators be fully aware of the boundaries of all approved engineered fill pads.

Excavation into an approved engineered fill pad should never be contemplated without the full knowledge, approval and documentation by the geotechnical consultant.

If the fill pad is knowingly built several years in advance of ultimate construction, the areal limits of the fill pad should be substantially overbuilt laterally to allow for changes in possible structure location and elevation and other earthwork operations and competing interests on the site. The overbuilt distance required is project and/or site specified.

Iron bars should be placed at the corner/intermediate points of the fill pad as a permanent record of the approved limits of the work for record keeping purposes.

11. Unusual Working Conditions

Construction of fill pads may at times take place at night and/or during periods of freezing weather conditions because of the requirements of the project schedule. It should be appreciated therefore, that both situations present more difficult working conditions. The Owner, Contractor, Design Consultant and Geotechnical Engineer must be willing to work together to revise site construction procedures, enhance field testing and surveillance, and incorporate design modifications as necessary to suit site conditions.

When working at night there must be sufficient artificial light to properly illuminate the fill pad and borrow areas.

Placement of material to form an engineered fill pad during winter and freezing temperatures has its own special conditions that must be addressed. It is imperative that each day prior to placement of new fill, the exposed subgrade must be inspected and any overnight snow or frozen material removed. Particular attention should be given to the borrow source inspection to ensure only nonfrozen fill is brought to the site.

The Contractor must continually assess the work program and have the necessary spreading and compacting equipment to ensure that densification of the fill material takes place in a minimum amount of time. Changes may be required to the spreading methods, lift thickness, and compaction techniques to ensure the desired compaction is achieved uniformly throughout each fill lift.

The Contractor should adequately protect the subgrade at the end of each shift to minimize frost penetration overnight. Since water cannot be added to the fill material to facilitate compaction, it is imperative that densification of the fill be achieved by additional compaction effort and an appropriate reduced lift thickness. Once the fill pad has been completed, it must be properly protected from freezing temperatures and ponding of water during the spring thaw period.

If the pad is unusually thick or if the fill thickness varies dramatically across the width or length of the fill pad, Peto MacCallum Ltd. should be consulted for additional recommendations. In this case, alternative special provisions may be recommended, such as providing a surcharge preload for a limited time or increase the degree of compaction of the fill.

APPENDIX C

SGS Certificate of Analysis

TABLE C1

Summary of Samples Submitted for Geoenvironmental Chemical Testing

Location	Sample ID	Approx. Depth (m)	Description
Borehole 1	BH 1 SS 4	2.28 – 2.89	Sand
Borehole 2	BH 2 SS 3	1.52 – 2.13	Sand
Borehole 3	BH 3 SS 2	0.76 – 1.4	Sand
Borehole 4	BH 4 SS 5	3.04 – 3.65	Sand
Test pit 1	TP 1 GS 2	0.2 – 0.5	Sand
Test pit 2	TP 2 GS 2	0.3 – 0.8	Sand Fill
Test pit 3	TP 3 GS 3	0.7 – 2.0	Sand
Test pit 4	TP 4 GS 2	0.2 – 0.6	Sand Fill
Test pit 5	TP 5 GS 2	0.4 – 1.1	Sand Fill
Test pit 6	TP 6 GS 2	0.5 – 0.8	Sand
Test pit 7	TP 7 GS 3	0.55 – 1.8	Sand

Note:
All samples submitted for O. Reg. 153/04, as amended for Metals and Inorganic parameters (M&I); Petroleum Hydrocarbons (PHCs) fractions F1 to F4) benzene, toluene, ethylbenzene and xylene (BTEX).

FINAL REPORT

CA40146-APR25 R

25BF001, Novar, ON

Prepared for

Peto MacCallum Ltd

FINAL REPORT

CA40146-APR25 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Peto MacCallum Ltd	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	19 Churchill Drive Barrie, ON L4N 8Z5. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Niklas Gardlund	Telephone	705-652-2143
Telephone	705-734-3900	Facsimile	705-652-6365
Facsimile	705-734-9911	Email	brad.moore@sgs.com
Email	ngardlund@petomaccallum.com;sjeffrey@petomaccallum.com	SGS Reference	CA40146-APR25
Project	25BF001, Novar, ON	Received	04/14/2025
Order Number		Approved	04/21/2025
Samples	Soil (11)	Report Number	CA40146-APR25 R
		Date Reported	04/21/2025

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 9 degrees C
Cooling Agent Present:No
Custody Seal Present:Yes

Chain of Custody Number:041886

SAR condu dup appears high but is within acceptable criteria

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

Client: Peto MacCallum Ltd
Project: 25BF001, Novar, ON
Project Manager: Niklas Gardlund
Samplers: Niklas Gardlund

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

				Sample Number	10	11	12	13	14	15	16	17
				Sample Name	BH 1 SS 4	BH 2 SS 3	BH 3 SS 2	BH 4 SS 5	TP 1 GS 2	TP 2 GS 2	TP 3 GS 3	TP 4 GS 2
				Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				Sample Date	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEX												
Benzene	µg/g	0.02	0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	0.2	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hydrides												
Antimony	µg/g	0.8	1.3	1.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	18	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6
Selenium	µg/g	0.1	1.5	1.5	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.1
Metals and Inorganics												
Moisture Content	%	no			22.8	22.4	9.2	16.5	6.7	6.6	17.5	7.0
Barium	µg/g	0.1	220	220	37	45	26	30	20	12	35	29
Beryllium	µg/g	0.02	2.5	2.5	0.10	0.11	0.10	0.09	0.15	0.14	0.10	0.18
Boron	µg/g	1	36	36	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1
Cadmium	µg/g	0.05	1.2	1.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06
Chromium	µg/g	0.5	70	70	5.1	5.9	4.8	4.2	4.9	3.5	5.6	6.2
Cobalt	µg/g	0.01	21	21	2.3	3.1	2.1	2.3	2.5	1.4	2.1	2.2
Copper	µg/g	0.1	92	92	6.4	6.3	5.1	5.8	5.6	4.2	7.1	6.7
Lead	µg/g	0.1	120	120	0.8	0.8	0.9	0.6	1.8	0.8	0.8	4.0

Client: Peto MacCallum Ltd
Project: 25BF001, Novar, ON
Project Manager: Niklas Gardlund
Samplers: Niklas Gardlund

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

				Sample Number	10	11	12	13	14	15	16	17
				Sample Name	BH 1 SS 4	BH 2 SS 3	BH 3 SS 2	BH 4 SS 5	TP 1 GS 2	TP 2 GS 2	TP 3 GS 3	TP 4 GS 2
				Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				Sample Date	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)												
Molybdenum	µg/g	0.1	2	2	0.1	0.1	0.1	0.1	0.1	< 0.1	0.1	0.2
Nickel	µg/g	0.5	82	82	3.7	4.5	3.4	3.3	3.6	3.0	3.3	4.4
Silver	µg/g	0.05	0.5	0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Thallium	µg/g	0.02	1	1	0.04	0.05	0.02	0.02	< 0.02	< 0.02	0.03	0.03
Uranium	µg/g	0.002	2.5	2.5	0.40	0.38	0.33	0.28	0.33	0.22	0.43	0.31
Vanadium	µg/g	3	86	86	15	17	15	12	14	9	17	20
Zinc	µg/g	0.7	290	290	13	15	11	11	12	10	12	18
Water Soluble Boron	µg/g	0.5			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Other (ORP)												
Mercury	ug/g	0.05	0.27	0.27	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sodium Adsorption Ratio	No unit	0.2	2.4	2.4	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.9
SAR Calcium	mg/L	0.2			14.3	17.2	3.4	19.7	1.6	2.9	2.1	31.4
SAR Magnesium	mg/L	0.3			0.4	0.7	1.1	0.6	< 0.3	< 0.3	< 0.3	1.3
SAR Sodium	mg/L	0.1			1.7	1.0	0.6	1.0	0.2	0.2	0.3	18.3
Conductivity	mS/cm	0.002	0.57	0.57	0.08	0.10	0.03	0.10	0.02	0.02	0.01	0.28
pH	pH Units	0.05			6.57	6.76	6.68	6.89	5.50	5.90	5.61	6.75
Chromium VI	µg/g	0.2	0.66	0.66	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Free Cyanide	µg/g	0.05	0.051	0.051	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Client: Peto MacCallum Ltd
Project: 25BF001, Novar, ON
Project Manager: Niklas Gardlund
Samplers: Niklas Gardlund

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

					Sample Number	10	11	12	13	14	15	16	17
					Sample Name	BH 1 SS 4	BH 2 SS 3	BH 3 SS 2	BH 4 SS 5	TP 1 GS 2	TP 2 GS 2	TP 3 GS 3	TP 4 GS 2
					Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					Sample Date	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
PHCs												
F1 (C6-C10)	µg/g	10	25	25	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10	25		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	240	240	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	120	120	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	no			YES	YES	YES	YES	YES	YES	YES	YES

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

					Sample Number	18	19	20
					Sample Name	TP 5 GS2	TP 6 GS 2	TP 7 GS 3
					Sample Matrix	Soil	Soil	Soil
					Sample Date	09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**
BTEX							
Benzene	µg/g	0.02	0.02	0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	0.2	0.2	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05

Client: Peto MacCallum Ltd
Project: 25BF001, Novar, ON
Project Manager: Niklas Gardlund
Samplers: Niklas Gardlund

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

Sample Number					18	19	20
Sample Name					TP 5 GS2	TP 6 GS 2	TP 7 GS 3
Sample Matrix					Soil	Soil	Soil
Sample Date					09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**
Hydrides							
Antimony	µg/g	0.8	1.3	1.3	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	18	0.7	1.3	< 0.5
Selenium	µg/g	0.1	1.5	1.5	0.2	0.3	0.1
Metals and Inorganics							
Moisture Content	%	no			11.0	15.6	13.9
Barium	µg/g	0.1	220	220	29	31	39
Beryllium	µg/g	0.02	2.5	2.5	0.22	0.19	0.14
Boron	µg/g	1	36	36	< 1	1	< 1
Cadmium	µg/g	0.05	1.2	1.2	0.06	0.12	< 0.05
Chromium	µg/g	0.5	70	70	7.2	6.9	5.7
Cobalt	µg/g	0.01	21	21	2.3	1.7	2.4
Copper	µg/g	0.1	92	92	6.1	5.1	6.2
Lead	µg/g	0.1	120	120	2.7	16	1.2
Molybdenum	µg/g	0.1	2	2	0.2	0.4	0.1
Nickel	µg/g	0.5	82	82	4.1	2.9	4.0
Silver	µg/g	0.05	0.5	0.5	< 0.05	< 0.05	< 0.05
Thallium	µg/g	0.02	1	1	< 0.02	0.05	0.04
Uranium	µg/g	0.002	2.5	2.5	0.24	0.25	0.32
Vanadium	µg/g	3	86	86	17	22	15
Zinc	µg/g	0.7	290	290	21	28	17

Client: Peto MacCallum Ltd
Project: 25BF001, Novar, ON
Project Manager: Niklas Gardlund
Samplers: Niklas Gardlund

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

L2 = REG406 / SOIL / - - Appendix 1 Table 1 - Residential/Parkland/Institutional/Industrial/Commercial/Community - UNDEFINED

				Sample Number	18	19	20
				Sample Name	TP 5 GS2	TP 6 GS 2	TP 7 GS 3
				Sample Matrix	Soil	Soil	Soil
				Sample Date	09/04/2025	09/04/2025	09/04/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Water Soluble Boron	µg/g	0.5			< 0.5	< 0.5	< 0.5
Other (ORP)							
Mercury	ug/g	0.05	0.27	0.27	< 0.05	< 0.05	< 0.05
Sodium Adsorption Ratio	No unit	0.2	2.4	2.4	0.5	2.0	1.4
SAR Calcium	mg/L	0.2			3.5	2.2	17.1
SAR Magnesium	mg/L	0.3			< 0.3	< 0.3	0.6
SAR Sodium	mg/L	0.1			3.8	11.3	21.8
Conductivity	mS/cm	0.002	0.57	0.57	0.04	0.07	0.20
pH	pH Units	0.05			5.64	5.46	6.90
Chromium VI	µg/g	0.2	0.66	0.66	< 0.2	< 0.2	< 0.2
Free Cyanide	µg/g	0.05	0.051	0.051	< 0.05	< 0.05	< 0.05
PHCs							
F1 (C6-C10)	µg/g	10	25	25	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10	25		< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	10	10	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	240	240	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	120	120	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	no			YES	YES	YES

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0375-APR25	mS/cm	0.002	< 2	13	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5053-APR25	µg/g	0.05	<0.05	ND	20	104	80	120	94	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5050-APR25	ug/g	0.2	<0.2	ND	20	93	80	120	81	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0162-APR25	ug/g	0.05	<0.05	ND	20	102	80	120	113	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0037-APR25	mg/L	0.2	<0.2	2	20	93	80	120	94	70	130
SAR Magnesium	ESG0037-APR25	mg/L	0.3	<0.3	1	20	92	80	120	96	70	130
SAR Sodium	ESG0037-APR25	mg/L	0.1	<0.1	14	20	92	80	120	98	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0162-APR25	ug/g	0.05	<0.05	ND	20	106	70	130	80	70	130
Arsenic	EMS0162-APR25	µg/g	0.5	<0.5	ND	20	91	70	130	106	70	130
Barium	EMS0162-APR25	ug/g	0.1	<0.1	8	20	92	70	130	124	70	130
Beryllium	EMS0162-APR25	µg/g	0.02	<0.02	5	20	95	70	130	105	70	130
Boron	EMS0162-APR25	µg/g	1	<1	ND	20	94	70	130	81	70	130
Cadmium	EMS0162-APR25	ug/g	0.05	<0.05	ND	20	98	70	130	121	70	130
Cobalt	EMS0162-APR25	µg/g	0.01	<0.01	3	20	100	70	130	91	70	130
Chromium	EMS0162-APR25	µg/g	0.5	<0.5	0	20	98	70	130	119	70	130
Copper	EMS0162-APR25	µg/g	0.1	<0.1	0	20	100	70	130	110	70	130
Molybdenum	EMS0162-APR25	µg/g	0.1	<0.1	7	20	98	70	130	93	70	130
Nickel	EMS0162-APR25	ug/g	0.5	<0.5	1	20	100	70	130	102	70	130
Lead	EMS0162-APR25	ug/g	0.1	<0.1	3	20	92	70	130	122	70	130
Antimony	EMS0162-APR25	µg/g	0.8	<0.8	ND	20	91	70	130	NV	70	130
Selenium	EMS0162-APR25	ug/g	0.1	<0.1	ND	20	93	70	130	NV	70	130
Thallium	EMS0162-APR25	µg/g	0.02	<0.02	12	20	97	70	130	101	70	130
Uranium	EMS0162-APR25	µg/g	0.002	<0.002	7	20	98	70	130	96	70	130
Vanadium	EMS0162-APR25	µg/g	3	<3	2	20	101	70	130	91	70	130
Zinc	EMS0162-APR25	µg/g	0.7	<0.7	3	20	99	70	130	112	70	130

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM1239-APR25	µg/g	10	<10	ND	30	100	80	120	112	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0234-APR25	µg/g	10	<10	ND	30	102	80	120	101	60	140
F3 (C16-C34)	GCM0234-APR25	µg/g	50	<50	ND	30	102	80	120	101	60	140
F4 (C34-C50)	GCM0234-APR25	µg/g	50	<50	ND	30	102	80	120	101	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0067-APR25	pH Units	0.05		0	20	100	80	120			

Volatile Organics

Method: EPA 5035A/5030B/8260C I Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM1239-APR25	µg/g	0.02	<0.02	ND	50	86	60	130	96	50	140
Ethylbenzene	GCM1239-APR25	µg/g	0.05	<0.05	ND	50	83	60	130	93	50	140
m/p-xylene	GCM1239-APR25	µg/g	0.05	<0.05	ND	50	91	60	130	105	50	140
o-xylene	GCM1239-APR25	µg/g	0.05	<0.05	ND	50	87	60	130	99	50	140
Toluene	GCM1239-APR25	µg/g	0.05	<0.05	ND	50	86	60	130	97	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 15 3/04 | Internal ref.: ME-CA-[ENV] SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0035-APR25	µg/g	0.5	<0.5	ND	20	91	80	120	96	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS Request for Laboratory Services and CHAIN OF CUSTODY

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 041886

Page ____ of ____

Laboratory Information Section - Lab use only

Received By: CO
Received Date: 4/14/25 (mm/dd/yy)
Received Time: 11:45 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☐ No ☑ Type:
Temperature Upon Receipt (°C): 9x3
LAB LIMS #: CA40146Apr25

REPORT INFORMATION

Company: Peto MacCallum Ltd.
Contact: N. Gardlund
Address: 19 Churchill Drive
Barrie, ON
Phone: 705-734-3900
Fax:
Email: ngardlund@petomaccallum.com
SJEFFREY@petomaccallum.com

INVOICE INFORMATION

☑ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email:

Quotation #: PML RATE
Project #: 25BF001
P.O. #:
Site Location/ID: Navar, ON

TURNAROUND TIME (TAT) REQUIRED

☐ Client Regular TAT ☑ Regular TAT (5-7days)

TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☑ O.Reg 153/04 ☑ O.Reg 406/19

☑ Table 1 ☑ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg, pH, (B(HWS), EC, SAR--soil) (Cl, Na--water))	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs (all incl PAHs, ABNs, CPs	PCB: PCBs (Total ☐ Aroclor ☐)	PHC: F1-F4 + BTEX	PHC: F1-F4 only (no BTEX)	VOC: VOCs (all incl BTEX)	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other)	Other (please specify)	Other	Other	Other	Other: Sewer Use: (Specify pkg:)	Other: Water Characterization Pkg (General ☐ Extended ☐)	SPLP: Specify tests (☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN)	TCLP: Specify tests (☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.)	COMMENTS:
1	BH 1 SS 4	04/09		2+3	Soil		✓						✓												
2	BH 2 SS 3	"		2+3	"		✓						✓												
3	BH 3 SS 2	"		2+3	"		✓						✓												
4	BH 4 SS 5	"		2+3	"		✓						✓												
5	TP 1 ~~SS~~ GS 2	"		2+3	"		✓						✓												
6	TP 2 ~~SS~~ GS 2	"		2+3	"		✓						✓												
7	TP 3 ~~SS~~ GS 3	"		2+3	"		✓						✓												
8	TP 4 ~~SS~~ GS 2	"		2+3	"		✓						✓												
9	TP 5 ~~SS~~ GS 2	"		2+3	"		✓						✓												
10	TP 6 ~~SS~~ GS 2	"		2+3	"		✓						✓												
11	TP 7 ~~SS~~ GS 3	"		2+3	"		✓						✓												
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): Niklas Gardlund Signature: N Gardlund Date: 04/10/25 (mm/dd/yy)
Relinquished by (NAME): Niklas Gardlund Signature: N Gardlund Date: 04/10/25 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.8
Date of Issue: 06 SEP 2024

APPENDIX B

Septic Application to North Bay Mattawa Conservation Authority
Submitted July 17, 2025

OFFICE USE ONLY

Permit #
Receipt #
Date Rec'd

NORTH BAY - MATTAWA CONSERVATION AUTHORITY

APPLICATION FORM & PROPOSAL FOR ON-SITE SEWAGE SYSTEM BUILDING PERMIT

NOTE: The property owner, applicant, designer and installer of the sewage system retain full responsibility for knowing the requirements of the Building Code Act & Ontario Building Code and ensuring that the sewage system is designed in accordance with the regulatory requirements and installed in accordance with the approved plans. By submitting this document you agree that the information provided can be shared with your local municipality and/or designer/installer and/or other persons as deemed necessary or involved in the project on the property in question.

If the listed applicant is not the property owner, please provide a **Letter of Authorization** from the registered property owner.

A guide to this application form is available from North Bay – Mattawa Conservation Authority's offices in either North Bay or Parry Sound. The guide is also available online at www.nbmca.ca.

Owner communication method: ❑ **Mail** ☑ **E-mail** ❑ **Fax** ❑ **Pick Up**
Installer communication method: ❑ **Mail** ❑ **E-mail** ❑ **Fax** ❑ **Pick Up**

1. Name of property owner	2. Name of installer ❑ Licensed ☑ Unknown ❑ Owner Install
Township of Perry	
Phone no. (705) 636-5941	Phone no. ( )
Email kim.seguin@townshipofperry.ca	Email

PROPERTY INFO ***REQUIRED: Provide a copy of a property legal document such as a property tax bill or deed***				
Property Address 54 McCrandle St, Emsdale, Ontario				
Municipality Township of Perry				
Lot 48	Con.	Sub-lot	Plan 39	Parcel
Assessment roll no. 4914 000 001 10501 0000				

Directions to lot: Worksite locally known as the Novar Community Park.
Following Highway 11, take Exit 235 into Community of Novar, travel West along Boundary Road
After the Railway cross, Right Turn onto McCrandle St.
0.25km on the Left, entrance at the sign for the Novar Park

The proposed system will be (check appropriate box):

❑ **CLASS 2: GREYWATER PIT**
❑ **CLASS 3: CESSPOOL**
☑ **CLASS 4: LEACHING BED/TANK** ☑ Tank & bed ❑ Tank only ❑ Bed only ❑ Treatment unit
❑ **CLASS 5: HOLDING TANK**

69 Bowes Street Parry Sound, On P2A 2L5 P: (705) 746-7566 e-mail: septic.parrysound@nbmca.ca
15 Janey Avenue North Bay, On P1C 1N1 P: (705) 474-5420 e-mail: septic.northbay@nbmca.ca

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number: 4914 000 001 10501 0000

Application submitted to: NORTH BAY-MATTAWA CONSERVATION AUTHORITY
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
54 McCrandle St, Emsdale, Ontario		48

Municipality	Postal code	Plan number/other description
Township of Perry	P0A 1R0	39

Project value est. $	Area of work (m^2)
$30,000	+- 1000

B. Purpose of application

☑ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building
Covered Rink	Vacant

Description of proposed work

The Township of Perry propose to replace their existing uncovered rink, with a new covered rink building including public washrooms.
The site presently has an existing 36sm Septic Filter Bed servicing the former Fire Hall, now Public Works Base. Existing Septic Approval No. 18/PE/92.
The Township proposes to construct a new 30sm Septic Filter Bed on the same site, adding on a new 4,500 L Septic Tank and 675 L Pump Chamber from the proposed Covered Rink Building.

C. Applicant

Applicant is: Owner or ✓ Authorized agent of owner

Last name	First name	Corporation or partnership	
Robert	Hughes	RHH Engineering	
Street address		Unit number	Lot/con.
70 Isabella St		111	
Municipality	Postal code / Province		E-mail
Town of Parry Sound	P2A 1M6 / ONT		bob.rhhengineering@cogeco.net
Telephone number	Fax		Cell number
705-746-1196			705-774-5058

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Township of Perry		Township of Perry	
Street address		Unit number	Lot/con.
PO Box 70, 1695 Emsdale Road			
Municipality	Postal code / Province		E-mail
Township of Perry	P0A 1J0 / ONT		kim.seguin@townshipofperry.ca
Telephone number	Fax		Cell number
705 636-5941			

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax		Cell number

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☑ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☑ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☑ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☑ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	☑ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☑ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☑ Yes	☐ No

I. Declaration of applicant

I Hughes Robert declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

July 17, 2025 _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666.

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
54 McCrandle St, Emsdale, Ontario			48
Municipality	**Postal code**	**Plan number/ other description**	
Township of Perry	P0A 1R0	39	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
Robert Hughes		RHH Engineering	
Street address		**Unit no.**	**Lot/con.**
70 Isabella St		111	
Municipality	**Postal code**	**Province**	**E-mail**
Parry Sound	P2A 1M6	ONT	bob.rhhengineering@cogeco.net
Telephone number	**Fax number**		**Cell number**
705-746-1196			705-774-5058

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☑ On-site Sewage Systems

Description of designer's work: Install New 4,500L Septic Tank with Effluent Filter, Effluent Pump, 30m2 Filter Bed, to service Existing Public Works Base and the New Covered Rink.

D. Declaration of Designer

I Robert Hughes declare that (choose one as appropriate):

(print name)

☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☑ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: Professional Engineer's License

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 17, 2025 — Date

Robert Hughes — Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practice, a limited license to practice, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Schedule 2: Sewage System Installer Information

A. Project Information

Building number, street name		Unit number	Lot/con.
	54 McCrandle St, Emsdale, Ontario		48

Municipality	Postal code	Plan number/ other description
Township of Perry	P0A 1R0	39

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

☐ Yes (Continue to Section C) ☐ No (Continue to Section E) ☑ Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")

Name			BCIN	
Street address			Unit number	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number	Fax		Cell number	

D. Qualified supervisor information (where answer to section B is "Yes")

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

E. Declaration of Applicant:

I Hughes Robert declare that:
(print name)

☑ I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

☐ I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

July 17, 2025 Robert Hughes
Date Signature of applicant

Schedule 3: Site Evaluation Form

TEST PIT

Sub-surface conditions encountered:

		Applicant's Use		Inspector's Use	
Indicate depth to bedrock, T>50, &/or ground water table (where present):	Depth (m)	Soil type	T-time	Soil type	T-time
Test hole(s) available for inspection: (YES) NO	1.4	Brown Coarse Sand	10		

Water Supply:	☑ **Proposed**	☑ **Existing**	
☐ Lake	☑ Drilled well	☑ Dug well	☐ Other (specify):

Shore road allowance owned: (N/A) YES NO Municipal zoning Institutional (I)

Has the lot been previously severed? YES (NO) Zoning approval(s) attached? YES (NO)

Lot dimensions: Frontage (m) 40.2 Depth (m) Irregular Area (m^2) 14291

Inspector's Report:

Date: _____

Time: _____

Weather: _____

Person(s) in attendance

Watercourses on lot: YES NO Name:

SRA owned: N/A YES NO

Applicable Law: N/A

MTO HYDRO EP OTHER: _____

Increased municipal setbacks required: YES NO

O.Reg. 177/06 (North Bay office only): YES NO

Slope _____

Vegetation _____

Suitable for in-ground installation: YES NO PARTIAL

Proposed height of raised bed (m): _____

Increased setbacks required? YES NO

Setback distances adhered to: YES NO

MLA existing: YES NO PARTIAL

Proposal acceptable & meets OBC requirements?

YES NO Acceptable with changes

_____

_____

_____

Inspector's signature: _____

Date: _____

Comments/concerns/additional information required: See attached Septic Design Brief for Flow Calculations

PERMIT #
OFFICE USE ONLY

Property address 54 McCrandle St, Emsdale, Ontario

Schedule 4: Design Criteria

DESCRIPTION	DWELLING #1		BOATHOUSE		SLEEPING CABIN		Other: RINK		# UNITS PER FIXTURE	FIXTURE UNITS
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed		
Bathroom group (toilet, sink, tub/shower)									x 6 =	0
Additional toilet								5	x 4 =	20.0
Bathtub or shower(*)									x 1.5 =	0.0
Additional sinks(**)								7	x 1.5 =	10.5
Kitchen sink(**)									x 1.5 =	0.0
Dishwasher									x 1 =	0.0
Washing machine									x 1.5 =	0.0
Laundry tub									x 1.5 =	0.0
Other:_____										0.0
FIXTURE UNITS	0.0		0.0		0.0		30.5		Total:	**30.5**
FINISHED FLOOR AREA		m^2		m^2		m^2		1421 m^2	Total:	**1,421.00** m^2
# OF BEDROOMS									Total:	0

* Tub/shower combos count as 1.5 units
** Sinks whether double or single count as 1.5 units

DESIGN FLOW CALCULATION TABLE				
Residential Occupancy			**Volume (L)**	**Flows**
Bedroom flow (A)	1 bedroom dwelling		750	
	2 bedroom dwelling		1100	
	3 bedroom dwelling		1600	
	4 bedroom dwelling		2000	
	5 bedroom dwelling		2500	
Extra bedroom flow (B)	Each bedroom over 5,		500	0
Living area flow (C)	Each 10 m^2 (or part thereof) over 200 m^2 up to 400 m^2,		100	0
	Each 10 m^2 (or part thereof) over 400 m^2 up to 600 m^2, and		75	0
	Each 10 m^2 (or part thereof) over 600 m^2, or		50	0
Fixture count flow (D)	Each fixture unit over 20 fixture units	10.5	50	525

Daily Design Sewage Flow, Q = 2,250 liters/day A + (B or C or D)

OFFICE USE ONLY

_____ APPROVED _____ NOT APPROVED DATE _____

PERMIT #
OFFICE USE ONLY

Property address 54 McCrandle St, Emsdale, Onta

Schedule 5: Proposal to Construct

Propose to Replace (construct, install, alter, extend, enlarge, replace, etc.) a Class 4F sewage system to serve Community Centre & Covered Rink (facility: e.g. single family dwelling, motel, etc.)

Is the land currently vacant? YES (NO) Additions / renovations proposed? YES (NO)

If replacing, is there a permit for the system on the property? (YES) NO Permit # 18/PE/92

Is the existing system failing? YES (NO) Explain: Rebuild & Relocate +-1metre

Is there more than one system on the property? YES (NO) Permit #

Will the proposed system service more than one building? (YES) NO List: Ex. Public Works Base / New Covered Rink

Provide proposed information rather than minimum requirements:

❑ Class 2 Greywater Pit	❑ Class 3 Cesspool (For flow calculations see OBC Part 8, 8.4.1.2(2): Q cannot exceed 1000 L/D)			
Type of Class 1 on site:	❑ Privy	❑ Composting	❑ Chemical	❑ Other:
Wall structure:	❑ Cement block	❑ Rock	❑ Wood	❑ Other:
Sidewall area: m^2	Length: m	Width: m	Depth: m	Type of cover:

☑ Septic Tank	❑ Class 5 Holding Tank	❑ Treatment Unit	❑ Digester Tank
☑ New ☑ Use existing Size 3,600 Permit # 18/PE/92		❑ Level II	❑ Level III ❑ Level IV
Proposed working capacity: 4,500 Liters		Make / Model of treatment unit:	

T-time (min/cm): 10 Method of subsurface detection: REBAR	Pump required? ❑ No ☑ Effluent ❑ Raw ❑ TBD

☑ Class 4F Filter Bed	Number of beds: 1 Raised height (above grade): 0.9 m	Bed area: 30 m^2 Contact Area: 30 m^2
Mantle loading area: 225 m^2 ☑ Native ❑ Imported		Length 22 m x Width 11 m

❑ Class 4 Trench Bed	Total length: m	Raised height (above grade): m
Mantle loading area: m^2 ❑ Native ❑ Imported		Length m x Width m

❑ Type A / B	Stone area: m^2 Sand area: m^2	Sand area: ❑ Native (supply sieve analysis) ❑ Imported Raised height (above grade): m

❑ SBT / BNQ / BMEC / Other (Fill accordingly)	

OFFICE USE ONLY

_____ APPROVED _____ NOT APPROVED DATE _____

PERMIT #
OFFICE USE ONLY

Property address 54 McCrandle St, Emsdale, Onta

Schedule 6: Site Plan Diagram

Designer on file: RHH Engineering	Installer on file:

SEE ATTACHED SITE PLAN DRAWING SP-2

DRAWING REQUIREMENTS: PLEASE CHECK (IF ATTACHING A SEPARATE DIAGRAM PLEASE ENSURE THESE ARE INDICATED)

- ☑ **1 Copy of site plan submitted**
- ☑ Property owners name and property address (civic);
- ☑ Lot size, property dimensions, roads, existing rights-of-way, easements, or municipal/utility corridors;
- ☑ Show and identify neighboring properties, including wells (indicate if none);
- ☑ Show location and size of all proposed and existing sewage system components (tanks, pump chambers, alarms, distribution bed) and the test pits;
- ☑ Show the direction of surface water flow, as well as any surface water (i.e. creek, pond, lake) on or adjacent to the property and provide the common name;
- ☑ Indicate directions of North on the site plan;
- ☑ Indicate distances to all utilities (i.e. telephone, HYDRO lines above and below ground); and
- ☑ **Show the distances from <u>pipes in bed and tank</u> to ALL buildings, structures, property lines, surface water, easements, rights-of-way, driveways and wells (including neighboring wells)**

PROPOSED DISTANCES (Actual, <u>not</u> minimum)

Distribution pipe (or stone area) distances:

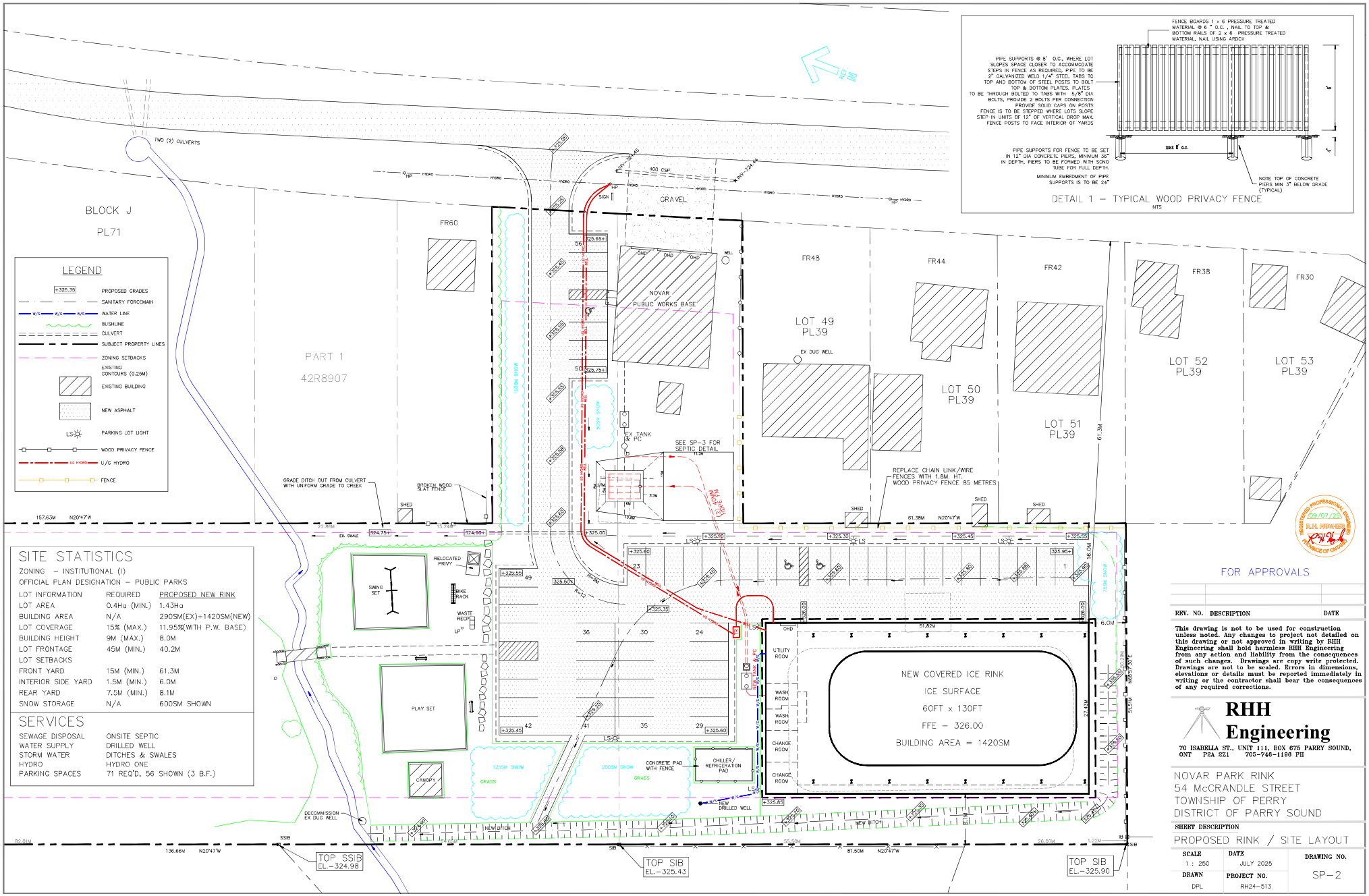
to closest structure:	17.7 m
to closest lot line:	16.5 m
to well on lot:	36.9 m
to neighboring wells:	31 m / ____ m
to surface water:	49.3 m

Septic tank/Treatment unit distances:

to closest structure:	2.2 m
to closest lot line:	24.0 m
to well on lot:	19.5 m
to neighboring wells:	51 m / ____ m
to surface water:	64.3 m

OFFICE USE ONLY

_____ APPROVED _____ NOT APPROVED DATE: _____



DETAIL 1 – TYPICAL WOOD PRIVACY FENCE
NTS

SITE STATISTICS

ZONING – INSTITUTIONAL (I)
OFFICIAL PLAN DESIGNATION – PUBLIC PARKS

LOT INFORMATION	REQUIRED	PROPOSED NEW RINK
LOT AREA	0.4Ha (MIN.)	1.43Ha
BUILDING AREA	N/A	290SM(EX)+1420SM(NEW)
LOT COVERAGE	15% (MAX.)	11.95%(WITH P.W. BASE)
BUILDING HEIGHT	9M (MAX.)	8.0M
LOT FRONTAGE	45M (MIN.)	40.2M
LOT SETBACKS		
FRONT YARD	15M (MIN.)	61.3M
INTERIOR SIDE YARD	1.5M (MIN.)	6.0M
REAR YARD	7.5M (MIN.)	8.1M
SNOW STORAGE	N/A	600SM SHOWN

SERVICES

SEWAGE DISPOSAL	ONSITE SEPTIC
WATER SUPPLY	DRILLED WELL
STORM WATER	DITCHES & SWALES
HYDRO	HYDRO ONE
PARKING SPACES	71 REQ'D, 56 SHOWN (3 B.F.)

FOR APPROVALS

REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
PROPOSED RINK / SITE LAYOUT

SCALE	DATE	DRAWING NO.
1 : 250	JULY 2025	SP-2
DRAWN	PROJECT NO.	
DPL	RH24-513	

PERMIT #
OFFICE USE ONLY

Property address 54 McCrandle St, Emsdale, Onta

Schedule 7: Cross Sectional Diagram

Designer on file: RHH Engineering	Installer on file:

SEE ATTACHED SEPTIC DRAWING SP-3

DRAWING REQUIREMENTS: PLEASE CHECK (IF ATTACHING A SEPARATE CROSS SECTION PLEASE ENSURE THESE ARE INDICATED)

- ☑ **1 Copy of Cross-Sectional Diagram Submitted**
- ☑ Property owners name and property address (civic);
- ☑ Depth of topsoil;
- ☑ Depth of crushed stone;
- ☑ Depth of filter medium used;
- ☑ Depth and dimensions of contact area required;
- ☑ Depth to bedrock/groundwater table;
- ☑ Depth to hardpan/soils T-time >15min/cm;
- ☑ Height above/below existing grade of ground surface;
- ☑ Show side slopes of bed/mantle;
- ☑ Existing grade/finished grade; and
- ☑ Distance between pipes.

Depth to bedrock/GWT/ hardpan/soils T-time >50: Below Test Pits m

Check appropriate: ❑ Dug In ☑ Raised ❑ 3 sides open

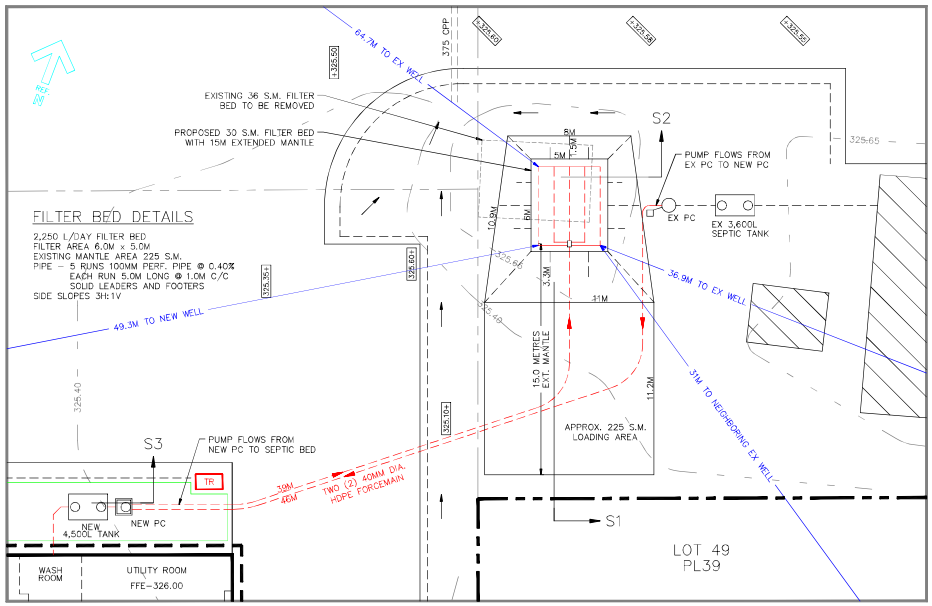
Proposed raised height above existing grade : 0.9 m

Existing grade: Ex Septic Bed

Finished side slope ratio: 3 : 1

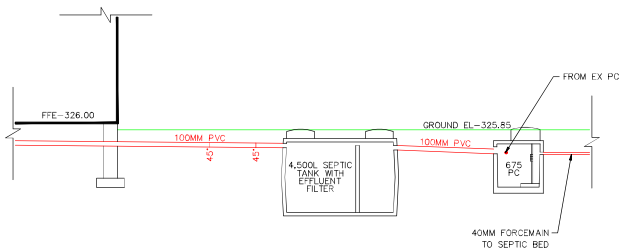
OFFICE USE ONLY

_____ APPROVED _____ NOT APPROVED DATE: _____



PLAN VIEW OF SEPTIC SYSTEM

SCALE 1 : 150



SECTION 3

SCALE 1 : 50

CONSTRUCTION NOTES

1. CLEAR AND GRUB SITE. REMOVE EXISTING SEPTIC BED AND GRADE SITE FLAT.
2. IMPORT FILTER SAND MATERIAL AND PLACE TO A DEPTH OF 750MM. PROVIDE INSPECTOR WITH SOILS ANALYSIS CERTIFYING MATERIAL AS APPROVED FILTER MATERIAL AS PER SECTION 8.7.5.3 OF OBC
3. PROVIDE 19MM CLEAR STONE BEDDING 150MM UNDER DISTRIBUTION PIPES AND EXTENDED TO 50MM ABOVE TOP OF DISTRIBUTION PIPE, COVER WITH GEOTEXTILE FABRIC AND TOPSOIL.
4. DISTRIBUTION PIPE TO BE PERF. 100MM DIAMETER PVC LAID 1000MM O.C. @ 0.40% SLOPE
   6 RUNS OF DISTRIBUTION PIPE EACH 5000MM LONG
   LEADERS AND FOOTERS SOLID 100MM DIA. PVC PIPE
5. SIDE SLOPES OF SEPTIC BED TO HAVE 3:1 SLOPES
6. EXISTING 225 SQ. METRES MANTLE (LOADING) AREA AS SHOWN.
7. COVER SEPTIC BED AND SIDE SLOPES WITH 150MM TOPSOIL
8. SEED TOPSOIL WITH CANADA NO. 1 GRASS SEED MIXTURE FOR NORTHERN CLIMATES.
9. ALL CONSTRUCTION TO COMPLY WITH PART VIII OF OBC UNLESS OTHERWISE INDICATED.
10. AREAS AROUND SEPTIC TANK AND SEPTIC BED TO BE PROVIDED WITH POSITIVE DRAINAGE BY DITCHING AND FALSE GRADING. NO AREAS OF PONDING ALLOWED AROUND SEPTIC AREA.
11. SEPTIC TANK TO BE 4,500 LITRE CAPACITY WITH EFFLUENT FILTER
12. PUMP CHAMBER TO BE 680 LITRE CONCRETE PUMP CHAMBER MODEL 675 BY NEWMARKET PRECAST OR APPROVED EQUAL. OUTFITTED WITH 610 MM TUF-TITE RISER, 25 MM FLOAT TREE SET TO PUMP 150 LITRES/DOSE, HIGH WATER ALARM, CAST IN PLACE VENT, AND WITH SHEF30 EFFLUENT PUMP AND CONTROLS. TANK OUTFITTED WITH 100MM INLET AND 50MM OUTLET WITH FLEXIBLE RUBBER CONNECTIONS.
13. CONTRACTOR TO SUPPLY AND INSTALL DISTRIBUTION BOX.

LEGEND

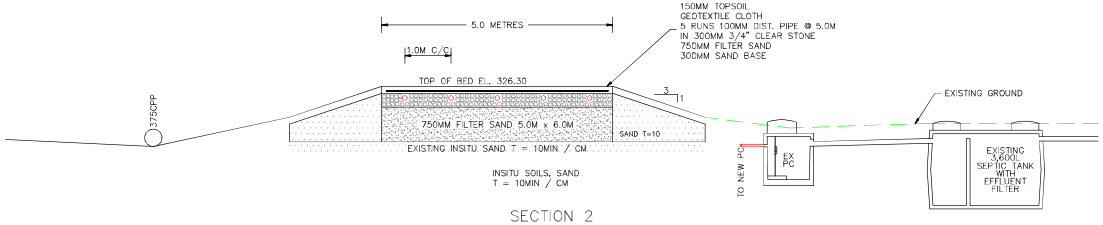
PROPERTY LINES

0.25M CONTOURS

SANITARY

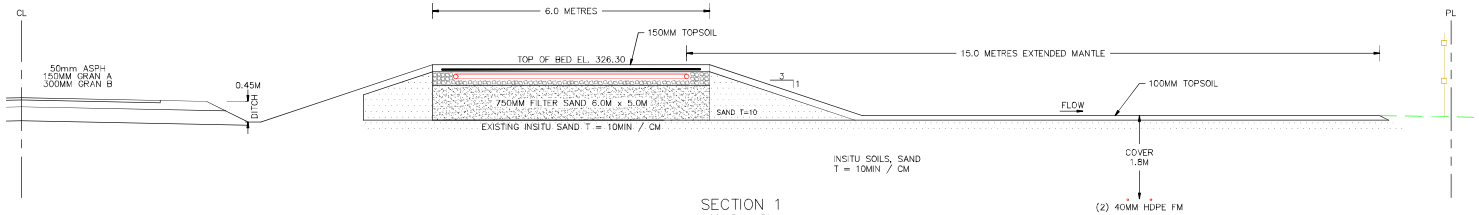
DIRECTION OF SURFACE FLOW

PROPOSED SPOT ELEVATION +325.00



SECTION 2

SCALE 1 : 50



SECTION 1

SCALE 1 : 50

REGISTERED PROFESSIONAL ENGINEER
17/07/25
R.A. HUGHES
PROVINCE OF ONTARIO

FOR APPROVALS

REV. NO.	DESCRIPTION	DATE

RHH Engineering

70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

PROPOSED SEPTIC FILTER BED

SCALE	DATE	DRAWING NO.
1 : 150	JULY 2025	SP-3
DRAWN	PROJECT NO.	
DPL	RH24-513	

Properties

PIN 52162 - 0699 LT

Description PT LT 19 CON 1 PERRY AS IN RO109897; PERRY

Address 58 MCCRANDLE ST
PERRY

PIN 52162 - 0725 LT

Description LT 48 PL 39; PERRY

Address 54 MCCRANDLE ST
PERRY

PIN 52162 - 0726 LT

Description SINA ST PL 71; PERRY

Address PERRY

Applicant(s)

Name THE CORPORATION OF THE TOWNSHIP OF PERRY

Address for Service 1695 Emsdale Road
Box 70
Emsdale, ON P0A 1J0

This document is not authorized under Power of Attorney by this party.

This document is being authorized by a municipal corporation Norm Hofstetter, Mayor and Beth Morton, Clerk/Administrator.

Statements

The registered owner applies to consolidate the selected PINs and the proposed description for the parcels to be consolidated is PT LT 19 CON 1 PERRY AS IN RO109897; LT 48 PL 39; SINA ST PL 71; PERRY.

Signed By

Jennifer Elizabeth Biggar — 505 Memorial Av., box 158, Orillia, L3V 6J3 — acting for Applicant(s) — Signed 2025 06 25

Tel 705-325-1326

Email jbiggar@russellchristie.com

I have the authority to sign and register the document on behalf of the Applicant(s).

Submitted By

RUSSELL, CHRISTIE, LLP — 505 Memorial Av., box 158, Orillia, L3V 6J3 — 2025 07 09

Tel 705-325-1326

Email jbiggar@russellchristie.com

Fees/Taxes/Payment

Statutory Registration Fee $70.90

Total Paid $70.90

File Number

Applicant Client File Number : 74-122-143

APPENDIX C

Ice Rink Proposal by Custom Ice Inc.
Dated July 24, 2025

Contact Person: Jake Miller
Contact No: (905) 978-3060

CUSTOM ICE INC.
Rink Design Build

Ice Rink Proposal

3375 North Service Road Unit C2
Burlington, Ontario, Canada L7N 3G2
P: (905) 632-8840 F: (905) 632-6723
www.customicerinks.com

CUSTOM ICE INC.
Rink Design Build

3375 North Service Rd, Unit C2
Burlington, Ontario, Canada L7N 3G2
P: (905) 632-8840 F: (905) 632-6723
www.customicerinks.com

BUDGET PROPOSAL

July 24, 2025
5 Pages

Attn: Kim Seguin
Perry Township
1695 Emsdale Road, Box 70
Emsdale, ON
P0A 1J0
705-636-5941

Email: bob.rhhengineering@cogeco.net
Email:

Site Address:

54 McCrandle Street
Novar, ON

RE: Custom Ice Rink and Sports Pad

Custom Ice is pleased to offer the following budget proposal for an 60' wide x 130' long refrigerated permanent concrete sports pad suitable for winter ice skating and summer sports activities or events for your community project in Parry Sound.

Custom Ice proposes to provide a fully operational refrigerated ice rink floor and refrigeration system to create an 60' x 130' permanent outdoor ice skating rink in an 62' x 134' concrete pad suitable for up to 4-5 months of outdoor ice under typical weather conditions of 8-10°C (45-50°F) or less. The rink configuration includes a new prefabricated ice rink floor piping system embedded in a permanent concrete slab and a 67-ton (100 ton nominal) air-cooled packaged refrigeration unit with external pump skid.

Other optional accessories have also been included at the end of the budget proposal.

Our budget proposal includes the following Main Components:

1. Main Components:

A. Ice Rink Floor and Sports Pad: Custom Ice will supply and install:

- 15 prefabricated piping rolls each 4' wide x 130' long and consisting of 5/8" tubes spaced at 1.5" c/c.
- 6" supply and return polyethylene header pipes welded and encased in concrete.
- 2 layers of 1" rigid floor insulation with taped seams.
- One (1) 6 mil poly liner slip sheet.
- 2" high steel chairs spaced at 24" c/c to elevate the components in the floor.
- 2 layers of reinforcing steel, tied with 24" overlapped seams.
- **BY OTHERS** - Supply all concrete for rink floor including 5000 psi concrete, superplasticizer, air entrainment and premium aggregate.

- **BY OTHERS** - Form, place and finish concrete for rink floor including all labor, concrete pump and all required equipment.
- **BY OTHERS** - Provide minimum 28 day wet felt curing of concrete.

Custom Ice will supply all materials and labor for installation of components above. Custom Ice will also level the stone screenings noted below.

****Customer (or his landscaper) shall be responsible for site excavation and compacting, if required, supply and placement of 4"-6" @ 3/4 stone and 3"-4" of stone screenings. Site and preparation details will be provided by Custom Ice Inc. upon receipt of signed contract and deposit.**
****Custom Ice will level the screenings to +/- ¼" prior to installing components above.**
****Any landscaping, retaining wall, site access provision, trenching (for pipe, water and electrical) are by others.**

B. Ice Rink Refrigeration System: Custom Ice will supply and install:

- One (1) packaged air cooled refrigeration chillers capable of approximately 67 tons (100 tons nominal) of refrigeration using R454b or approved equivalent at design ice making conditions.
- Unit comes complete with scroll compressors, evaporator and condenser.
- This refrigeration capacity is suitable for 4-5 months of outdoor ice operation.
- Refrigeration unit will be controlled by an automatic ice temperature control system which will start and stop the chiller to maintain the desired ice temperature (ex. 23° F).
- Refrigeration unit shall be placed on a 16x29 concrete pad (by others) and connected to ice rink piping using 6" PVC and polyethylene pipes.
- Unit requires 3' of clearance on all sides for service access and air flow.
- refrigeration unit requires 167 amps at 600 vac, 3 ph, 60 hz.

Note: Electrical service and connections to refrigeration unit and pumps is by others.

C. Secondary Refrigeration: Custom Ice will supply and install:

- Two (2) glycol circulation pumps each 15 hp on prefabricated steel skid, complete with pre-wired electrical starter panel. Electrical service and connections by others (15 amps, 600 vac, 3 ph).
- All required valves, fittings and gauges and connections.
- Complete charge of ethylene glycol and glycol expansion/mixing tank.

D. Main Piping: Custom Ice will supply and install:

- 6" HDPE DR11 main piping from the refrigeration unit to the ice rink floor.
- Refrigeration unit can be located up to 60' away with standard rink design.
- Piping will be insulated and buried underground.

Please Note: Trenching, excavation and backfilling are by others. Backfilling will require min 8" deep ¾" stone to cover pipes over their entire length.

E. Ice Making and Maintenance: Custom Ice will supply only:

- Complete Operations and Maintenance Manual
- Training for seasonal set up, chiller operation, rink maintenance and ice making (**full ice making is by others**).
- Zamboni, Olympia or other ice resurfacer is not included.

BUDGET Supply and Install Price…….…..……..…

(CDN Funds, Freight is Included, Applicable taxes are extra)

****Pricing is subject to change upon completion of a site review by Custom Ice engineering staff****

Please feel free to contact us if you have any questions at (905) 632-8840.
Sincerely,
Glenn Winder
Custom Ice Inc.

OPTIONS: (CDN Funds, Freight is included, Applicable taxes are extra)

1. **Custom Ice Rink Hockey Boards**: Custom Ice Inc. will supply and install a complete portable Custom Ice dasher board system to create an 60' X 130' X 20' radii ice hockey rink.
    - Boards will be composed of :
        - 5" UV thick X 42" high aluminum frame
        - 0.5. rink board facing
        - 0.5" colored cap rail
        - 0.5" colored kick strip
        - 4' 5/8" glass ends and radius
        - 4' ½" glass sides except in front of player box area
        - Players and timekeeper box only
    - The boards will be fastened together and securely anchored to the concrete pad.
    - Includes 4 @ 36" access gates (additional man and machine gates are optional)
    - Includes 1 @ 8' machine gate.
    - Boards are suitable for seasonal takedown and storage or relocation.

    Supply and Install Price……..……..……..……...

2. **Protective Netting -** Custom Ice will supply and install black nylon netting extending 7' high from the top of the boards to protect errant pucks from exiting the playing surface. Netting will be supported with 1" steel posts attached to the boards/brackets with a tight cable edge finish to the netting.
    Supply and Install Price……..……..……..……$ 40.00/lnft

3. **Custom Ice White Roll Court Coloring –** 5' wide, reusable perforated white vinyl material to keep ice looking white all season and blocks up to 75% of solar heat, extending your ice season. Installation is not included but training will be provided.
    Price per square foot…….……..……..……$ 0.95/sqft

4. **ProSlam System Basketball Net –** Custom Ice will supply and install one (1) professional style basketball net in concrete footings. Net comes complete with 6" black powder coated main post and padded glass backboard, hoop and mesh net adjustable from 7' to 10' in height. Back board can be removed or adjusted out of the way for winter use of the rink.
    Augured holes for sonotubes by site preparation contractor*
    Supply and Install Price Per Net……..……..……..……$ 5,625.00

5. **Multi-Sport Tennis Net System:** Custom Ice will supply and install two (2) black steel net posts, complete with:
    - Sonotubes & required rebar to support / frame them in the concrete
    - Steel sleeves to be installed into the concrete for removal during the ice season
    - Nets, connection hardware and covers for the off season
    - ***Augured holes for sonotubes by site preparation contractor****

    Supply and Install Price……..……..……..……..……$ 3,995.00

6. **Ice Scraper -** Heavy weight steel scraper with comfort handle and with 12" blade for quick and easy scraping of imperfections on your ice surface.
   12" Blade Price……..……..……..…$ 375.00

7. **NHL Style Hockey Goal Frames –** Welded NHL style goal frame 40" deep with rounded back and constructed of 2" steel pipe, red color and complete with pre-strung NHL style heavy white knotless netting and NHL padding and stainless steel breakaway pegs.
   Price Per Each Net ……..……..……..……$ 1,695.00

8. **Practice Hockey Goal Frames –** Practice goal frame 28" deep with squared back and constructed of 2" steel pipe, red color and complete with pre-strung heavy duty white knotless netting and stainless steel breakaway pegs.
   Price Per Each Net……..……..……$ 1,395.00

9. **Pond Hockey Goal Frames –** Pond goal frame 12" tall and 72" wide constructed with steel pipe, red in color and comes complete with pre-strung white netting.
   Price Per Each Net……..……..……..$ 490.00

10. **EnerShield Outdoor Ice Cover -** Reflective and insulating ice cover in 4' wide sections to lengthen ice season and save in refrigeration energy costs.
    Price per square foot……..…..……..……..$ 0.85/sqft

11. **Rubber Flooring –** Black rubber flooring to protect skate blades. Flooring can be cut to size on site for custom fit if necessary. Each mat is 4' x 6' x 1/2" thick.
    Price per sheet……..……..$ 95.00

12. **Vinyl Line Kit –** Reusable vinyl mesh hockey line kit available in custom sizes for natural or refrigerated rinks. Installation is not included but training will be provided. Standard kit includes:
    - 1 x 12" wide Red Center Line
    - 2 x 2" wide Red Goal Lines
    - 1 x 12" Blue Face Off Circles

    Price per kit……..……..……..$ 295.00

13. **Vinyl Goal Crease –** Reusable NHL regulation style blue vinyl mesh goal crease. Installation is not included but training will be provided.
    Price per pair……..……..……$ 410.00

Exclusions (Items which may be required but not supplied by Custom Ice Inc.)

1. Building permit, electrical permit, any required licenses or fees
2. Any traffic control, flagmen or permits for unloading trucks if required
3. Electrical service and all wiring and connections to refrigeration unit and lights
4. Trenching and backfilling for power and pipe lines
5. Excavation, supply of stone and leveling of rink sub base to Custom Ice specifications
6. **Concrete pad for the chiller and mechanical equipment**
7. Fencing or walls to secure refrigeration equipment if required
8. Water supply and hot water heating for ice making and resurfacing
9. Any retaining wall or landscaping if required
10. Any special work required for drainage design may be extra
11. Any specific work required for access to site
12. Any ice making & installing vinyl lines & creases (Training will be provided by Custom Ice)
13. Seasonal takedown, set up and/or storage of equipment
14. Regular ice maintenance; including flooding, resurfacing and removal of snow, ice and debris
15. Concrete supply, place and finish
16. Installation of old/existing board system
17. Remediation and removal of existing concrete/asphalt pad.

Warranty:

All equipment included in this proposal is guaranteed for one (1) year from date of completion of the original installation and payment of contract in full. Any item that is defective, under normal working conditions, during this time period will be repaired or replaced, at our option.

Terms & Conditions:

- All pricing in CDN Funds
- 15-25 weeks lead time required from receipt of approved customer drawings
- ***All scheduling is subject to constraints imposed by Covid-19 including isolation requirements, border restrictions, material availability or other related delays.***
- Applicable taxes are extra
- Proposal is budgetary only and subject to final design
- Pricing is valid for **30 days** from above noted date
- **Local permits or licensing are not included and are the responsibility of the buyer**

Payment Schedule:

- 50% Deposit with signed contract
- 20% 1 week prior to shipping of rink floor materials
- 20% 1 week prior to shipping of chiller
- 10% Balance upon substantial completion prior to startup and training
- Dasher Boards are billed under similar payment schedule
- Other accessories are billed with invoice prior to final shipment

APPENDIX D

Hydro One – NCCI Form Summary
Submitted July 30, 2025

NEW CUSTOMER CONNECT INFORMATION

CUSTOMER CONTACT DETAILS

Customer / Developer Name	Township of Perry	Electrical Consultant / Contractor	TBD	Civil Consultant / Contractor	RHH Engineering
Contact Person	Kim Seguin	Electrical Consultant's Contact Person	TBD	Civil Consultant's Contact Person	Robert Hughes
Phone No.	(705) 636-5941	Electrical Consultant's Phone No.	0	Civil Consultant's Phone No.	(705) 746-1196
Email Address	kim.seguin@townshipofperry.ca	Electrical Consultant's Email Address	0	Civil Consultant's Email Address	bob.rhhengineering@cogeco.net
Fax No.	0	Electrical Consultant's Fax No.	0	Civil Consultant's Fax No.	0
Mailing Address	Box 70, 1695 Emsdale Road	Electrical Consultant's Fax Mailing Address	0	Civil Consultant's Fax Mailing Address	70 Isabella St, Unit 111

REQUEST INFORMATION

Civic Address	58 McCrandle St, Novar, Ontario	Lot	19
Township	Perry	Concession	1
Desired Connection Date	Sep/01/2025		
Is this request for more than one metered connection i.e. SubDivision			FALSE
Distributed Energy Resources (DER) i.e. generation or battery storage with this connection			No
Details of Distributed Generation / Battery			0

CUSTOMER REQUEST INFORMATION - NON SUBDIVISION

Connection Type	New Connect				
Type of Operation	Non residential			Detail of Other	0
Reason for Request	Construction of new Covered Rink				
Will the proposed service seize be > 200 Amps	TRUE	Service Size	0		

CUSTOMER REQUEST INFORMATION - SUBDIVISION / APARTMENT BUILDING

SECTION NOT APPLICABLE

LOADING INFORMATION - PROPOSED SUB DIVISION RESIDENTIAL CONNECTIONS

SECTION NOT APPLICABLE

LOADING INFORMATION - PROPOSED NON RESIDENTIAL CONNECTIONS

Profile	1		
Type of Operations	Govt./Municipality Infra		
Proposed Service Size	600	If Other	
Proposed Service Voltage Rating	347/600	If Other	
Proposed Panel Rating	0.8		
Proposed Power Factor	0.92		
No. of Shifts	Multiple		

Service Demand

in kW	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Year 1	180	180	180	120	120	120	120	120	120	120	180	180
Year 2	180	180	180	120	120	120	120	120	120	120	180	180
Year 3	180	180	180	120	120	120	120	120	120	120	180	180
Year 4	180	180	180	120	120	120	120	120	120	120	180	180
Year 5	180	180	180	120	120	120	120	120	120	120	180	180

LOADING INFORMATION - EXISTING NON RESIDENTIAL SERVICE CONNECTIONS

SECTION NOT APPLICABLE

ADDITIONAL LOADING INFORMATION - MOTOR INFORMATION

Do you have or plan to install motor(s)?	TRUE				
Type of equipment motor is operating:	Ice Refrigeration				
Largest Motor Size (HP)	40				
Start Assistance for Largest Motor	FALSE	Type of Assistance	0		
Type of Motor for Largest Motor	Synchronous				
Full load current	34	Starting Current (Amps)	210	No. of Starts per day	50
Motor's rated voltage	600	Max Inrush (kVA)	125	NEMA Code	0
Do multiple motors start at the same time	TRUE				

Size	Type of Motor	Start Assistance	Type of Assistance
40	Synchronous	No	
40	Synchronous	No	
40	Synchronous	No	
40	Synchronous	No	
15	Synchronous	No	

ADDITIONAL LOADING INFORMATION - WELDING MACHINES

Do you have or plan to install welding machines?	FALSE

NEW CUSTOMER CONNECT INFORMATION

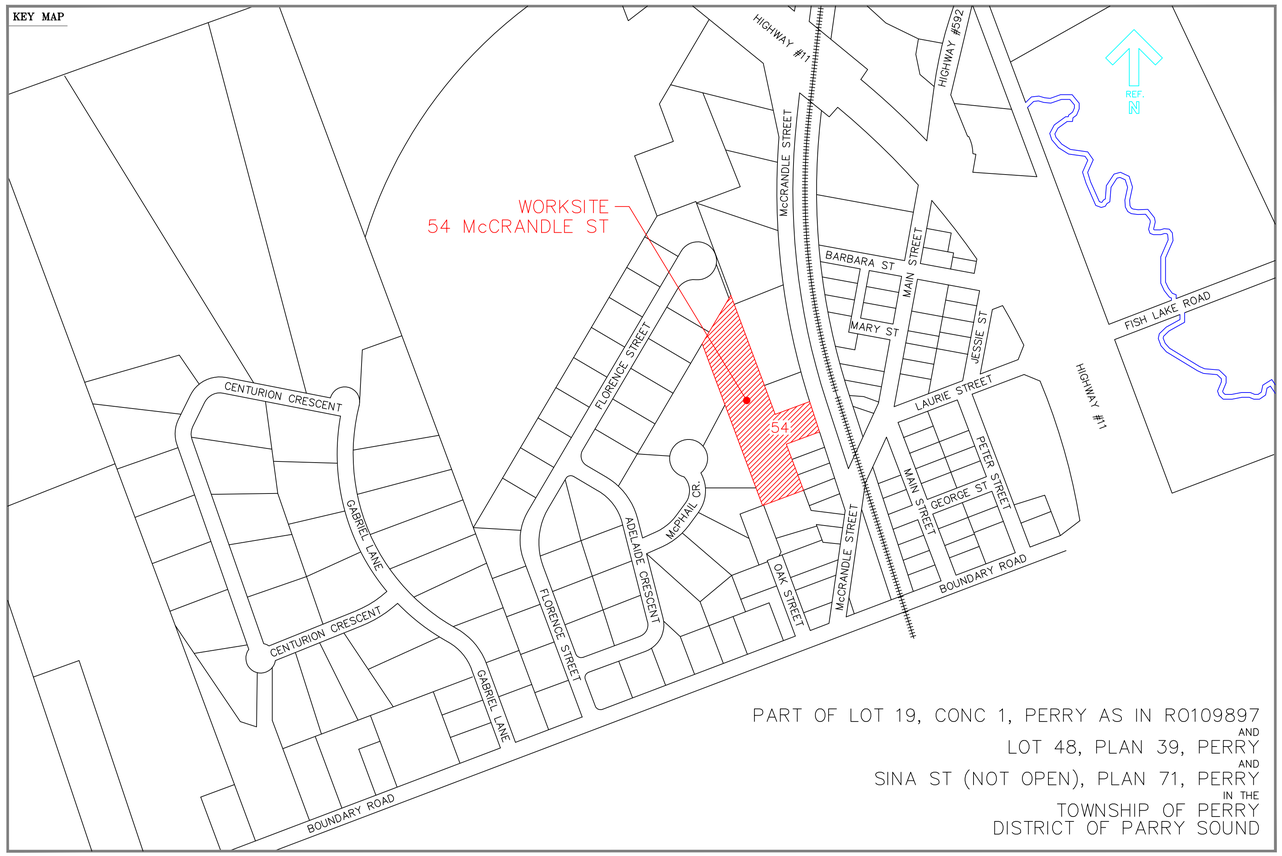
kVA Rating	0	Max Primary Current (Amps)	0	Rated Welder Primary Voltage	0
Power Factor	0	Freq of Operation of each machine	0	No. of Welders Operated at the same time	0
Duration of Welds for Each Machine	0	Additional Details	0		

ADDITIONAL LOADING INFORMATION - ELECTRIC VEHICLE CHARGERS

Do you have or plan to install electric vehicle charger(s)	FALSE						
Type of Charger	0	Number of Units	0	Charging Time	0	Freq of Use	0

ADDITIONAL LOADING INFORMATION - EQUIPMENT

Switchgear	No	Neutral Grounding Resistor (NGR)	No



PART OF LOT 19, CONC 1, PERRY AS IN RO109897
AND
LOT 48, PLAN 39, PERRY
AND
SINA ST (NOT OPEN), PLAN 71, PERRY
IN THE
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

DWG#	DESCRIPTION
SP-1	EXISTING SITE LAYOUT
SP-2	PROPOSED SITE LAYOUT
SP-3	PROPOSED REPLACEMENT SEPTIC FILTER BED
A-1	BUILDING ELEVATIONS
A-2	BUILDING FLOOR PLANS
A-3	BUILDING SECTIONS
A-4	BUILDING SCHEDULES
A-5	DETAIL SECTIONS
S-1	CONCEPTUAL FOUNDATION LAYOUT
ES-1	ELECTRICAL SITE PLAN
ES-2	SECURITY SITE PLAN
E-1	LIGHTING & LIFE SAFETY FLOOR PLANS
E-2	POWER & CONTROL FLOOR PLANS
E-3	ELECTRICAL SPECIFICATIONS & SCHEDULES
M-1	HVAC FLOOR PLANS
M-2	PLUMBING FLOOR PLANS

NOVAR PARK COVERED RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

CONTRACT #2025-011
FOR TENDER

JUNE 2025 RH24-513

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

PART OF LOT 19, CONC 1, PERRY AS IN RO109897
AND
LOT 48, PLAN 39, PERRY
AND
SINA ST (NOT OPEN), PLAN 71, PERRY
IN THE
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

BOREHOLE SUMMARY

BH1 – EL 325.30
0.15M GRANULAR BASE
0.20M BROWN SILTY SAND
SAND COMPACT TO LOOSE
BTM EL 320.1

BH2 – EL 325.45
0.08M ASPHALT
0.15M GRANULAR BASE
0.10M GRANULAR SUBBASE
SAND COMPACT TO LOOSE
BTM EL 318.8

BH3 – EL 325.40
0.08M ASPHALT
0.15M GRANULAR BASE
0.10M GRANULAR SUBBASE
SAND COMPACT TO LOOSE
BTM EL 320.2

BH4 – EL 325.45
0.08M ASPHALT
0.15M GRANULAR BASE
0.10M GRANULAR SUBBASE
SAND COMPACT TO LOOSE
BTM EL 320.3

BH1 ✦ BOREHOLE LOCATIONS

TP1 + TEST PIT (DUG) LOCATIONS

TEST PIT SUMMARY

TP1 – EL 325.30
0.0–0.2M TOPSOIL
0.2–0.5M DARK BROWN SAND
COMPACT TO LOOSE
0.5–1.2M BROWN SAND, MOIST
BTM EL 324.1

TP2 – EL 325.45
0.0–0.3M TOPSOIL
0.3–0.8M DARK BROWN FILL/SAND
0.8–1.5M BROWN SAND, MOIST
COMPACT TO LOOSE
BTM EL 324.0

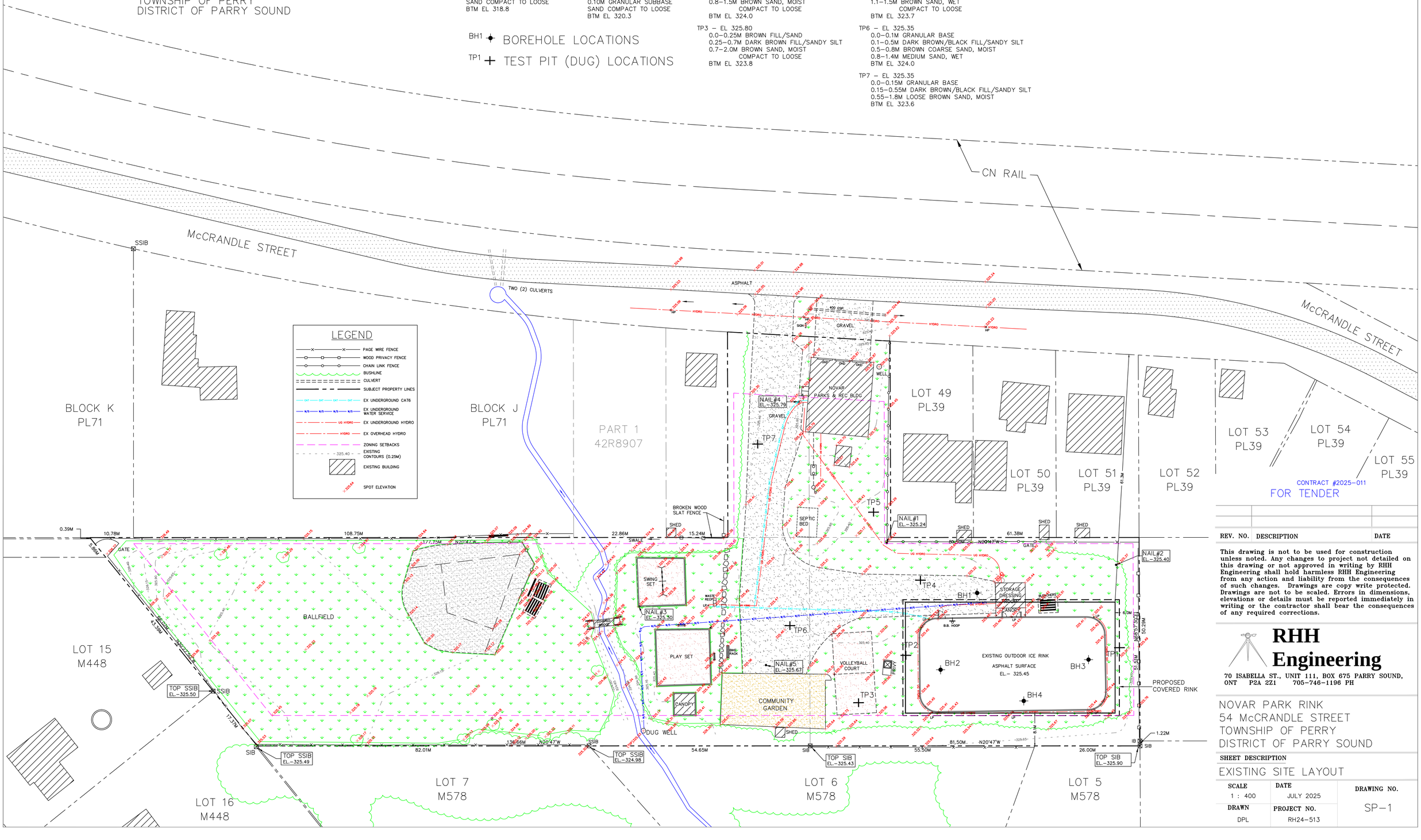
TP3 – EL 325.80
0.0–0.25M BROWN FILL/SAND
0.25–0.7M DARK BROWN FILL/SANDY SILT
0.7–2.0M BROWN SAND, MOIST
COMPACT TO LOOSE
BTM EL 323.8

TP4 – EL 325.15
0.0–0.2M GRANULAR BASE
0.2–0.6M DARK BROWN SAND
0.6–1.4M BROWN SAND, MOIST
COMPACT TO LOOSE
BTM EL 323.8

TP5 – EL 325.15
0.0–0.4M TOPSOIL
0.4–1.1M BROWN COARSE SAND
1.1–1.5M BROWN SAND, WET
COMPACT TO LOOSE
BTM EL 323.7

TP6 – EL 325.35
0.0–0.1M GRANULAR BASE
0.1–0.5M DARK BROWN/BLACK FILL/SANDY SILT
0.5–0.8M BROWN COARSE SAND, MOIST
0.8–1.4M MEDIUM SAND, WET
BTM EL 324.0

TP7 – EL 325.35
0.0–0.15M GRANULAR BASE
0.15–0.55M DARK BROWN/BLACK FILL/SANDY SILT
0.55–1.8M LOOSE BROWN SAND, MOIST
BTM EL 323.6



LEGEND

- PAGE WIRE FENCE
- WOOD PRIVACY FENCE
- CHAIN LINK FENCE
- BUSHLINE
- CULVERT
- SUBJECT PROPERTY LINES
- EX UNDERGROUND CAT6
- EX UNDERGROUND WATER SERVICE
- EX UNDERGROUND HYDRO
- EX OVERHEAD HYDRO
- ZONING SETBACKS
- EXISTING CONTOURS (0.25M)
- EXISTING BUILDING
- SPOT ELEVATION

CONTRACT #2025-011
FOR TENDER

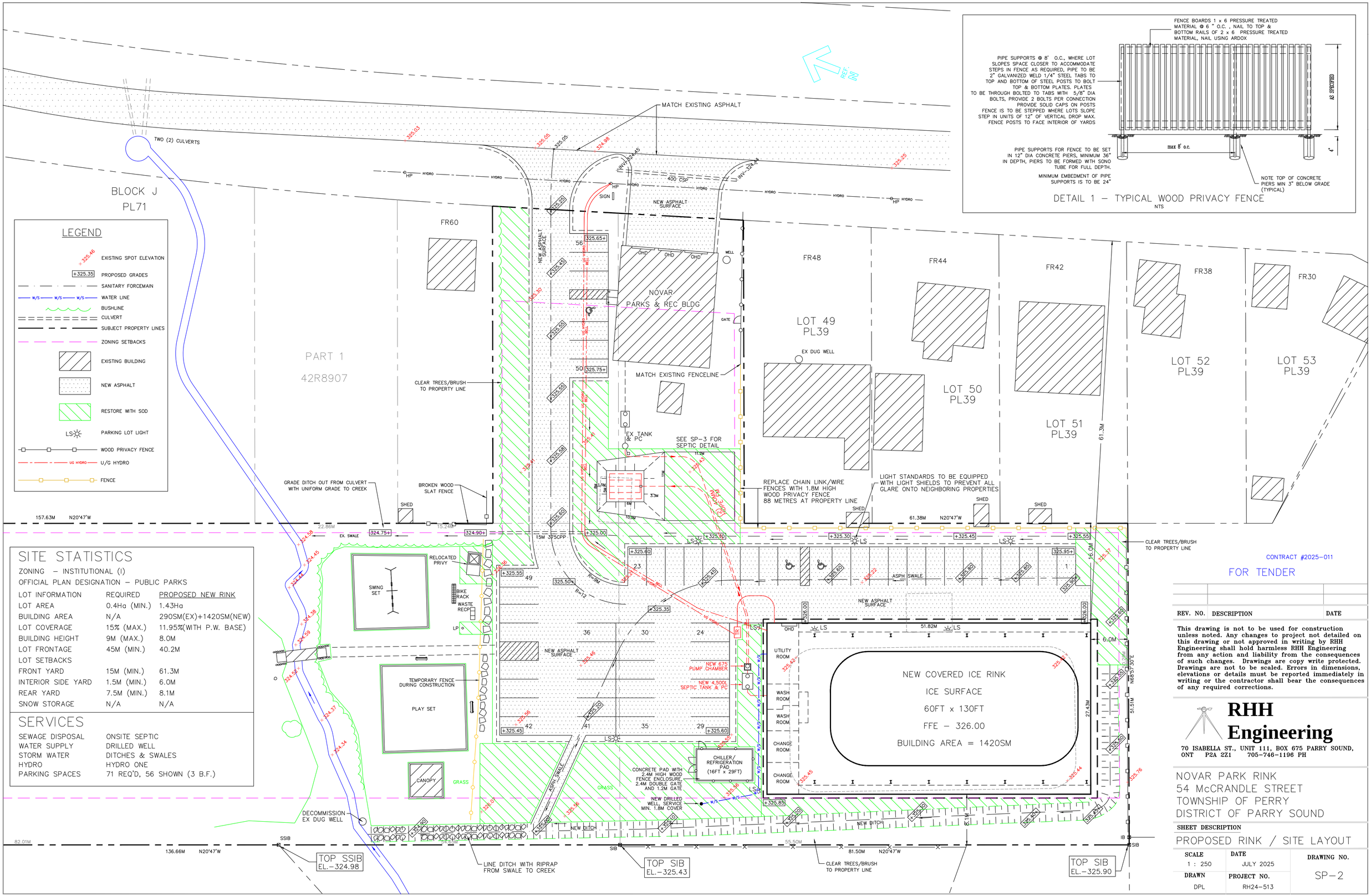
REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
EXISTING SITE LAYOUT

SCALE	DATE	DRAWING NO.
1 : 400	JULY 2025	SP-1
DRAWN	PROJECT NO.	
DPL	RH24-513	



CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering

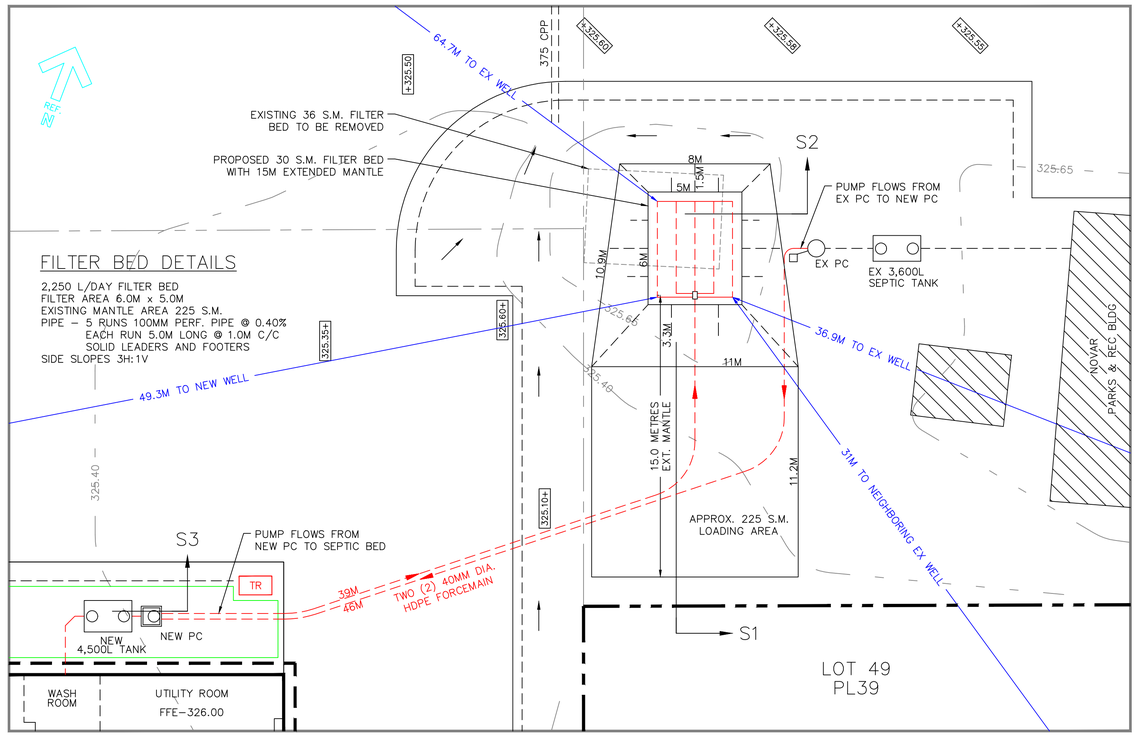
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

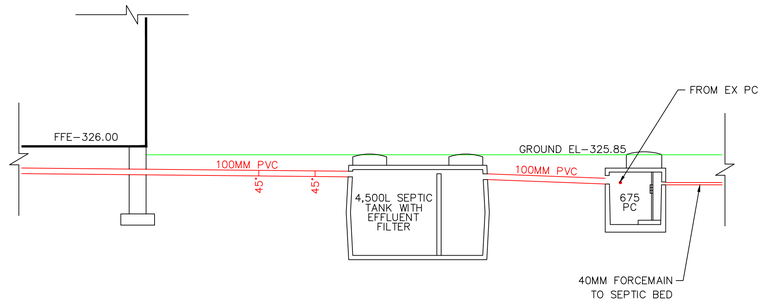
PROPOSED RINK / SITE LAYOUT

SCALE	DATE	DRAWING NO.
1 : 250	JULY 2025	SP-2
DRAWN	PROJECT NO.	
DPL	RH24-513	



PLAN VIEW OF SEPTIC SYSTEM

SCALE 1 : 150



SECTION 3

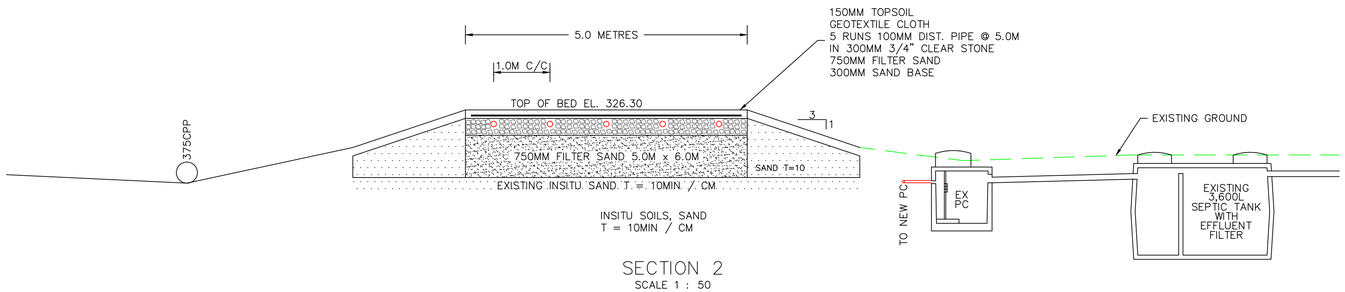
SCALE 1 : 50

LEGEND

- PROPERTY LINES
- 0.25M CONTOURS
- SANITARY
- DIRECTION OF SURFACE FLOW
- PROPOSED SPOT ELEVATION +325.00

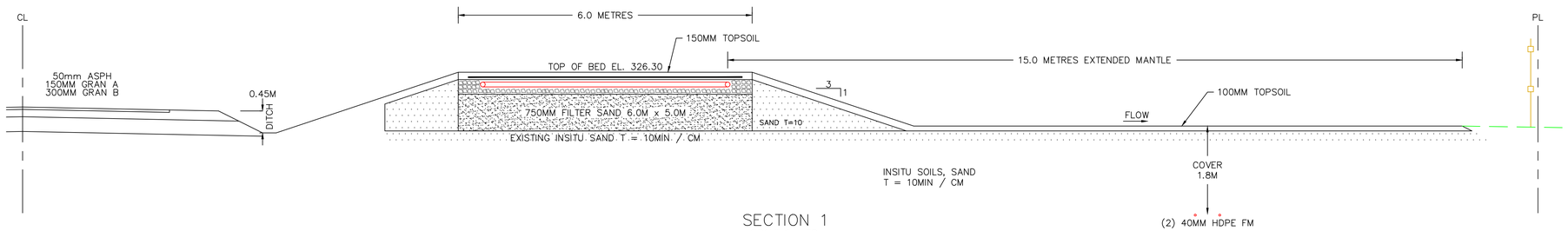
CONSTRUCTION NOTES

1. CLEAR AND GRUB SITE, REMOVE EXISTING SEPTIC BED AND GRADE SITE FLAT.
2. IMPORT FILTER SAND MATERIAL AND PLACE TO A DEPTH OF 750MM. PROVIDE INSPECTOR WITH SOILS ANALYSIS CERTIFYING MATERIAL AS APPROVED FILTER MATERIAL AS PER SECTION 8.7.5.3 OF OBC
3. PROVIDE 19MM CLEAR STONE BEDDING 150MM UNDER DISTRIBUTION PIPES AND EXTENDED TO 50MM ABOVE TOP OF DISTRIBUTION PIPE, COVER WITH GEOTEXTILE FABRIC AND TOPSOIL.
4. DISTRIBUTION PIPE TO BE PERF. 100MM DIAMETER PVC LAID 1000MM O.C. @ 0.40% SLOPE 6 RUNS OF DISTRIBUTION PIPE EACH 5000MM LONG LEADERS AND FOOTERS SOLID 100MM DIA. PVC PIPE
5. SIDE SLOPES OF SEPTIC BED TO HAVE 3:1 SLOPES
6. EXISTING 225 SQ. METRES MANTLE (LOADING) AREA AS SHOWN.
7. COVER SEPTIC BED AND SIDE SLOPES WITH 150MM TOPSOIL
8. SEED TOPSOIL WITH CANADA NO. 1 GRASS SEED MIXTURE FOR NORTHERN CLIMATES.
9. ALL CONSTRUCTION TO COMPLY WITH PART VIII OF OBC UNLESS OTHERWISE INDICATED.
10. AREAS AROUND SEPTIC TANK AND SEPTIC BED TO BE PROVIDED WITH POSITIVE DRAINAGE BY DITCHING AND FALSE GRADING. NO AREAS OF PONDING ALLOWED AROUND SEPTIC AREA.
11. SEPTIC TANK TO BE 4,500 LITRE CAPACITY WITH EFFLUENT FILTER
12. PUMP CHAMBER TO BE 680 LITRE CONCRETE PUMP CHAMBER MODEL 675 BY NEWMARKET PRECAST OR APPROVED EQUAL. OUTFITTED WITH 610 MM TUF–TITE RISER, 25 MM FLOAT TREE SET TO PUMP 150 LITRES/DOSE, HIGH WATER ALARM, CAST IN PLACE VENT, AND WITH SHEF30 EFFLUENT PUMP AND CONTROLS. TANK OUTFITTED WITH 100MM INLET AND 50MM OUTLET WITH FLEXIBLE RUBBER CONNECTIONS.
13. CONTRACTOR TO SUPPLY AND INSTALL DISTRIBUTION BOX.



SECTION 2

SCALE 1 : 50



SECTION 1

SCALE 1 : 50

CONTRACT #2025–011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

RHH Engineering

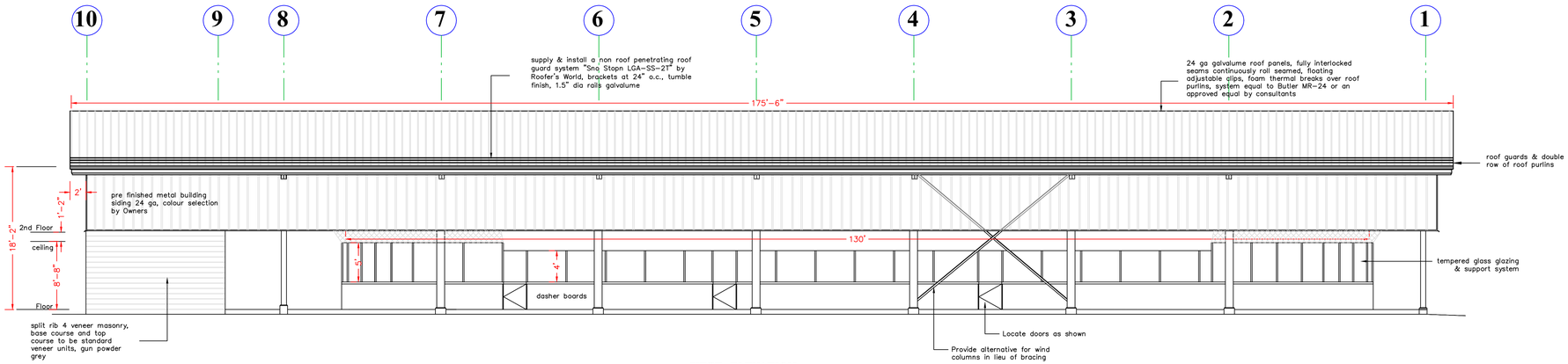
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705–746–1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

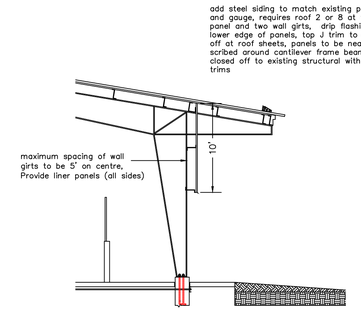
PROPOSED SEPTIC FILTER BED

SCALE	DATE	DRAWING NO.
1 : 150	JULY 2025	SP–3
DRAWN	PROJECT NO.	
DPL	RH24–513	

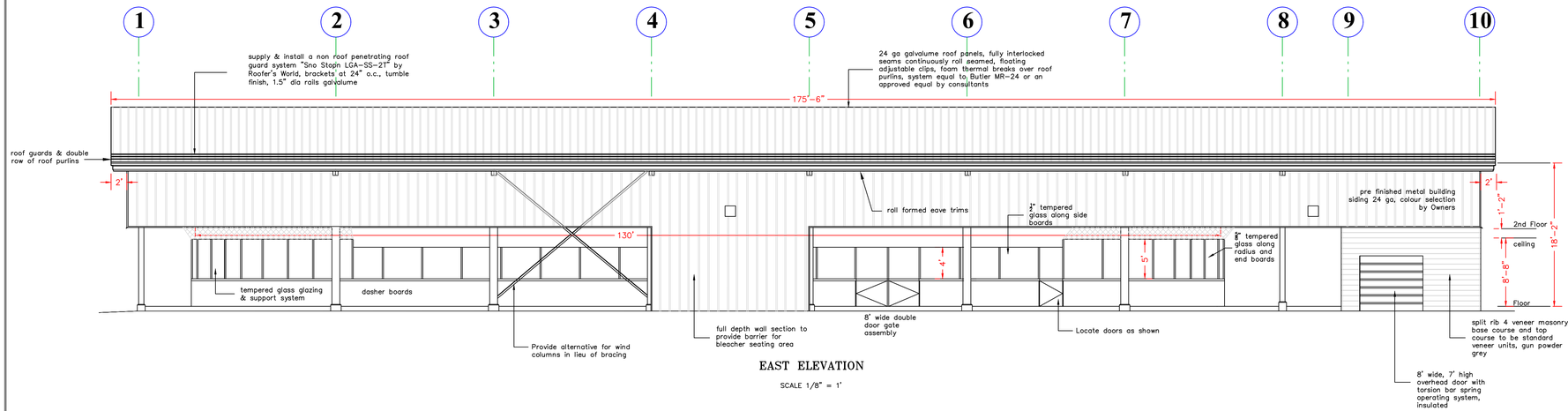


WEST ELEVATION

SCALE 1/8" = 1'

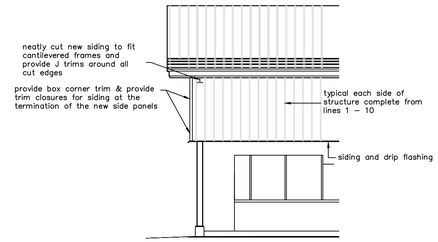


Wall Skirts Detail

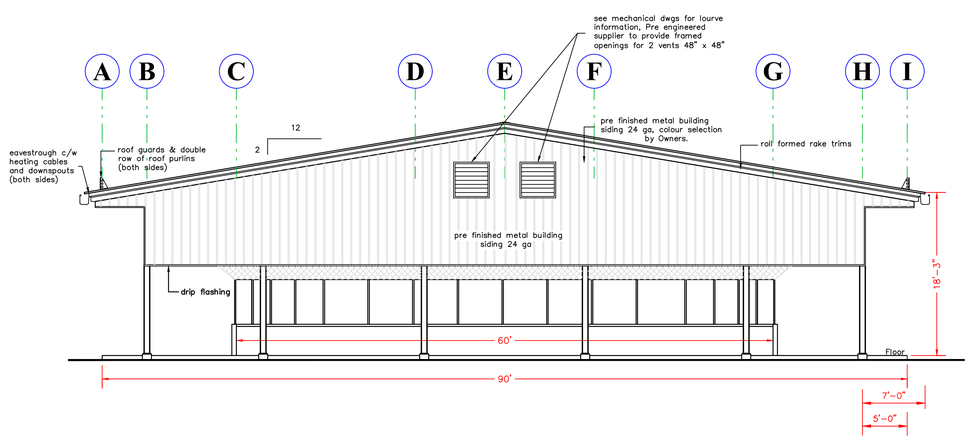


EAST ELEVATION

SCALE 1/8" = 1'

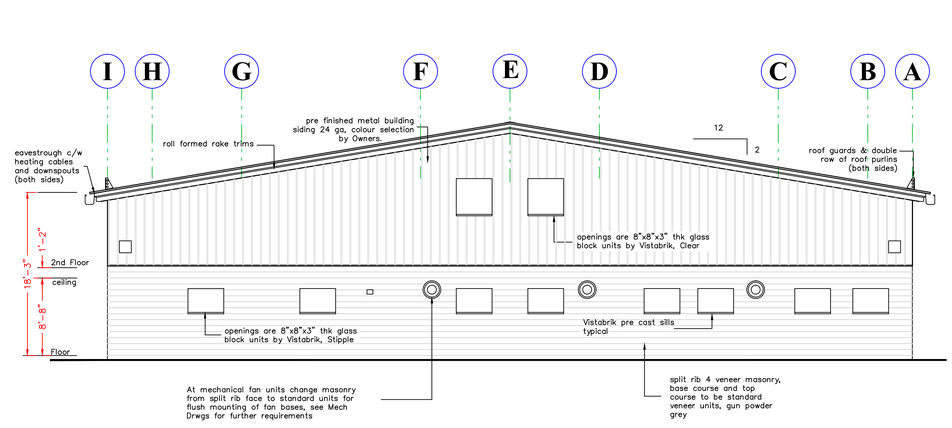


Proposed Wall Skirts



SOUTH ELEVATION

SCALE 1/8" = 1'



NORTH ELEVATION

SCALE 1/8" = 1'

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering

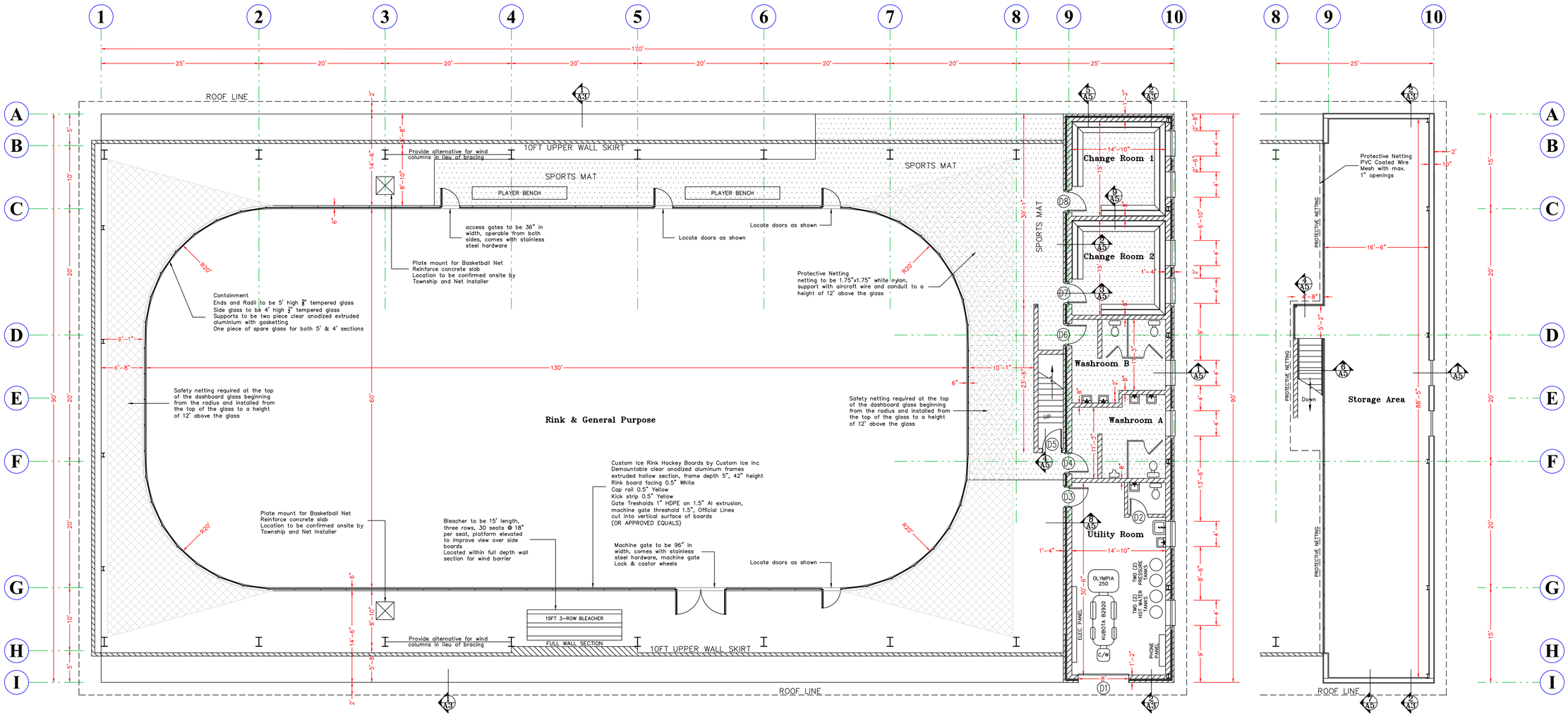
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

BUILDING ELEVATIONS

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	A-1
DRAWN	PROJECT NO.	
DPL	RH24-513	



1 A-2 FLOOR PLAN
SCALE 1/8" = 1'

2 A-2 STORAGE FLOOR PLAN
SCALE 1/8" = 1'

LEGEND

RESILIENT SPORTS FLOORING
MONDO 3/8" SPORTS IMPACT RUBBER FLOORING, COLOUR CHOSEN BY OWNERS, PRODUCT TO BE SUPPLIED AND INSTALLED IN 6' ROLLS BY 33'. NOTE MOISTURE TEST TO BE CALCIUM CHLORIDE ASTM F 1869, MOISTURE LIMIT 3 lbs / 1000 sq. ft.
SUPPLY & INSTALL A 6 MIL POLY VAPOR BARRIER UNDER ALL AREAS RECEIVING THE SPORTS FLOORING MATERIALS.

PROTECTIVE NETTING
1.75" x 1.75" WHITE NYLON, SUPPORT WITH AIRCRAFT WIRE AND CONDUIT. REQUIRED AT TOP OF DASHBOARD GLASS BEGINNING AT THE RADIUS AND INSTALLED FROM TOP OF THE GLASS TO A HEIGHT 12' ABOVE THE GLASS.

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

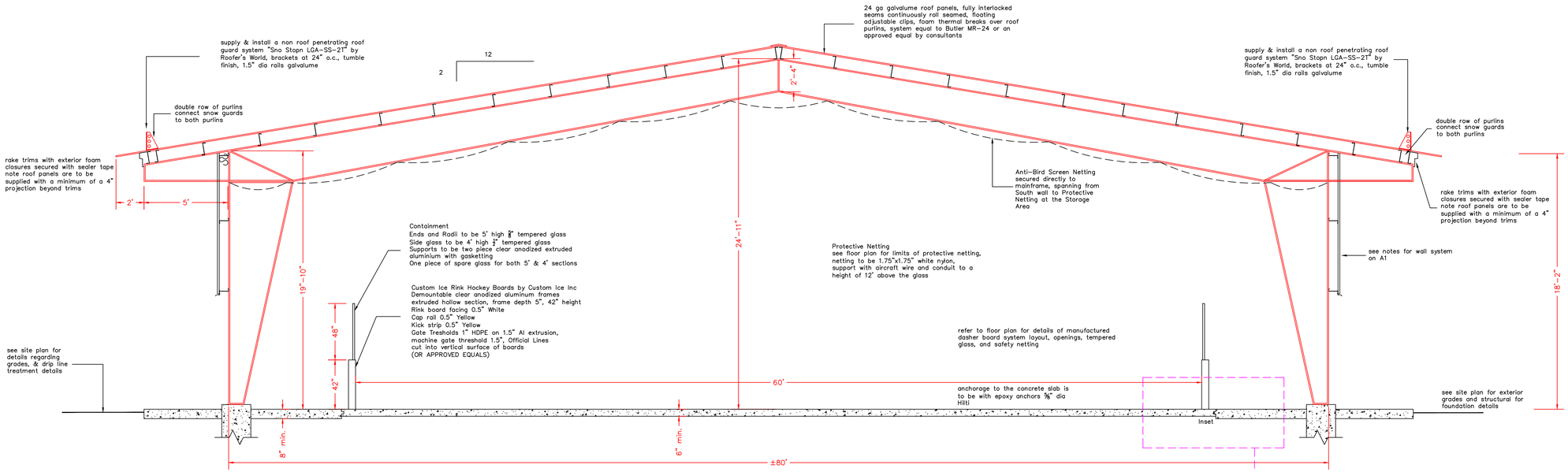
This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

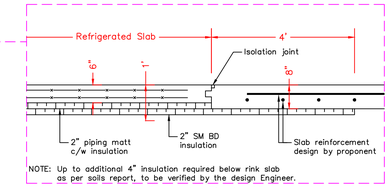
NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
FLOOR PLANS

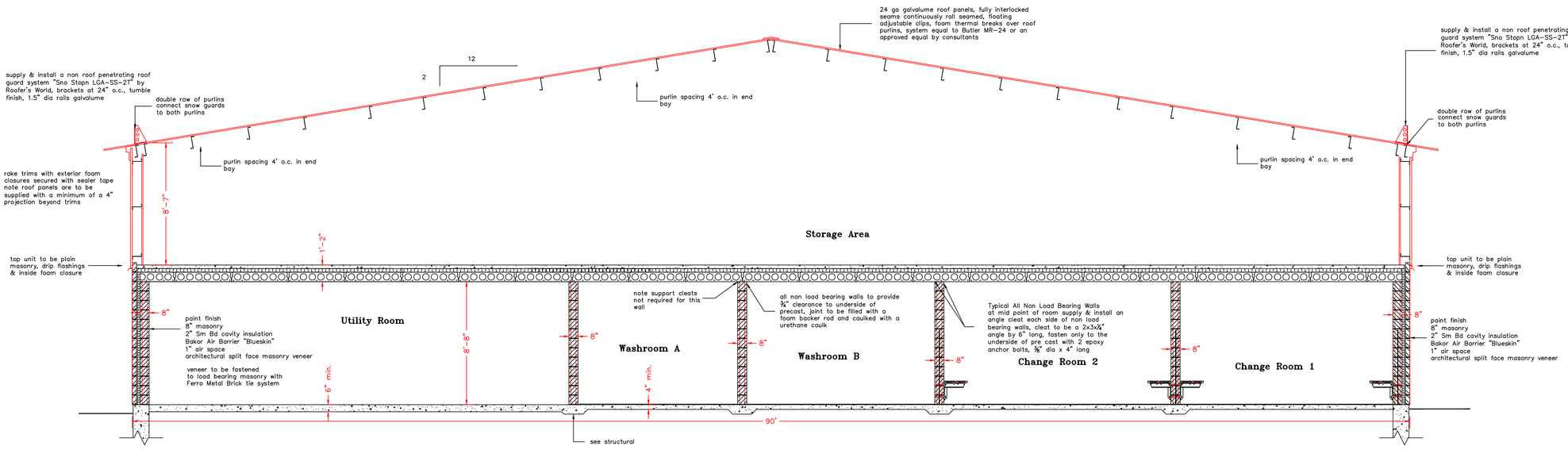
SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	A-2
DRAWN	PROJECT NO.	
DPL	RH24-513	



Section 1



Inset Detail



Section 2

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
BUILDING SECTIONS

SCALE	DATE	DRAWING NO.
1/4" = 1'	JULY 2025	A-3
DRAWN	PROJECT NO.	
DPL	RH24-513	

DOOR SCHEDULE

DOOR NO:	DOOR DATA					FRAME DATA			HARDWARE	REMARKS
	SIZE	THK	MAT'L	TYPE	FIN	MAT'L	GA.	JAMB		
D1	8'-0" x 7'-0"	2"	STL						TORSION BAR SPRING OPERATING SYSTEM	INSULATED DOOR
D2	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING
D3	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING
D4	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING
D5	3'-0" x 7'-0"		HM	1	PT	STL	16	4 3/4"		FRAME HEAD 3" TO MATCH BLOCK COURSING
D6	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING
D7	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING
D8	3'-0" x 7'-0"		HM	1	PT	STL	16	6 3/4"	TH, WS, LS, CL, K PL	INSULATED DOOR, POLYURETHANE CORE, STEEL STIFFENED, LOCKSET THERMAL BROKEN FRAME, HEAD 3" TO MATCH BLOCK COURSING

ABBREVIATIONS

HM – HOLLOW METAL DOOR INSULATED AS NOTED
STL – PRESSED STEEL WELDED FRAME

DB – DEAD BOLT
PR – PRIVACY SET
LS – LOCKSET
PS – PASSAGE SET

CL – DOOR CLOSER
TH – ALUMINUM THRESHOLD
ST CH – STORM CHAIN
WS – WEATHER STRIP
K PL – KICK PLATES
PP – PUSH PLATES
P PL – PUSH PULLS
DB HG – DOUBLE ACTING HINGES

KNOB SETS TO BE SERIES D SCHALGE 626,
ORBIT CLOSERS SERGEANT 3501,
ALL HARDWARE MASTER KEYED

4.5"x4.5" CB 1900 STANLEY HINGES INTERIOR
EXTERIOR CB1960 NRP

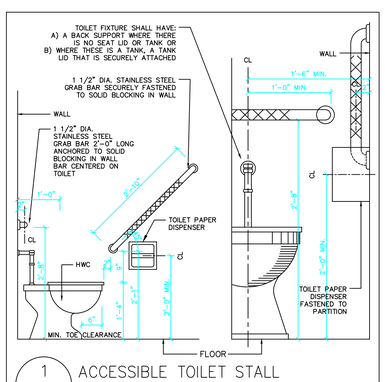
PROVIDE DOOR STOPS FOR ALL DOORS,
HA 1200X FOR DOORS IN MASONRY WALLS,
HA 1118X FOR ALL OTHER DOORS

THRESHOLDS CROWDER CT–44,
WEATHER STRIPPING W–2,
SWEEP W–4

ROOM FINISH SCHEDULE

ROOM	WALLS				FLOOR		CEILING		REMARKS
	NORTH	WEST	SOUTH	EAST	FINISH	BASE	FINISH	HT.	
CHANGE ROOM 1	PAINT	PAINT	PAINT	PAINT	RESILIENT SPORTS FLOOR	RUBBER	PAINTED CONCRETE SLAB		PAINT DOOR FRAMES & DOORS
CHANGE ROOM 2	PAINT	PAINT	PAINT	PAINT	RESILIENT SPORTS FLOOR	RUBBER	PAINTED CONCRETE SLAB		PAINT DOOR FRAMES & DOORS
WASHROOM A	PAINT	PAINT	PAINT	PAINT	RESILIENT SPORTS FLOOR	RUBBER	PAINTED CONCRETE SLAB		PAINT DOOR FRAMES & DOORS
WASHROOM B	PAINT	PAINT	PAINT	PAINT	RESILIENT SPORTS FLOOR	RUBBER	PAINTED CONCRETE SLAB		PAINT DOOR FRAMES & DOORS
UTILITY ROOM	PAINT	PAINT	PAINT	PAINT	PAINT		PAINTED CONCRETE SLAB		PAINT DOOR FRAMES & DOORS
RINK & GENERAL PURPOSE	MASONRY				RESILIENT & CONCRETE				RESILIENT SPORTS FLOORING FROM MASONRY DEMISING WALLS TO RINK BOARDS & AROUND AS SHOWN ON DWG A–2
STORAGE AREA	PRE PAINTED STEEL SIDING	PRE PAINTED STEEL SIDING		PRE PAINTED STEEL SIDING	CONCRETE				

RESILIENT SPORTS FLOORING
MONDO 3/8" SPORTS IMPACT RUBBER FLOORING, COLOUR CHOSEN BY OWNERS, PRODUCT TO BE SUPPLIED AND INSTALLED IN 6' ROLLS BY 33'. NOTE MOISTURE TEST TO BE CALCIUM CHLORIDE ASTM F 1869, MOISTURE LIMIT 3 lbs / 1000 sq. ft.
SUPPLY & INSTALL A 6 MIL POLY VAPOR BARRIER UNDER ALL AREAS RECEIVING THE SPORTS FLOORING MATERIALS.



1
A–4
ACCESSIBLE TOILET STALL
SCALE NTS

Firm Name: Address: Certificate of Practice Number: Name of Project: Perry Township, Novar Covered Rink Project Location: Perry Township (Novar), Ontario, Canada			

ITEM	ONTARIO'S 2024 BUILDING CODE DATA MATRIX PART 3 OR 9	OBC REFERENCE (References are to Division B unless noted (A) for Division A or (C) for Division C.)		
		☐ PART 3	☐ PART 9	☐ PART 11 ☐ PART 10
1	Project Description ☐ New ☐ Addition ☐ Alteration ☐ Change of Use			
2	Major Occupancy GROUP A3 – ICE ARENA			
3	Building Area(m2) EXISTING _____ NEW _____ TOTAL _____			
4	Gross Area(m2) EXISTING _____ NEW _____ TOTAL _____			
5	No. of Storeys ABOVE GRADE _____ BELOW GRADE _____			
6	Height of Building(m)			
7	No. of Streets/Fire Fighter Access Routes			
8	Building Classification			
9	Sprinkler System Proposed ☐ Entire Building ☐ Basement Only ☐ In Lieu of Roof Rating ☐ Not Required			
10	Standpipe Required ☐ Yes ☐ No			
11	Fire Alarm Required ☐ Yes ☐ No			
12	Water Service/Supply is Adequate ☐ Yes ☐ No			
13	High Building ☐ Yes ☐ No			
14	Permitted Construction ☐ Combustible ☐ Non–combustible or ☐ Both Actual Construction ☐ Combustible ☐ Non–combustible or ☐ Both			
15	Mezzanine(s) Area(m2) 140sm Open @ 10% of the suite/floor area			
16	Occupant Load Based on ☐ .95 m2/person** ☐ Design of Building* ☐ 46 m2/person*** ☐ .6 m2/person**** Ground Floor: Storage*** Area _____ Occupancy ____ Load ____ Persons Stadia/Grandstand* Area _____ Occupancy ____ Load ____ Persons Mezzanine: Storage*** Area _____ Occupancy ____ Load ____ Persons Viewing Area* Area _____ Occupancy ____ Load ____ Persons Total Load ____ Persons			
17	Barrier–Free Design ☐ Yes ☐ No			
18	Hazardous Substances ☐ Yes ☐ No			
19	Required Fire Resistance Rating (FRR)	Horizontal Assemblies FDR (Hours)	Listed Design No. or Description (SB–2/3)	
		Floors _____ Hours		
		Roof _____ Hours		
		Mezzanine _____ Hours		
		Suites _____ Hours		
		FRR of Supporting Members		
		Floors _____ Hours		
		Roof _____ Hours		
		Mezzanine _____ Hours		
		Corridors _____ Hours		
		Service Rm. _____ Hours		
		Janitor's Cl. _____ Hours		
20	Washroom Fixtures:			
21	Spatial Separation – Construction of Exterior Walls			

Wall	Area of EBF (m2)	L.D. (m)	L/H or H/L	Permitted Max % of Openings	Proposed % of Openings	FRR (hrs.)	Listed Design or Description	Comb. Const.	Comb. Const. Nonc. Cladding	Non–Comb. Const.
North										
South										
East*										
West										

22	

O.B.C. MATRIX TO BE COMPLETED BY THE PROPONENT AND THEIR CONSULTANTS.

CONTRACT #2025–011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

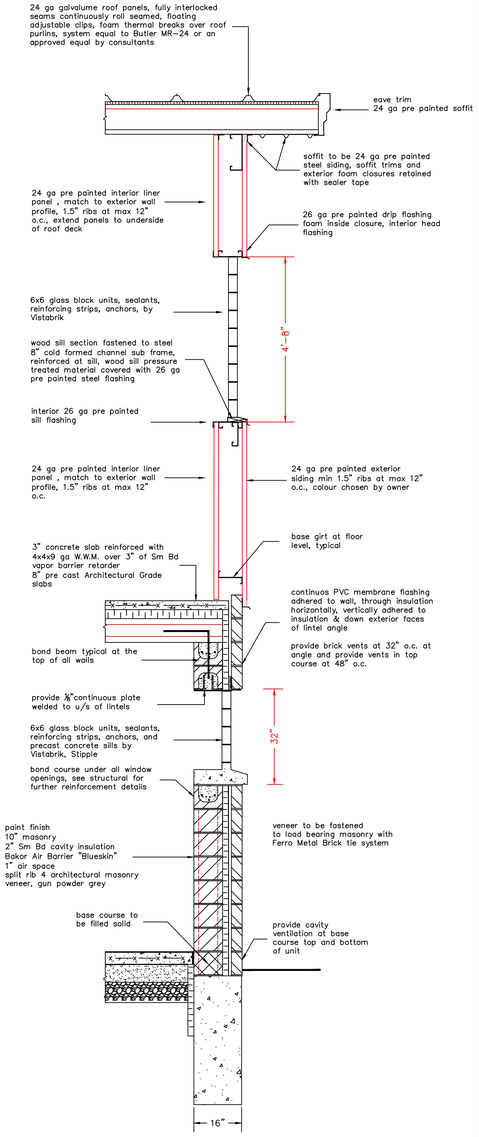
This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705–746–1196 PH

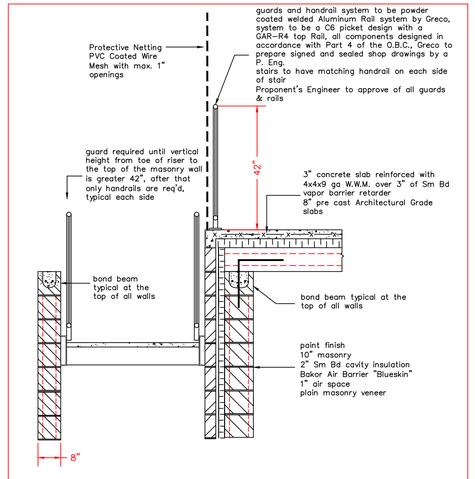
NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
BUILDING SCHEDULES

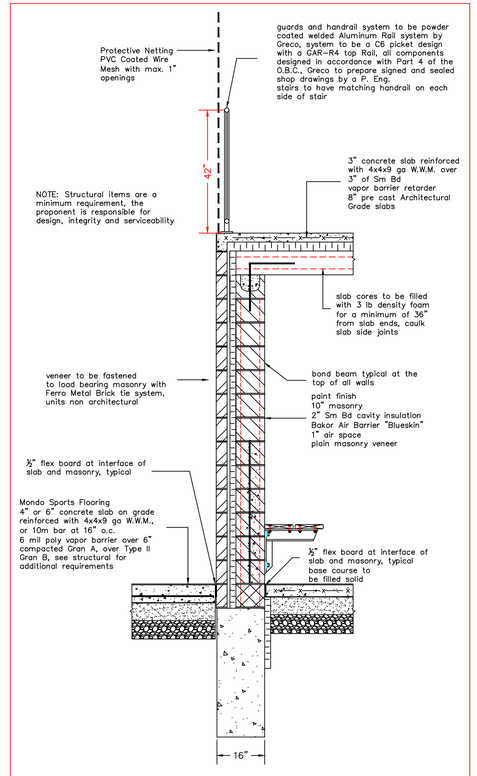
SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	A–4
DRAWN	PROJECT NO.	
DPL	RH24–513	



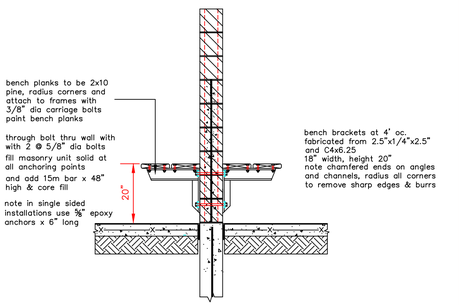
Section 1



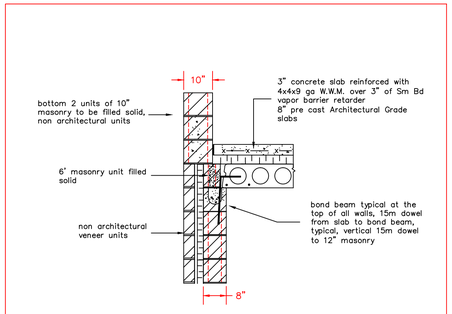
Section 6



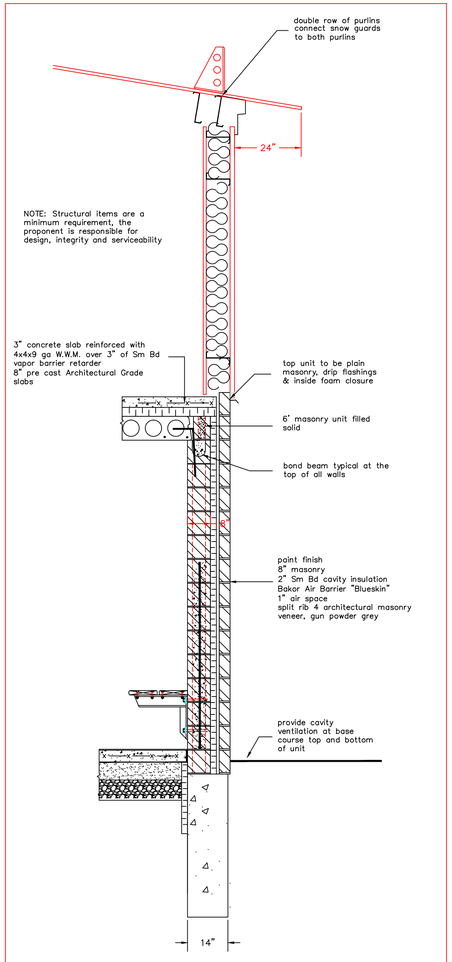
Section 2



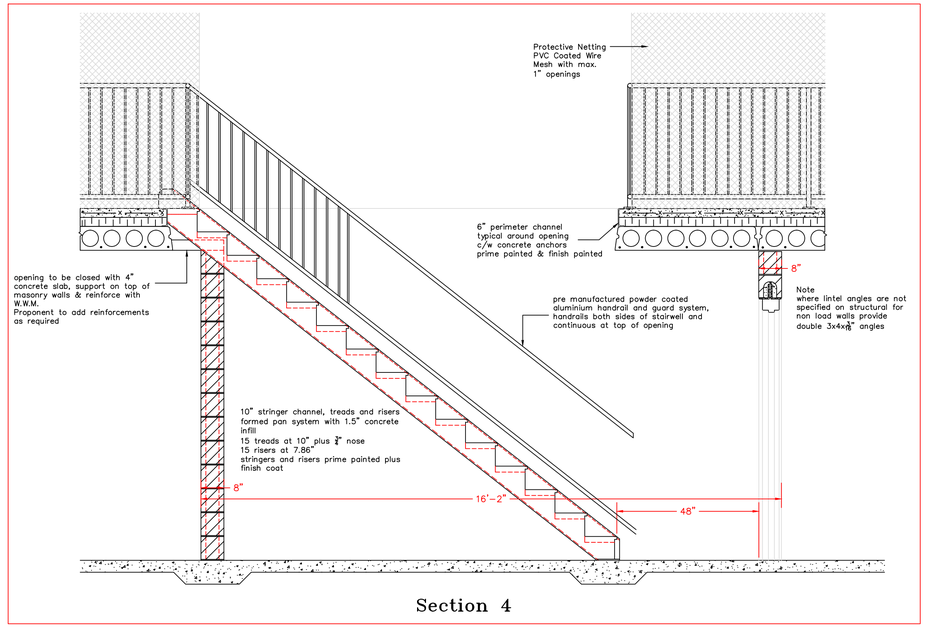
Section 9



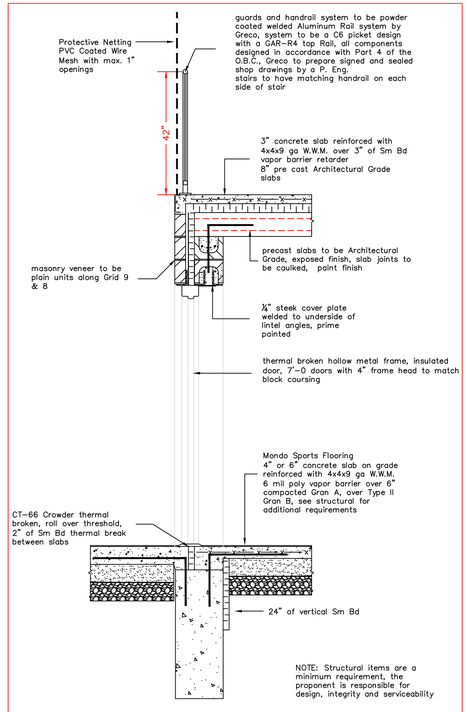
Section 8



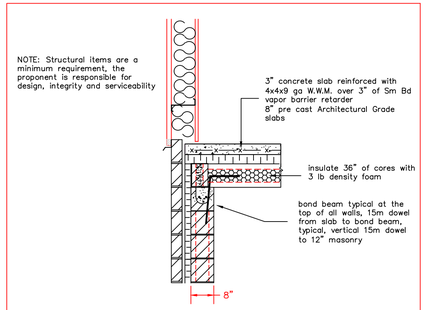
Section 5



Section 4



Section 3



Section 7

NOTE: Structural items are a minimum requirement, the proponent is responsible for design, integrity and serviceability

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering

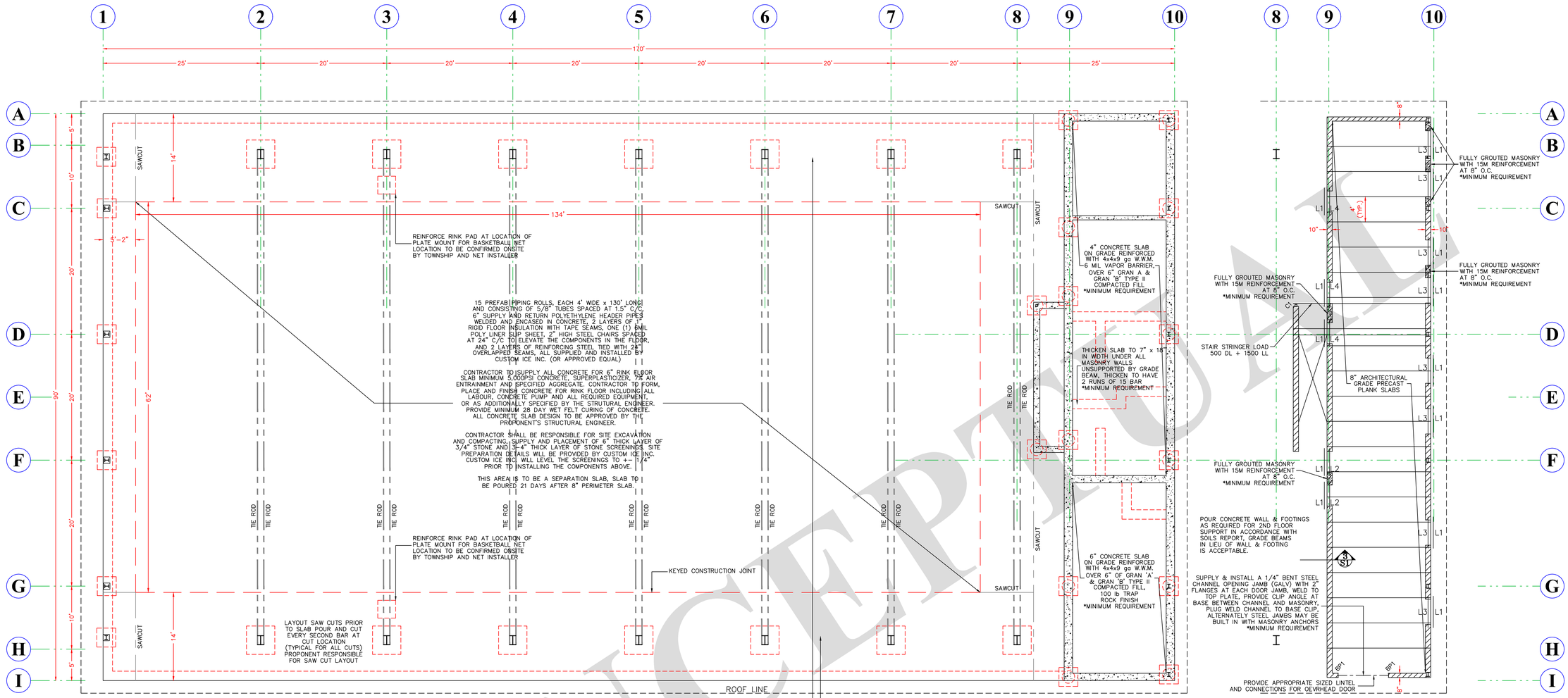
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

DETAIL SECTIONS

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	A-5
DRAWN	PROJECT NO.	
DPL	RH24-513	



1 S-1 FOUNDATION PLAN
SCALE 1/8" = 1'

2 S-1 STORAGE FRAMING
SCALE 1/8" = 1'

FOOTINGS & PIERS

REFER TO PRE ENGINEERED BUILDING SUPPLIER'S REACTION SUMMARY AND PROVIDE A DESIGN FOR THE LOADS IN ACCORDANCE WITH THE SOILS REPORT.

*LINTELS

L1 – 3x3x3/16" L
L2 – 2 L's 5x3.5x7/16"
L3 – 2 L's 5x3.5x7/16" PLUS 1/8" PLATE
L4 – 2 L's 7X4X3/8"
ALL LINTEL SIZES TO BE VERIFIED BY THE CONTRACTOR'S STRUCTURAL ENGINEER.

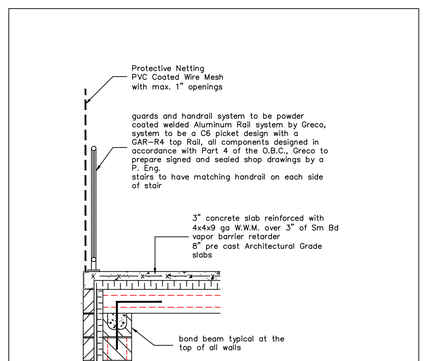
*BEARING PLATES

BP1
6"x1/2"x6" PLATE
2 CONCRETE ANCHORS 5/8" DIA. x 8" WITH 2" HOOK, FIELD WELD BEAM TO PLATE
ALL BEARING PLATE SIZES TO BE VERIFIED BY THE CONTRACTOR'S STRUCTURAL ENGINEER.

*STEEL COLUMNS

C1
4x4 HSS @ .188
TOP PLATE 6"x1/2"x7",
BOLT TO BOTTOM BEAM FLANGE
BASE PLATE 5"x5/8"x10",
2 ANCHOR BOLTS AT 5/8" DIA. x 16", STANDARD HOOK
ALL COLUMN SIZES TO BE VERIFIED BY THE CONTRACTOR'S STRUCTURAL ENGINEER.

* NOTE: MINIMUM REQUIREMENT. PROPONENT IS RESPONSIBLE FOR ALL FINAL DESIGN OF STRUCTURAL SYSTEMS FOR STRENGTH AND SERVICEABILITY



3 S-1 STORAGE AREA FLOOR CONNECTION
SCALE NTS

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

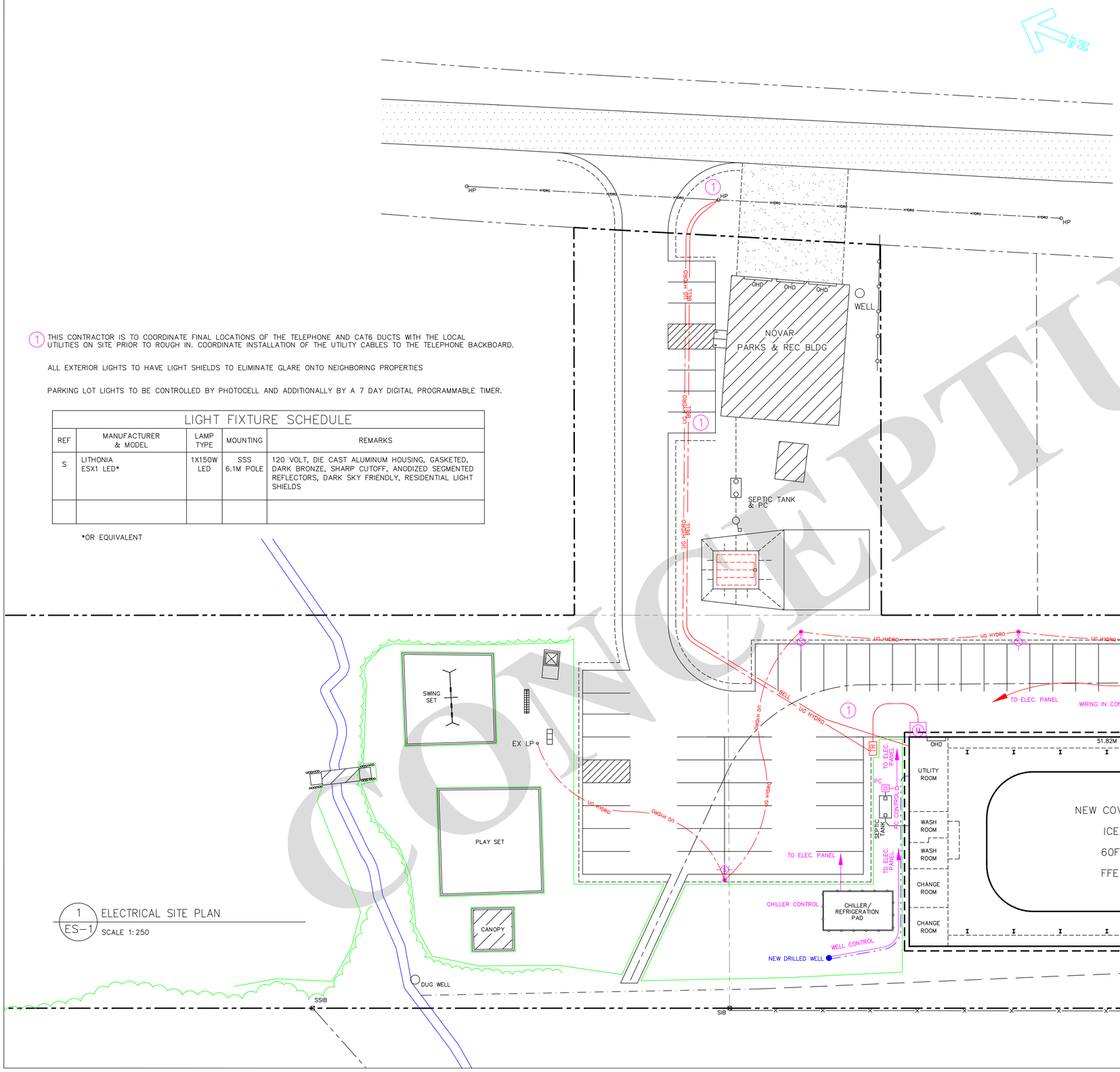
This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
CONCEPTUAL FOUNDATION LAYOUT

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	S-1
DRAWN	PROJECT NO.	
DPL	RH24-513	



1 THIS CONTRACTOR IS TO COORDINATE FINAL LOCATIONS OF THE TELEPHONE AND CAT6 DUCTS WITH THE LOCAL UTILITIES ON SITE PRIOR TO ROUGH IN. COORDINATE INSTALLATION OF THE UTILITY CABLES TO THE TELEPHONE BACKBOARD.

ALL EXTERIOR LIGHTS TO HAVE LIGHT SHIELDS TO ELIMINATE GLARE ONTO NEIGHBORING PROPERTIES

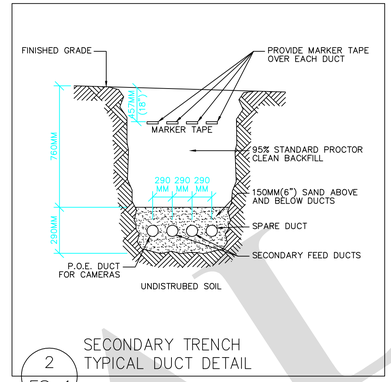
PARKING LOT LIGHTS TO BE CONTROLLED BY PHOTOCELL AND ADDITIONALLY BY A 7 DAY DIGITAL PROGRAMMABLE TIMER.

LIGHT FIXTURE SCHEDULE

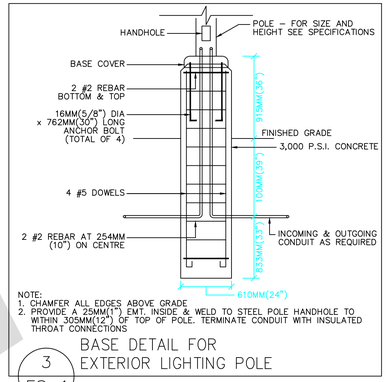
REF	MANUFACTURER & MODEL	LAMP TYPE	MOUNTING	REMARKS
S	LITHONIA ESX1 LED*	1X150W LED	SSS 6.1M POLE	120 VOLT, DIE CAST ALUMINUM HOUSING, GASKETED, DARK BRONZE, SHARP CUTOFF, ANODIZED SEGMENTED REFLECTORS, DARK SKY FRIENDLY, RESIDENTIAL LIGHT SHIELDS

*OR EQUIVALENT

1 ES–1 ELECTRICAL SITE PLAN
SCALE 1:250

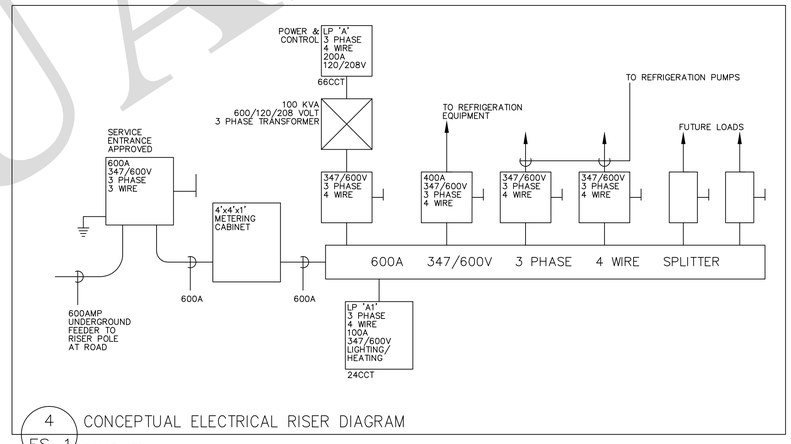


2 ES–1 SECONDARY TRENCH TYPICAL DUCT DETAIL
SCALE NTS



NOTE:
1. CHAMFER ALL EDGES ABOVE GRADE
2. PROVIDE A 25MM(1") EMT, INSIDE & WELD TO STEEL POLE HANDHOLE TO WITHIN 305MM(12") OF TOP OF POLE. TERMINATE CONDUIT WITH INSULATED THROAT CONNECTIONS

3 ES–1 BASE DETAIL FOR EXTERIOR LIGHTING POLE
SCALE NTS



4 ES–1 CONCEPTUAL ELECTRICAL RISER DIAGRAM
SCALE NTS

CONTRACT #2025–011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

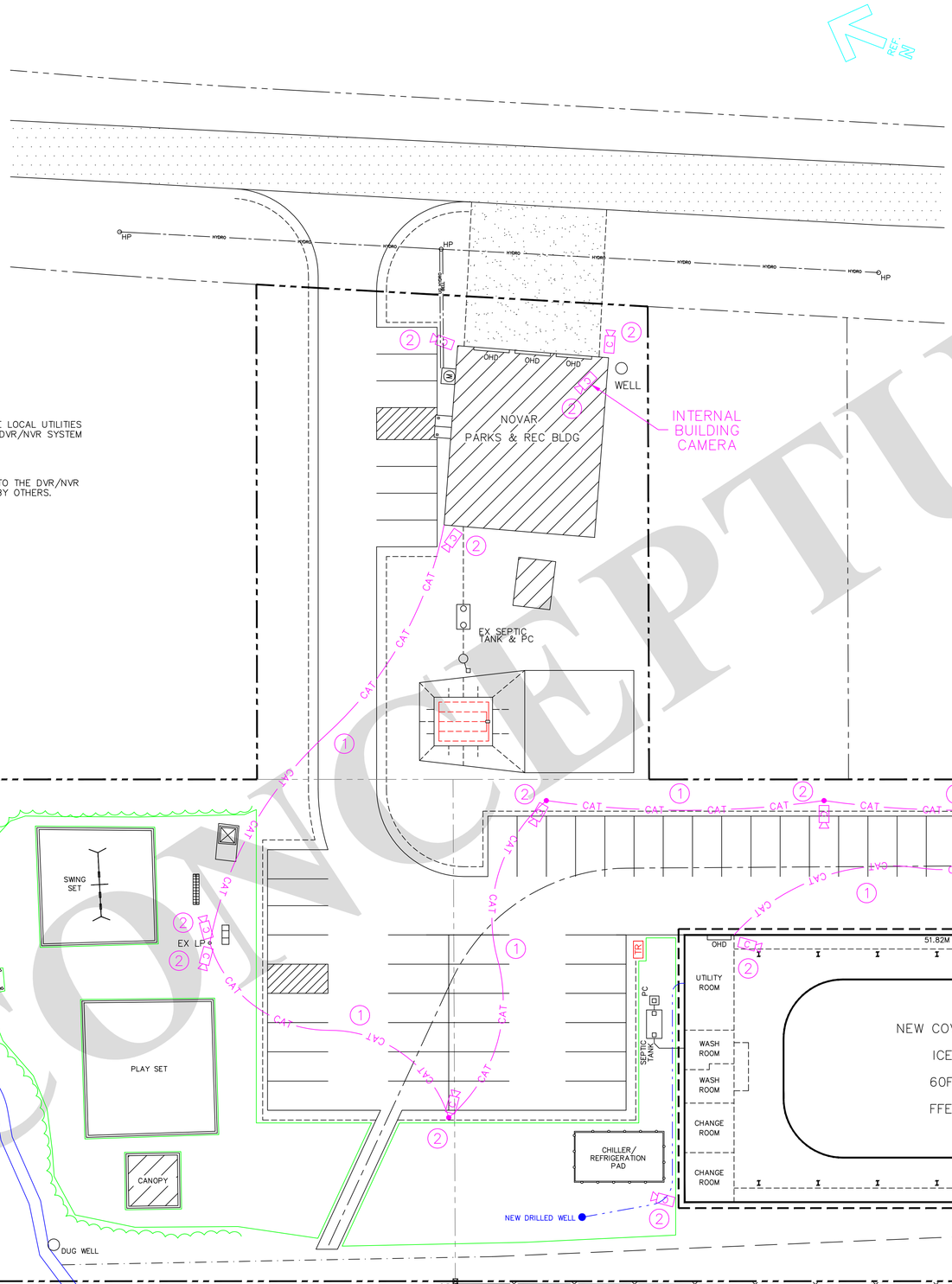
NOVAR PARK RINK
54/58 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
ELECTRICAL SITE PLAN

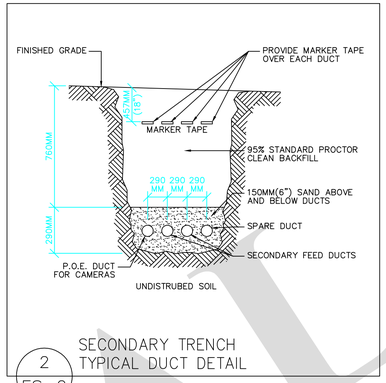
SCALE	DATE	DRAWING NO.
1 : 250	JULY 2025	ES–1
DRAWN	PROJECT NO.	
DPL	RH24–513	

1. THIS CONTRACTOR IS TO COORDINATE FINAL LOCATIONS OF THE CAT6 DUCTS WITH THE LOCAL UTILITIES ONSITE PRIOR TO ROUGH IN. COORDINATE INSTALLATION OF THE CAT6 DUCTS TO THE DVR/NVR SYSTEM IN THE PUBLIC WORKS BASE.

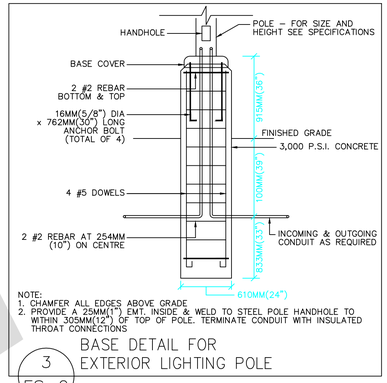
2. THIS CONTRACTOR IS TO SUPPLY AND INSTALL CONDUIT, AND CAT6 ARMORED CABLE TO THE DVR/NVR SYSTEM IN THE PUBLIC WORKS BASE. OWNER IS TO SUPPLY CAMERAS, INSTALLATION BY OTHERS.



1 ES-2 SECURITY SITE PLAN
SCALE 1:250



2 ES-2 SECONDARY TRENCH TYPICAL DUCT DETAIL
SCALE NTS



NOTE:
1. CHAMFER ALL EDGES ABOVE GRADE
2. PROVIDE A 25MM(1") EMT, INSIDE & WELD TO STEEL POLE HANDHOLE TO WITHIN 305MM(12") OF TOP OF POLE. TERMINATE CONDUIT WITH INSULATED THROAT CONNECTIONS

3 ES-2 BASE DETAIL FOR EXTERIOR LIGHTING POLE
SCALE NTS

CONTRACT #2025-011
FOR TENDER

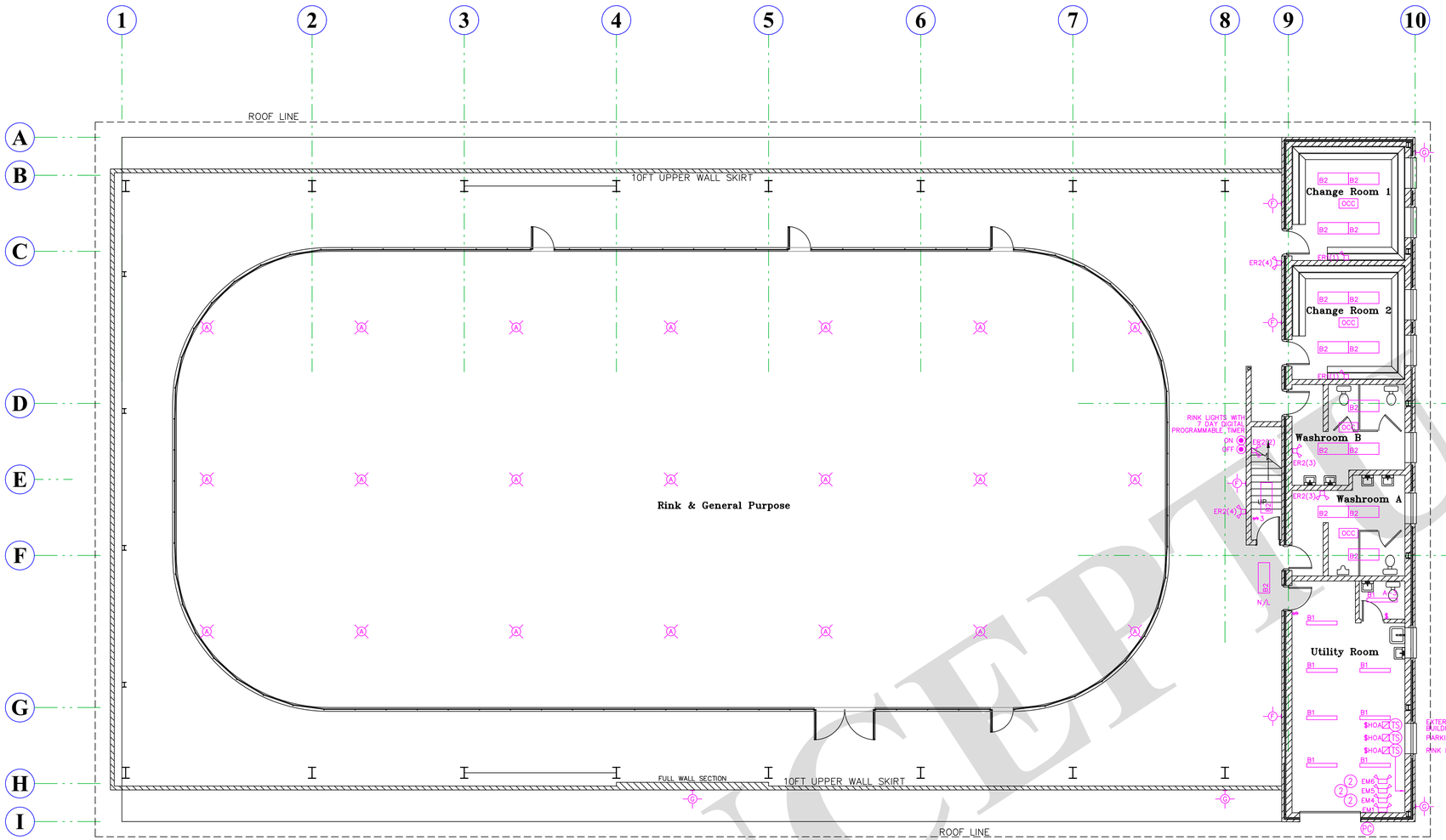
REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

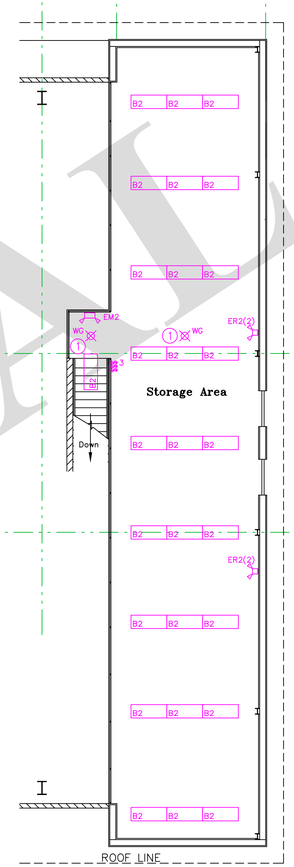
NOVAR PARK RINK
54/58 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
SECURITY SITE PLAN

SCALE	DATE	DRAWING NO.
1 : 250	JULY 2025	ES-2
DRAWN	PROJECT NO.	
DPL	RH24-513	



1 E-1 FLOOR PLAN – LIGHTING & LIFE SAFETY
SCALE 1/8" = 1'



2 E-1 STORAGE FLOOR PLAN – LIGHTING & LIFE SAFETY
SCALE 1/8" = 1'

ELECTRICAL LEGEND

- $ SWITCH
- $3 3 WAY SWITCH
- $ HOA HAND–OFF–AUTO SELECTOR SWITCH
- OCC OCCUPANCY SENSOR CEILING MOUNTED
- ON PUSHBUTTON
- OFF PUSHBUTTON
- PC PHOTOCELL
- TS TIMESWITCH
- LIGHTING CONTACTOR
- INCANDESCENT FIXTURE
- EMERGENCY LIGHT TYPE EM1.
- LIGHTING CONTACTOR TYPE ER2. CONNECT TO EM1.
- N/L NIGHT LIGHT
- B2 SURFACE MOUNTED FLUORESCENT FIXTURE
- EXIT SIGN

NOTES:

1. MOUNT EXIT SIGN ON PENDANT 96" ABOVE FINISHED FLOOR GRADE WHERE REQUIRED.
2. EM4, EM5, AND EM6 ARE NOT TO HAVE INTEGRAL LAMPS.

ALL LIGHTING AND LIFE SAFETY EQUIPMENT MUST MEET MINIMUM O.B.C. REQUIREMENTS.

ALL RINK LIGHT LEVELS TO BE A MINIMUM OF 50 FOOT CANDLES, AND AS PER O.B.C. REQUIREMENTS.

ALL OTHER BUILDING AREA LIGHT LEVELS TO BE A MINIMUM OF 25 FOOT CANDLES, AND AS PER O.B.C. REQUIREMENTS.

LIGHT FIXTURE SCHEDULE

REF	MANUFACTURER & MODEL	LAMP TYPE	MOUNTING	REMARKS
A			SURFACE CEILING	347/600 VOLT, 3 PHASE, –20ø BALLAST, ACRYLIC LENS, AL. REFLECTOR, C/W WIRE GUARD AND SAFETY CHAIN.
B1	LITHONIA TRUWRAP FLAT*	LED	SURFACE CEILING	120 VOLT, MICROPRISMATIC DIFFUSOR, 8–7/8" WIDTH
B2	LITHONIA TRUWRAP FLAT*	LED	SURFACE CEILING	120 VOLT, MICROPRISMATIC DIFFUSOR, 14–3/4" WIDTH
F	LITHONIA TWP LED*	250W LED	SURFACE WALL	120 VOLT, BLCK BAFFLE, WET LOCATION, COLOR DARK BRONZE ALUMINUM HOUSING, –20ø BALLAST.
G	LITHONIA TWH LED*	400W LED	SURFACE WALL	120 VOLT, BLCK BAFFLE, WET LOCATION, COLOR DARK BRONZE ALUMINUM HOUSING, –20ø BALLAST.

*OR EQUIVALENT

CONTRACT #2025–011

FOR TENDER

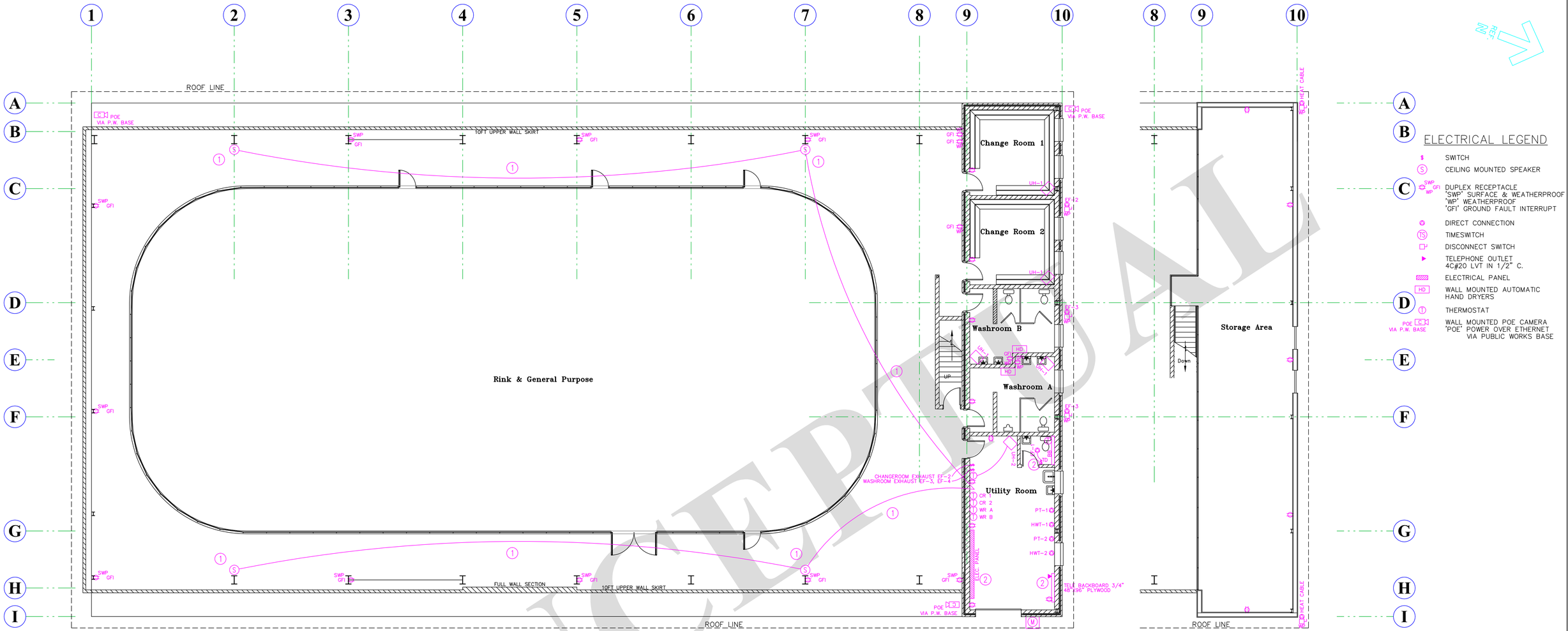
REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705–746–1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION LIGHTING & LIFE SAFETY FLOOR PLANS

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	E–1
DRAWN	PROJECT NO.	
DPL	RH24–513	



NOTES:

1. THIS CONTRACTOR IS TO SUPPLY AND INSTALL CONDUIT, AND WIRE TO TELEPHONE BACKBOARD OWNER IS TO SUPPLY SPEAKER, INSTALLATION BY OTHERS.
2. DIV 15 TO SUPPLY EF TIME DELAY OFF LIGHT SWITCH. DIV 16 IS TO CONNECT.

1 / E-2 FLOOR PLAN – POWER & CONTROL
SCALE 1/8" = 1'

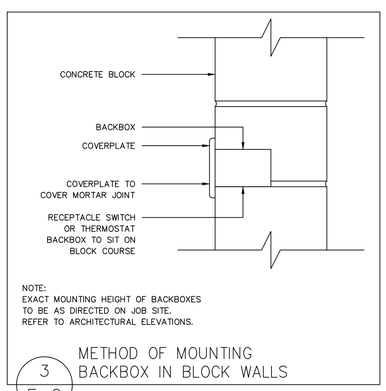
2 / E-2 STORAGE FLOOR PLAN – POWER & CONTROL
SCALE 1/8" = 1'

ELECTRICAL LEGEND

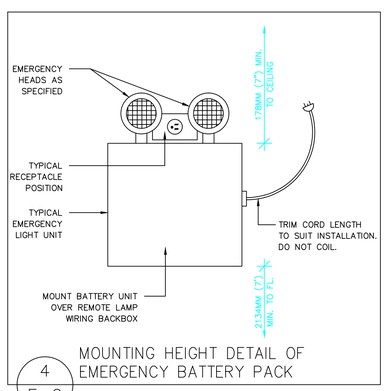
- $ SWITCH
- (S) CEILING MOUNTED SPEAKER
- SWP GFI WP — DUPLEX RECEPTACLE 'SWP' SURFACE & WEATHERPROOF 'WP' WEATHERPROOF 'GFI' GROUND FAULT INTERRUPT
- DIRECT CONNECTION
- (TS) TIMESWITCH
- DISCONNECT SWITCH
- TELEPHONE OUTLET 4C#20 LVT IN 1/2" C.
- ELECTRICAL PANEL
- HD WALL MOUNTED AUTOMATIC HAND DRYERS
- (T) THERMOSTAT
- POE VIA P.W. BASE — WALL MOUNTED POE CAMERA 'POE' POWER OVER ETHERNET VIA PUBLIC WORKS BASE

ELECTRIC HEATER SCHEDULE

REF	TYPE	WATTS	REMARKS
BB	BASEBOARD HEATER	300	WITH BUILT-IN THERMOSTAT.
UH-1	FAN FORCED	5,000	WITH BUILT-IN / REMOTE THERMOSTAT AS INDICATED, AND WITH SECURITY CAGE.
UH-2	FAN FORCED	5,000	WITH BUILT-IN / REMOTE THERMOSTAT AS INDICATED



3 / E-2 METHOD OF MOUNTING BACKBOX IN BLOCK WALLS
SCALE NTS



4 / E-2 MOUNTING HEIGHT DETAIL OF EMERGENCY BATTERY PACK
SCALE NTS

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION
POWER & CONTROL FLOOR PLANS

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	E-2
DRAWN: DPL	PROJECT NO.: RH24-513	

ELECTRICAL SPECIFICATIONS

DO COMPLETE INSTALLATION IN COMPLIANCE WITH THE REQUIREMENTS OF THE LATEST EDITIONS OF THE APPLICABLE C.S.A. STANDARDS, ONTARIO BUILDING CODE, ELECTRICAL SAFETY CODE, AND APPLICABLE U.L.C. STANDARDS. COMPLY WITH ELECTRICAL BULLETINGS IN FORCE AT TIME OF BID ALSO, ALL ELECTRICAL WORK SHALL COMPLY WITH OWNER'S REQUIREMENTS.

VISIT THE SITE AND EXAMINE ALL THE EXISTING CONDITIONS WHICH MAY AFFECT THE INSTALLATION OF THE ELECTRICAL EQUIPMENT. NO EXTRAS WILL BE CONSIDERED FOR FAILURE TO ALLOW FOR EXISTING CONDITIONS.

ALL MATERIALS AND EQUIPMENT SHALL BE NEW C.S.A. CERTIFIED AND MANUFACTURED TO STANDARD SPECIFICATIONS. OBTAIN AND PAY FOR SPECIAL HYDRO INSPECTION OF SPECIFIED NON C.S.A. LISTED EQUIPMENT.

OBTAIN AND PAY FOR ALL PERMITS AND FEES REQUIRED FOR THE INSTALLATION AS SHOWN AND SPECIFIED. PROVIDE CERTIFICATE OF ACCEPTANCE FROM HYDRO INSPECTION DEPARTMENT.

PROVIDE ALL TOOLS FOR INSTALLATION OF WORK SHOWN OR SPECIFIED. OBTAIN OWNERS PERMISSION FOR USE OF ELECTRICAL, PLUMBING OR DRAINAGE OUTLETS.

PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE OWNER AND TRADES FROM ALL POSSIBLE CLAIMS. SUBMIT AN AMOUNT ACCEPTABLE TO THE OWNER.

WHEREVER ANY BASE BUILDING EQUIPMENT REQUIRES ACCESSIBILITY, MAINTENANCE OR ADJUSTMENT, PROVIDE ACCESS DOOR APPROVED BY DESIGN CONSULTANT AND OWNER.

AT COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE THE OWNER WITH A SET OF REPRODUCIBLE 'AS-BUILT' RECORD DRAWINGS, INCORPORATING ALL CHANGES FROM BASE DRAWINGS. USE RECOGNIZED DRAFTING PROCEDURES.

ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS, MUST BE REFERRED TO DESIGN CONSULTANT/ARCHITECT BEFORE ANY WORK AFFECTED HAS BEGUN.

THE DRAWINGS FOR THE ELECTRICAL WORK ARE CONCEPTUAL IN NATURE, INTENDED TO CONVEY THE SCOPE OF WORK. THE DRAWINGS DO NOT SHOW INTERIOR DESIGN, ARCHITECTURAL, MECHANICAL, STRUCTURAL OR BASE BUILDING DETAILS. BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF ALL DRAWINGS BEFORE PROCEEDING WITH THE WORK.

MAKE GOOD ALL SURFACES DAMAGED DURING REMOVAL AND INSTALLATION OF ALL ELECTRICAL EQUIPMENT.

ALTER AT NO COST TO THE OWNER, THE LOCATION OF EQUIPMENT AS DIRECTED BY THE CONSULTANT, PROVIDED THE CHANGE IS MADE PRIOR TO INSTALLATION, AND WILL NOT NECESSITATE ADDITIONAL MATERIAL.

WHERE CONDUITS PASS THROUGH FIRE WALLS OR FLOORS, PROVIDE FIRE STOPPING MATERIAL LISTED WITH, AND BEAR LABEL OF C.S.A. AND U.L.C. AND MAINTAIN SAME FIRE RATING OF BUILDING COMPONENT PENETRATED.

PROVIDE GREEN FACE, WHITE CORE LAMACOID NAMEPLATES ON ALL NEW ELECTRICAL EQUIPMENT AND DEVICES, CONFIRM EXISTING DESIGNATIONS AND CORRECT WHERE NECESSARY, PROVIDE NEW TYPEWRITTEN PANEL SCHEDULE.

CLEARLY MARK ALL EXPOSED CONDUIT, PULL BOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE.

PROVIDE HANGERS, INSERTS, SLEEVES AND SUPPORTS OF APPROVAL TYPES REQUIRED FOR WORK SHOWN.

SUBMIT SIX (6) COPIES OF SHOP DRAWINGS OF SPECIFIED EQUIPMENT FOR REVIEW AND RECORDS BEFORE COMMENCEMENT OF WORK. PRIOR TO COMPLETION OF WORK SUBMIT 3 COPIES OF MAINTENANCE MANUALS, CONSISTING OF APPROVED SHOP DRAWINGS AND PERTINENT MAINTENANCE INFORMATION FOR EACH SPECIFIED ELECTRICAL EQUIPMENT.

PROVIDE DAILY CLEANUP OF ALL DEBRIS GENERATED BY DAILY OPERATION ON COMPLETION OF THE WORK, REMOVE ALL SURPLUS AND WASTE MATERIAL AND LEAVE PREMISES IN A CLEAN, PERFECT CONDITION.

ALL EQUIPMENT, MATERIAL AND WORKMANSHIP, OTHER THAN LAMPS, MUST BE UNCONDITIONALLY WARRANTIED IN WRITING FOR NOT LESS THAN ONE YEAR STARTING FROM DATE OF FINAL ACCEPTANCE.

REPLACE AT NO COST TO THE OWNER, ALL BURNED OUT LAMPS FOR A PERIOD OF 90 DAYS. DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING WARRANTY PERIOD (ONE YEAR), MUST BE REPLACED OR REPAIRED AT NO COST TO THE OWNER.

ALL WORK RELATED TO REPLACEMENT OF EQUIPMENT AFTER FINAL COMPLETION OR OCCUPANCY MUST BE CARRIED OUT AROUND SCHEDULED FUNCTIONS.

MATERIALS

PROVIDE FLEXIBLE METAL CONDUIT (AC90) FOR CONNECTIONS TO MOTORS, AND FIXTURES.

INSTALL CONDUIT TO CONSERVE HEADROOM, PARALLEL AND PERPENDICULAR TO BUILDING LINES. INSTALL ALL AC90 CONCEALED, EXCEPT IN ELECTRICAL OR MECHANICAL ROOMS.

DO NOT CADDIE CLIP CONDUITS TO CEILING HANGERS.

ALL EMPTY CONDUITS SHALL BE COMPLETE WITH NYLON FISH WIRE.

OUTLET BOXES SHALL BE ELECTRO-GALVANIZED STEEL, SIZED AS REQUIRED BY CODE. PROVIDE BLANK COVERS FOR BOXES WITHOUT WIRING DEVICES. INSTALL PLUMB AND TRUE.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AND OF ONE MANUFACTURE THROUGHOUT.

FASTENING AND SUPPORTS TO BE LEAD ANCHOR OR SELF DRILLING EXPANDABLE INSERTS. DO NOT USE BASE BUILDING SUPPORTS OR EQUIPMENT, INCLUDING CEILING SUPPORT SYSTEM.

GROUND ALL EQUIPMENT IN ACCORDANCE WITH CODE. PROVIDE SEPARATE GREEN INSULATED GROUND CONDUCTOR IN EVERY CONDUIT TO ALL DEVICES AND LUMINARIES.

MOULDED CASE CIRCUIT BREAKERS TO BE BOLT ON AND THE SAME MANUFACTURER AND RATING AS EXISTING PANELBOARDS.

EMERGENCY BATTERY UNIT TYPE EM1 TO BE 12 VOLT, SEALED LEAD BATTERY, LONG LIFE, EQUAL TO EMERGI-LITE 12ESL SERIES, 120 VOLT.

REMOTE EMERGENCY LIGHTS TO BE 12 VOLT, 9 WATT QUARTZ LAMP, EQUAL TO EMERGI-LITE EF9Q (SINGLE), EF9DQ (DOUBLE), ER3 TO BE 2x20W QUARTZ

EXIT LIGHTS TO BE ALUMINUM FINISH, 2 WATT LED, -30°C, WEATHERPROOF EQUAL TO EMERGI-LITE, C/W WIRE GUARDS.

PHOTOCELL SHALL BE WEATHERPROOF 40 AMP. CONTACT.

TIME SWITCH SHALL BE 40 AMP. CONTACT, MECHANICAL, 10 HOUR SPRING WOUND CARRY OVER. EQUAL TO PARAGON, INTERMATIC AND TORK.

LIGHTING CONTACTORS SHALL BE 40 AMP. CONTACT, ELECTRICALLY HELD, 120V AC COIL, COMPLETE WITH HAND-OFF-AUTO SWITCH, NEMA 1 ENCLOSURE.

DIMMERS TO BE 120 VOLT, 1000 WATT, 100% RATED SLIDE DIMMERS. EQUAL TO LUTRON 'SKYLARK'.

TIME DELAY OFF SWITCH 0-5 MINUTES. EQUAL TO GREENHECK SERIES 'GTD', OR APPORVED EQUAL.

HAND DRYERS SHALL BE WHITE, SURFACED MOUNTED, 120 VOLT, 1100W, C/W INFRARED HANDSFREE EQUAL TO WORLD DRYER AIRFORCE SERIES J.

OCCUPANCY SENSORS ARE TO BE 120 VOLT, DUAL TECHNOLOGY PASSIVE INFRARED AND ULTRASONIC.

CONCEPTUAL LOAD DESCRIPTION
RINK LIGHTS (21)
EXTERIOR BUILDING LIGHTS (4)
INTERIOR BUILDING LIGHTS (4)
RINK/EXTERIOR LIGHTING CONTROLS
RINK RECEPT, GFI (13)
EM1 & EXITS
LIGHTS CHANGEROOM 1
UH-1 CHANGEROOM 1
RECEPT CHANGEROOM 1
LIGHTS CHANGEROOM 2
UH-1 CHANGEROOM 2
RECEPT CHANGEROOM 2
LIGHTS WASHROOM A
UH-1 WASHROOM A
RECEPT WASHROOM A, GFI
RECEPT WASHROOM A
HAND DRYER WASHROOM A
LIGHTS WASHROOM B
UH-1 WASHROOM B
RECEPT WASHROOM B, GFI
RECEPT WASHROOM B
HAND DRYER WASHROOM B
LIGHTS UTILITY ROOM
UH-2 UTILITY ROOM
RECEPT UTILITY ROOM (4)
TELE BACKBOARD RECEPT
HOT WATER TANKS (2)
LIGHTS STORAGE AREA
RECEPT STORAGE AREA (5)
LIGHTS STAIRWELL
EF-1, EF-2, EF-3 (2)
ROOF HEATING CABLES (2)
PARKING LOT LIGHTS (5)
WELL PUMP
PUMP CHAMBER
CHILLER UNIT (REFRIGERATION)
CHILLER UNIT PUMPS (2)

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

RHH Engineering

70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION: ELECTRICAL SPECIFICATIONS AND SCHEDULES

SCALE	DATE	DRAWING NO.
1/8" = 1'	JULY 2025	E-3
DRAWN: DPL	PROJECT NO.: RH24-513	

NOTES:

(1) MOUNT L-2 AS HIGH AS POSSIBLE IN THE END GABLE.
COORDINATE WITH THE PRE-END BUILDING SUPPLIER TO BUILDING FABRICATION.

ALL HVAC DESIGN TO MEET MINIMUM HEAT LOSS REQUIREMENTS OF THE O.B.C.

ALL EXHAUST FAN DESIGN TO MEET MINIMUM HEAT LOSS REQUIREMENTS OF THE O.B.C.

FAN SCHEDULE

REF	FUNCTION	FLOW CFM	S.P. IN.W.G.	POWER V-PH-HZ	REMARKS
EF-1	EXHAUST	50	0.375	120-1-60	MAX 1.5 SONES, C/W TIME DELAY OFF FAN / LIGHT SWITCH EQUAL TO GREENHECK PRODUCT #874214
EF-2	EXHAUST	250	0.375	120-1-60	MAX 7.4 SONES, C/W WALL SLEEVE, BACKDRAFT DAMPER, BIRDSCREEN, AND LOCAL DISCONNECT
EF-3	EXHAUST	150	0.375	120-1-60	MAX 4.2 SONES, C/W WALL SLEEVE, BACKDRAFT DAMPER, BIRDSCREEN, AND LOCAL DISCONNECT

NOTE: FLAT EXTERIOR WALL SURFACE MINIMUM OF 19"x19" IS REQUIRED FOR EF-2 TO EF-4. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BLOCK WALL BEING CONSTRUCTED.

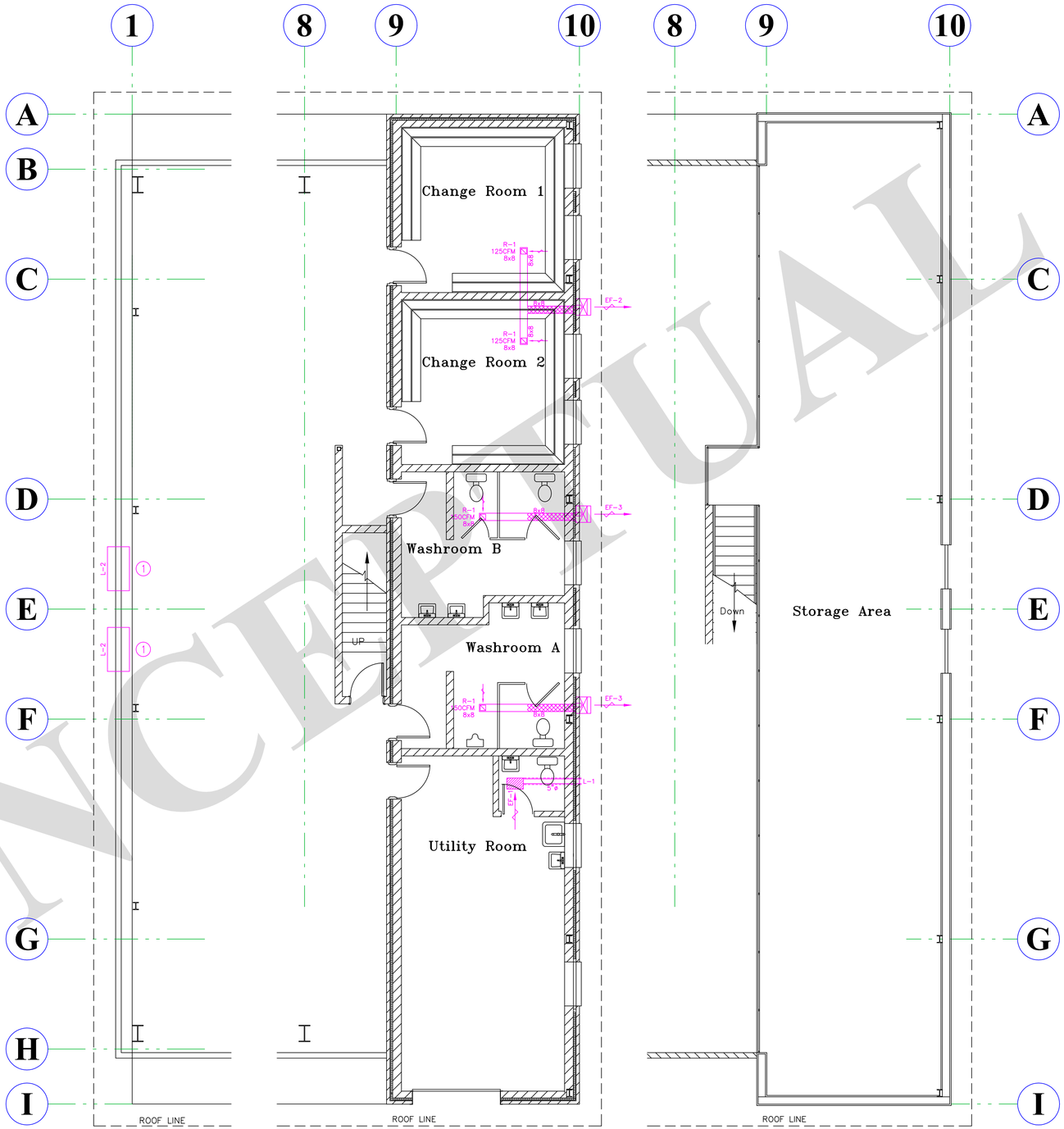
DESIGNERS TO VERIFY ALL SIZES AND AIRFLOW REQUIRED BY O.B.C.

LOUVER SCHEDULE

REF	FUNCTION	FLOW CFM	S.P. IN.W.G.	MANUFACTURER & MODEL	SIZE	ROOF OR WALL OPENING	REMARKS
L-1	EXHAUST	50	RETURN	EH PRICE 600 SERIES	8"x6"	8 1/2" x 6 1/2"	C/W BACKDRAFT DAMPER, ALUMINUM, INSECT SCREEN., 3/4" SPACING, 45° DEFLECTION.
L-2	FRESH AIR			EH PRICE DE635	2x(4'x4')	2x(4'-1" x 4'-1")	C/W 6" WALL SLEEVE FOR PRE ENG. BLDG MIN. 50% FREE AREA, ALUMINUM, BIRDSCREEN, COLOUR TO BE ADVISED.

DIFFUSER SCHEDULE

REF	TYPE	SIZE	MANUFACTURER & MODEL	FLOW PATTERN	ACCESSORIES	REMARKS
R-1	RETURN	AS INDICATED	EH PRICE GRILLE - 95	4 WAY	STEEL DAMPER	0 DEGREE DEFLECTION, 3/4" SPACING



ELECTRICAL LEGEND

- SUPPLY AIR FLOW
- EXHAUST AIR FLOW
- SOUND INSULATION IN DUCT
- INSULATED DUCT
- EF-1 — CEILING MOUNTED EXHASUT FAN TYPE EF-1
- EF-3 — WALL MOUNTED EXHAUST FAN TYPE EF-3
- R-1 — EXHAUST GRILLE TYPE R-1

3 M-1 PART FIRST FLOOR PLAN - HVAC
SCALE 3/16" = 1'

1 M-1 PART FIRST FLOOR PLAN - HVAC
SCALE 3/16" = 1'

2 M-1 STORAGE FLOOR PLAN - HVAC
SCALE 3/16" = 1'

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

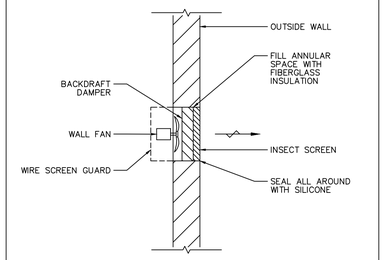
This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

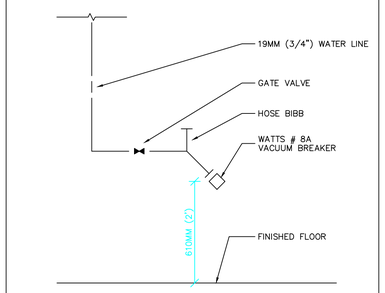
SHEET DESCRIPTION
HVAC FLOOR PLAN

SCALE	DATE	DRAWING NO.
3/16" = 1'	JULY 2025	M-1
DRAWN	PROJECT NO.	
DPL	RH24-513	



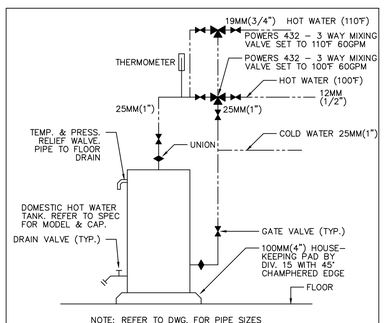
3 / M-2 WALL FAN DETAIL (TYPICAL)

SCALE NTS



4 / M-2 DETAIL OF HOSE BIBB

SCALE NTS



5 / M-2 DOMESTIC HOT WATER PIPIING ARRANGEMENT

SCALE NTS

SPECIFICATIONS NOTES

MECHANICAL GENERAL

THIS CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF THE FOLLOWING ITEMS, INCLUDING THE COORDINATION OF SAME AND ALL RELATED LABOUR AND MATERIALS NECESSARY TO SUCCESSFULLY COMPLETE THE INSTALLATION OF THE PRODUCTS.
1. BASIC MECHANICAL MATERIALS
2. INSULATION
3. PLUMBING AND DRAINAGE
4. HEATING VENTILATING & AIR CONDITIONING
5. CONTROLS

THE MECHANICAL DRAWINGS ARE GENERALLY SCHEMATIC AND INDICATE THE INTENDED OVERALL ARRANGEMENT. EXACT LOCATIONS SHALL SUIT FINAL LAYOUTS AND SITE CONDITIONS AND SHALLL BE APPROVED BY THE CONSULTANT PRIOR TO INSTALLATION.

COMPLY WITH REQUIREMENTS OF THE ONTARIO PLUMBING & BUILDING CODES & ELECTRICAL SAFETY CODE.

PAY ALL NECESSARY FEES AND PERMITS. ARRANGE FOR INSPECTION OF WORK BY THE INSPECTION AUTHORITIES. PROVIDE FINAL CERTIFICATE TO THE BUILDING OWNER. REFER ALSO TO INSTRUCTION TO BIDDERS & GENERAL REQUIREMENTS.

THIS CONTRACTOR TO DO OWN CUTTING & PATCHING TO APPROVAL OF GENERAL CONTRACTOR. THIS CONTRACTOR IS TO DRILL HOLES REQUIRED IN EXISTING CONSTRUCTION FOR THE PASSAGE OF HIS SERVICES UP TO & INCLUDING 6" DIA. LARGER HOLES & LINTELS TO BE PROVIDED BY GENERAL CONTRACTOR. THIS CONTRACTOR IS TO CUT & PATCH BASEMENT FLOOR.

MAINTAIN SERVICES, SHUT DOWNS ONLY WITH OWNERS AGREEMENT & FOR STIPULATED PERIODS.

ALL INSULATION SHALL BE INSTALLED BY A LICENSED JOURNEYMAN AND INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS. EQUAL TO FIBERGLASS CANADA OR ARMSTRONG.

ELECTRICAL CONTRACTOR TO DO ALL POWER WIRING. THIS CONTRACTOR TO DO ALL TEMPERATURE, & CONTROL WIRING. REFER TO ELECTRICAL DRAWINGS. SYSTEMS TO BE OPERATIONAL IN ALL RESPECTS UPON COMPLETION.

SUBMIT THREE COPIES OF MAINTENANCE MANUALS (IN BINDERS) CONTAINING SHOP DRAWINGS, PART LISTS, RECOMMENDED MAINTENANCE PRACTICES, LIST F SUPPLIERS, AND CONTRACTORS AND A COPY OF A WARRANTY CERTIFICATE (1 YEAR) OF ALL EQUIPMENT AND LABOUR SUPPLIED. WARRANTY TO COMMENCE AT DATE OF ACCEPTANCE BY THE OWNER AND ENGINEER.

SUPPLY AND INSTALL ALL ARTICLES, ITEMS, TOOLS, EQUIPMENT, MATERIALS AND LABOUR TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM AS SHOWN ON THE DRAWINGS. INSTALL ALL EQUIPMENT ACCORDING TO THE MANUFACTURERS INSTRUCTIONS, WITH ADEQUATE ACCESS.

EXAMINE THE SITE AND BE RESPONSIBLE FOR ALL EXISTING CONDITIONS WHICH MAY AFFECT THE WORK.

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ALL CONTROLS, RELAYS, CONTROL WIRING, SUPPORTS, SLEEVES, ESCUTCHEONS, PLATES, HANGERS, ACCESS DOORS IN DUCTS WALLS AND CEILINGS, ETC ASSOCIATED WITH THE MECANICAL EQUIPMENT.

FLASH AND COUNTER FLASH ALL PIPES AND DUCTS PASSING THROUGH ROOFS OR OUTSIDE WALLS. ENSURE WATERPROOF INSTALLATION.

AIR BALANCING SHALL BE DONE UNDER THE SUPERVISION OF A CERTIFIED MEMBER OF EITHER THE ONTARIO ENVIRONMENTAL BALANCING BUREAU OR THE ASSOCIATED AIR BALANCING COUNCIL. AIR BALANCING SHALL BE TO WITHIN 10 PERCENT OF DESIGN VALUES SHOWN ON DRAWINGS. PROVIDE ALL NECESSARY MATERIAL SHIVES, PULLEYS, DRIVES NECESSARY TO ACCOMODATE DESIGN.

PLUMBING & HEATING (CONCEPTUAL)

WATER PIPING ABOVE FLOOR TO BE COPPER TYPE 'L', COPPER FITTINGS, SOLDER JOINTS. USE LIGHT WEIGHT COPPER OR PLASTIC COATED CLEVIS HANGERS. WATER PIPING BELOW FLOOR TO BE TYPE 'K' SOFT COPPER, NO JOINTS IN FLOOR.

INSULATE ALL ABOVE FLOOR WATER PIPIING WITH 1/2" THICK PERFORMED FIBROUS INSULATION WITH FACTORY INSTALLED ASJ JACKET.

LAVATORIES TO BE EQUIPPED WITH C.O. FLEXIBLE SUPPLIES WITH SCREW DRIVER STOPS & ONE PIECE ESCUTCHEONS. LAVATORY TRAPS TO BE EQUIPPED WITH ONE PIECE ESCUTCHEONS.

SANITARY, VENT & STORM DRAINAGE PIPING INSIDE THE BUILDING TO BE DWV ABS ABOVE GROUND. DWV GRADE ABS OR PVC BELOW GROUND GENERALLY TO MATCH EXISTING. PROVIDE CLEANOUTS TO MATCH FLOOR SURACES AS REQUIRED BY AUTHORITIES AND OWRC 815/84. HANGERS TO BE CLEVIS WITH CONCRETE INSERTS, MYATT OR GRINNELL.

WATER VALVES SHALL BE BALL VALVE, LEVER HANDLE, 150# PATTERN.

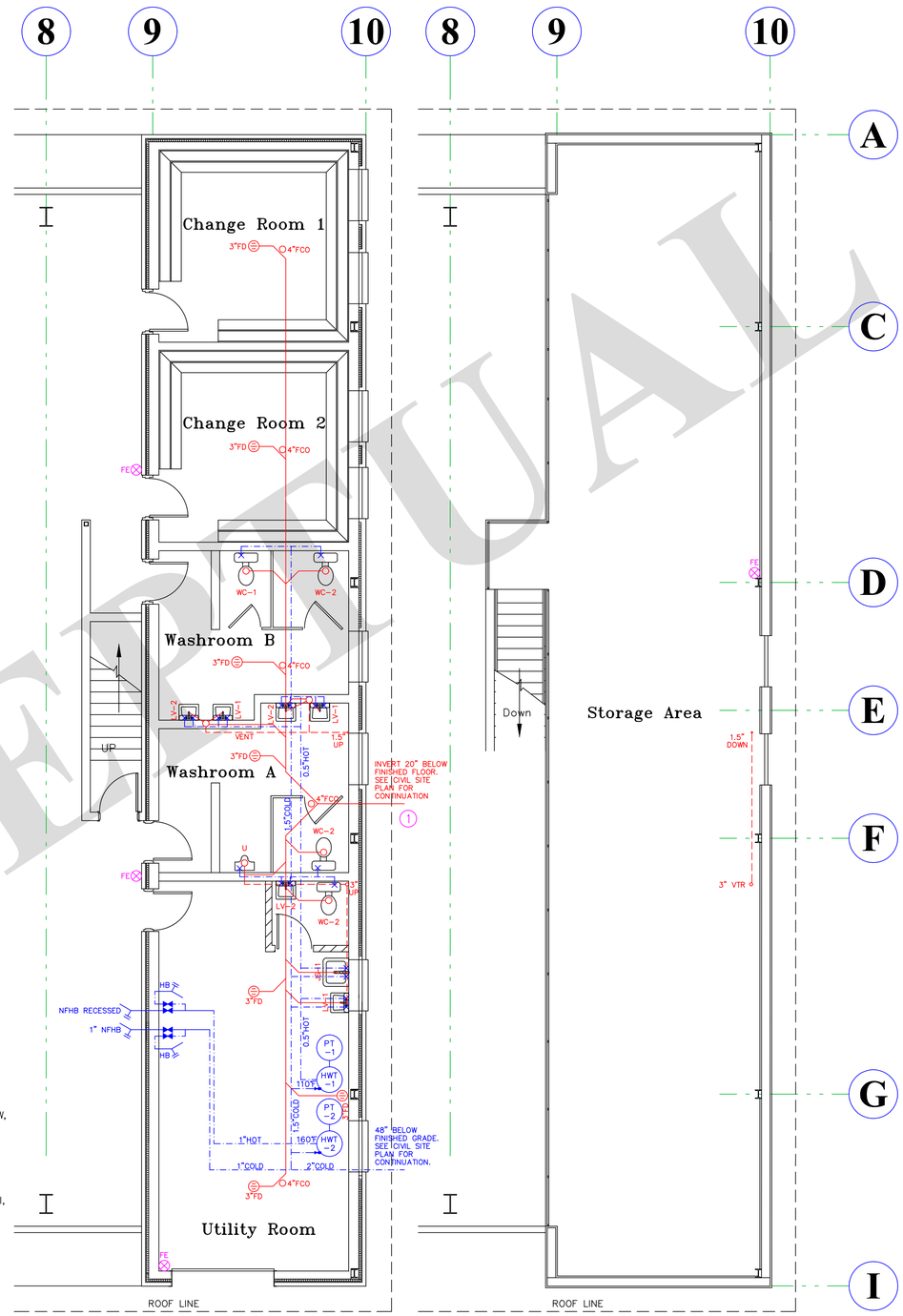
DRAINAGE ACCESSORIES TO BE ANPOCO OR EQUAL;

FLOOR DRAIN	SERIES E1000R5
CLEAN OUT	SERIES E3010
TRAP SEAL PRIMER	SERIES T3P
SHOCK ABSORBER	SERIES HT, SIZED TO MANUFACTURERS CHART

PLUMBING FIXTURES TO BE NEW, WHITE AS NOTED;

LAVATORY (LV-1)	AMERICAN STANDARD LUCERNE AS-0355.012F WITH BATTERY HANDSFREE CENTERSET (DELTA 591-HGMHDF), WITH GRID STRAINER, P TRAP. 17 Ga. C.P., C/W FLOOR MOUNTED WALL CARRIER. ALTERNATE CRANE. NOTE: CONNECT TO TEMPERED WATER
LAVATORY (LV-2)	AMERICAN STANDARD LUCERNE AS-0355.012F WITH BATTERY HANDSFREE CENTERSET (DELTA 591-HGMHDF), WITH OPEN GRID STRAINER, OFFSET TRAP. 17 Ga. C.P., C/W FLOOR MOUNTED WALL CARRIER. INSULATE SUPPLIES & DRAIN BELOW BASIN WITH 1/2" ARMORFLEX FOAMED RUBBER MOULDED INSULATION. ALTERNATE CRANE. NOTE: CONNECT TO TEMPERED WATER
WATER CLOSET (WC-1)	AMERICAN STANDARD CADET AF-9466 1.6 GPF, 16" HIGH ELONGATED, 6l FLUSH VALVE, BATTERY OPERATED, HANDSFREE FLUSH VALVE, (DELTA 81T201BT), MOLDEX OPEN FRONT WHITE SEAT.
WATER CLOSET (WC-2)	AMERICAN STANDARD CADET AF-9468.018F 1.5 GPF, 18" HIGH ELONGATED, 6l FLUSH VALVE, BATTERY OPERATED HANDSFREE FLUSH VALVE (DELTA81T201BT), MOLDEX OPEN FRONT WHITE SEAT. HANDICAPPED
URINAL (U-1)	AMERICAN STANDARD TRIMBOOK AF-6561 TOP SPUD, C/W WALL HANGERS, 0.83 GPF, C/W BATTERY OPERATED, HANDSFREE FLUSH VALVE (DELTA 81T231BT)
HOSE BIBB (HB)	SHALL BE SURFACE WALL MOUNTED, DRAINING, C/W VACUUM BREAKER, BRONZE CONSTRUCTION, 1" OR 3/4" AS INDICATED, EQUAL TO ANCON XXX.
NON FREEZE HOSE BIB (NFHB)	SHALL BE KEY TYPE RECESSED WALL MOUNTED, ENCASED BOX TYPE, SELF DRAINING, C/W VACUUM BREAKER, BRONZE CONSTRUCTION, 3/4", NON FREEZE TYPE, EQUAL TO ANCON HY-725.
JANITOR SINK (JS-1)	24"x24"x12" TERRAZZO FLOOR SINK WITH DROPPED FRONT, AND STAINLESS STEEL THRESHOLD, C/W WALL MOUNTED MOP SERVICE BASIN FAUCET, WITH PAIL HOOK, 3/4" HOSE, WALL BRACK, VACUUM BREAKER, BREAKER, AND 6' RUBBER HOSE. EQUAL TO STERN WILLIAMS HL-1800, C/W T-10-VB, AND T-35.
HOT WATER TANK (HWT-1, HWT-2)	HWT SHALL BE (2) 60 GALLONS, 4500W, EQUAL TO GIANT 172E, ELECTRIC. STAINLESS STEEL THRESHOLD, C/W WALL MOUNTED MOP SERVICE BASIN FAUCET, WITH PAIL HOOK, 3/4" TANKS MUST BE SUITABLE IN SIZE TO FILL OLYMPIA 250 RESURFACING.
PRESSURE TANK (PT-1, PT-2)	PT SHALL BE (2) 200 GALLONS, 150PSI, EQUAL TO HANSON WN-354-B.

ALL FIXTURES CAN BE SUBSTITUTED WITH APPROVED EQUAL FIXTURES BY DESIGNER.



1 / M-1 PART FIRST FLOOR PLAN – PLUMBING

SCALE 3/16" = 1'

2 / M-1 STORAGE FLOOR PLAN – PLUMBING

SCALE 3/16" = 1'

PLUMBING LEGEND

FD	FLOOR DRAIN
FCO	FLOOR CLEANOUT
	RISER
FE	FIRE EXTINGUISHER
HWT -1	HOT WATER TANK
PT -1	PRESSURE TANK
	SANITARY DRAINS
	SANITARY VENTING
	WATERLINES
	GATE VALVE

NOTES:

(1) COORDINATE DIRECTION AND LOCATION OF SANITARY LEAVING BUILDING WITH SITE SERVICES CONTRACTOR.

CONTRACT #2025-011

FOR TENDER

REV. NO.	DESCRIPTION	DATE

This drawing is not to be used for construction unless noted. Any changes to project not detailed on this drawing or not approved in writing by RHH Engineering shall hold harmless RHH Engineering from any action and liability from the consequences of such changes. Drawings are copy write protected. Drawings are not to be scaled. Errors in dimensions, elevations or details must be reported immediately in writing or the contractor shall bear the consequences of any required corrections.

RHH Engineering
70 ISABELLA ST., UNIT 111, BOX 675 PARRY SOUND, ONT P2A 2Z1 705-746-1196 PH

NOVAR PARK RINK
54 McCRANDLE STREET
TOWNSHIP OF PERRY
DISTRICT OF PARRY SOUND

SHEET DESCRIPTION

PLUMBING FLOOR PLAN

SCALE	DATE	DRAWING NO.
3/16" = 1'	JULY 2025	M-2
DRAWN	PROJECT NO.	
DPL	RH24-513	