West **Nipissing** Ouest

GOULARD PARK BASEBALL FIELD REDEVELOPMENT

STURGEON FALLS, ONTARIO

PROJECT MANUAL
&
SPECIFICATIONS

#2026-014

2521

February 2, 2026

OWNER: The Municipality of West Nipissing ("Owner")

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATION: Goulard Park, Sturgeon Falls, ON, P2B 1A2

PROJECT DESCRIPTION: Work of this Contract includes the redevelopment of Baseball Field 1 and Field 2 and related site work located at Goulard, Sturgeon Falls, ON and identified as Contract Number #2026-014 (2521).

ARCHITECT

Perry + Perry Architects Inc.
69 Young Street, Suite B1, Sudbury, Ontario, P3E 3G5
(705) 688-0440
(705) 688-0439 fax
Attention: Chris Perry

DOCUMENTS ISSUED: Electronic Tender Documents may be obtained from Municipality of West Nipissing Tenders Website no sooner than **Monday, February 2nd, 2026 @ 12:00 p.m.**

QUOTATIONS RECEIVED: On or before **Wednesday, February 25th, 2026 @ 2:00 p.m**.

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PRE-TENDER SITE MEETING: **Thursday, February 12th, 2026 @ 10:00 a.m**. Goulard Park, Sturgeon Falls, ON

Bidders are advised that the Municipality functions through its Policy No. 2006-332 “Validity of Tenders” and by its By-Law No 2016-89 (including the most current amendments), “Bylaw to Establish Purchasing Policies and Procedures for the Municipality of West Nipissing” (Purchasing By-Law).

Offers will be opened Publicly via streaming after closing.

End of Section

OWNER: Municipality of West Nipissing *("Owner")*

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATION: Goulard Park, Sturgeon Falls, ON, P2B 1A3

End of Specifications

ATTACHMENTS

Proposed Field Lighting Goulard Park, Sturgeon Falls, ON Geotechnical Investigation dated December 19, 2025 (02511914.000) prepared by Englobe Corporation.

OWNER: Municipality of West Nipissing *("Owner")*

PROJECT TITLE: WN Goulard Park Baseball Field Development

PROJECT LOCATION: Goulard Park, Sturgeon Falls, ON, P2B 1A3

1. BID DOCUMENTS

1.1 The Bid Documents include:

(a) These Instructions to Bidders, together with the attached Bid Form, which include the following appendices:

Appendix A List of Drawings;
Appendix B List of Subcontractors;
Appendix C Alternates;
Appendix D Tender Breakdown;
Appendix E Previous Experience
Appendix F Unit Prices

(b) CCDC2 2020 Stipulated Price and Supplementary General Conditions;

(c) General Requirements;

(d) Project drawings, specification books and addenda prepared by, or on behalf of Perry + Perry Architects Inc ("Owner's Consultant");

1.2 The Bidder shall verify in its Bid that it has received and reviewed all Bid Documents and shall assume responsibility for the said Bid Documents received as being complete. Any missing Bid Documents shall be reported immediately, in writing, to the Owner's Consultant at the address set out below.

1.3 It is agreed that the Bid Documents are made available only for the purpose of obtaining Bids for this project. Their use does not confer a license or grant for any other purposes.

1.4 The drawings and specifications remain the property of the Owner and must be returned unmarked, in good condition, after the Bid has been awarded, except for the successful Bidder.

1.5 It is understood and agreed that the Bid Documents and information that the Bidder may learn regarding the business of the Owner is a corporate asset belonging to the Owner and is strictly confidential in nature. The Bidder agrees that in the event of a breach of this confidentiality, either by it, its employees, agents, or assigns, the Owner shall be entitled to seek all remedies at law and in equity.

1.6 Bidders are advised that the Municipality functions through its Policy No. 2006-332 “Validity of Tenders” and by its By-Law No 2016-89 (including the most current amendments), “Bylaw to Establish Purchasing Policies and Procedures for the Municipality of West Nipissing” (Purchasing By-Law).”

1.7 Offers will be opened Publicly via streaming, immediately after closing.

2. BID SUBMISSION

2.1 Bid documents may be returned as a physical bid submission **or** an electronic bid submission.

2.2 For physical bid submission, bid documents must be returned in a sealed envelope clearly marked "WN Goulard Park Baseball Field Redevelopment" complete with bidder's Company name and Bid reference number to the Municipality of West Nipissing town hall, 101-225 Holditch Street, Sturgeon Falls, Ontario P2B 1T1, before **2:00 PM** (local time) on **Wednesday, February 25th, 2026** (the "Official Closing Time"). Bids will be deemed to have been received when a Municipality representative has stamped the envelope with the time and date of receipt with the time clock located at the Services counter. The time clock located at the services counter is the official time piece. Bids may also be submitted through the exterior drop box at Town Hall, 225 Holditch Street, Sturgeon Falls. Bids submitted through the exterior drop box will be recorded as received when the drop box is opened the following morning.

2.3 For electronic bid submission, bid documents must be in the form of a password protected pdf document to bids@westnipissing.ca before **2:00 PM** (local time) on **Wednesday, February 25th, 2026**. Subject line should include the Bid reference number. After the official closing time, respondents will be requested to submit the password). It is the respondent's responsibility to ensure submissions are received by the Municipality by the submission deadline. The Municipality assumes no obligation for issues caused by electronic or telecommunications issues affecting the delivery of the submission, even if originating from the Municipality's IT systems.

2.4 It is the respondent's responsibility to ensure submissions are received by the Municipality by the submission deadline. The Municipality assumes no obligation for issues caused by electronic or telecommunications issues affecting the delivery of the submission, even if originating from the Municipality's IT systems. Respondents are encouraged to submit their response early and to call the Municipality contact person after submitting their proposal to confirm the Municipality's receipt of the proposal.

2.5 Bids using the prescribed Bid Form supplied herewith, will be received no later than **Wednesday, February 25th, 2026, 2:00:00 PM** local time, according to the clock at the Owner's location for receiving Bids, which shall be the only measure for the exact time (*date and time*). Submit Supplementary Bid Information electronically and clearly marked within 1 hour after Tender Close.

2.6 Bid Forms and appendices shall be completed in ink or typewritten and shall provide the telephone number, address and name of the individual to be contacted. All blank spaces of the Bid Form and appendices must be filled in. Non-applicable sections must be lined out and initialled. Bid prices must be stated both in words and figures. Penciled entries may be considered invalid or informal by the Owner.

2.7 Bid Forms shall be signed by a Bidder's duly authorized signing officer under the Bidder's corporate seal. If the Bidder operates its business as a sole proprietorship, the Bid Form must contain the signature of the sole proprietor in the presence of a witness who will also sign the Bid Form. The words "Sole Proprietor" must be added below the signature.

2.8 Bid prices must include all government taxes (except HST), custom duties and excise taxes in effect at Closing.

2.9 Bids shall be irrevocable and shall remain open for acceptance by the Owner for a period of sixty (60) calendar days from Closing.

2.10 No oral or faxed transmitted Bid will be considered.

2.11 Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed. Bids that are incomplete, unsigned, improperly signed or sealed, conditional, illegible, obscure, or that contain arithmetical errors, erasures, alterations, reservations or irregularities of any kind, may, at the sole discretion of the Owner, be declared informal and rejected.

2.12 Bids that contain prices which appear to be so unbalanced that they may adversely affect the interests of the Owner may be rejected. Bids may also be rejected if they are based on an unreasonable period of time for completion of the work.

3. BID MODIFICATION AND WITHDRAWAL OF BIDS

3.1 A Bidder may withdraw its Bid at any time prior to Closing provided the withdrawal:

(i) is in the form of an electronic transmittal and all pages of such electronic transmittal are received by the Municipality at the email address specified in Section 2.1, above, by the receipt time recorded by the Municipality;

(ii) states the name of the Bidder and clearly identifies the Bid that is being withdrawn; and

(iii) is signed by the Bidder's duly authorized signing officer.

No oral, written transmitted or other means of Bid withdrawal will be considered by the Owner.

3.2 A Bid submitted in accordance with these Instructions to Bidders may be modified at any time prior to Closing provided the modification:

(i) is in the form of an electronic transmittal and all pages of such electronic transmittal are received by the Municipality at the email address specified in Section 2.1, above, by the receipt time recorded by the Municipality;

(ii) states the name of the Bidder and the nature of the modification, subject to the requirements of Section 3.3, below; and

(iii) is signed by the Bidder's duly authorized signing officer.

3.3 Where a modification directs a change to the Bid price, the modification shall not reveal the original Bid price nor the revised Bid price and:

(i) on lump sum Bid prices, only the amount to be added to or deducted from the original Bid price shall be stated; and

(ii) when unit prices are used, only the amount to be added to or deducted from each original unit price shall be stated.

3.4 The Owner has no responsibility for the content of modifications or modifications that are, for any reason, delayed, illegible or otherwise improperly submitted or received, and the Owner may, in its sole discretion, disregard any modifications that are improperly submitted or received.

4. ALTERNATIVE MATERIALS AND PROCEDURES

4.1 If, for any reason, the Bidder should propose to use different materials, equipment or methods which, in the Bidder's opinion, would improve the operation of the installation specified, the Bidder shall:

(a) base its Bid on the exact requirements of the Bid Documents;

(b) Request for equals to the material, equipment or methods of fabrications specified, should be submitted in writing to the contract administrator three (3) days prior of bid closing time. These requests should contain pertinent data such as specifications, construction and operational characteristics, cost savings etc. in order to assist the contract administrator in his decision. Approvals for equals will be in the form of addenda, the contract administrator is not obligated to review and approve equals prior to the bid closing time.

4.2 The Owner reserves the right, in its sole discretion, to accept or reject any or all substitutions and alternatives.

5. EXAMINATION OF CONDITIONS

5.1 In submitting a Bid, it will be assumed that the Bidder has carefully examined the site of the proposed work and the Bid Documents including the provisions of the Contract, has fully informed itself as to the existing conditions and limitations under which the work is to be performed, the conditions which may be encountered, the materials it will be required to supply and other materials which are required in carrying out the Contract to a satisfactory conclusion, and has included in its Bid the complete cost of the work shown and/or specified in the Bid Documents.

5.2 No claims or allowances will be considered based on the assertion by the Bidder that it was not aware of existing site conditions or the provisions or conditions covered by the Bid Documents.

5.3 Drawings may not reflect all existing elements, and exact locations of those elements may vary: Bidders are responsible for reviewing site conditions and reporting in writing any discrepancies which may affect the Bid Price and/or Contract schedule. Extra's will not be allowed for discrepancies unless reported during the Bid period.

5.4 Bidders and other persons intending to carry out investigations relative to the proposed work shall make arrangements with the Owner before entering and carrying out investigations on the site.

5.5 Bidders and other persons wishing to carry out destructive investigations relative to the proposed work shall be bonded and shall obtain the Owner’s consent in writing before entering and carrying out such investigations on the site.

6. INTERPRETATIONS AND ADDENDA

6.1 Bidders finding discrepancies, ambiguities, or omissions in the drawings, specifications or other Bid Documents, or having doubt as to the meaning or intent thereof shall immediately address all queries, in writing, to the Owner’s Consultant at:

Perry + Perry Architects Inc, 69 Young Street, Suite B1, Sudbury, Ontario, P3E 3G5 (705) 688-0439 fax

6.2 The Owner’s Consultant may issue instructions and/or clarifications in the form of addenda. Bidders may also be advised by addenda of any other additions, deletions or alterations to the drawings and specifications. All such addenda shall become part of the Bid Documents.

6.3 No oral interpretation or instructions shall be effective to modify the provisions of the Bid Documents. Neither the Owner nor the Owner’s Consultant will be responsible for any oral interpretation or instruction.

6.4 All addenda, if issued, during the bid period shall become part of the Bid Documents and shall supersede and amend the Bid Documents, as required.

7. BONDS

7.1 The Bidder shall include with its Bid a Bid Bond for 10% of the Bid price, valid for the full length of the bid acceptance period and issued by a recognized Surety Company licensed to operate in the Province in which the Contract is to be performed.

7.2 The Bid Bond shall be forfeited to the Owner if the successful Bidder fails to enter into a Contract and provide the required Performance Bond and Labour and Material Payment Bond as described below.

7.3 The Bidder shall include with its Bid an Agreement to Bond issued by a Surety Company licensed to operate in the Province in which the Work is to be performed, stating that a 100% Performance Bond and a 100% Labour and Material Payment Bond will be provided to the Owner. If a Bid is accepted by the Owner within the aforementioned time period by written notification of acceptance of the Bid, the successful Bidder shall deliver to the Owner's Consultant a 100% Labour and Material Payment Bond and a 100% Performance Bond issued by the Surety Company. The cost of the bonds shall be included in the Bid price.

8. ACCEPTANCE OF BID

8.1 The Owner reserves the right, in its sole discretion, to reject any or all Bids as the interests of the Owner may require, without stating the reasons therefore, including without limitation, the lowest priced Bid.

8.2 The Owner reserves the right, in its sole discretion, to accept the Bid that in the Owner's sole discretion it deems the most advantageous, notwithstanding any custom, usage or agreement in the industry or trade, or any other policy or practice. The successful Bid, if any, will be selected by the Owner based on any number of criteria that the Owner, in its sole discretion, considers relevant, including without limitation (and not listed in order of importance), any combination of: stipulated price, separate prices, alternative prices and product options, schedule, proposed subcontractors, proposed supervision and project management, related qualifications and experience with similar work projects, and any other factor the Owner deems relevant. The submission of Bids does not obligate the Owner to accept any Bid or to proceed further with this invitation, or with the Project.

8.3 By submitting a Bid, the Bidder acknowledges the Owner's rights as stated herein and absolutely waives any right of action against the Owner and the Owner's Consultant for the Owner's failure to accept the Bidder's Bid whether such right of action arises in contract, negligence, bad faith, or any other cause of action.

8.4 Bidders shall bear all costs of preparing and submitting Bids in response to this Invitation. The Owner will not be responsible for any costs, expenses, loss, damage or liabilities incurred by the Bidder as a result of or arising out of tendering for the proposed Contract, or due to the acceptance or non-acceptance of any Bid.

8.5 It shall be understood by all Bidders that the Bids shall be valid and irrevocable subject to acceptance by the Owner and that no adjustment shall be made to the Bid amount for a period of up to and including sixty (60) calendar days from Closing.

8.6 Bids not received by the stated Closing will not be considered and will be returned.

8.7 If a Bid is accepted by the Owner within the aforementioned time period by written notification of acceptance of the Bid, the successful Bidder shall execute and deliver to the Owner the Contract within seven (7) calendar days of receipt of such Contract from the Owner, and shall commence work immediately thereafter.

8.8 It is understood and agreed that if the successful Bidder fails to commence work immediately after the written notification of acceptance of its Bid, the Owner will be entitled to all remedies available at law and in equity, including but not limited to damages amounting to the difference between the accepted Bid and the price of the Contract that is subsequently and consequently signed.

8.9 Without limiting the foregoing, the Owner further reserves the right, in its sole discretion, to cancel this invitation if the Bid prices received exceed the Owner's internal budget for the Project, or should the Owner not receive any satisfactory Bids, or should the Owner receive an insufficient number of Bids, or should unforeseen circumstances arise at any time before the Bid irrevocability period expires, or for any other reasons relevant to the Owner.

8.10 Where the Owner does not receive any satisfactory Bids, including any number of Bids which the Owner deems non-compliant with any aspect of the invitation, these Instructions, or the requirements set forth in the Bid Documents, the Owner may, at its sole discretion, either: revise the Project work scope identified in the Bid Documents and invite one or more of the Bidders to resubmit revised prices; or enter into negotiations for the whole or any part of the Project work with any Bidder, or with more than one Bidder, concurrently. The Owner is not required to offer any revised scope of work or negotiations to any Bidder, and shall incur no obligation or liability to any Bidder in the exercise of this right.

9. INSURANCE

9.1 If a Bid is accepted by the Owner within the aforementioned time period by written notification of acceptance of the Bid, the successful Bidder shall deliver to the Owner within seven (7) calendar days of receipt of the Owner's notification of acceptance, certificate(s) of insurance from an approved insurance company licensed to carry on business where the Work is to be performed, evidencing the insurance coverage as required under the Contract.

10. HEALTH & SAFETY

10.1 General: Contractor must comply with the Occupational Health and Safety Act (OHSA), the Regulations for Construction Projects, the Municipality of West Nipissing safety policy and as well as complying with the prescribed requirements legislated in the Regulations for Industrial Establishments. As applicable, the Contractor's policies and procedures should address communication, project meetings, site access for visitors, transfer of documents, physical distancing, personal hygiene, personal protective equipment, portable restrooms, site cleaning, worksite monitoring and worker self–assessment. It is the responsibility of the Contractor to communicate this policy to subcontractors and all other persons on site.

10.2 Contractor or all sub-contractors working for the contractor must pre-qualify with the Municipality of West Nipissing health and safety officer before starting work.

10.3 Refer to Specification Section 01 35 23 Health & Safety for additional requirements.

11. QUALIFICATIONS

11.1 Bidders submitting Bids shall be actively engaged in the type of work required by the Bid Documents and on request shall provide the Owner with a list of similar work performed by the Bidder.

11.2 The resumé of the Bidders' proposed superintendent is to be provided to the Owner on request.

11.3 Reserved.

12. WORK SEQUENCE

12.1 Time shall be of the essence of the contract. The Contractor shall begin work immediately after receiving written instructions to do so and shall diligently execute the Work on this contract to substantial completion on or before **June 22nd, 2026**.

12.2 The above date is based on contract award no later than **March 3rd, 2026**.

12.3 If the time limit above specified is not sufficient to permit completion of the work by the Contractor working a normal number of hours each day or week on a single shift basis, it is expected that additional shifts will be required throughout the life of the contract to the extent deemed necessary by the Contractor to insure that the work will be completed within the time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices for the various items of work and no additional compensation will be allowed therefore.

End of Section

PROJECT NUMBER: #2026-014 **(**2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATION: Goulard Park, Sturgeon Falls, ON, P2B 1A3

Submitted To: The Municipality of West Nipissing ("Owner")

We, _____
(Company Name)

of _____
(Business Address)

_____

having examined the bid documents for the Project and Addenda No. _____ to No. _____ inclusive, all as issued by Perry + Perry Architects Inc, *(Consultant)*

and listed in Appendix "A" (the "Bid Documents") and having visited and examined the Project Site, hereby offer to enter into a contract to perform the work required by the Bid Documents (the "Work") inclusive of all specified allowances for the stipulated price of

_____

Dollars $ _____

in Canadian funds, which price includes any specified cash and contingency allowances and all applicable taxes in force at this date, excluding all Separate Prices and H.S.T., except as may be otherwise provided in the Bid Documents.

Separate Price No 1: Supply and Installation of Steel Light Poles

_____

Dollars $ _____

Separate Price No.2: Supply and Installation of Wood Light Poles

_____

Dollars $ _____

Appendices to Bid:

The information on List of Bid Documents, List of Subcontractors, Alternative Prices, and Tender Cost Breakdown, Previous Experience and Unit Rates forms, are provided in the attached Appendices, and form an integral part of this Bid.

Declarations:

We hereby declare that:

1. we acknowledge and agree to abide by all of the terms and conditions as set out in the Instructions to Bidders.

2. we agree to perform the Work in compliance with the terms and conditions stated in the Bid Documents and within the required completion schedule stated in the Bid Documents, or if no schedule is stated, to attain Substantial Performance of the Work within _____ weeks after receiving notice of Contract award;

3. no person, firm or corporation other than the undersigned has any interest in this Bid or in the proposed Contract for which this Bid is made;

4. this Bid is irrevocable and open to acceptance for a period of sixty (60) days from the date of Bid closing, irrespective of the acceptance by the Owner of any other Bid or the issuance of a notice of acceptance of any other Bid;

5. We will execute and deliver to the Consultant a Contract for the Work in the form prescribed in the Bid Documents, within seven (7) days of receiving the Contract from the Owner, or the Consultant;

6. We agree that the Owner has the absolute right to accept or to reject the offer that this Bid comprises, for any reason whatsoever, without explanation, including if it contains the lowest stipulated price of the Bids received by the Owner;

7. If this Bid is accepted by the Owner within the time period stated, we undertake and agree to furnish the following documents, in addition to the signed Contract, all within seven (7) days from the date of acceptance:

   (a) shall deliver to the Owner's Consultant a 100% Labour and Material Payment Bond and a 100% Performance Bond issued by the Surety Company. The cost of the bonds shall be included in the Bid price;

   (b) shall deliver to the Owner's Consultant certificate(s) of insurance from an approved insurance company licensed to carry on business where the Work is to be performed, evidencing the insurance coverage as required under the Contract;

8. We acknowledge and agree that we shall not be entitled to any compensation for the cost of preparing this Bid, nor shall the Owner have any obligation to compensate us for the cost of preparing this Bid. We further acknowledge that neither the Owner, nor the Consultant, nor their representatives or agents, shall be liable to us for any cost, loss or damages suffered or incurred as a result of the rejection of this Bid.

Signatures:

Signed, sealed and submitted for and on behalf of:

Company: _____
(Name)

_____
(Street Address or Postal Box Number)

_____
(City, Province & Postal Code) *(Apply SEAL above)*

Signature: _____

Name & Title: _____
(Please Print or Type)

Witness: _____

Dated at _____ this _____ day of _____, 2026

N.B. Where legal jurisdiction or Owner requirement calls for proof of authority to execute this Bid, proof of such authority in the form of a certified copy of a resolution naming the person or persons in question as authorized to sign this Bid for and on behalf of the Corporation or Partnership should be attached.

PROJECT NUMBER: #2026-014 (2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATIONS: Goulard Park, Sturgeon Falls, ON, P2B 1A3

BID SUBMITTED BY: _____

LIST OF BID DOCUMENTS

The following is the list of the Bid Documents referred to in the Bid for the above-named Project.

Project Manual and Specifications dated February 2, 2026

Drawings:

A000	Title Page
A001	Existing Site Plan/Removals
A002	Baseball Field Plans and Details
A100	Baseball Field Details
S0.0	Structural General Notes
S1.0	Structural Foundation Plan
S2.0	Structural Foundation Sections
S2.1	Structural Foundation Sections
ME-1	Mechanical-Electrical Specification Notes & Details
ME-2	Mechanical-Electrical Removals Plan
E-1	New Electrical Systems Ball Field #1
E-2	New Electrical Systems Ball Field #2
E-3	Illumination Levels Ball Fields #1 & #2

Appendix A must be submitted with Supplementary Bid Information no later than 3:00 p.m. local time on the specified Tender Close date.

APPENDIX "B" to Bid

PROJECT NUMBER: #2026-014 (2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATIONS: Goulard Park, Sturgeon Falls, ON, P2B 1A3

BID SUBMITTED BY: _____

LIST OF SUBCONTRACTORS

The following are the Subcontractors we propose to use for the Divisions or Sections of Work listed hereunder.

(If not used, bar and initial the space below)

Division or Section of Work	Name of Subcontractor
Earthwork	
Exterior Improvements	
Chainlink Fencing, Dugout & Backstop	
Aluminum Bleachers	
Storage Shed	
Electrical	
Electrical (Supply and install Steel Light Poles)	
Electrical (Supply and install Wood Light Poles)	

Appendix B must be submitted with the Bid Form no later than 2:00 p.m. local time on the specified Tender Close date.

APPENDIX "C" to Bid

PROJECT NUMBER: #2026-014 (2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATIONS: Goulard Park, Sturgeon Falls, ON, P2B 1A3

BID SUBMITTED BY: _____

ALTERNATIVE PRICES

The following are our prices for the Alternative Work listed hereunder. Such Alternative Work and amounts are **NOT** included in our Stipulated Price.

(If not used, bar and initial the space below)

Description of Alternative Work	Effect on Stipulated Price ($)	
	Addition	Deduction

Appendix C must be submitted with Supplementary Bid Information no later than 3:00 p.m. local time on the specified Tender Close date.

PROJECT NUMBER: #2026-014 (2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATIONS: Goulard Park, Sturgeon Falls, ON, P2B 1A3

BID SUBMITTED BY: _____

BASEBALL FIELD No 1 TENDER COST BREAKDOWN #2026-014 (2521)		
CODE	DESCRIPTION	TOTAL
A01	GENERAL CONDITIONS	
A02	DEMOLITION/REMOVALS	
A03	ROUGH CARPENTRY	
A04	PAINTING	
A05	EARTHWORK	
A06	EXTERIOR IMPROVEMENTS	
A07	STORGAE SHED	
A08	ELECTRICAL	
A09	ALLOWANCES	
A10	OTHER	
	S U B T O T A L	

BASEBALL FIELD No 2 TENDER COST BREAKDOWN #2026-014 (2521)		
CODE	DESCRIPTION	TOTAL
A01	GENERAL CONDITIONS	
A02	DEMOLITION/REMOVALS	
A03	ROUGH CARPENTRY	
A04	EARTHWORK	
A05	EXTERIOR IMPROVEMENTS	
A06	ELECTRICAL	
A07	ALLOWANCES	
A08	OTHER	
	S U B T O T A L	

B A S E B A L L F I E L D No 1 + No 2 T O T A L	

Appendix D must be submitted with Supplementary Bid Information no later than 3:00 p.m. local time on the specified Tender Close date.

PREVIOUS EXPERIENCE

Please indicate three (3) past/current related work experience

All bidders must demonstrate similar experience by providing references from a government/public sector entity of similar nature. Bidders without or with insufficient government/public sector experience may be disqualified. Past experience with the Municipality will also be considered. Prior poor performance with the Municipality may result in disqualification. Decisions of disqualification by the Municipality will be deemed final and will be given to the bidder in writing.

Reference #1

Project Title & brief description of work:

_____

_____

Project start date: _____ Project end date: _____

Total value of contract awarded: $_____

Owner or Contractor who awarded contract _____

Contact person: (Full Name) _____ Phone: _____

Reference #2

Project Title & brief description of work:

_____

_____

Project start date: _____ Project end date: _____

Total value of contract awarded: $_____

Owner or Contractor who awarded contract _____

Contact person: (Full Name) _____ Phone: _____

Reference #3

Project Title & brief description of work:

_____

_____

Project start date: _____ Project end date: _____

Total value of contract awarded: $_____

Owner or Contractor who awarded contract _____

Contact person: (Full Name) _____ Phone: _____

Appendix E must be submitted with Supplementary Bid Information no later than 3:00 p.m. local time on the specified Tender Close date.

APPENDIX "F" to Bid

PROJECT NUMBER: #2026-014 (2521)

PROJECT TITLE: WN Goulard Park Baseball Field Redevelopment

PROJECT LOCATIONS: Goulard Park, Sturgeon Falls, ON, P2B 1A3

BID SUBMITTED BY: _____

UNIT RATES

Site Supervisor	$_____per hour
Skilled Trade	$_____per hour
Labourer	$_____per hour

Appendix F must be submitted with Supplementary Bid Information no later than 3:00 p.m. local time on the specified Tender Close date.

CCDC 2-2020 - SUPPLEMENTARY CONDITIONS

The Standard Construction Document for Stipulated Price Contract, 2020 English version, consisting of the Agreement Between Owner and Contractor, Definitions, and General Conditions of the Stipulated Price Contract, Parts 1 to 13 inclusive, governing same is hereby made part of these Contract Documents, with the following amendments, additions and modifications specifically reference a change to the Agreement Definitions, or General Conditions, these amendments, additions and modifications shall govern.

Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused.

AMENDMENTS TO AGREEMENT

ARTICLE A-5 – PAYMENT

.1 In paragraph 5.1.1 of Article A-5 add the following words to the end:

"or, where there is no Payment Certifier, jointly by the Owner and Contractor"

ARTICLE A-6 – RECEIPT AND ADDRESSES FOR NOTICES IN WRITING

.1 Delete paragraph 6.5 of Article A-6 in its entirety and replace it with the following:

"6.5 Contact information for a party may be changed by Notice in Writing to the other party setting out the new contact information in accordance with this Article."

AMENDMENTS TO DEFINITIONS

.1 Add the following definition: Proper Invoice**:**

"Proper Invoice means a "proper invoice" as defined in the Payment Legislation, if any, and as may be modified by written agreement between the parties to the extent permitted by such Payment Legislation."

.2 Add the following definition: Submittals**:**

"Submittals are documents or items required by the Contract Documents to be provided by the Contractor such as:

- Shop Drawings, samples, models, mock ups to indicate details or characteristics, before the portion of the Work that they represent can be incorporated into the Work, and

- As-built drawings and manuals to provide instructions to the operation and maintenance of the Work."

SUPPLEMENTARY CONDITIONS

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS

.1 Delete paragraphs 1.1.3 and 1.1.4 in their entirety and replace them with the following:

"1.1.3 The Contractor shall review the Contract Documents for the purpose of facilitating and co-ordination and execution of the Work by the Contractor. The Contractor shall report promptly to the Consultant any ambiguities, design issues or other matters requiring clarification made known to the Contractor or that the Contractor may discover from such a review. Such review by the Contractor shall comply with the standard of care described in paragraph 3.9.1 of the Contract.

1.1.4 Except for its obligation to review the Contract Documents and report the result pursuant to paragraph 1.1.3, the Contractor is not responsible for ambiguities, design issues or other matters requiring clarification in the Contract Documents and does not assume any responsibility to the Owner or to the Consultant for the accuracy of the Contract Documents. Without limiting the foregoing, the Contractor shall not be liable for any damages or costs resulting from any ambiguities, design issues or other matters requiring clarification in the Contract Documents which the Contractor could not reasonably have discovered from such a review in accordance with the standard of care. If the Contractor does discover any ambiguities, design issues or other matters requiring clarification in the Contract Documents, the Contractor shall not proceed with the work affected until the Contractor has received modified or additional information from the Consultant. The impacts of any ambiguities, design issues or other matters requiring clarification in the Contract Documents, including to the Contract Price and Contract Time, shall be addressed by the parties in accordance with Part 6 – Changes

.2 Add the following to the end of subparagraph 1.1.6.2:

"Except to the extent the Consultant is indemnified as a third-party beneficiary as provided in subparagraphs 9.2.7.4 and 9.5.3.4 and in paragraph 13.1.3."

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.2 ROLE OF THE CONSULTANT

.1 In paragraph 2.2.3 add the following to the end:

"Without limiting the foregoing, the Consultant may appoint one or more authorized representatives in writing who may fulfill the obligations of the Consultant under this Contract."

.2 In paragraph 2.2.8 add the words ", written statements" after the word "interpretations" in both the first and second sentences; and

i. add the following to the end of paragraph 2.2.8:

"The Owner and the Contractor shall waive any claims against the Consultant arising out of its making of any interpretations, written statements or findings in accordance with paragraphs 2.2.6, 2.2.7, 2.2.8, and 7.1.2, but only to the extent that any such interpretations, written statements, and findings are made by the Consultant in an unbiased manner, and in accordance with the Consultant's professional standard of care at law."

.3 In paragraph 2.2.13 add the words "which are provided" before the words "by the Contractor".

GC 2.4 DEFECTIVE WORK

.1 In paragraph 2.4.1:

i. Add after the words "shall promptly correct" the phrase "in a manner acceptable to the Owner and the Consultant"; and

ii. Add after the words "Contract Documents" the phrase "or work that the Contractor discovers to be defective, whether or not the defective work had been identified by the Consultant, and".

.2 Add new paragraph 2.4.4 as follows:

"2.4.4 The Contractor shall prioritize the correction of any defective work which, in the sole discretion of the Owner, adversely affects the day-to-day operation of the Owner."

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

.1 Add new paragraph 3.1.3 as follows:

"3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the Contractor shall verify, at the Place of the Work, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the Work and shall further carefully compare such field measurements and conditions with the requirements of the Contract Documents. Where dimensions are not included or contradictions exist, or exact locations are not apparent, the Contractor shall immediately notify the Consultant in writing and obtain written instructions from the Consultant before proceeding with any part of the affected work."

GC 3.2 CONSTRUCTION BY OWNER AND OTHER CONTRACTORS

.1 Add new paragraph 3.2.7 as follows:

"3.2.7 At the commencement of the Work, the Contractor shall prepare for the review and acceptance of the Owner and the Consultant, a schedule indicating the times, within the construction schedule referred to in GC 3.4, that items that are specified to be Owner purchased and Contractor installed or hooked up are required at the site to avoid delaying the progress of the Work."

GC 3.7 LABOUR AND PRODUCTS

.1 Add the following to the end of paragraph 3.7.1:

"The Contractor represents that it has sufficient skilled employees to replace, subject to the Owner's approval, acting reasonably, its designated supervisor and project manager in the event of death, incapacity, removal or resignation."

.2 Add new paragraphs 3.7.4 and 3.7.5 as follows:

"3.7.4 The Owner shall provide the Contractor in a timely manner with all relevant information (including storage, protection, and installation requirements) regarding Products to be supplied by the Owner or other contractors and, prior to delivery of any such Products to the Place of the Work, the Owner shall obtain the Contractor's written approval of the delivery date and proposed storage, protection and installation requirements.

3.7.5 Once the Contractor has accepted delivery of Products, the Contractor shall be responsible for the safe storage and protection of Products as required to avoid dangerous conditions or contamination to the Products or other persons or property. Products shall be stored in locations and at the Place of the Work to the satisfaction of the Owner and the Consultant as agreed and approved by the Contractor pursuant to paragraph 3.7.4.

Notwithstanding the foregoing, the Contractor shall not be responsible for any Products supplied by the Owner or other contractors unless:

(i) the Contract Documents expressly stipulate that such Product is to be the Contractor's responsibility and to be installed by the Contractor as part of the Work;

(ii) the Contractor has or has received from the Owner proof of insurance coverage sufficient, at a minimum, to cover the replacement cost of such Product; and

(iii) the Owner obtained the Contractor's approval as required by paragraph 3.7.4."

GC 3.8 SHOP DRAWINGS

.1 Add the words “AND OTHER SUBMITTALS” to the title of GC 3.8 after the words “SHOP DRAWINGS”.

.2 Add the words “and Submittals” after the words “Shop Drawings” in paragraphs 3.8.1, 3.8.2, 3.8.3, 3.8.3.2, 3.8.5, 3.8.6, and 3.8.7.

.3 Delete paragraph 3.8.2 in its entirety and replace it with new paragraph 3.8.2 as follows: “3.8.2 Prior to the first application for payment, the Contractor and the Consultant shall jointly prepare a schedule of the dates for submission and return of Shop Drawings and Submittals in an orderly sequence.”

.4 Delete the words “with reasonable promptness so as to cause no delay in the performance of the Work” and replace them with the words “within 10 Working Days or such longer period as may be reasonably required” in paragraph 3.8.7.

GC 3.9 PERFORMANCE BY CONTRACTOR

.1 Add new General Condition GC 3.9 as follows:

“GC 3.9 PERFORMANCE BY CONTRACTOR

3.9.1 In performing its services and obligations under the Contract, the Contractor shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The Contractor acknowledges and agrees that throughout the Contract, the Contractor’s obligations, duties and responsibilities shall be interpreted in accordance with this standard. The Contractor shall exercise the same standard of due care and diligence in respect of any Products, personnel, or procedures which it may recommend to the Owner.”

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

.1 Delete paragraph 4.1.7 in its entirety and replace it with the following:

“4.1.7 At the commencement of the Work, the Contractor shall prepare for the review and acceptance of the Owner and the Consultant a schedule indicating the times within the construction schedule referred to in GC 3.4 that items called for under cash allowances are required to be delivered to the Place of the Work to avoid delaying the progress of the Work.”

.2 Add new paragraph 4.1.8 as follows:

“4.1.8 The Owner reserves the right to call, or to have the Contractor call, for competitive bids for portions of the Work to be paid for from cash allowances.”

PART 5 PAYMENT

GC 5.4 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

.1 Delete all paragraphs of GC 5.4 in their entirety and replace them with the following paragraphs:

"5.4.1 When the Contractor considers that the Work is substantially performed, or if permitted by the lien legislation applicable to the Place of the Work a designated portion thereof which the Owner agrees to accept separately is substantially performed, the Contractor shall, within five (5) Working Days, deliver to the Consultant and to the Owner a comprehensive list of items to be completed or corrected, together with a written application for a review by the Consultant to establish Substantial Performance of the Work or substantial performance of the designated portion of the Work. Failure to include an item on the list does not alter the responsibility of the Contractor to complete the Contract.

5.4.2 The Consultant will review the Work to certify or verify the validity of the application and shall promptly, and in any event, no later than 10 calendar days after receipt of the Contractor's application: .1 advise the Contractor in writing that the Work or the designated portion of the Work is not substantially performed and give reasons why, or .2 state the date of Substantial Performance of the Work or a designated portion of the Work in a certificate and issue a copy of that certificate to each of the Owner and the Contractor.

5.4.3 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the Owner shall, no later than 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the Place of the Work, place the holdback amount in a bank account in the joint names of the Owner and the Contractor.

5.4.4 Subject to the requirements of any Payment Legislation, all holdback amounts prescribed by the applicable lien legislation for the Place of the Work shall become due and payable to the Contractor no later than 10 Working Days following the expiration of the holdback period stipulated in the lien legislation applicable to the Place of the Work, as certified or verified by the Consultant when permitted by any Payment Legislation.

5.4.5 The Contractor shall submit an application for release of the lien holdback amount in accordance with the lien legislation applicable to the Place of the Work. Except to the extent required by any Payment Legislation, such application for release of the holdback shall not constitute an application for payment that is subject to Proper Invoice requirements.

5.4.6 Where legislation permits progressive release of the holdback for a portion of the Work and the Consultant has certified or verified that the part of the Work has been performed prior to Substantial Performance of the Work, the Owner hereby agrees to release, and shall release the holdback for such portion of the Work to the Contractor in accordance with such legislation.

5.4.7 Notwithstanding any progressive release of the holdback, the Contractor shall ensure that such parts of the Work are protected pending the issuance of a final certificate for payment or until the Owner takes early occupancy in accordance

with GC12.2, whichever comes first, and shall be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when the holdback was released."

GC 5.5 FINAL PAYMENT

.1 Add to the end of paragraph 5.5.1 the following sentence:

"The application for final payment shall meet the requirements of a Proper Invoice."

.2 Add the following to the end of paragraph 5.5.3:

"Subject to any Payment Legislation, when the Consultant finds the Contractor's application for final payment to be not valid, the Contractor shall revise and resubmit the application when the Contractor has addressed the reasons given by the Consultant."

PART 6 CHANGES IN THE WORK

GC 6.3 CHANGE DIRECTIVE

.1 Delete the word "and" from the end of subparagraph 6.3.7.18.

.2 Delete the period from the end of subparagraph 6.3.7.19 and replace it with "; and".

.3 Add new subparagraph 6.3.7.20 as follows: ".20 safety measures and requirements."

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

.1 Add new paragraph 6.4.5:

"6.4.5 The Contractor confirms that, prior to bidding the Project, it carefully reviewed the Place of the Work and applied to that review the degree of care and skill described in paragraph 3.9.1, given the amount of time provided between the issue of the bid documents and the actual closing of bids, the degree of access provided to the Contractor prior to submission of bid, and the sufficiency and completeness of the information provided by the Owner. The Contractor is not entitled to compensation or to an extension of the Contract Time for conditions which could reasonably have been ascertained by the Contractor by such review undertaken in accordance with this paragraph 6.4.5."

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

.1 Add the words "as noted in paragraph 6.6.3" after the words "of the claim" in paragraph 6.6.5 and add the words "and the Consultant", at the end of paragraph 6.6.5.

PART 8 DISPUTE RESOLUTION

GC 8.3 ADJUDICATION

.1 Delete the word “prescribed” from paragraph 8.2.1 and substitute the words “provided for”.

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

.1 Add the following new paragraphs 8.3.9 to 8.3.13:

“8.3.9 Within five days of receipt of the notice of arbitration by the responding party under paragraph 8.3.6, the Owner and the Contractor shall give the Consultant a written notice containing:

.1 a copy of the notice of arbitration;

.2 a copy of supplementary conditions 8.3.9 to 8.3.14 of this Contract, and;

.3 any claims or issues which the Contractor or the Owner, as the case may be, wishes to raise in relation to the Consultant arising out of the issues in dispute in the arbitration.

8.3.10 The Owner and the Contractor agree that the Consultant may elect, within ten days of receipt of the notice under paragraph 8.3.9, to become a full party to the arbitration under paragraph 8.3.6 if the Consultant:

.1 has a vested or contingent financial interest in the outcome of the arbitration;

.2 gives the notice of election to the Owner and the Contractor before the arbitrator is appointed;

.3 agrees to be a party to the arbitration within the meaning of the rules referred to in paragraph 8.3.6, and,

.4 agrees to be bound by the arbitral award made in the arbitration.

8.3.11 Without limiting and subject to the Owner and Contractor’s rights under paragraph 8.3.12 to challenge whether the Consultant has satisfied the requirements of paragraph 8.3.10, if an election is made under paragraph 8.3.10:

.1 the Owner or Contractor may request particulars and evidence of the Consultant’s vested or contingent financial interest in the outcome of the arbitration;

.2 the Consultant shall participate in the appointment of the arbitrator; and,

.3 notwithstanding the rules referred to in paragraph 8.3.6, the time period for reaching agreement on the appointment of the arbitrator shall begin

to run from the date the respondent receives a copy of the notice of arbitration.

8.3.12 The arbitrator in the arbitration in which the Consultant has elected under paragraph 8.3.10 to become a full party may:

.1 on application of the Owner or the Contractor, determine whether the Consultant has satisfied the requirements of paragraph 8.3.10,and;

.2 make any procedural order considered necessary to facilitate the addition of the Consultant as a party to the arbitration.

8.3.13 The provisions of paragraph 8.3.9 shall apply (with all appropriate changes being made) to written notice to be given by the Consultant to any sub-consultant."

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

.1 Delete subparagraph 9.1.1.1 in its entirety and replace it with the following:

".1 errors or omissions in the Contract Documents which the Contractor could not have discovered applying the standard of care described in paragraph 3.9.1;"

.2 Delete paragraph 9.1.2 in its entirety and replace it with the following:

"9.1.2 Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in the Contract Documents, or that are discoverable by applying to an inspection of the Place of the Work the degree of care and skill described in paragraph 3.9.1."

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

.1 Add the following words to paragraph 9.2.6 after the word "responsible":

"or whether any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others,"

.2 Add the words "and the Consultant" after the word "Contractor" in subparagraph 9.2.7.4.

.3 Add the following words to paragraph 9.2.8 after the word "responsible": "or that any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with legal and regulatory

requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others,"

GC 9.5 MOULD

.1 Add the words "and the Consultant" after the word "Contractor" in subparagraph 9.5.3.4.

PART 10 GOVERNING REGULATIONS

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

.1 Delete from the first line of paragraph 10.2.5 the word,

"The" and substitute the words "Subject to paragraph 3.9.1, the".

PART 12 OWNER TAKEOVER

GC 12.1 READY-FOR-TAKEOVER

.1 After the second occurrence of the term "Ready-for-Takeover" insert before the term "Ready for-Takeover" in paragraph 12.1.3 the words "determination of".

GC 12.2 EARLY OCCUPANCY BY THE OWNER

.1 Delete the word "achieve" in paragraph 12.2.4 and replace it with the words "have achieved".

GC 12.3 WARRANTY

.1 Delete the word "The" from the first line of paragraph 12.3.2 and replace it with the words "Subject to paragraph 3.9.1, the ".

PART 13 INDEMNIFICATION AND WAIVER

GC 13.1 INDEMNIFICATION

.1 Add new paragraph 13.1.0 as follows:

"13.1.0 The Contractor shall indemnify and hold harmless the Consultant, its agents and employees from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by third parties that arise out of, or are attributable to the Contractor's performance of the Contract, provided such claims are:

.1 attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, and

.2 caused by negligent acts or omissions of the Contractor or anyone for whose negligent acts or omissions the Contractor is liable, and

.3 made by Notice in Writing within a period of 6 years from the Ready-for Takeover date or within such shorter such period as may be prescribed by any limitation statute or the Province or Territory of the Place of Work."

.2 Add the words "13.1.0," after the word "paragraphs" in paragraph 13.1.3.

END OF SECTION

1. GENERAL

1.1 DESCRIPTION

1.1.1 CCDC2 2008 Stipulated Price Contract Articles GC No.1 to GC 12 inclusive.

1.2 DRAWING LIST

1.2.1 A complete list of drawings is included in Appendix A – Bid Form.

1.2.2 Any revised drawings issued prior to closing of tenders shall become part of the List of Drawings.

1.3 BUILDING CODES, SAFETY CODES, LAWS, REGULATIONS

1.3.1 Give all required notices and comply with all laws, ordinances, rules, regulations, codes and orders relating to the work which are or come in force during the performance of the work, for the preservation of the public health and construction safety. If the work as shown on the drawings is required to be changed, as per the governing authorities, that shall be brought to the attention of the Architect before starting the work.

1.3.2 Obtain and pay for all necessary permits, licences, certificates, and any other special permits required, except those specified, or which will be obtained and paid for by those subcontractors affected. The Owner will apply and pay for the Building Permit.

1.4 SCOPE OF WORK AND LOCATION

1.4.1 The work of this Contract and Location comprises the work shown on the drawings and as stated in the specifications.

1.4.2 Include all incidental, casual or relatively subordinate work occurring as a necessary but minor result of the major part of the work if not shown on the drawings or specified, but required to complete the contract as intended.

1.5 INTERPRETATION

1.5.1 No oral interpretations shall be effective to modify the provisions of the Contract Documents. Every request for an interpretation shall be made at once to the Architect.

1.5.2 The Architect will not be responsible for oral instructions.

1.5.3 Any questions on finish or colours are to be answered only by the Architect. Submit questions in ample time before the requested information is required.

1.5.4 Take instructions only from the Architect or his appointed consultant or inspection company.

1.6 CHANGE IN THE WORK

1.6.1 Written orders will only be made on official forms as follows:

Contemplated Change Order - to determine the value of additional work to the contract.

Change Order - where the value of contractual obligation has been determined.

1.7 **OWNERS WORK**

1.7.1 The Contractor shall make himself aware of the extent of work performed by Owner's own forces. Refer to the list below of various items which may affect the work of this Contract.

1.7.1.1 Supply and installation of signage.

1.7.2 Cooperate with Owner to facilitate all aspects of this work, and include in Tender allowance for coordination.

1.7.3 The Owner reserves the right to take over any completed portion of the building contract and to proceed with installation of his furnishings and equipment.

1.8 **TERMS**

1.8.1 The term “Owner” for the purposes of this contract shall be understood to mean:

The Municipality of West Nipissing (Municipal Office)
101-225, Holditch Street, Sturgeon Falls, Ontario, P2B 1T1

1.8.2 The term "Architect" shall refer to:

Perry + Perry Architects Inc
69 Young Street, Suite B1, Sudbury, Ontario P3E 3G5

1.8.3 The term "Contractor" and "Subcontractor" shall be as defined in the General Conditions of the Contract Documents.

1.9 **BUILDING CONDITIONS AND WORK SCHEDULE**

1.9.1 **EXISTING BUILDING AND ITS OPERATIONS**

1.9.1.1 Use existing services only by prior arrangements with the Building Owner.

1.9.2 **WORK SEQUENCE**

1.9.2.1 Submit a complete detailed completion schedule, including the estimated time of completion of each separate portion of the work.

1.9.3 **HOARDINGS**

1.9.3.1 Erect temporary exits, hoarding, snow fence or covered walkways to suit general progress of the work and maintain at all times during the construction to the approval of local Building Inspector.

1.9.3.2 The temporary exits, hoarding or covered walkway as required under above, may only be removed at the direction of the Architect, in specific cases.

1.9.4 **PUBLIC ACCESS DAMAGE**

1.9.4.1 Make good all damage done to public sidewalk, street and lanes to the satisfaction of the Local Authorities at no cost to the Owner.

1.10 **OVERLOADING**

1.10.1 Take precautions to prevent the overloading of any part of the existing structure, false work, or scaffolding, during operations, and make good, at own expense, any damage resulting from overloading. Do not cut bore or sleeve load-bearing members, without the written approval through the Architect and Structural Consultant.

1.11 **EXAMINATION OF SITE**

1.11.1 The General Contractor and Subcontractors will be deemed to have examined the drawings and specifications, visited the premises and site so as to compare them with the drawings and specifications and to have satisfied themselves as to the conditions of the premises, the means of access to same, the nature and quantity of works required before delivery of the tenders. Failure on the part of the General Contractor or his Subcontractors to fully acquaint themselves with local conditions will in no sense form the basis for any claims.

1.12 **SETTING OUT OF THE WORK**

1.12.1 On commencement of work, locate all general reference points and take action as is necessary to prevent their destruction; lay out own work, and be responsible for all lines, elevations and measurements of work executed under the contract. Exercise proper precautions to verify figures shown on the drawings, before laying out work, and be responsible for any error resulting from failure to exercise such precaution.

1.12.2 Verify existing conditions on the site and dimensions shown on the drawings and report any errors or inconsistencies to the Architect before commencing work. Note all irregularities affecting the work of any Section of the Specifications.

1.13 **COOPERATION OF PARTIES ON SITE**

1.13.1 The Contractor shall make himself aware of the requirements of every Section of the Specifications and be responsible for assisting and making proper preparations for the work of all trades.

1.13.2 The responsibility as to which subtrade provides required articles or materials to be built in or supplied rests entirely with the Contractor. Differences in interpretation of the Specifications or drawings shall not be grounds for extra payments.

1.13.3 Cooperate and coordinate the proper performance of work, and ensure continuity of the work to the satisfaction of the Contractor and requirements of the Contract.

1.13.4 Cooperate and coordinate the work with the staff.

1.14 **TAXES**

1.14.1 The Contractor to pay all Federal, Provincial and Municipal sales taxes and levies including all custom duties, excise taxes with respect to the contract as specified in the General Conditions of the Contract.

1.15 **MATERIAL, STORAGE AND HANDLING**

1.15.1 Handle and store materials in accordance with manufacturers' and suppliers' recommendations to prevent damage to materials during storage and handling.

1.15.2 Store packaged materials undamaged in their original wrappings or containers with manufacturer's labels and seals intact.

1.15.3 Crating and packing may only be removed to the extent necessary to permit inspection of the contents and replaced after inspection.

1.16 **SHOP DRAWING**

1.16.1 Submit shop drawings in accordance with GC3.10 of General Conditions. The cost of all shop drawings to be paid for under the respective Section.

1.17 **SAMPLES**

1.17.1 Submit in duplicate samples when requested by the Architect showing materials, colour and finish. The materials used in the construction shall correspond to the approved samples. Do not order materials until the samples are approved.

1.17.2 Identify each type of material, manufacturer and sub-contractor.

1.18 **TEMPORARY FACILITIES**

1.18.1 In existing rental premises, light, water, heat, power and other services may be used during construction at cost to the General Contractor.

1.18.2 During any interruptions of services provide adequate temporary light, water, heat and power.

1.18.3 Provide washroom facilities to meet the approval of local Authorities.

1.19 **PROGRESS PHOTOGRAPHS**

1.19.1 Provide monthly dated high resolution digital colour photographs, showing all work in progress and e-mail to Consultant.

2. **PRODUCTS**

2.1 **MATERIAL QUALITY**

2.1.1 Use manufactured products in accordance with specified manufacturer's instructions.

2.1.2 Submit tenders based solely on the various trade names as may be mentioned in that specific section of the Specifications and/or drawings. Trade names are used for the purpose of determining the quality, type or capacity of equipment and/or materials, and shall not be construed as excluding the products of the other manufacturers, except as noted. Comply with specified standards where trade names are not mentioned. The latest edition of specified standards shall apply, whether indicated or not.

2.2 **MATERIAL AVAILABILITY**

2.2.1 Should materials specified not be available for any reason, make recommendations covering the use of alternate materials and/or alternate construction methods to those shown in these documents which could cause earlier completion of the building or result in a cost saving to the Owner, while providing the intended quality of work.

3. EXECUTION

3.1 QUALIFICATION OF WORKMEN AND INSTALLERS

3.1.1 Provide at least one person with each trade, to be present at all times during execution of the work of that trade, and thoroughly trained and experienced in performing the work, and to direct all work performed under that Section. Continuously inspect all work to ensure it is properly executed.

3.1.2 For operating equipment, use only through trained and experienced operators.

3.1.3 For installation of various items of work, or for finishing work of any trade, use only personnel thoroughly trained and experienced operators.

3.1.4 In the acceptance or rejection of finished work, no allowance will be made for lack of skill on the part of people employed.

3.2 INSPECTION AND TESTING

3.2.1 Independent Inspection and Testing Companies where called for in the Specification shall be appointed by the Architect and will be under the technical direction of the Architect, with all costs paid from the cash allowances specified.

3.2.2 The Services performed by the Inspection and Testing Companies are a function to assist in the Architect's review of the work and are not intended to replace the Contractor's responsibility for conforming to the requirements of the Contract Documents. The Contractor shall be responsible for continuous checking and inspection to ensure the Contract performance is in accordance with the specified requirements as the work proceeds.

3.3 CLEAN-UP

3.3.1 In addition to the cleaning outlined in other Divisions, undertake the following special cleaning at completion of the work.

3.3.1.1 Clean glass. (Removal of dirt, stains and paint splashing are the responsibility of the trade concerned and are to have been done prior to the trade leaving the job.)

3.3.1.2 Remove all labels from fixtures, glazing, etc., excepting Underwriters and Canadian Standard labels.

3.3.1.3 Remove dust, dirt, stains and fingerprints from newly painted, decorated work, and from all floor and ceiling finishes. Touch up painted surfaces, ceiling tile, etc., where required.

3.3.1.4 Promptly as the work proceeds and upon completion, clean up and remove from premises, rubbish and surplus waste materials. Broom clean exterior walks, steps, ramps, pavements, etc. Remove all surplus materials and tools daily.

3.3.1.5 Remove all temporary facilities previously specified and make good any damaged finishes.

3.3.1.6 Wax or seal floors, as called for in the specifications.

3.4 TOUCH-UP/REPAIRS/START-UP

3.4.1 Conduct an inspection of the work and instruct all trades, and own forces to repair, touch-up, adjust, etc., all defective work or damages and leave ready for final review by Architect.

3.4.2 All items of equipment, mechanical or electrical systems, other operating items, parts or systems shall be pre-tested, tried, started up, operated, etc., for a period of time to reveal any faults which shall be promptly corrected and left in a fully operational order or condition prior to final acceptance.

3.4.3 Notify the Architect in writing of any mechanical, electrical or other operating items to be adjusted, balanced or corrected at a later date after completion of the project.

3.5 **TAKE-OVER PROCEDURE**

3.5.1 Prior to inspection, verify the following work is performed.

3.5.1.1 All glass cleaned, and all painted and finished work shall have all marks removed, as Article 3.3.

3.5.1.2 Site - cleaned and free of all construction debris.

3.5.1.3 Work under Electrical Divisions - in full operating condition, when specified in this Contract.

3.6 **RECORD DRAWINGS**

3.6.1 During the progress of the work, together with the Mechanical and Electrical trades, keep on the site at all times, a complete and separate set of black line prints and note thereon clearly, neatly, accurately and promptly, all Architectural, Mechanical and Electrical changes, revisions and additions to the work and deviations from the Contract Documents. Accurate locations, depth, size and type of outside underground utilities are to be included in these record drawings. Drawings are to be presented at each job meeting.

3.7 **PERFORMANCE ASSURANCE**

3.7.1 Guarantees, Warranties and Bonds shall commence from the date of substantial completion of the work.

3.7.1.1 The Contractor shall assemble and prepare two 3-ring binders containing all guarantees called for in the Specifications, including an air balance report enclosed in plastic envelopes, and all maintenance requirements.

3.7.1.2 All guarantees shall be in the name of the Owner and be delivered to the Architect prior to the final inspection of the building.

3.7.1.3 Guarantees, warranties and bonds shall show the following: name and address of project, guaranty commencement date (date of substantial completion), duration of guarantee, clear indication of what is guaranteed and remedial action which will be performed, signature and seal of Contract.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Documents and precedence.

.2 Description of the Work.

.3 Contract method.

.4 Documents provided.

.5 Performance of the Work.

.6 Work sequence.

.7 Work by Owner.

.8 Owner supplied Products.

.9 Work by others.

.10 Future work.

.11 Contractor use of premises.

.12 Owner occupancy.

.13 Building Codes, Safety Codes, Laws, Regulations

1.2 RELATED SECTIONS

.1 Section 01 21 00 - Allowances

.2 Section 01 78 10 - Closeout Submittals.

.3 This section describes requirements applicable to all Sections within Divisions 02 to 33.

1.3 RELATED DOCUMENTS

.1 Agreement, General Conditions, and Supplementary Conditions.

.2 Other Division 1 specification sections.

.3 This section describes requirements applicable to all Sections within Divisions 02 to 33.

1.4 WORDS AND TERMS

.1 Refer to and acknowledge other words, terms, and definitions in CCDC 2 2020 Definitions.

1.5 COMPLEMENTARY DOCUMENTS

.1 Drawings, specifications, and schedules are complementary each to the other and what is called for by one to be binding as if called for by all. Should any discrepancy appear

between documents which leaves doubt as to the intent or meaning, abide by Precedence of Documents article below or obtain direction from the Consultant.

.2 Drawings indicate general location and route of conduit and wire/conductors. Install conduit or wiring/conductors and plumbing piping not shown or indicated diagrammatically in schematic or riser diagrams to provide an operational assembly or system.

.3 Install components to physically conserve headroom, to minimize furring spaces, or obstructions.

.4 Locate devices with primary regard for convenience of operation and usage.

.5 Examine all discipline drawings, specifications, and schedules and related Work to ensure that Work can be satisfactorily executed. Conflicts or additional work beyond work described to be brought to attention of Consultant.

1.6 PRECEDENCE OF DOCUMENTS

.1 In the event of conflict within and between the Contract Documents, the order of priority within specifications and drawings are - from highest to lowest:

- .1 Agreement - Between Owner and Contractor,
- .2 Supplementary Conditions (if any),
- .3 General Conditions of the Contract,
- .4 Sections of Division 1 of the specifications,
- .5 Specifications:
  - .1 Sections of Divisions 2 through 33 of the specifications, and
  - .2 Specifications specifically indicated on drawings.
- .6 Schedules and keynotes:
  - .1 schedules within the specifications, then
  - .2 schedules on drawings.
- .7 Drawings:
  - .1 Drawings of larger scale shall govern over those of smaller scale of the same date, then
  - .2 Dimensions shown on drawings shall govern over dimensions scaled from drawings, then
  - .3 Location of utility outlets indicated on architectural detail drawings takes precedence over positions or mounting heights located on mechanical or electrical drawings.
- .8 Later dated documents shall govern over earlier documents of the same type.

.2 In the event of conflict between documents, the decision of the Consultant shall be final.

1.7 DESCRIPTION OF THE WORK

.1 Work of this Contract includes the redevelopment of Baseball Field 1 and Field 2 and related site work located at Goulard Park, Sturgeon Falls, ON and identified as Contract Number #2026-014 (2521).

.2 Division of the Work among other contractors, Subcontractors, suppliers or vendors is solely the Contractor's responsibility. The Owner assumes no responsibility to act as an arbiter to establish subcontract terms between sectors or disciplines of work.

1.8 CONTRACT METHOD

.1 Construct Work under single, CCDC2 2020 Stipulated Price Contract.

.2 Refer to Section 01 21 00 Allowances for cash allowance amounts applicable to assignable contracts.

.3 Assume responsibility for assigned contracts as Subcontracts forming part of the Work.

.4 Contract Documents were prepared by the Consultant for the Owner. Any use which a third party makes of the Contract Documents, or any reliance on or decisions to be made based on them, are the responsibility of such third parties. The Owner or Consultant accepts no responsibility for damages, suffered by any third party as a result of decisions made or actions based on the Contract Documents.

1.9 DOCUMENTS PROVIDED

.1 The Contractor may obtain additional sets of Contract Documents at the cost of printing, handling and shipping.

.2 An electronic set of documents will be provided near the end of the Project for purposes of transferring changed information recorded on as-built documents to the electronic Record Documents.

1.10 SPECIFICATION GRAMMAR

.1 Specifications are written in the imperative mood, in an abbreviated form.

.2 The imperative language of the technical sections is directed to the Contractor, unless specifically noted otherwise.

.1 This form of statement requires the Contractor to perform such action or work.

.2 Perform all requirements whether stated imperatively or otherwise.

1.11 PERFORMANCE OF THE WORK

.1 Substantial Performance of the Work is required before June 22, 2026.

1.12 WORK SEQUENCE

.1 Coordinate Progress Schedule and with Owner use during construction.

.2 Maintain fire access and control of fire protection equipment.

1.13 WORK BY OWNER

.1 Reserved

1.14 OWNER-SUPPLIED PRODUCTS

.1 Obtain the necessary shop drawings from the Owner and proceed to coordinate details for installation, expedite, receive, unload, install, connect and test the specified equipment, and be responsible for warranty.

.2 Equipment specifications for pre-purchased items are included at the end of the project specification, printed for confirmation only.

.3 Receive Owner-supplied Products and equipment F.O.B. and store and process Products and equipment until installation.

.4 Owner Responsibilities:

.1 Arrange for delivery of shop drawings, product data, samples, manufacturer's instructions, and certificates to Contractor.

.2 Deliver supplier's bill of materials to Contractor.

.3 Arrange and pay for delivery to the Place of the Work in accordance with Progress Schedule.

.4 Inspect deliveries jointly with Contractor.

.5 Submit claims for transportation damage.

.6 Arrange for replacement of damaged, defective or missing items.

.7 Arrange for manufacturer's field services; arrange for and deliver manufacturer's warranties and bonds to Contractor.

.5 Contractor Responsibilities:

.1 Designate submittals and delivery date for each Product in progress schedule.

.2 Review shop drawings, product data, samples, and other submittals. Submit to Consultant, notification of any observed discrepancies or problems anticipated due to non-conformance with Contract Documents.

.3 Receive and unload Products at site.

.4 Inspect deliveries jointly with Owner; record shortages, and damaged or defective items.

.5 Handle Products at site, including uncrating and storage.

.6 Protect Products from damage, and from exposure to elements.

.7 Assemble, install, connect, adjust, and finish Products.

.8 Arrange for installation inspections required by public authorities.

.9 Repair or replace items damaged by Contractor or Subcontractor on site (under their control).

.6 Schedule of Owner-Supplied Contractor Installed Products.

.1 Reserved.

1.15 WORK BY OTHERS

.1 Work of Project executed prior to start of and/or during Work of this Contract, and which is specifically excluded from this Contract:

.1 Reserved.

.2 Work of Project which will be executed after completion of Work of this Contract, and which is specifically excluded from this Contract:

.1 Reserved.

.3 Work of this Project must include provisions for coordinating additional and/or related work, identified in Contract Documents, for following principal items.

.1 Reserved.

1.16 FUTURE WORK

.1 Reserved

1.17 CONTRACTOR USE OF PREMISES

.1 Contractor has restricted use of site until Substantial Performance of the Work.

1.18 OWNER OCCUPANCY

.1 Owner will occupy the premises during entire construction period.

.2 Cooperate with Owner in maintaining building access to the public during facility hours which is typically after 4:00pm.

.3 Maintain fire and life safety systems and public access to exits during all stages of the Work.

1.19 BUILDING CODES, SAFETY CODES, LAWS, REGULATIONS

.1 Give all required notices and comply with all laws, ordinances, rules, regulations, codes and orders relating to the work which are or come in force during the performance of the work, for the preservation of the public health and construction safety. If the work as shown on the drawings is required to be changed, as per the governing authorities, that shall be brought to the attention of the Architect before starting the work.

.2 Obtain and pay for all necessary permits, licences, certificates, and any other special permits required, except those specified, or which will be obtained and paid for by those subcontractors affected. The Owner will pay for the Building Permit however the Contractor shall prepare the Building Permit Application.

End of Section

1. SUBMISSION OF QUOTATION

1.1 If the Consultant determines that the cost of the work will be affected due to a contemplated change, the Contractor shall submit a quotation to the Consultant in accordance with the instructions specified herein.

2. GENERAL

2.1 Quotations for Contemplated Change Notices must include a detailed breakdown of all labour, material, plant and equipment costs incurred by the Contractor. Quotations from subcontractors involved in the change must also be supported by similarly detailed breakdowns of the subcontractors' costs.

2.2 It is the responsibility of the Contractor to ensure that all subcontractors' quotations included in the Contractor's quotation to the Consultant are fair and reasonable in view of the terms expressed herein.

2.3 The labour hours required for the contemplated change shall be based on the estimated number of hours to perform the work.

2.4 Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and the Consultant.

2.5 Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates.

2.6 Mark-ups referred to in Sections 5 and 6 below are not to be included in the hourly labour rates.

2.7 Credit for work deleted will only be for the work directly associated with the changes stipulated in the particular Contemplated Change Notice.

2.8 When a change deletes work which has not yet been performed, the Consultant is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted.

2.9 Mark-ups referred to in Sections 5 and 6 below shall not be applied to any credit amounts for deleted work.

2.10 In those cases where the change involves additions and deletions to the work, the percentage mark-ups referred to in Sections 5 and 6 below shall apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The percentage allowance shall only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions.

2.11 If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor shall identify and include the resulting cost in the breakdown of its quotation to the Consultant.

2.12 The work shall conform to the contract documents unless otherwise stated in the Contemplated Change Notice, Change Order or Site Instruction (1) signed by the Consultant.

2.13 Upon acceptance of the Contractor's quotation by the Consultant, the Consultant shall prepare and issue the formal Change Order.

3. HOURLY LABOUR RATES

3.1 The hourly labour rates listed in the Contractor's quotation shall be determined in accordance with the collective agreements that are applicable at the site of the work and shall include:

- .1 The base rate of pay.
- .2 Vacation pay.
- .3 Benefits which includes:
  - .1 Welfare contributions
  - .2 Pension contributions.
  - . .3 Union dues.
  - .4 Training and industry funds contributions.
  - .5 Other applicable benefits, if any, that can be substantiated by the Contractor.
- .4 Statutory and legislated requirements, assessed and payable under statutory authority, which includes:
  - .1 Employment Insurance contributions.
  - .2 Canada Pension Plan or Quebec Pension Plan contributions.
  - .3 Worker's Compensation Board or Commission de la santé et de la sécurité du travail premiums.
  - .4 Public Liability and Property Damage insurance premiums.
  - .5 Health tax premiums.

3.2 In the case of non-union labour, all rates claimed shall be in accordance with the terms of the Labour Conditions forming part of this contract and the Contractor must provide satisfactory proof of the rates actually paid. Non-union rates shall not exceed rates payable under any applicable collective trade agreement unless approved in writing by the Consultant.

4. MATERIAL, PLANT AND EQUIPMENT COSTS

4.1 The costs of all purchases and rentals must be based on the actual amount paid to the suppliers by the Contractor or subcontractor and said costs are to include all applicable discounts.

5. ALLOWANCE ON WORK BY OWN FORCES

5.1 Contractor's mark-up on its own work:

Overhead/Profit	Change Value
20%	between $0 to $1,999.99
15%	between $2,000.00 to $9,999.99
10%	over $10,000.00

The mark-up shall include all of the costs of all labour, material, plant and equipment furnished or supplied by the Contractor or subcontractor that is required by the contemplated change, shall be added to the Contractor's or subcontractor's quotation as full compensation for:

- .1 All supervision, coordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.
- .2 Miscellaneous additional costs related to:
  - .1 The purchase or rental of material, plant and equipment.
  - .2 The purchase of small tools and supplies.
  - .3 Safety and protection measures.
  - .4 Permits, bonds, insurance, Consultanting, as-built drawings,

commissioning and site office.

6. ALLOWANCE ON WORK BY SUBCONTRACTORS

6.1 Contractor's mark-up on each individual Subcontractor's work:

Overhead/Profit	Change Value
15%	between $0 to $1,999.99
10%	between $2,000.00 to $9,999.99
5%	over $10,000.00

The mark-up shall include the total of all quotations received from subcontractors, shall be added to the Contractor's quotation as full compensation for:

.1 All supervision, coordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.

.2 Miscellaneous costs related to:

- .1 Safety and protection measures.
- .2 Permits, bonds, insurance, engineering, as-built drawings, commissioning and site office.

.3 Subcontractor's mark-up on its own work:

- .1 Overhead: 10%
- .2 Profit: 5%

.4 Subcontractor's mark-up on sub-subcontractor's work:

- .1 Overhead: 5%
- .2 Profit: 5%

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Connecting to existing services.

.2 Special scheduling requirements.

1.2 RELATED SECTIONS

.1 Section 01 01 00 – General Conditions.

.2 Section 01 33 00 - Submittal Procedures.

.3 This section describes requirements applicable to all Sections within Divisions 02 to 33.

1.3 EXISTING SERVICES

.1 Notify Owner and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give Owner, 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work.

.1 Keep duration of interruptions minimum.

.2 Perform interruptions after normal working hours of occupants, preferably on weekends.

.3 Provide for personnel and vehicular traffic.

.4 Construct barriers in accordance with Section 01 53 00.

1.4 SPECIAL REQUIREMENTS

.1 Perform noise generating work:

.1 from Monday to Friday from 08:00 to 17:00 hours, and

.2 on Saturdays, Sundays, and statutory holidays to Owner approval.

.2 Municipal Operations: The building shall remain operational and functional at all times.

.3 Submit schedule of special requirements or disruptions in accordance with Section 01 33 00.

1.5 SPECIAL DATES

.1 The following dates and/or events are considered to be dates that construction work cannot proceed unless approved by the Owner:

.1 Reserved

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Words and terms.

.2 Complementary documents.

.3 Specification grammar.

1.2 RELATED DOCUMENTS

.1 CCDC2 2020 - Agreement and Definitions.

.2 CCDC2 2020 - General Conditions.

.3 Section 00 73 03 - Supplementary Conditions.

.4 Section 01 10 00 - Summary of Work.

.5 This section describes requirements applicable to all Sections within Divisions 02 to 33.

1.3 WORDS AND TERMS

.1 Conform to Definitions and their defined meanings in the Definitions portion of CCDC2 2020 and Section 00 73 03 - Supplementary Conditions for supplementary words and terms.

1.4 COMPLEMENTARY DOCUMENTS

.1 Generally, drawings indicate graphically, the dimensions and location of components and equipment. Specifications indicate components, assemblies, and identify quality.

.2 Drawings, specifications, diagrams and schedules are complementary, each to the other, and what is required by one, to be binding as if required by all.

.3 Should any conflict or discrepancy appear between documents, which leave doubt as to the intent or meaning, apply the Precedence of Documents article below or obtain guidance or direction from Consultant.

.4 Install piping, conduit or wire conductors and fixtures not shown or indicated diagrammatically in schematic or riser diagrams, to result in an operational assembly or system.

.5 Install components to physically conserve headroom, to minimize furring spaces, or obstructions.

.6 Locate devices with primary regard for convenience of operation and usage.

.7 Examine all discipline drawings, specifications, and schedules and related Work to ensure that Work can be satisfactorily executed.

.8 Conflicts or perceived additional work, beyond work described, notify Consultant.

.9 All sections of the Project Manual are affected by the requirements of Division 1 sections.

1.5 SPECIFICATION GRAMMAR

.1 Specifications are written in the imperative (command) mode, in an abbreviated form.

.2 Imperative language of the technical sections is always directed to the Contractor as sole executor of the Contract, unless specifically noted otherwise.

.1 This form of statement requires the Contractor to perform such action or Work.

.2 Perform all requirements of the Contract Documents whether stated imperatively or otherwise. Division of the Work among subcontractors, suppliers, or others is solely the Contractor's responsibility. The specification author assumes no responsibility to function or act as an arbiter to establish subcontract scope or limits between sections or divisions of work.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Cash allowances.

.2 Inspection and testing allowances.

.3 Contingency allowance.

1.2 RELATED SECTIONS

.1 Section 01 01 00 – General Conditions.

.2 This section describes requirements applicable to all Sections within Divisions 02 to 16.

1.3 CASH ALLOWANCES

.1 Costs Included in Cash Allowances: Cost of Product to Contractor, less applicable trade discounts; delivery to site, and applicable taxes.

.2 If a Cash Allowance item described in the Allowances Schedule below indicates the inclusion of installation, include in the Cash Allowance amount, provision for Product handling at the site, including unloading, uncrating, storage, protection of Products from elements and from damage, labour for installation and finishing, insurance, labour costs, taxes, bonding if applicable, equipment rental, overhead and profit.

.3 If a Cash Allowance item described in the Allowances Schedule below indicates supply only, include in the Contract Price costs not included in Cash Allowances but included in the Contract Price: Product handling at the site including unloading, uncrating, storage, protection of Products from elements and from damage, labour for installation and finishing, insurance, labour costs, taxes, bonding if applicable, equipment rental, overhead and profit.

.4 Consultant Responsibilities:

- .1 Consult with Contractor for consideration and selection of Products, suppliers, and installers.
- .2 Owner and Consultant to select Products.
- .3 Prepare Change Order.

.5 Contractor Responsibilities:

- .1 Assist Consultant in selection of Products, suppliers and installers.
- .2 Obtain proposals from suppliers and installers and offer recommendations.
- .3 On notification of selection by Consultant or Owner, execute purchase agreement with designated supplier and installer.
- .4 Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
- .5 Promptly inspect Products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

.6 Differences in costs will be adjusted by Change Order.

1.4 INSPECTING AND TESTING ALLOWANCES

.1 Costs Included in Inspecting and Testing Allowances: Cost of engaging an inspecting or testing agency; execution of inspecting and tests; and reporting results.

.2 Costs Not Included in the Inspecting and Testing Allowance but Included in the Contract Price:

.1 Costs of incidental labour and facilities required to assist inspecting or testing agency.

.2 Costs of testing services used by Contractor separate from Contract Document requirements.

.3 Costs of retesting upon failure of previous tests as determined by Consultant.

.3 Inspecting and Testing Allowances Schedule:

.1 Include the sum of $5,000.00 for Independent Inspecting and Testing required of the work

1.5 PROTECTIVE NETTING ALLOWANCE

.1 Include in the Contract, a stipulated price of $20,000.00 for a Protective Netting Allowance for the supply and installation of Protective Netting.

.2 Contractor's costs for Products, delivery, installation, labour, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance

1.6 CONTINGENCY ALLOWANCE

.1 Include in the Contract, a stipulated price of $50,000.00 for a Construction Contingency Allowance for use upon Owner's written instruction via Change Order.

.2 Contractor's costs for Products, delivery, installation, labour, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Shop drawings and product data.

.2 Samples.

.3 Certificates and transcripts.

1.2 RELATED SECTIONS

.1 Section 01 32 00 - Construction Progress Documentation.

.2 Section 01 78 10 - Closeout Submittals.

.3 Other sections requesting submittals.

.4 This section describes requirements applicable to all Sections within Divisions 02 to 16.

1.3 ADMINISTRATIVE

.1 Submit to Consultant submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Work affected by submittal shall not proceed until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in Imperial inch-pound units.

.4 Where items or information is not manufactured or produced in Imperial inch pound units, converted values within the metric measurement tolerances are acceptable.

.5 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents.

.6 Submittals not stamped, signed, dated, identified as to specific project, and attesting to their being reviewed will be returned without being examined and shall be considered rejected.

.7 Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.8 Verify field measurements and affected adjacent Work are coordinated.

.9 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.

.10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.

.11 Keep one reviewed copy of each submission on site.

1.4 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.3 Allow ten (10) days for Consultant's review of each submission.

.4 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.5 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of any revisions other than those requested.

.6 Accompany submissions with transmittal letter, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.7 Submissions shall include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Fabrication.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.
  - .7 Operating weight.
  - .8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to other parts of the Work.

.8 After Consultant's review, distribute copies.

.9 Submit six (6) prints and electronic copy of shop drawings for each requirement requested in specification Sections and as consultant may reasonably request.

.10 Submit six (6) and electronic copies of product data sheets or brochures for requirements requested in specification sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.

.11 Delete information not applicable to project.

.12 Supplement standard information to provide details applicable to project.

.13 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and re-submission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.5 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Consultant's business address.

.3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.6 Make changes in samples which Consultant may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.6 MOCK-UP

.1 Erect mock-ups in accordance with 01 43 00 and 01 45 00.

1.7 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

.2 Submit transcription of insurance immediately after award of Contract.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Safety requirements and adherence.

1.2 RELATED SECTIONS

.1 Section 01 31 00 - Project Managing and Coordination.

.2 Section 01 33 00 - Submittal Procedures.

.3 This section describes requirements applicable to all Sections within Divisions 02 to 16.

1.3 REFERENCES

.1 Occupational Health and Safety Act, Regulation and Code RSO 1990 c.01.

1.4 MUNICIPALILTY REQUIRMENTS

.1 Competent person: Contractor is responsible using their training, knowledge and experience to protect the health and safety of their workers and others, reporting to their supervisor the absence of, or defect in any protective equipment or device, and reporting to their supervisor, any circumstances or conditions that may limit their ability to comply with the requirements of the OHSA and the Municipality of West Nipissing Safety policy.

.2 Equipment & tools: All equipment and tools used by the contractor shall conform to Canadian Standards Association (CSA) or manufacture specifications. The Municipality of West Nipissing reserves the right to prohibit the use of any equipment and methods or practices that do not conform to acceptable standards. Defective equipment and tools shall be removed from the work site premises immediately.

.3 PPE: All workers must wear appropriate CSA approved eye protection, hearing protection, CSA approved hard hats, CSA approved foot protection and CSA approved gloves at all time while working on the job site.

.4 Fall protection: Safety harness and lanyard are required by anyone working more than 3 meters above a surface. The safety harness must be secured to a fixed support so that a worker cannot fall more than five feet. Proof of certification shall be submitted before starting any work at height.

.5 WHMIS: No hazardous material is to be stored or used on work site by the contractor unless the prescribed requirements concerning labelling material safety data sheets (MSDSs) and worker instruction and training are met.

.6 MSDS: Material safety data sheets for all hazardous products shall be kept on site for this project.

.7 Weekly safety meetings: Contractor shall conduct weekly safety meetings with their workers and identify concerns or potential hazards on the job site. Weekly safety meeting shall be signed by all workers and a copy of the safety meeting shall be submitted to the contract administrator weekly.

.8 Proof of training: The contractor shall submit within five (5) calendar days after the contract award, copies of WHMIS, copies of health and safety awareness, first aid

certificate and certificates pertaining to the work being done for all workers working on the job site.

.9 Reporting: Contractor must report immediately to the contract administrator all workplace incidents, near misses, injuries and illnesses and environmental damages. Contractor shall also report accidents/incidents to the ministry of labour or any other appropriate authority required by legislation.

.10 Supervision: Contractor shall comply with OHSA regulations.

.11 Health & Safety Station: Contractor shall provide at all time a dedicated station for workers to have access to the contractors H&S manual, the emergency response plan, the OH&S Pocket book, MSDS sheets, WSIB information, Eye wash stations and emergency aid kit.

.12 WSIB: Contractor shall provide the Municipality with a current WSIB Clearance Certificate within five (5) days of contract award. The successful Bidder shall submit material safety data sheets for all trades to the Owner's Consultant for review by the Owner, in accordance with the Canada Labour Code regulations for toxic and hazardous substances that will be used on the project. Material safety data sheets must be submitted to the Owner's Consultant at least three weeks prior to the hazardous substances being delivered to the site. The successful Bidder shall keep on site at all times copies of the material safety data sheets in a binder which will be handed over to the Owner at completion of the project.

1.5 SAFETY PLAN

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.6 RESPONSIBILITY

.1 The Prime Contractor according the the Act, is responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

.3 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction. Advise Consultant verbally and in writing.

1.7 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00.

.2 Submit site-specific Health and Safety Plan: Within seven (7) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation [found in work plan].

.3 Submit one (1) copy of Contractor's authorized representative's work site health and safety inspection reports to Consultant monthly.

.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Submit Material Safety Data Sheets (MSDS) to Consultant.

.7 Medical Surveillance: Where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Consultant.

.8 On-site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.

.1 File Notice of Project with Provincial authorities prior to commencement of Work.

1.8 SAFETY ACTIVITIES

.1 Perform site specific safety hazard assessment related to project.

.2 Schedule and administer Health and Safety meeting with Consultant prior to commencement of Work.

.3 Perform Work in accordance with Section 01 41 00 - Regulatory Requirements and this section.

1.9 HEALTH AND SAFETY COORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:

.1 Have minimum two (2) years' site-related working experience specific to activities associated with the scope of the work.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.10 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Consultant.

1.11 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.

.2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.

.3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.12 PROJECT/SITE CONDITIONS

.1 Work at site will involve contact with:

.1 Reserved.

1.13 HAZARDOUS WORK

.1 Blasting or other use of explosives is not permitted without prior receipt of written instruction by Consultant.

.2 Use powder actuated devices only after receipt of written permission from Consultant.

1.14 WORK STOPPAGE

.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

1.15 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

.3 Maintain placed or installed fire resistive construction, fireproofing, firestopping, to protect the portions of the Work during construction.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Field engineering survey services to measure and stake site.

.2 Recording of subsurface conditions found.

.3 Survey services to determine measurement inverts for the Work.

.4 Requirements and limitations for cutting and patching the Work.

1.2 RELATED SECTIONS

.1 Section 01 62 00 - Product Exchange Procedures.

.2 This section describes requirements applicable to all Sections within Divisions 02 to 33.

1.3 REFERENCES

.1 Owner's identification of existing survey control points and property limits.

1.4 SUBMITTALS

.1 Submit name and address of Surveyor to Consultant.

.2 On request of Consultant, submit documentation to verify accuracy of field engineering work.

.3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform and do not conform with Contract Documents.

1.5 QUALIFICATIONS OF SURVEYOR

.1 Qualified registered land surveyor, licensed to practise in the Place of the Work, acceptable to Consultant.

1.6 SURVEY REFERENCE POINTS

.1 Existing base horizontal and vertical control points are designated on Drawings.

.2 Locate, confirm and protect control points prior to starting site Work. Preserve permanent reference points during construction.

.3 Make no changes or relocations without prior written notice to Consultant.

.4 Report to Consultant when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

.5 Require surveyor to replace control points in accordance with original survey control.

1.7 SURVEY REQUIREMENTS

.1 Establish two (2) permanent bench marks on site, referenced to established bench marks by survey control points.

.2 Record locations, with horizontal and vertical data in Project Record Documents.

.3 Establish lines and levels, locate and lay out, by instrumentation.

.4 Stake for grading, fill and topsoil placement and landscaping features.

.5 Stake slopes and berms.

.6 Establish pipe invert elevations.

.7 Stake batter boards for foundations.

.8 Establish foundation, column locations and floor elevations.

.9 Establish lines and levels for mechanical and electrical work.

1.8 SUBSURFACE CONDITIONS

.1 Promptly notify Consultant in writing if discovered surface or subsurface conditions at Place of Work differ materially from those indicated in Contract Documents.

.2 Advise the Consultant of a reasonable assumption of probable conditions when determined.

.3 After prompt investigation, should Consultant determine that conditions do differ materially, instructions will be issued for changes in Work .

1.9 EXAMINATION

.1 Inspect existing conditions, including elements or adjacent Work subject to irregularities, damage, movement, including Work during cutting and patching.

.2 After uncovering, inspect conditions affecting performance of the Work.

.3 Beginning of cutting or patching means acceptance of existing conditions.

1.10 PREPARATION

.1 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

.2 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.

1.11 EXISTING SERVICES

.1 Before commencing work, establish location and extent of service lines in area of Work and notify Consultant of findings.

.2 Remove abandoned service lines within 2 metres of structures. Cap or seal lines at cut-off points as directed by Consultant.

1.12 LOCATION OF EQUIPMENT AND FIXTURES

.1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.

.2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.

.3 Inform Consultant of impending installation and obtain approval for actual location.

.4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.

1.13 SURVEY RECORD

.1 Maintain a complete, accurate log of control and survey work as it progresses.

.2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.

.3 Record locations of maintained, re-routed and abandoned service lines.

End of Section

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Requirements and limitations for cutting and patching of Work.

1.2 RELATED SECTIONS

.1 Section 01 10 00 - Summary of Work: Work by Owner.

.2 Individual Product Specification Sections:

.1 Cutting and patching incidental to work of the section.
.2 Advance notification to other sections of openings required in Work of those sections.
.3 Limitations on cutting structural members.

1.3 SUBMITTALS

.1 Submit written request in advance of cutting or alteration which affects:

.1 Structural integrity of any element of Project.
.2 Integrity of weather exposed or moisture resistant element.
.3 Efficiency, maintenance, or safety of any operational element.
.4 Visual qualities of sight exposed elements.
.5 Work of Owner or separate contractor.

.2 Include in request:

.1 Identification of Project.
.2 Location and description of affected Work.
.3 Necessity for cutting or alteration.
.4 Description of proposed Work and Products to be used.
.5 Alternatives to cutting and patching.
.6 Effect on work of Owner or separate contractor.
.7 Written permission of affected separate contractor.
.8 Date and time work will be executed.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Primary Products: Those required for original installation.

.2 Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 01 00.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

.2 After uncovering existing Work, assess conditions affecting performance of work.

.3 Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

.1 Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

.2 Provide protection from elements for areas which may be exposed by uncovering work.

.3 Maintain excavations free of water.

3.3 CUTTING

.1 Execute cutting and fitting [including excavation and fill] to complete the Work.

.2 Uncover work to install improperly sequenced work.

.3 Remove and replace defective or non-conforming work.

.4 Remove samples of installed work for testing [when requested].

.5 Provide openings in the Work for penetration of mechanical and electrical work.

.6 Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

.7 Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

3.4 PATCHING

.1 Execute patching to complement adjacent Work.

.2 Fit Products together to integrate with other Work.

.3 Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

.4 Employ original installer to perform patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.

.5 Restore work with new Products in accordance with requirements of Contract Documents.

.6 Fit work air tight to pipes, sleeves, ducts, conduit, and penetrations through surfaces.

.7 At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00 to full thickness of the penetrated element.

.8 Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Inspections and declarations.

.2 Closeout submittals

.3 Operation and maintenance manual format.

.4 Contents each volume.

.5 Recording actual site conditions.

.6 Record (as-built) documents and samples.

.7 Record documents.

.8 Final survey.

.9 Warranties and bonds.

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 This section describes requirements applicable to all Sections within Divisions 02 to 16.

1.3 INSPECTIONS AND DECLARATIONS

.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Consultant's Inspection.

.2 Consultant's Inspection: Consultant and Contractor will perform inspection of Work to identify defects or deficiencies. Correct defective and deficient Work accordingly.

.3 Completion: submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Equipment and systems have been tested, adjusted and balanced and are fully operational.

.4 Certificates required by authorities having jurisdiction have been submitted.

.5 Operation of systems have been demonstrated to Owner's personnel.

.6 Work is complete and ready for Final Inspection.

.4 Final Inspection: when items noted above are completed, request final inspection of Work by Owner, Consultant and Contractor. If Work is deemed incomplete by Owner and Consultant, complete outstanding items and request re-inspection.

.5 Declaration of Substantial Performance: when Owner and Consultant consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for Substantial Performance of the Work.

.6 Commencement of Warranty Periods: the date of Substantial Performance of the Work shall be the date for commencement of the warranty period.

.7 Commencement of Lien Periods: the date of publication of the certificate of Substantial Performance of the Work shall be the date for commencement of the lien period, unless required otherwise by the lien legislation applicable at the Place of the Work.

.8 Final Payment: When Owner and Consultant consider final deficiencies and defects have been corrected and it appears requirements of Contract have been completed, make application for final payment.

.9 Payment of Hold-back: After issuance of certificate of Substantial Performance of the Work, submit an application for payment of hold-back amount.

1.4 CLOSEOUT SUBMITTALS

.1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.

.2 Copy will be returned after final inspection, with Consultant's comments.

.3 Revise content of documents as required prior to final submittal.

.4 Four weeks prior to Substantial Performance of the Work, submit to the Consultant, four final copies of operating and maintenance manuals in Canadian English.

.5 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.

.6 If requested, furnish evidence as to type, source and quality of products provided.

.7 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.

.8 Pay costs of transportation.

1.5 OPERATION AND MAINTENANCE MANUAL FORMAT

.1 Organize data in the form of an instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.

.3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.

.4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.5 Arrange content by systems and/or process flow, under Section numbers and sequence of Table of Contents.

.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

.7 Text: Manufacturer's printed data, or typewritten data.

.8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.6 CONTENTS - EACH VOLUME

.1 Table of Contents: provide title of project;

.1 date of submission;

.2 names, addresses, and telephone numbers of Consultant and Contractor with name of responsible parties; and

.3 schedule of products and systems, indexed to content of volume.

.2 For each product or system, list names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.

.4 Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Certificate of Acceptance: Relevant certificates issued by authorities having jurisdiction, including code compliance certificate, life safety systems performance certificate and pressure vessel acceptance.

.6 Training: Refer to Commissioning.

1.7 RECORDING ACTUAL SITE CONDITIONS

.1 Record information on set of black line opaque drawings, and within the Project Manual.

.2 Annotate with coloured felt tip marking pens, maintaining separate colours for each major system, for recording changed information.

.3 Record information concurrently with construction progress. Do not conceal Work of the Project until required information is accurately recorded.

.4 Contract drawings and shop drawings: legibly mark each item to record actual construction, including:

.1 Measured depths of elements of foundation in relation to finish first floor datum.

.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

.3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.

.4 Field changes of dimension and detail.

.5 Changes made by change orders.

.6 Details not on original Contract Drawings.

.7 References to related shop drawings and modifications.

.5 Specifications: legibly mark each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.

.2 Changes made by Addenda and change orders.

.6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.8 RECORD (AS-BUILT) DOCUMENTS AND SAMPLES

.1 In addition to requirements in General Conditions, maintain at the site for Consultant and Owner one record copy of:

.1 Contract Drawings.

.2 Specifications.

.3 Addenda.

.4 Change Orders and other modifications to the Contract.

.5 Reviewed shop drawings, product data, and samples.

.6 Field test records.

.7 Inspection certificates.

.8 Manufacturer's certificates.

.2 Store as-built documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.3 Label as-built documents and file in accordance with section number listings in List of Contents of the Project Manual. Label each document "AS-BUILT DOCUMENTS" in neat, large, printed letters.

.4 Maintain as-built documents in clean, dry and legible condition. Do not use as-built documents for construction purposes.

.5 Keep as-built documents and samples available for inspection by Consultant.

1.9 RECORD DOCUMENTS

.1 Reserved.

1.10 FINAL SURVEY

.1 Submit final site survey certificate in accordance with Section 01 70 00, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

.2 Inaccurate or neglectful information shall become a liability of the Contractor.

1.11 WARRANTIES AND BONDS

.1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

.3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten (10) days after completion of the applicable item of work.

.4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.

.5 Verify that documents are in proper form, contain full information, and are notarized.

.6 Co-execute submittals when required.

.7 Retain warranties and bonds until time specified for submittals.

End of Section

Part 1 GENERAL

.1 Make good surfaces and finishes damaged or disturbed due to Work of this Contract to match existing. Ensure that material used to repair damage is compatible with existing work.

.2 Term “make good” to mean repairing or filling operations performed on existing floors, walls, ceiling or any other exposed surfaces. Perform cutting and patching where applicable as specified herein. It is intended that finished surfaces match and line with existing adjoining surfaces.

.3 Restore Site to condition equal to or, if specified elsewhere, to condition better than existing conditions.

.4 Restore lands outside of limits of Work which are disturbed due to Work to original condition in addition to complying with requirements of General Conditions of the Contract.

End of Section

1.1. Conform to Sections of Division 1 as applicable.

1.2. **RELATED SECTIONS**

1.2.1. Non-friable asbestos handling: Type 1 Asbestos Procedures.

1.2.2. Disconnection and sealing off mechanical services to building; demolition, removal and making good of existing mechanical work: Division 15 - Mechanical.

1.2.3. Disconnecting and sealing off electrical services to building; demolition removal and making good of existing electrical work: Division 16 - Electrical.

1.3. **REFERENCES**

CSA S350 M80 (R2003) Code of Practice for Safety in Demolition of Structures

1.4. **QUALITY ASSURANCE**

1.4.1. **Regulatory Requirements:**

1.4.1.1. Conform to The Occupational Health and Safety Act, R.S.O. 1990 c.O.1, Ontario Regulation 213/91, Amended to O.Reg. 85/04 - Construction Projects.

1.4.1.2. Occupational Health and Safety Act Revised R.R.O. 1990,Regulation 838, Amended to O.Reg 278/05, Designated Substance - Asbestos on Construction Projects and in Building and Repair Operations;

1.4.1.3. Conform to OBC, especially Article 2.3.2.3 as applicable.

1.4.1.4. Conform to Fire Code, Regulation under Fire Marshals Act especially Part 8.

1.4.2. **Qualifications:** Employ for this work demolition company having 5 years Canadian experience in this type of work satisfactory to Consultant. If requested, submit proof of experience.

1.5. **SUBMITTALS** – Not Used

1.6. **PROJECT CONDITIONS**

1.6.1. Schedule work as per Item Section 01010 General Requirements.

2. **PRODUCTS**

2.1. Except as indicated on Drawings, materials forming permanent part of structure being demolished shall become property of this Section. Remove from Site.

2.2. Carefully remove, store, protect and re-install materials and equipment scheduled to be reused and/or relocated.

3. EXECUTION

3.1. **PREPARATION**

3.1.1. Conform to requirements of Section 01 01 00, General Requirements, in particular article on Design and Safety Requirements for Temporary Work.

3.1.2. Do not interfere with use and activities of adjacent occupancies. Maintain free and safe passage to and from occupied space. Maintain integrity of existing fire exits.

3.1.3. Protect existing adjacent work against damages which might occur from falling debris or

other causes due to work of this Section.

3.1.4. Erect and maintain dustproof partitions as required to prevent spread of dust, fumes and smoke to other parts of the building. On completion, remove partitions and make good surfaces to match adjacent surfaces of building.

3.2. **PERFORMANCE**

3.2.1. Materials and debris shall not be stacked in building to extent that overloading of any part of structure will occur.

3.2.2. At end of each day's work leave work in safe condition ensuring that no parts of structure are in danger of collapsing.

3.2.3. Carry out demolition in accordance with requirements of CSA S350-M.

3.2.4. Demolish and remove interior partitions, walls, ceilings, flooring down to concrete substrate, except those specified and/or indicated to remain.

3.2.5. **Firestopping and Smoke Seal:** In event that work of this Section impacts on integrity of fire separations, ensure that trade performing firestopping is notified.

3.3. **DISPOSAL OF WASTE MATERIALS**

3.3.1. Conform to requirements of municipality's Works Department regarding disposal of waste materials.

3.3.2. Materials prohibited from municipality waste management facilities shall be removed from Site and dispose of at recycling companies specializing in recyclable materials.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Demolition of designated structures and removal of materials from site.

.2 Demolition and removal of foundations and slabs-on-grade.

.3 Disconnecting and capping or removal of identified utilities.

.4 Removal of underground tanks and piping.

1.2 RELATED SECTIONS

.1 Section 01520 - Construction Facilities and Temporary Controls: Barriers, fences and landscape protection. Dust control.

1.3 QUALIFICATIONS

.1 Demolition Firm: Company specializing in performing the Work of this Section with minimum five (5) years documented experience.

1.4 REGULATORY REQUIREMENTS

.1 Conform to applicable code for demolition of structures, safety of adjacent structures, dust control, runoff control and disposal.

.2 Obtain required permits from authorities.

.3 Notify affected utility companies before starting work and comply with their requirements.

.4 Do not close or obstruct roadways, sidewalks or hydrants without permits.

.5 Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

.6 Test soils around buried tanks for contamination.

1.5 SCHEDULING

.1 Describe demolition removal procedures and schedule.

Part 2 Products

2.1 FILL MATERIALS

.1 Fill Material: Granular ‘B’ backfill compacted to 98 percent SPD.

Part 3 Execution

3.1 PREPARATION

.1 Provide, erect, and maintain temporary barriers and security devices as required.

.2 Protect existing landscaping materials and structures that are not to be demolished.

.3 Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

.4 Mark location of utilities.

3.2 DEMOLITION REQUIREMENTS

.1 Conduct demolition to minimize interference with adjacent structures.

.2 Cease operations immediately if adjacent structures appear to be in danger. Notify Owner. Do not resume operations until directed.

.3 Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.

.4 Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.

.5 Sprinkle Work with water to minimize dust. Provide hoses and water for this purpose.

3.3 DEMOLITION

.1 Disconnect, remove and cap (and identify) designated utilities within demolition areas.

.2 Remove foundation walls and footings to a minimum of two feet below finished grade.

.3 Remove concrete slabs on grade.

.4 Empty buried tanks located within demolition area. Remove buried tanks, components, and piping from site.

.5 Remove materials to be retained in manner to prevent damage.

.6 Backfill areas excavated, open pits and holes caused as a result of demolition.

.7 Rough grade and compact areas affected by demolition to maintain site grades and contours.

.8 Remove demolished materials from site.

.9 Do not burn or bury materials on site. Leave site in clean condition.

3.4 SCHEDULES

.1 Items to be removed by Contractor and be retained by Owner; deliver to location designated by Owner.

.1 Not Used.

End Of Section

PART 1- GENERAL

1.1 SECTION INCLUDES

.1 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section.

.2 All miscellaneous metal items not specifically described in other Sections of these specifications but required for a complete and operable facility including all steel angles, supports, brackets, straps, anchors, runners, and other fixing members required by other trades;

1.2 RELATED SECTIONS

.1 Section 03 30 00 - Cast-in-place Concrete.

.2 Section 09 91 00 - Painting: Paint finish.

1.3 REFERENCES

.1 ASTM A53/A53M-12 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

.2 ASTM A153/A153M-09 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

.3 ASTM A307-12 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.

.4 ASTM A500/A500M-10a - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

.5 ASTM A501-07 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

.6 ASTM B177/B177M-11 - Standard Guide for Engineering Chromium Electroplating.

.7 ASTM B209-10 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

.8 ASTM B209M-10 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

.9 ASTM B210-12 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes.

.10 ASTM B210-12 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes.

.11 ASTM B211M-12e1 - Standard Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire.

.12 ASTM B211-12e1 - Standard Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire.

.13 ASTM B221-12a - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

.14 ASTM B221M-12a - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

.15 CAN/CGSB 1.40-97 - Anticorrosive Structural Steel Alkyd Primer.

.16 CAN/CGSB 1.181-99 - Ready-Mixed Organic Zinc-Rich Coating.

.17 CSA-G40.20-04/G40.21-04 (R2009) - General Requirements for Rolled or Welded Structural Quality Steel/ Structural Quality Steel.

.18 CSA-W47.1-09 - Certification of Companies for Fusion Welding of Steel.

.19 CSA-W47.2-11 - Certification of Companies for Fusion Welding of Aluminum.

.20 CSA-W48-06 (R2011) - Filler Metals and Allied Materials for Metal Arc Welding.

.21 CSA-W55.3-08 - Certification of Companies for Resistance Welding of Steel and Aluminum.

.22 CSA-W59-03 (R2008) - Welded Steel Construction (Metal Arc Welding).

.23 CSA-W59.2-M1991 (R2008) - Welded Aluminum Construction.

.24 SSPC (The Society for Protective Coatings) - Steel Structures Painting Manual.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01 01 00: Submission procedures.

.2 Shop Drawings:

.1 Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

.2 Indicate welded connections using standard welding symbols. Indicate net weld lengths.

.3 Shop drawings for the Baseball Dugouts and Softball Backstops shall bear the stamp of a Registered Professional Engineer licensed to practice in the Province of Ontario.

.4 Submit for approval, sample sections of various components. Such samples shall be representative of colour, finish and dimension of materials to be supplied on this project. These samples will be retained by the Consultant for comparison with the actual job materials at the time of installation.

1.5 SUBMITTALS FOR INFORMATION

.1 Section 01 01 00: Submission procedures.

1.6 ADMINISTRATIVE REQUIRMENTS

.1 Section 01 01 00: Project management and coordination procedures.

.2 Coordinate with other work having a direct bearing on work of this section.

1.7 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three (3) years documented experience.

.2 Installer Qualifications: Company specializing in performing the work of this section with minimum three (3) years documented experience and approved by the manufacturer.

.3 Welders' Certificates: Submit to Section 01 33 00, certifying welders employed on the Work, verifying qualification within the previous twelve (12 months).

.4 Requirements of Regulatory Agencies:

.1 Metal fabrications which function to resist forces imposed by dead and live loads shall conform to requirements of jurisdictional authorities.

.5 Submit shop drawings to authorities along with required General Commitments to Review documents signed and sealed by Registered Professional Engineer overseeing the project.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Unless detailed or specified otherwise, standard products will be acceptable if construction details and installation meet intent of Drawings and Specifications.

.2 Include all materials, products, accessories, and supplementary parts necessary to complete assembly and installation of metal fabrications specified in this Section.

.3 Incorporate only metals that are free from defects which impair strength or durability, or which are visible. Install only new metals of best quality, and free from rust or waves and buckles, and that are clean, straight, and with sharply defined profiles.

.4 Rolled steel sections and plates to CAN/CSA-G40.21-M92, grade 300W.

.5 Hollow structural sections to CAN/CSA-G40.21-M92, grade 350W, Class H.

.6 Steel pipe to meet requirements of ASTM Specification 120, extra strong.

.7 Stainless steel to ASTM A269-85, Type 302, Commercial Grade, seamless welded to AISI No. 4 finish, exposed surface to have a No. 4 polished finish.

.8 Welding materials to C.S.A. W59-1989.

.9 Galvanizing: Hot dipped galvanized with minimum zinc coating of 600G/M2 to CAN/CSA-G164-M92.

.10 Shop coat primer to CAN/CGSB 1.40-M89.

.11 Bolts and Anchor Bolts: to ASTM A307-89 and ASTM A325M-89 (high strength) where exposed to view; to match metal anchored.

.12 Fastenings: Steel, cadmium plated screws and bolts.

.13 Grout: non-shrink, non-metallic, flowable 24h, MPa 15, pull out strength 7.9 MPa.

2.2 FABRICATION

.1 General

.1 Fabricate metal fabrications specified in this Section with machinery and tools specifically designed for the intended manufacturing processes and by skilled tradesmen.

.2 Fit and assemble metal fabrications in shop. When this is not possible, make a trial shop assembly.

.3 Incorporate anchors at 600mm (24") o.c. for metal fabrications located in cast-in-place concrete.

.4 Incorporate means for fastening of other installations secured to metal fabrications.

.5 Welding shall conform to C.S.A. Standard W59-M1989 and be undertaken by a fabricator approved by Canadian Welding Bureau to C.S.A. Standard W47.1-1992.

.2 Construction:

.1 Fabricate metal fabrications with materials, component sizes, metal gauges, reinforcing, anchors, and fasteners of adequate strength to withstand intended use, and within allowable design factors imposed by jurisdictional authorities.

.2 Ensure that metal fabrications will remain free of warping, buckling, opening of joints and seams, distortion, and permanent deformation.

.3 Construct railings and balustrades to withstand both required vertical and horizontal loadings of jurisdictional authorities.

.4 Construct items that are part of floor constructions, such as gratings and trench covers to support the same live loads for which surrounding floors are designed unless indicated otherwise.

.3 Assembly:

.1 Accurately cut, machine and fit joints, corners, copes and miters so that junctions between components fit together tightly and in true planes.

.2 Conceal fastenings from view unless otherwise indicated on Drawings.

.3 Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

.4 Weld all connections where possible; bolt where not possible, and cut off bolts flush with nuts. Countersink bolt heads, and provide method to prevent loosening of nuts. Ream holes drilled for fastenings.

.5 Weld joints tight, flush, and in true planes with base metals. Make welds continuous where steel work is exposed, at joints where entry of water into building, or into voids of members or assemblies is possible. Seal exterior steel fabrications to provide corrosion protection in accordance with CAN/CSA-S16.1-M89.

.6 Grind welds smooth where exposed to view.

.7 Provide for differential movements within assemblies and at junctions of assemblies with surrounding construction.

.4 Finish Work:

.1 Incorporate holes and connections for products installed under other Sections of the Specifications and for bolted connections. Burned holes are not acceptable.

.2 Cleanly and smoothly finish exposed edges of materials including holes.

.3 Cap open ends of sections exposed to view, such as pipes, channels, angles, and other similar members.

.4 Machine or grind components to ensure level bearings.

.5 Prime Painting of Steel:

.1 Clean all loose mill scale, rust, dirt, weld flux and spatter from work after fabrication. Grind smooth sharp projections. Unless otherwise specified apply to steel surfaces a shop prime coat of paint. Force paint into corners and cover open areas smoothly with a uniform coating. Deliver metal fabrications to site with primer undamaged. Paint all surfaces except those to be welded in field, encased in concrete, or that are machined or galvanized. Give surfaces that are inaccessible to finish filed painting two coats of primer.

.2 Paint steel members under cover in shop and keep them under cover until paint has dried.

.6 Galvanized Steel:

.1 Hot dip galvanize assemblies following their fabrication except where impossible.

.2 Fabricate items to be galvanized as recommended in Appendix A and Appendix B of CAN/CSA-G164-M92.

.3 Paint galvanized surfaces that are cut, welded or threaded with zinc rich paint to ensure a minimum coating of 0.102mm, immediately following damage to galvanized protection. Prepare and repair surfaces to meet specified requirements of ASTM Practice A780.

.7 Stainless Steel

.1 No. 304 finish.

.2 Provide acid cleaning in shop (pickling) to remove impurities.

2.3 FABRICATION TOLERANCES

.1 Squareness: 3mm (1/8 inch) maximum difference in diagonal measurements.

.2 Maximum Offset Between Faces: 1.6mm (1/16 inch).

.3 Maximum Misalignment of Adjacent Members: 1.6mm (1/16 inch).

.4 Maximum Bow: 3mm in 1.2m (1/8 inch in 4 ft).

.5 Maximum Deviation From Plane: 1.6mm in 1.2m (1/16 inch in 4 ft).

2.4 FINISHES

.1 Prepare surfaces to be primed in accordance with SPCC SP 2.

.2 Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

.3 Do not prime surfaces in direct contact with concrete or where field welding is required.

.4 Prime paint items with one (1) coat.

.5 Structural Steel Members: Galvanize after fabrication to appropriate grade for type and size of steel material indicated.

.6 Non-structural Items: Galvanized after fabrication to appropriate grade for type and size of steel material indicated.

.7 Chrome Plating: ASTM B177, nickel-chromium alloy, satin [Polished] finish.

2.5 PAINTING

.1 All exterior steel, before leaving the shop, shall be thoroughly cleaned and given one coat of steel zinc priming paint meeting CGSB 1-GP-181M + Amdt - Mar - 78 (interior steel to CAN/CGSB 1.40-1989).

.2 All painting shall be done under cover and steel shall remain under cover until the paint is dry. No painting shall be done on wet steel nor in a temperature below 7°C.

.3 Unless otherwise specified, all finished painting of steel shall be as specified under Section 09 91 00, Painting.

PART 3- EXECUTION

3.1 EXAMINATION

.1 Verify existing conditions before starting work.

.2 Verify that field conditions are acceptable and are ready to receive work.

.3 Verify dimensions, tolerances, and method of attachment with other work.

3.2 PREPARATION

.1 Clean and strip aluminum and/or primed steel items to bare metal where site welding is required.

.2 Supply steel items required to be embedded in masonry or cast into concrete with setting templates to appropriate sections.

3.3 INSTALLATION

.1 Install items plumb and level, accurately fitted, free from distortion or defects.

.2 Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

.3 Field weld components indicated on Shop Drawings.

.4 Perform field welding to CSA requirements.

.5 Obtain approval prior to site cutting or making adjustments not scheduled.

.6 After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

.7 Insulate metals where necessary to prevent corrosion due to contact between dissimilar metals and between metals and concrete. Use bituminous paint, butyl tape, paper on other approved means.

.8 Supply all fastenings, anchors and accessories required for fabrication and secure installation of metal fabrications as required by loading and jurisdictional authorities. Make exposed metal fastenings and accessories of same material, texture, colour and finish as base metal on which they occur unless otherwise shown or specified. Keep exposed fastenings to an absolute minimum and inconspicuous, spacing them evenly and setting them out neatly. Make fastenings of permanent type. Make field connections with high tensile bolts to CAN/CSA-S16.1-M89 or weld.

3.4 ERECTION TOLERANCES

.1 Maximum Variation From Plumb: 6mm (¼ inch) per story, non-cumulative.

.2 Maximum Offset From True Alignment: 6mm (¼ inch).

.3 Maximum Out-of-Position: 6mm (¼ inch).

3.5 ADJUSTMENT

.1 Check all movable or removable items to ensure that everything operates correctly and as intended.

.2 After installation of each item, touch up rivets, field welds, bolts and burnt or scratched surfaces with primer. Touch up galvanized surfaces with zinc rich primer where burned by field welding.

3.6 CLEAN-UP

.1 At completion of work, remove all debris, rubbish surplus materials, scaffolding and equipment from the site.

.2 Aluminum finishes shall be thoroughly cleansed, and if necessary, a solution such as mild soap or detergent shall be used.

.3 Under no circumstances should abrasive acidic or alkaline cleansing materials be used.

End of Section

PART 1- GENERAL

1.1 SECTION INCLUDES

.1 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section.

.2 Provide all labour and materials for rough carpentry required on Site with the exception of concrete formwork which shall be performed as specified under Division 3.

.3 Furnish rough hardware, cements, glue, adhesives and fasteners for the complete fabrication and installation of carpentry items.

.4 Supply and install all wood framing, furring, rough bucks and nailing strips shown to be required and not otherwise specified in other Sections of this Division.

.5 Supply and install backboards for mounting electrical equipment.

.6 Supply and install wood preservative where required.

1.2 RELATED SECTIONS

.1 Section 05 50 00 – Metal Fabrications.

.2 Section 07 46 00 – Metal Siding

.3 Section 08 12 00 – Aluminum Doors and Frames.

.4 Section 32 13 15 – Concrete Walks and Curbs

1.3 REFERENCES

.1 CAN/CSA-O80 Series 08 Wood Preservation

.2 CSA-O121-08 - Douglas Fir Plywood.

.3 CSA-O141-05 (R2009) - Softwood Lumber.

.4 CSA-O151-09 - Canadian Softwood Plywood.

.5 CSA-O153-M1980 (R2008) - Poplar Plywood.

.6 CSA-O437 Series 93 (R2006) Standards on OSB and Waferboard.

.7 NPA A208.1-2009 - Particleboard.

.8 APA (American Plywood Association) - Grades and Specifications.

.9 CANPLY (Canadian Plywood Association) - Canadian Plywood Handbook.

.10 NLGA (National Lumber Grades Authority) - Standard Grading Rules for Canadian Lumber, 2010 edition.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01 33 00: Submission procedures.

.2 Product Data: Provide technical data on wood preservative materials.

1.5 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00: Procedures for submittals.

1.6 CLOSEOUT SUBMITTALS

.1 Section 01 78 10: Closeout Submittals.

1.7 ADMINISTRATIVE REQUIRMENTS

.1 Section 01 31 00: Project management and coordination procedures.

.2 Coordinate with other work having a direct bearing on work of this section.

.3 Pre-installation Meetings: Convene two (2) weeks before starting work of this section.

1.8 QUALITY ASSURANCE

.1 Lumber Products: Graded and stamped to NLGA requirements.

.2 Plywood Products: Certified and graded to APA and CANPLY requirements.

1.9 DELIVERY, STORAGE AND PROTECTION

.1 Section 01 60 00 – Material and Equipment

.2 Protect work from moisture damage.

PART 2 - PRODUCTS

2.1 MANUFACTURES

.1 Acceptable Manufacturers: As listed in paragraphs below.

2.2 MATERIALS

.1 Lumber:

.1 Lumber shall be of same species and grade, equally seasoned and shall be processed and stamped at same mill.

.2 CSA O141 and NLGA Standard Grading Rules for Canadian Lumber.

.3 Board quality: Construction or better.

.4 Roof lumber: NLGA, Construction grade light framing, Jack Pine, S4S, pressure treated to CAN/CSA-O80 series using copper based waterborne preservative treatment, impregnated to a net retention of 4 kg/ m3 of preservative unless otherwise specified by preservative manufacturer.

.2 Sheet:

.1 Plywood: CSA O121-M, sheathing grade, laminated with waterproof adhesive, exterior grade.

.2 Sheathing: Douglas Fir, CSA 0121-M or CSA O151-M; sheathing grade.

.3 Nails, Staples, Screws for Pressure Treated Wood: Hot dip galvanized or stainless steel.

.4 Particleboard: NPA A208.1; sanded faces.

.5 Mat-Formed Panelboards: CSA-O437, OSB, waferboard.

.3 Treatments:

.1 Surface applied wood preservative: Green coloured copper napthenate or 5% pentachlorophenol solution, water repellant preservative or same copper based preservative as used for shop impregnation, in accordance with CAN/CSA O80.

.2 Fire retardant treatment of lumber and plywood: , conforming to CAN/CSA-O80.20 and CAN/CSA-O80.27 respectively, to provide a flame spread rating of 25 or less in accordance with CAN/ULC-S102.

2.3 ACCESSORIES

.1 Fasteners: Hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.

.2 Anchors: Toggle bolt type for anchorage to hollow masonry, Expansion shield and lag bolt type for anchorage to solid masonry or concrete, bolt or ballistic fastener for anchorages to steel, as required.

.3 Rough Hardware: Nails, spikes, screws, bolts or other required to complete the work covered by this Section conforming to current C.S.A. Standard G164. Hardware for exterior applications shall be non-corrosive, hot dip galvanized.

.4 Glue: Waterproof, synthetic resins..

PART 3 - EXECUTION

3.1 PREPARATION

.1 Treat surfaces with wood preservative or fire-retardant applications before installation.

.2 Apply preservative by dipping or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and 1 minute soak for plywood.

.3 Treat all material exterior and material within an envelope wall or exterior floor assembly.

.4 Coordinate with other Sections providing blocking, nailing strips and trims as required for installation of work.

3.2 INSTALLATION

.1 Properly frame together parts of The Work with members accurately cut to size, closely fitted, well spiked, and erected in a substantial manner, plumb, level, square and true to dimension.

.2 Locate joints over bearing or supporting surfaces.

.3 Provide running members full length wherever possible.

.4 Design for expansion and contraction of the materials.

.5 After cutting, drilling and fitting "treated" wood and plywood but before installation, apply 1 full coat of wood preservative to exposed surfaces, including ends of blocking, furring, nailers and rough carpentry. Retreat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative or fire retardant before application.

.6 Provide fasteners and rough hardware for a rigid and secure installation.

.7 Equipment Mounting Panels:

.1 Install all wood panels required for mechanical, electrical and communication trades for mounting of controls, panel boards, pull boxes, splitters, switches, wall mounted switch gear, junction boxes in sizes to suit design, electrical cabinets, data control equipment, disconnect switches, fire alarm control equipment, lighting control equipment, sound/communication equipment and other similar devices.

.2 Provide 19mm (¾") thick exposed plywood backboard panels in one piece screw-fastened to fire treated wood strapping. Refer to Electrical Drawings for sizes and locations and securely mount panels to wall surfaces.

.3 Panel size and mounting height shall suit mechanical and electrical requirements acceptable to Consultant. Apply all surfaces and edges of plywood panels with 1 coat of fire retardant wood preservative.

.4 Provide "fire treated" plywood.

3.3 CLEAN-UP

.1 Upon completion of each day's work, clean up and dispose of, off-site, all debris resulting from the work of this trade.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section.

.2 Supply all labour, materials, tools and equipment necessary to properly execute and complete all painting and finishing according to the drawings and as specified herein. Paint Finish to be pin hole free to CCAC and OMAFRA standards.

.3 Colour Schedule and drawings will be issued by the Consultant for colour locations following award of contract.

1.2 RELATED SECTIONS

.1 Section 05 50 00 - Metal Fabrications: Shop primed items.

.2 Division 26 – Electrical: Electrical identification.

1.3 REFERENCES

.1 OPCA (Ontario Painting Contractors Association) - Architectural Painting Specification Manual.

.2 Paint systems shall be “Premium Grade” as referenced in the Systems Selection Guide of the MPI ASPM.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01 33 00: Submission procedures.

.2 Product Data: Provide data on all finishing products.

1.5 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00: Submittal procedures.

.2 Installation Data: Manufacturer's special installation requirements indicating special surface preparation procedures, substrate conditions requiring special attention.

.3 Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.6 CLOSEOUT SUBMITTALS

.1 Section 01 78 10: Closeout Submittals.

1.7 ADMINISTRATIVE REQUIREMENTS

.1 Section 01 31 00: Project management and coordination procedures.

.2 Coordination: Coordinate with other work having a direct bearing on work of this section.

.3 Coordinate the Work of this Section with work of other trades for proper time and sequence to avoid construction delays.

.4 Pre-Installation Meeting: Convene pre-installation meeting after Award of Contract and two weeks prior to commencing work of the Section to verify requirements, substrate conditions and coordination with other building sub-trades, and to review manufacturer's written installation instructions.

1.8 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum five (5) years documented experience.

.2 Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience and approved by the manufacturer.

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

1.9 REGULATORY REQUIREMENTS

.1 Conform to applicable code for flame and smoke rating requirements for finishes.

1.10 DELIVERY, STORAGE, AND PROTECTION

.1 Section 01 61 00: Product Requirements, handle, store, and protect products.

.2 Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

.3 Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, colour designation, and written instructions for mixing and reducing.

.4 Store paint materials at minimum ambient temperature of 7°C (45°F) and a maximum of 32°C (90°F), in ventilated area, and as required by manufacturer's written instructions.

1.11 ENVIRONMENTAL REQUIREMENTS

.1 Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

.2 Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

.3 Minimum Application Temperatures for Latex Paints: 7°C (45°F) for interiors; 10°C (50°F) for exterior; unless required otherwise by manufacturer's written instructions.

.4 Minimum Application Temperature for Varnish 21°C (70°F). Finishes: 18°C (65°F) for interior or exterior, unless required otherwise by manufacturer's written instructions.

.5 Provide lighting level of 860 lx (80 ft candles) measured mid-height at substrate surface.

.6 Ensure that all areas in which paint is applied are well ventilated and broom clean.

.7 Do not finish wood surfaces that contain over 15% moisture.

.8 Do not apply finishes on porous surfaces such as concrete, plaster, wall board, pipe insulation, masonry, that contain over 12% moisture.

.9 Do not apply finishes when dust is being raised.

.10 Do not apply finishes when relative humidity is over 85%, when condensation has formed or is likely to form, nor immediately following rain, frost or formation of dew.

1.12 WARRANTY

.1 Warrant work of this Section for period of 1 year against defects and deficiencies in materials and workmanship in accordance with General Conditions of the Contract. Promptly correct defects or deficiencies which become apparent within warranty period, to satisfaction of Consultant and at no additional expense. Material Defects include but are not limited to: material cracking and splitting. Workmanship defects include but are not limited to: bubbling, blistering and delamination.

PART 2 PRODUCTS

2.1 MANUFACTURERS

.1 Products of the following manufacturers are acceptable subject to conformance to requirements of drawings, schedules and specifications.

- .1 Benjamin Moore & Co. Ltd.
- .2 Para Paint.
- .3 Dulux Paints.
- .4 Canadian Industries Ltd.
- .5 Olympic Stains, Canfor Limited.
- .6 Pratt & Lambert Inc.
- .7 Sherwin-Williams Of Canada Ltd.
- .8 Sikkens Stains, Thomes (Canada) Ltd.
- .9 Flame Control Coatings

.2 All painting materials products are to be similar to **Ultra Spec Scuff-X** by Benjamin Moore & Co.

.3 All materials used on the work shall be exactly as specified in quality. No claim by the Painting Trade to the unsuitability or unavailability of a material specified, or his willingness to use same or his inability to produce first-class work with same, will be entertained, unless such claims are made in writing and submitted with his bid. All paint, varnishes, enamels, lacquers, stains, paste fillers and similar materials must be delivered in the original containers with the seals unbroken and labels intact.

.4 Paint materials to conform to MPI Standards listed in finishing formulae and as supplied by MPI Approved Product List manufacturers.

.5 Paint materials for each coating formulae to be products of a single manufacturer.

.6 All materials shall be used only as specified by the manufacturer's direction label on the container.

.7 All painting materials, such as linseed oil, shellac and turpentine shall be pure and of highest quality and approved by the Consultants. They shall bear identifying labels on the containers.

.8 Materials shall not exceed Flame Spread, Fuel Contributed and Smoke Developed ratings permitted by the Ontario Building Code, and Ontario Fire Marshal for rooms specified to receive application.

2.2 MATERIALS

.1 Coatings: **Ultra Spec Scuff-X** by Benjamin Moore & Co. (or approved alternate) Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.

.2 Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

.3 Patching Materials: Latex filler.

.4 Fastener Head Cover Materials: Latex filler.

2.3 MIXING

.1 Refer to room finish plans for surface finishes.

.2 Paints shall be supplied ready-mixed unless otherwise specified. Do not incorporate adulterants.

.3 Mix specified paste or powder coatings, or those that are field-catalysed at job, to meet specified requirements of manufacturer. Otherwise, all paints shall be shop tinted.

.4 Pigment shall be well ground to form a soft paste in the vehicle during its storage life. Paddle mixing at job shall evenly disperse paste throughout mixture to ensure paint of smooth-flowing, easy brushing, consistency.

.5 Mix paints only in mixing pails placed on suitably sized, non-ferrous or oxide resistant metal pans.

2.4 PAINT COLOURS (PT)

.1 Paint Colours:

.1 As selected by Consultant at a later date;

PART 3 EXECUTION

3.1 EXAMINATION

.1 Test shop applied primer for compatibility with subsequent cover materials.

.2 Defective painting and finishing applications resulting from failure to properly test surfaces and/or from application to unsatisfactory surfaces will be considered the responsibility of this Section.

.3 Commencement of work implies acceptance of previously completed work.

3.2 PREPARATION

.1 Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

.2 Correct defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.

.3 Seal with shellac and seal marks which may bleed through surface finishes.

.4 Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

.5 Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high-pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

.6 Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

.7 Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

.8 Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

.9 Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.

3.3 APPLICATION

.1 Apply products to manufacturer's written instructions. **Pin hole free application**.

.2 Do not apply finishes to surfaces that are not dry.

.3 Apply each coat to uniform finish.

.4 Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

.5 Sand metal wood lightly between coats to achieve required finish.

.6 Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.

.7 Allow applied coat to dry before next coat is applied.

.8 Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

.9 Prime concealed surfaces of interior exterior woodwork with primer paint.

.10 Prime concealed surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25% with mineral spirits.

.11 Finish glazing rebates before glazing commences.

.12 Do not paint caulked joints.

.13 Remove splatters of finished material from adjacent surfaces, including glass, before they set up, and by methods not harmful to the surfaces.

.14 All existing walls that require only a portion of the wall to be painted, shall be painted to the nearest corner and/or door frame or similar major elements as directed by the consultant.

3.4 FIELD QUALITY CONTROL

.1 Section 01 45 00: Quality Control.

.2 Arrange for periodic visits to site by paint manufacturers' representatives while painting and finishing applications are in progress. On each visit he shall verify that specified materials and methods are used, and that procedures agreed upon at the initial site meeting are followed.

.3 Manufacturers' representatives shall submit reports of each site visit to the Consultant as specified.

3.5 PAINTING SCHEDULE

.1 General

.1 This Section shall include painting and/or finishing of all surfaces exposed to view that have been installed with no final finish provided by the installer, unless otherwise specified.

.2 Finish equipment, panels, fitments, services, structure, attachments, accessories, prime coated hardware, or similar appurtenances on or near finished surfaces to match finish of the surface.

.3 Finish exposed wood and exposed ferrous metals, whether primed or galvanized or not, on surfaces that are indicated as unfinished.

.2 Surfaces That Require No Finishing

.1 Painting or finishing of the following surfaces is not included in this Section:

.1 Plastics; metals with porcelain enamel, baked enamel or plated finishes; sound absorbent surfaces; vitreous, glazed ceramic or plastic facings; special coatings; factory finished surfaces as specified in other Sections; control panels, circuit breakers, switches, receptacles or similar electrical components; or name and specification plates on equipment; ducts, pipes and conduit concealed from view.

.3 Gloss

.1 Gloss value shall be determined in accordance with ASTM D523 Tentative Method of Test for 60° specular gloss.

.4 Gloss values for terminology specified shall be: less than 10 for flat, 10 to 35 for eggshell, 35 to 60 for semi-gloss, 60 to 80 for gloss, 80 to 90 for high gloss.

.5 Gloss for various areas will be submitted by Consultant following award of Contract.

.6 Schedule - Exterior Surfaces

.1 Wood - Painted (Opaque):

.1 One (1) coat of latex primer sealer.

.2 Two (2) coats of paint finish, semi-gloss.

.2 Wood - Transparent:

.1 Two (2) coats of stain.

.3 Concrete, Concrete Block, Cement Plaster:

.1 One (1) coat of block primer.

.2 One (1) coat of primer sealer latex.

.3 Two (2) coats of paint finish, flat.

.4 Steel - Unprimed:

.1 One (1) coat of latex primer.

.2 Two (2) coats of paint finish, semi-gloss.

.5 Steel - Shop Primed:

.1 Touch-up with zinc rich primer.

.2 Two (2) coats of latex alkyd enamel, semi-gloss.

.6 Steel - Galvanized:

.1 One (1) coat galvanize primer.

.2 Two (2) coats of paint finish, semi-gloss.

.7 Aluminum - Mill Finish:

.1 One (1) coat etching primer.

.2 Two (2) coats of alkyd enamel, gloss.

.7 Section 01 74 00: Cleaning and Waste Processing work.

.8 Collect waste material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

.9 Touch up and refinish minor defective applications. Refinish entire wall, ceiling or similar surfaces where finish is damaged or not acceptable.

.10 Remove spilled or splattered finish materials from surfaces of installations provided by other Sections. Do not mark surfaces while removing.

.11 Leave storage and mixing areas clean and in same condition as equivalent spaces in Project.

END OF SECTION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division One, General Requirements is part of this Section and shall apply as if repeated here.

1.2 PROTECTION

.1 Prevent damage to fencing trees, landscaping, natural features, benchmarks, existing buildings, existing pavement, surface or underground utility lines which are to remain.

Part 2 PRODUCTS

2.1 MATERIALS

.1 Fill material: Earth fill in accordance with Section 31 22 16, Excavating and Backfilling.

.2 Obtain approval of excavated or graded material used as fill from grading work. Protect approved material from contamination.

Part 3 EXECUTION

3.1 STRIPPING OF TOPSOIL

.1 Do not handle topsoil while in wet or frozen condition or in any manner in which soil structure is adversely affected.

.2 Commence topsoil stripping of areas indicated after area has been cleared of brush weeds and grasses and removed from site.

3.2 GRADING

.1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.

.2 Rough grade to following depths below finish grades:

.1 50 mm (2”) for seeded areas.
.2 100 mm (4”) for sodded areas.
.3 150 mm (6”) for flowerbeds.
.4 150 mm (6”) for shrub beds.
.5 200 mm (8”) for concrete walks.
.6 200 mm (8”) for precast paving units.
.7 750 mm (30”) for asphalt paving at access driveways including curbs.

.3 Slope rough grade away from building 1:50 minimum.

.4 Grade ditches to depth required for run-off as indicated.

.5 Prior to placing fill over existing ground, scarify surface to depth of 6” (150 mm). Maintain fill and existing surface at approximately same moisture content to facilitate bonding.

.6 Compact filled and disturbed areas in accordance with Section 02315 Excavating and Backfilling.

.7 Do not disturb soil within branch spread of trees or shrubs to remain.

3.3 TESTING

.1 Costs of tests will be paid by Owner.

3.4 SURPLUS MATERIAL

.1 Utilize surplus material on north portion of the site. Place and compact surplus material as directed by Geotechnical Engineer.

.2 Remove material unsuitable for fill, grading or landscaping from site as directed by Consultant.

End of Section

1 GENERAL

1.1 GENERAL REQUIREMENTS

.1 The General Conditions of the Contract, Supplementary Conditions, and the General Requirements of Division 1, form part of this section, and must be read in conjunction with the requirements of this section, and all related sections.

.2 Comply with all requirements of Division 1 – General Requirements.

1.2 SECTION INCLUDES

.1 Provision of all labour, materials, equipment and incidental services necessary to provide excavating, trenching, backfill and compaction.

1.3 SUBSOIL CONDITIONS

.1 The Contractor may, during the tender period, as part of the examination of the site, carry out an investigation to determine the subsurface conditions to be encountered in constructing the work. Be responsible for obtaining written permission from the Owner's Representative prior to commencing such work.

.2 Geotechnical information will be supplied by the Owner where available.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Stockpiling Of Material

.1 Stockpile fill materials in areas designated by Consultant. Stockpile granular materials in manner to prevent segregation.

.2 Protect fill materials from contamination.

1.5 SITE CONDITIONS

.1 Location Of Existing Buried Utilities

.1 Existing utilities and structures indicated on the drawings are schematic only. Actual size, depth, and location must be determined by site locates and test excavation.

.2 Prior to commencing any excavation work, notify applicable authorities, and establish location and status of use of buried utilities and structures. Engage authorities having jurisdiction to clearly mark such locations to prevent disturbance during work.

.3 Confirm locations of buried utilities by careful test excavations.

.4 Conduct, with Consultant, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, pavement, survey bench marks and monuments which may be affected by work.

1.6 SOURCE QUALITY CONTROL

.1 Inform Consultant at least 4 weeks prior to commencing work, of proposed source of fill materials and provide access for sampling if requested.

2 PRODUCTS

2.1 MATERIALS

.1 Granular Fill

GRANULAR "A"	
Sieve Designation	**Percent Passing**
26.5mm	100
19.0mm	85-100
13.2mm	65-90
9.5mm	50-73
4.75mm	35-55
1.18mm	15-40
300.0um	5-22
75.0um	2-8

GRANULAR "B"	
Sieve Designation	**Percent Passing**
150.0mm	100
26.5mm	50-100
4.75mm	20-100
1.18mm	10-100
300.0um	2-65
75.0um	0-8

.2 Sand: clean, coarse concrete sand to CSA A23.1, free from clay, shale, and organic matter.

.3 Crushed Stone: 3/4"(19mm) diameter clear, clean stone to CSA A23.1.

.4 "One Man" Stones: Boulders not less than 12" to 24" (300mm to 600mm) diameter.

.5 Native Material: Backfill and fill under areas not to be paved and not to receive floor slabs to be clean excavated material, free from waste materials, debris, rubbish, frozen portions, muskeg, organic or cohesive matter and rocks larger than 3" (75mm) in diameter. If a sufficient quantity is not available, use imported fill having same characteristics.

3 EXECUTION

3.1 SITE PREPARATION

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

.2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 PROTECTION

.1 Existing buried utilities and structures:

.1 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as indicated.

.2 Where utility lines or structures exist in area of excavation, obtain direction of Consultant before removing or re-routing. Pay costs of such work.

.3 Record location of maintained, re-routed and abandoned underground lines.

.2 Existing buildings and surface features:

.1 Protect existing buildings and surface features which may be affected by work from damage while work is in progress. In event of damage, immediately make repair to approval of Consultant.

.2 Where excavation necessitates root or branch cutting, do so only as approved by Consultant.

.3 Excavations

.1 Protect bottoms of excavations from softening or freezing.

.2 Construct Owners in accordance with local bylaws.

.3 Provide adequate protection around bench markers, layout markers, survey markers, and geodetic monuments.

.4 Effect approved measures to minimize dust as result of this work.

.5 Do not stockpile excavated material to interfere with site operation or drainage.

.4 Shoring, Bracing And Underpinning

.1 Protect existing features in compliance with Section 01500 and applicable local regulations.

.2 Engage services of qualified Professional Engineer registered in the Province of the place of work to design and inspect shoring, bracing and underpinning required for work.

.3 Submit design and supporting data at least (2) weeks prior to commencing work.

.4 Design and supporting data submitted to bear the stamp and signature of qualified Professional Engineer registered in the Place of the Work.

.5 Professional Engineer responsible for design of temporary structures to submit proof of insurance coverage for professional liability except where Engineer is employee of Contractor, in which case Contractor shall submit proof that work by Professional Engineer is included in Contractor's insurance coverage.

.5 Provide protection from intrusion by the general public around excavated areas.

.6 Protect excavated material approved for backfilling from freezing.

3.3 DE-WATERING AND HEAVE PREVENTION

.1 Keep excavations free of water while work is in progress.

.2 Submit, for Consultant's review, details of proposed dewatering or heave prevention methods, such as dikes, well points, and sheet pile cut-offs.

.3 Avoid excavation below groundwater table if quick condition or heave is likely to occur. Prevent piping or bottom heave of excavations by groundwater lowering, sheet pile cut-offs, or other means.

.4 Protect open excavations against flooding and damage due to surface run-off.

.5 Dispose of water in a manner not detrimental to public and private property, or any portion of work completed or under construction.

.6 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, water courses or drainage areas.

3.4 EXCAVATION

.1 Check dimensions at the site before commencing excavation work. Report discrepancies to the Consultant.

.2 Excavate as required for new footings and foundation walls and for new underground services. Excavation to include removal of not less than 300mm underneath vault floor slabs.

.3 Provide shoring and bracing as required to prevent cave-ins or damage to adjacent property. Assume full responsibility for consequences arising out of failure of shoring and bracing, or collapse of earth Owners, and for the safety of persons.

.4 Do not excavate closer to existing foundations than to a line 45° from bottom edge of footing.

.5 Provide suitable access. Provide temporary ramps during construction as required.

.6 Maintain streets clean from excavation debris.

.7 Excavate to lines, grades, elevations and dimensions indicated.

.8 Remove paving, walks, demolished foundations and rubble, and other obstructions encountered during excavation.

.9 Excavation must not interfere with normal 45° splay of bearing from bottom of any footing.

.10 Do not disturb soil within branch spread of trees or shrubs that are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw. Seal cuts with approved tree wound dressing.

.11 For trench excavation, unless otherwise authorized by Consultant in writing, do not excavate more than 100ft. (30m) of trench in advance of installation operations and do not leave open more than 50ft. (15m) at end of day's operation.

.12 Dispose of surplus and unsuitable excavated material off site.

.13 Do not obstruct flow of surface drainage or natural watercourses.

.14 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

.15 Notify Consultant when soil at bottom of excavation is reached.

.16 Obtain Consultant's approval of completed excavation.

.17 Remove unsuitable material from trench bottom to extent and depth directed by Consultant.

.18 Where required due to unauthorized over-excavation, correct as follows:
.1 Fill under bearing surfaces and footings with concrete specified for footings.
.2 Fill under other areas with Granular B fill, compacted to not less than 95% Standard Proctor Maximum Dry Density (SPMDD).

.19 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil. Clean out rock seams and fill with concrete mortar or grout to approval of Consultant.

.20 Excavate trenches to lines and grades shown, to a minimum of 6" (150mm) below underside of pipe, conduit, cable or duct. Provide recesses for bell and spigot pipe to ensure bearing will occur along barrel of pipe.

.21 Cut trenches 12" (300mm) wider than maximum pipe, conduit, cable or duct diameter or width. Trim and shape trench bottoms and leave free of irregularities, lumps or projections.

3.5 FILL TYPES AND COMPACTION

.1 Exterior Side of Perimeter Foundation Walls: Granular B fill to subgrade level. Compact to 95% SPMDD in accordance with ASTM D698.

.2 Sub-Base Courses
.1 Exterior Asphalt and Concrete Paving
.1 Granular B fill to underside of base course. Compact to 98% SPMDD in accordance with ASTM D698.

.2 Concrete Slabs-on-Grade

.1 Within Building Area: Granular B to underside of base course for floor slabs. Compact to 98% SPMDD in accordance with ASTM D698.

.3 Base Courses

.1 Exterior Asphalt and Concrete Paving

.1 Minimum 6" (152mm) Granular A fill; compact to 98% SPMDD in accordance with ASTM D698.

.2 Concrete Slabs-on-Grade

.1 Within building area: 6" (152mm) Crushed Stone fill; well compacted.

.2 Under Vault Floor Slab: 6" (152mm) Crushed Stone fill, well compacted.

.4 Retaining Walls: 6" (152mm) Granular A fill below retaining wall, compact to 100% SPMDD. Provide Crushed Stone fill to subgrade level on high side for minimum 12" (300mm) from wall, well compacted. For remainder, use Native fill compacted to 95% SPMDD.

.5 Underground services:

.1 Sanitary and storm sewer pipe, water pipe, and conduit protective cover: cradle half diameter of pipe or conduit using 6" (150mm) depth of Sand fill. After pipe or conduit is in place, cover with 12" (300mm) depth of Granular A fill.

.2 Cable and cable duct bedding and immediate protective cover: cover bottom of trench with 6" (150mm) of Sand fill. After cables and ducts are in place, side fill ducts with sand up to top of ducts. Tamp around ducts with hand tampers and cover with 6" (150mm) of same material.

.3 Fill above protective cover: in areas within buildings and where paving and walks occur, fill remainder of trench with Granular B fill. In other areas, fill to subgrade level using Native fill.

.4 Compaction: compact bedding and immediate protective cover to 100% SPMDD. In areas within buildings and where paving and walks occur, compact remainder of fill to at least 100% SPMDD. In other areas compact remainder of fill to 85% SPMDD.

.5 Notify Consultant 3 days prior to backfilling of trenches for electrical services.

.6 Trenches under roads: Granular A fill to subgrade level. Compact to 100% SPMDD.

3.6 BACKFILLING

.1 After footings and foundation walls have been inspected and approved, backfill at exterior perimeter of building and at retaining walls.

.2 Place granular material in layers not exceeding 300mm and compact to minimum 95% Standard Proctor Maximum Dry Density (SPMDD). Ensure that backfill material is replaced under the edge of existing slabs and tamp firmly in place to fill voids.

.3 Remove debris, shoring, etc. before backfilling.

.4 When backfill is required on both sides of foundation walls, place and compact simultaneously on both sides to equalize soil pressures.

.5 Over the area below the vault floor, pack "one man" stones to form a solid layer of stone to support the concrete. Where it is impractical to use "one man" stones below vault floor, low strength concrete 2250 psi (15 MPa) may be used, if approved by the Consultant.

3.7 ROUGH GRADING

.1 Rough grade to profiles shown to required levels to allow installation of follow-up materials to produce final grades of levels indicated.

3.8 PLACING AND COMPACTION

.1 Employ only approved compaction equipment suitable for the type of material being placed, the degree of compaction required and the working space available.

.2 Compact areas inaccessible to consolidation by mechanical rollers and areas within 48" (1.2m) of exterior walls, by hand tampers or rollers operated so as to avoid any damage to existing work.

.3 Do not compact material containing frost.

3.9 INSPECTION AND TESTING

.1 Testing of materials and compaction will be carried out by testing laboratory designated by the Consultant.

.2 Cost of tests will be paid from a Cash Allowance. Refer to Division 1.

.3 Frequency of Tests

.1 Excavated surfaces: when undisturbed excavated surface is being prepared, make a series of 3 tests of surface for each 5000ft.^{2} (500m^2) area.

.2 Fill under floor or other slabs on grade: make 3 tests for every 2 lifts of compacted fill for each 5000ft.^{2} (500m^2) area.

.3 Backfill structural walls: test each different material for approximately each 160ft. (50m) of wall being backfilled, at depth increments of 24" (600mm).

.4 If, during progress of work, tests indicate fills do not meet specified requirements, remove defective fills, replace and retest at no extra cost.

3.10 RESTORATION

.1 Upon completion of work, remove surplus materials and debris from site, trim slopes, and correct defects as directed by Consultant.

.2 Reinstate topsoil, pavement, sidewalks and landscaping to elevation which existed before excavation.

End of Section

Part 1 GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division One, General Requirements is part of this Section and shall apply as if repeated here.

1.2 SCHEDULING OF WORK

.1 Schedule finish grading and placing of topsoil so as to minimize surface erosion and leaching out of soil supplements before sodding and seeding are completed.

Part 2 PRODUCTS

2.1 MATERIAL

.1 Imported topsoil: friable, neither heavy clay nor of very light sandy nature containing minimum of 4% organic matter for clay loams and 2% for sandy loams to maximum of 20% by volume. Free from subsoil, roots, grass, weeks, toxic materials, stones, foreign objects and with an acidity range (pH) of 5.5 to 7.5. Topsoil containing crabgrass, couchgrass or noxious weeds is not acceptable.

.2 Fertilizer: Complete commercial synthetic slow release fertilizer with maximum 35% water-soluble nitrogen, formulation as per soil analysis recommendation.

.3 Lime:

- .1 Ground agricultural limestone containing minimum 85% of total carbonates.
- .2 Gradation requirements: percentage passing by weight, 90% passing 1 mm (0.040") sieve, 50% passing 0.1 mm (0.005") sieve.
- .3 Use lime as indicated by acidity analysis of topsoil to bring pH to required level.
- .4 Bonemeal: raw bonemeal, finely ground with a minimum analysis of 3% nitrogen and 20% phosphoric acid.
- .5 Sulphur: finely crushed agricultural elemental sulphur, free of impurities.
- .6 Peatmoss: Decomposed plant material, fairly elastic and homogeneous, free of decomposed colloidal residue, wood, sulphur, and iron; containing minimum 60% organic matter by weight and moisture content not exceeding 15%. Shredded particles may not exceed 1/4" (6 mm) in size. Minimum pH value peat 4.5 maximum 6.0.

2.2 SOIL MIXTURE FOR PLANTING

.1 Planting soil: for trees, shrubs, planting beds and planters: mix imported topsoil with 25% peatmoss. Incorporate bonemeal into mixture at a rate of 1-3/4 lbs. (1 kg) of bonemeal per cu. yd. (m3) of soil mixture.

.2 Soil for planters: planters to include a 2" layer of clear stone (3/4" minus) at bottom of planter with section of filter fabric on top. Planting soil mix to include, 1 part sand, 2 parts peat moss and 3 parts 3 in 1 planting soil mix. Planters to receive 2" layer of mulch.

Part 3 EXECUTION

3.1 PREPARATION

.1 Grade subgrade, eliminating uneven areas and low spots, ensuring positive drainage. Remove debris, roots, branches, stones in excess of 2" (50 mm) diameter and other

deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials.

.2 Cultivate entire area which is to receive topsoil to depth of 4" (100 mm). Repeat cultivation in those areas where equipment used for hauling and spreading has compacted subgrade.

3.2 SPREADING OF TOPSOIL

.1 Spread topsoil with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen subgrade, where seeding, sodding, planting is indicated.

.2 Keep topsoil 1-1/2" (40 mm) below finished grade for sodded areas; elsewhere bring topsoil up to finished grade. Apply topsoil to the following minimum depths: 6-1/2" (165 mm) for sodded and seeded areas 16" (400 mm) for shrub beds and planting beds.

.3 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from topsoil. Manually spread topsoil around trees and plants.

3.3 APPLICATION OF FERTILIZER

.1 Apply fertilizer at least one week after lime application and at least six (6) days before sodding.

.2 Spread fertilizer with mechanical spreaders over entire area of topsoil at rate determined on basis of soil sample test.

.3 Mix fertilizer thoroughly into upper 2" (50 mm) of topsoil.

3.4 FINISH GRADING

.1 Fine grade mechanically or manually entire topsoiled area to contours and elevations as indicated. Eliminate rough spots and low areas to ensure positive drainage.

.2 Fine grade and loosen topsoil prior to sodding. Eliminate rough spots and low areas to ensure positive drainage. Prepare loose friable sod bed by means of discing and subsequent raking. Roll lightly and rake wherever topsoil is too loose.

.3 Roll topsoil with 100 lb. (45 kg) roller, minimum 24" (600 mm) wide, to compact and retain surface.

.4 Leave surface smooth, uniform, firm against deep foot printing, with a fine loose texture.

End of Section

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

.1 Product is to be used for Recreational Senior Softball fields.

.2 General Requirements:
Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

.3 Work Included:
Provision of all labour, equipment, material, machines, tools, services and incidentals to provide and mix infield surface mix, fine grade and maintain until Substantial Performance of the Work.

.4 Tolerance:
For finish grade, surface shall be smooth, true to line and level, and free from depressions exceeding six 6mm as measured with 3m straight edge in any direction.

1.2 RELATED WORK

.1	Section 31 22 19	Finish Grading
.2	Section 31 23 00	Excavating, Trenching & Backfilling
.3	Section 31 11 16	Granular Base

1.3 SYSTEM DESCRIPTION

.1 Rough Grading by others.
- .1 When rough grade is established by work of another Section, a tolerance in the subgrade of 25 mm +/- is acceptable.
- .2 Verify rough grade as established by others prior to commencement of work of this Section.
- .3 Unless specified elsewhere, commencement of work of this Section will constitute acceptance of the surfaces and conditions.
- .4 This Section shall be responsible for any filling, cutting, importation, or removal within the specified tolerance.

.2 Tolerance
- .1 For Finish Grade:
  Surface grade shall be smooth, true to line and level and free from depressions exceeding 6 mm as measured with a 3 m straight edge in any direction.

1.4 QUALITY ASSURANCE

.1 Testing
- .1 Arrange for material sampling and compaction tests of subgrade and infield skinned materials in accordance with Division 1 – General Requirements

.2 Sample materials as required to establish compliance.

.3 Mock-up
- .1 Provide mock-ups for items listed below.
- .2 Provide a minimum of three (3) proportional variations of specified ingredients in 6 m2 mock-ups of infield mix.

1.5 REFERENCES

.1 Reference Standards:

ASTM C-88, Sulphur Soundness Test
CSA A82.56-M1976, Aggregate for Masonry Mortar OPSS 206, Construction Specification for Grading OPSS 501, Construction Specification for Compacting
OPSS 1001, Material Specifications for Aggregates – General OPSS 1004, Material Specifications for Aggregates – Miscellaneous

1.6 SUBMITTALS

.1 Provide a sample of materials to the Consultant. Receive approval of compacted subgrade prior to placement of materials. The Consultant may request testing of the material if deemed suspect.

.2 Inspection Company Reports:
Submit Inspection Company reports specified under Article 3.6 Field Quality Control.

.3 Submit grade sheet on a daily basis or as work is carried out.

1.7 REVIEW OF MATERIALS AND WORK

.1 Make all materials available for review, upon arrival on the site, or at source of supply when requested.

.2 Arrange for review of work by the Consultant of infield skinned subgrade prior to commencement of subsequent works.

.3 Confirm that grade elevations are correct and substrata properly compacted.

.4 Obtain confirmation from inspection and testing company.

.5 Make adjustments, where necessary.

1.8 DELIVERY, HANDLING & STORAGE

.1 Supply and deliver all materials, such as Turface and similar materials, in standard containers, clearly marked with contents, weight, analysis and name of manufacturer.

PART 2 PRODUCTS

2.1 Hazelmag

.1 A screened limestone fine aggregate produced by Dufferin Aggregates as a proprietary product named “Hazelmag”.

.2 A screened limestone fine aggregate produced by Redland Quarries as a proprietary product named “Athletic Field Lime”.

2.2 Brick Sand

.1 A fine aggregate meeting the requirements of CSA A82.56-M1976 or OPSS 1004 for Mortar Sand.

2.3 Mar-Co Clay

.1 A controlled blend of clay, sand and aggregate and is available in three (3) standard mixes: **Firm**, **Standard** and **Light**, telephone 1- 800-950-2555.
R. R. 3 Bright, Ontario, CANADA N0J 1B0

2.4 Turface

.1 A calcite clay meeting the requirements of ASTM C-88 Sulphur

Soundness Test with 5% less degradation, supplied by Plant Products Co. Ltd., 314 Orenda Rd., Brampton, Ontario, telephone 905 793 7000.

2.5 Alternate Sports Field Mix

.1 As an alternative and as the standard of acceptance of the Hazelmag and Brick Sand materials, the following proprietary product may be substituted:

.1 Brampton Sports Mix produced by Franceschini Brothers Aggregates Limited.

PART 3 EXECUTION

3.1 Site Conditions

.1 Site visit and examine the site and soil conditions and be satisfied that work can be carried out in accordance with requirements or contract documents.

3.2 Installation

.1 Spread material evenly over subgrade in a manner that will not cause segregation, to a depth of 150 mm, and compacted to 90% SPD.

.2 Ensure material is dry and applied over dry, unfrozen subgrade. Installation shall occur only in dry weather.

.3 After settling, top up materials to achieve the grade and elevations shown on the plan and as directed in the field. Continue to top up until the required elevations are achieved.

3.3 Skinned Mix

.1 Refer to and also follow Section 31 22 19 Finish Grading.

.2 Prepare a nominal mixture by volume of 75% Hazelmag and 25% Brick Sand. Ensure ingredients are thoroughly mixed.

.3 Spread dry Hazelmag/Brick Sand mixture during dry weather over approved, dry, unfrozen subgrade.

3.4 Turface

.1 Cover entire surface of skinned area with a 50 mm layer of Turface.

.2 Rototill Turface into top 100 mm of Hazelmag/Brick Sand mixture, rake to grades indicated and roll with 75 kg roller.

3.5 Protection

.1 Assume full responsibility for protection of infield skinned areas until final acceptance of work.

.2 Erect protective barriers and post signs where necessary and maintain same until acceptance. Remove same after final review.

.3 Remedy damages, wash-outs and eroded areas resulting from weather, improper protection, or other causes.

.4 Report, in writing, to the Consultant all damages resulting from vandalism or any other causes beyond Contractor's control not provided for by these documents.

3.6 Field Quality Control

.1 Inspection Services:
An inspection and testing company will be selected to verify that work of this section has been carried out as specified. Refer to Article 1.04 – Quality Assurance.

.2 Distribute copies of reports immediately following each inspection and test.

.3 Payment for inspection and testing will be made from cash allowance.

.4 Assist Inspection Company in the execution of its work.

DBA ENGINEERING
370 Steelcase Road East
Markham, Ontario L3R 1G2
Tel: (905) 940-8383
Toll Free: 1-800-819-8833
Fax: (905) 940-8508

Grain Size Analysis Test Report

Project No.: 05-1017-01 **Project Description** ~~Contract # 2005-024, Major Road Rep~~ **Date:** November 01, 2005

Project Location: Various Locations

Submitted Sample.
See Sam Bietenholz.
PD & D

Contract No.:

SAMPLE DATA

Material: Screenings
Date Sampled: 21-Oct-05
Time Sampled:
Sample Type: Stockpile
Sample Location: Sports Mix Screenings
Source:
Sampled By:

LAB DATA

Lab No.: 3867
Date Tested: 28-Oct-05
Specification: ,

PARTICLE ANALYSIS

TEST	Sample	Specification
Percent Crushed:		
% Asphalt Coated:		
% Flat and Elongated	0.0	

WASH PASS 0.075mm

TEST	Sample	Specs
Wash Pass 0.075 mm:	0.0	
FINENESS MODULUS	2.71	

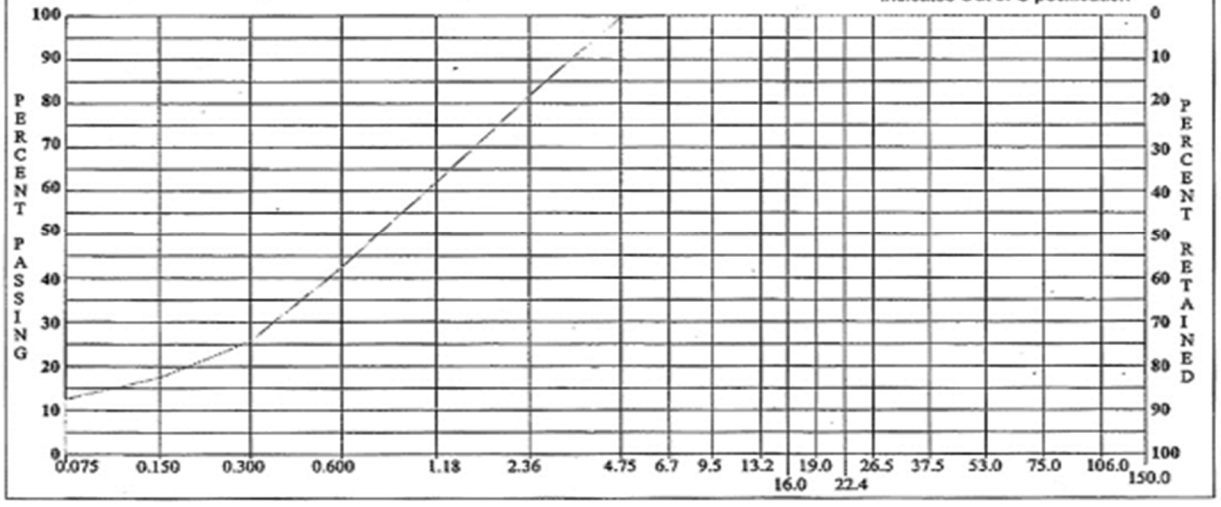
Comments:

Grain Size Analysis

Sieve Sizes (mm)	Percent Passing	
	Sample	Specification
150.0	100	
106.0	100	
75.0	100	
53.0	100	
37.5	100	
26.5	100	
22.4	100	
19.0	100	
16.0	100	
13.2	100	
9.5	100	
6.7	100	
4.75	99.62	
2.36	81.8	
1.18	62	
0.600	42.3	
0.300	25.6	
0.150	17.5	
0.075	12.49	

* Indicates Out of Specification

Sample: _____ **Specs:** _____



End of Section

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

.1 Supply and install bleachers as specified in the Contract Documents.

.2 Bleachers generally will be 5 tiers tall x 3.66 metres minimum to 4.24 metres maximum in length. **THE MAXIMUM BLEACHER SEAT HEIGHT SHALL NOT EXCEED 1.19 METRES.** Bleachers may be supplied with the following types of floor boards and seats:

.1 Bleachers supplied with wood floorboards and seats.

.2 Bleachers supplied with anodized extruded aluminum floor boards and seats.

.3 "Plastisol" coated steel frame and mesh floorboards and seats.

.4 Each bleacher must accommodate a minimum of 40 adults.

1.2 STANDARDS

.1 Provide all products and services in accordance with the following codes and standards:

.1 OBC Ontario Building Code
.2 CWB Canadian Welding Bureau
.3 CSA Canadian Standard Association

1.3 SHOP DRAWINGS AND CERTIFICATION

.1 The Contractor shall provide shop drawings stamped approved by a Professional Engineer licensed in the province of Ontario for Consultant review prior to commencement of fabrication. The successful bidder will be responsible to have the Engineer review the installations upon completion and provide written certification that the construction and installation complies with all applicable codes and regulations.

.2 A copy of their current Canadian Welding Bureau Letter of Validation stating that they are certified to CSA Standard **W47.1** must be submitted.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Frames and backing shall be constructed of structural hollow steel sections and angle iron and shall have welded joints.

.2 Galvanizing: Hot dipped galvanizing with zinc coating: to C.S.A. 6164 - M1981.

.3 Welding Materials to CWB W47.1 and W59 - 1984.

.4 Boards–

1. Type 1- Pressure treated Jack Pine 30 mm x 254 mm. Treat all cuts with preservative.
2. Type 2 - 6061-T6 aluminum anodized seamless 50 mm x 254 x 33 mm min. wall extrusions with end caps anodized finish for seats. Mill finish for floorboards.
3. Type 3 - Metal boards shall be a #9 x 19 mm expanded steel mesh grating with 4.8 mm x 50 mm angle steel side supports. Entire board shall have a vinyl Plastisol coated finish to a thickness of 150 to 180 mil. Provide Plastisol colour samples to the Consultant for selection.

.5 Fasteners - Primary structural fasteners shall be grade 5 button headed socketed and pinned cap screws with locknuts. All fasteners shall be formed from carbon steel and finished with zinc nickel plating with an iridescent chromate finish. Manufacturer to provide special tools for pinned hex fasteners.

.6 Ground Sills - Bleacher shall be provided with 50mm x 150mm pressure treated ground sill boards (skids) on each frame section. The boards shall be continuous and end cuts shall be treated with preservative. Securely fasten the boards to the frame with the appropriate size and quantity of bolts washers, and nuts

2.2 FABRICATION

.1 Fabricate frames with welded connections where possible, otherwise bolt connections.
.2 Accurately form connections with flush, tight, mitered joints.
.3 Grind or file exposed welds smooth.
.4 Ship fabricated bleachers in sections as large and complete as practicable.
.5 Finish all frames, braces and supports with hot dipped galvanizing.

PART 3 EXECUTION

3.1 Installation

.1 The Contractor is to confirm layout with the Consultant prior to installation. Grade level the area as required;

.2 Provide labour, equipment and tools, as required to place and erect the bleachers;

.3 Restore the site and access points to pre-installation condition to the satisfaction of the Consultant. Remove all debris and excess materials of site;

.4 Arrange for the inspection of each site by the Consultant at the completion of installation;

.5 Provide a copy of the Engineers inspection report of the completed installation.

3.2 Warranty

.1 The Contractor shall warrant the materials and workmanship for Twenty-four (24) months standard warranty to apply from Substantial Performance Certification. Refer Division 1 – General Requirements for submittal requirements.

End of Section

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section.

.2 Fence framework, fabric, and accessories.

.3 Excavation for posts.

.4 Concrete encasement for posts.

.5 Manual gates and related hardware.

1.2 RELATED WORK

.1 Section 32 31 14 – Backstops.

.2 Section 03 30 00 – Casi-in-Place Concrete.

.3 Section 31 22 19 – Finish Grading

1.3 REFERENCES

.1 OPSS 541, Construction Specification for Chain Link Fence.

.2 CSA-A23.1/A23.2 - Concrete Materials and Methods of Concrete Construct ion/Methods of Test for Concrete.

.3 CAN/CSA-G164-M92 (R2003) - Hop Dip Galvanizing of Irregularly Shaped Articles.

.4 CSA-W59.2-M1991(R2003) - Welded Aluminium Construction.

.5 CSA-W59-03 - Welded Steel Construction.

.6 CSA-W47.1S1-M1989 (R1998), Certification of Companies for Fusion Welding of Aluminium.

.7 CSA-W47.1-03 - Certification of Companies for Fusion Welding of Steel.

.8 ASTM-A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-dipped, Zinc-Coated Welded and Seamless.

.9 ASTM-A90/A90M - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc Alloy Coatings.

.10 CAN/CGSB-138.1, Fabric for Chain-Link Fence.

.11 CAN/CGSB-138.2, Steel Framework for Chain Link Fence.

.12 CAN/CGSB-138.3, Installation of Chain Link Fence.

.13 CAN/CGSB-138.4, Gates for Chain Link Fence.

.14 CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01 33 00: Submission procedures.

.2 Product Data: Provide characteristics fencing materials. Include accessories, fittings, hardware, anchorages, and schedule of components

.3 Shop drawings: Include but not limited to: fence layout, heights, mounting details.

1.5 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00: Submission procedures.

.2 Installation Data: Manufacturer's special installation requirements indicating substrate requirements and installation methods.

.3 Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.6 CLOSEOUT SUBMITTALS

.1 Section 01 78 10: Submission procedures.

1.7 ADMINISTRATIVE REQUIREMENTS

.1 Section 01 31 00: Project management and coordination procedures.

.2 Coordinate with other work having a direct bearing on work of this section.

.3 Coordinate work to ensure timely placement of insulation within construction spaces.

.4 Pre-installation Meetings: Convene two (2) weeks before starting work of this section.

1.8 QUALITY ASSURANCE

.1 Manufacturer: Provide aluminum frames manufactured by a single firm specializing in production of this type of work for a minimum of five (5) years.

.2 Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

.1 Property line and Tennis Court Fencing and Gates: Fencing shall be supplied with black vinyl coated mesh and black powder coated posts, railings and hardware.

.1 Baseball Backstops, Line Fencing, Dugouts and Gates: Fencing shall be supplied with hot dipped galvanized mesh posts, rails and hardware.

2.2 MATERIALS

.1 Chain-link fence fabric: to CAN/CGSB-138.1.

- .1 Type 1, Class A, medium style
- .2 Height of wire: 1.8m or as indicated on drawings.

.2 Posts and Rails: to CAN/CSGB-138.2 + ASTM A53, galvanized steel pipe, Schedule 40 pipe minimum.

- .1 Line Posts: 59mm (2.375") outside diameter, Schedule 40 galvanized steel pipe or galvanized "H" columns weighing not less than 13.18kg/m² (2.7 lb./ft).
- .2 Corner and Terminal Posts: 73mm (2.875") outside diameter, Schedule 40 galvanized steel pipe.
- .3 Gate Posts: 89mm (3.500") diameter for man gates and 168mm (6.625") diameter for vehicular gates; gateposts to be galvanized steel pipe.
- .4 Top, Bottom and Brace Rail: 42.16mm (1.660") outside diameter, plain end, sleeve coupled galvanized steel pipe.

.3 Tie wire fasteners: single strand, galvanized steel fabric, 3 mm (1/8”) diameter.

.4 Tension bar: 5 x 20 mm minimum galvanized steel.

.5 Tension bar bands: 3 x 20 mm minimum galvanized steel.

.6 Gate Frames: to ASTM A53/A53M, galvanized steel pipe, 48.26mm (1.9") outside diameter galvanized steel pipe for fittings and truss rod fabrication.

.7 Fabric/Vinyl Coated Steel: Chain link fence fabric shall be galvanized steel wire with a continuously bonded vinyl coating, with a finish size (i.e., size after coating) of 8 gauge, and shall comply with ASTM F 668. Fabric height shall be 2.44m (8') , 20mm (±¾"), with knuckled, selvage edges on the bottom and top. Mesh shall be vertically woven diamond mesh, with a nominal distance of 50mm (2") between parallel wires.

.8 Caps: Cast steel or malleable iron, galvanized, sized to post dimension, set screw retained.

.9 Extension Arms: Cast steel, to accommodate 3 strands of barbed wire, single arm, 305mm (12") high (measured vertically) above the top edge of the fence fabric, sloped to 45 degrees.

.10 Barbed Wire: 12 AWG wire, 3 strands, zinc coated steel with bonded vinyl coating and 4 point barbs at 127mm (5") O.C., painted black.

.11 Gate Hardware: Fork type latch with gravity drop; center gate stop and drop rod; three 180° gate hinges per leaf.

.12 Privacy Slats: Plastic fencing slats manufactured from 97 percent recycled plastic containing 97 percent post-consumer recycled plastic.

.13 Fittings and hardware: galvanized steel. Post caps to provide waterproof fit, to fasten securely over posts and to carry top rail.

.14 Zinc pigmented paint: to CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating

2.3 CONCRETE MIX

.1 Concrete: ASTM C 94; type II Portland Cement; 2500 psi at 28 days; 75mm (3") slump; 20mm (¾") maximum size aggregate.

2.4 COMPONENTS

2.5 FINISHES

.1 Galvanized Surfaces: Galvanize surfaces in accordance with ASTM A 123, with a coating of at least 1.20 oz/sq. ft.

.2 Accessories and Components: Same finish as fabric.

2.6 VINYL COATING

.1 The vinyl coating shall conform to FS RR F 191/1C.

.2 Colors shall be stabilized, and shall have a light fastness to withstand a minimum Weather O Meter exposure of at least 1500 hours without deterioration when tested in accordance with ASTM D 1499.

.3 Specific gravity shall be between 1.26 and 1.30 in accordance with ASTM D 792.

.4 Hardness shall be A90 ± 5 in accordance with ASTM D 2240.

.5 Tensile strength shall be between 2600 and 3000 psi (17.94 MPa and 20.7 MPa) in accordance with ASTM D 412.

.6 Vinyl coating shall be exposure resistant to dilute solutions of most common mineral acids, sea water, salts, and alkali.

.7 Vinyl coating shall be continuously bonded to the wire under 5000 psi (34.5 MPa) pressure before the wire is woven into fabric.

PART 3 EXECUTION

3.1 INSTALLATION

.1 Install framework, fabric, accessories, and gates in accordance with CAN/CGSB-138.3.

.2 Install security fence of 2.45m (8 foot) fabric height with 0.9m (1 foot) barbed extension on support arms as shown on Drawings.

.3 Space line posts at intervals not exceeding 3m (10 feet).

.4 Set gate and posts plumb, in concrete footings with top of footing 25mm (1") above finish grade. Slope top of concrete for water runoff. Footings for line end and corner posts are to be 203mm (8") diameter by 0.09m (3 feet) deep below finish grade and for gates are to be 305mm (12") diameter by 1m (3 feet 6 inches) deep below finish grade.

.5 Provide top rail through line post tops and splice with 178mm (7") long rail sleeves.

.6 Brace each gate and corner post back to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail, one bay from end and gate posts.

.7 Install center and bottom brace rail on corner and gate leaves.

.8 Stretch fabric between terminal posts or at intervals of 30.5m (100 feet) maximum, whichever is less.

.9 Position bottom of fabric to no more than 50mm (2") above concrete or asphalt grade and touching dirt finish grade.

.10 Fasten fabric to top rail, line posts, braces, and bottom tension wire with 11 AWG galvanized wire ties 610mm (24") maximum on centers.

.11 Attach fabric to end, corner, and gateposts with tension bars and tension bar clips.

.12 Install bottom rail supported at each line and terminal post in such a manner that a continuous brace between posts is formed.

.13 Install gates with fabric and barbed wire overhang to match fence. Install three hinges per leaf, latch, catches, drop bolt, foot bolts and sockets.

3.2 CLEAN-UP

.1 Upon completion, remove all tools, equipment, surplus material and debris.

.2 Repair damaged galvanized surfaces. Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of approved zinc pigmented paint to damaged areas.

END OF SECTION

PART 1 GENERAL

1.1 DESCRIPTION

.1 The section specifies the requirements for the supply and installation Softball Backstops.

1.2 RELATED WORK

.1	All Division 1	Specification Sections
.2		Site Grading
.3		Excavation, Trenching & Backfilling
.4		Chain Link Fences & Gates
.5		Cast-in-Place Concrete

1.3 REFERENCE STANDARDS

.1 OPSS 541, Construction Specification for Chain Link Fence

.2 Canadian Standards Association (CSA).

- .1 CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construct ion/Methods of Test for Concrete.
- .2 CSA/CSA-A23.2, Methods of Test of Concrete.
- .3 CAN/CSA-G164-M92 (R2003), Hop Dip Galvanizing of Irregularly Shaped Articles.
- .4 CSA-W59.2-M1991(R2003), Welded Aluminium Construction
- .5 CSA-W59-03, Welded Steel Construction
- .6 CSA-W47.1S1-M1989 (R1998), Certification of Companies for Fusion Welding of Aluminum
- .7 CSA-W47.1-03, Certification of Companies for Fusion Welding of Steel

.3 American Society for Testing and Materials (ASTM).

- .1 ASTM-A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-dipped, Zinc-Coated Welded and Seamless.
- .2 ASTM-A90/A90M, Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc Alloy Coatings.

.4 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB-138.1-96, Fabric for Chain-Link Fence.
- .2 CAN/CGSB-138.2-96, Steel Framework for Chain Link Fence.
- .3 CAN/CGSB-138.3-96, Installation of Chain Link Fence.
- .4 CAN/CGSB-138.4-96, Gates for Chain Link Fence.
- .5 CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating.

1.4 STANDARD DETAILS

.1 Refer to Drawings for Standard Details.

1.5 CERTIFICATION

.1 All Softball Backstops drawings shall be stamped by a certified Structural Engineer licensed in Ontario (P. Eng).

1.6 SCOPE OF WORK

.1 Supply and install materials in accordance with standard details and drawings.

.2 Furnish all labour, materials and equipment necessary to construct backstops in accordance with the lines, grades, levels and dimensions shown on the drawing and in accordance with the construction details and specifications herein.

.3 The Contractor is responsible to establish the location of all underground services, sewers, sewers and utility lines prior to commencing any excavation or demolition work. Approximate locations for underground sewer and utility lines are indicated on the drawings and must be confirmed and verified in the field by the Contractor.

.4 The Contractor is responsible for providing the site layout required to execute the Work including grade stakes indicating finished elevations on the site.

1.7 QUALITY ASSURANCE

.1 The Contractor is to ensure the preparatory Work in advance of the chain-link fence installation, subgrade or sub-base materials, and site compaction have been reviewed by the Consultant before placing posts.

1.8 JOB CONDITIONS

.1 All work in this section shall be undertaken in suitable weather conditions and in accordance with the Manufacturer's requirements.

Organize and carry out all operations to keep the sire dewatered and prevent construction delays. Protect the Work at all times from the intrusion of water from any and all sources and maintain the site in the dewatered condition.

.2 Do not install materials or products susceptible to damage or improper installation if the sire is wet or during rain.

1.9 SUBMITTALS

.1 Refer to Division 1 for Submittals.

1.10 WARRANTY

.1 Warranty all material and workmanship in this section from movement, settlement, sinking, and deterioration, rusting of any component or any other change in finish quality for a period of two
(2) years from date or Substantial Performance of Work.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Standard backstop(s) shall be manufactured as specified and detailed. Any substitutions must be approved in writing. The backstop(s) is of **all-welded construction.**

.2 All mesh to be new and hot dipped galvanized before fabrication in accordance with CAN/CGSB-138 and CSA-162. Top and bottom selvage to have a knuckled finish. Galvanized fabric to have a minimum of 488 g/m2 of zinc on surface area. Fabric shall be installed to the full width indicated on drawings without overlap. Mesh sizes are also noted on detail drawings.

.3 Fabric with galvanized burrs will not be accepted and will be rejected by the Consultant.

.4 Galvanizing: all metal except aluminium shapes and wire mesh shall be hot dip galvanized, after fabrication, in accordance with CSA- G164.

.5 All posts and rails shall be steel pipe with minimum yield strength of 240 MPa and hot dip galvanized confirming to CSA-G164-M92 (R2003).

.6 Fence fabric to be hot dipped galvanized confirming to CSA-G164-1965(1972) free from blisters, bare spots, projections or other defects not consistent with good galvanizing practice.

.7 The gates shall be installed as noted on drawings. The gate frame to be hot dipped galvanized complete with standard hinges and laches designed to accept a padlock.

.8 Concrete footings shall conform to the certified Structural Engineer drawings.

.9 The chain link mesh shall be diamond pattern, open hearth steel wire, and knuckled at top and bottom ends.

2.2 FINISHES

.1 The coating weight and uniformity shall be measured by the Preece Test and shall conform to the following table and in accordance with ASTM A239-95 (2004).

Component	Coating Weight	Preece Dips
Fence Fabric	490 g/m2 (1.6 oz/sq, ft.)	6
Posts and Rails	549 g/m2 – 610 g/m2 (1.8 oz/sq. ft.)	6
All Fittings	484 g/m2 (1.6 oz/sq. ft.)	6

.2 Concrete Post footings mixes and materials: Cast-in-Place concrete CAN/CSA-A23.2.

.1 Nominal aggregate size: 40-5.
.2 Compressive strength: 25 MPa minimum at 28 days.

.3 All welds shall be neatly ground and finished to match the texture of the existing material.

.4 Fittings and hardware: galvanized steel.Post caps to provide waterproof fit, to be fastened securely over posts.

2.4 SOFTBALL BACSTOP MATERIALS

.1 Chain Link Fence Fabric: 50 mm x 6 gauge chain link mesh galvanized after weaving (G.A.W) for lower portion of backstop and 38 mm x 9 gauge G.A.W. chain link mesh for upper portion of backstop. Zinc coating shall not be less than 610g/m^2 of uncoated wire surface. All other mesh shall be 38mm x 9 gauge galvanized before weaving mesh with zinc coating of not less than 490g/m^2 of uncoated wire surface.

.2 Framing shall be constructed of prime galvanized pipe to **Schedule 40 or Schedule 80** as specified on the Engineers stamped drawings to diameters listed below, unless otherwise specified:

Component	**Softball**	**Hardball**
Corners and Ends	90 mm O.D	114 mm O.D
Uprights	60 mm O.D	70 mm O.D
Rails and Cross Braces	43 mm O.D	48 mm O.D

.3 It is understood that the reference to 43 and 48 mm O.D. rails and cross braces shall include top, middle and bottom rails.

.4 Provide all hardware, caps and enclosures for all framing.

.5 Tie wire fasteners: single strand, galvanized steel fabric, 3 mm diameter.

.6 Tension bar: 5 mm x 19 mm minimum galvanized steel.

.7 Tension bar bands: 6 mm x 19 mm minimum galvanized steel.

PART 3 EXECUTION

3.1 GRADING

.1 Remove debris and correct ground undulations along fence line to obtain smooth uniform gradient between posts. There shall be no clearance between the bottom rail and the infield mix.

3.2 INSTALLATION

.1 Erect fence along lines as shown in the approved drawings, directed by the Consultant and in accordance with CAN/CGSB-138.3-96.

.2 Excavate post holes to dimensions indicated by methods as shown in the approved drawings, directed by the Consultant. Dispose of all subsoil excavations not suitable for re-use or not dispensable into the new work to an off-site location arranged and paid for by the Contractor.

.3 Space line posts as stated herein.

.4 Place concrete in post holes with sono-tube footings then embed posts into the concrete to depths as indicated herein.

.5 Brace to hold posts in plumb position and true to alignment and elevation. Immediately make corrections to any post found not to be plumb in all directions.

.6 Do not install fence fabric until concrete has cured a minimum for five (5) days.

.7 Install rails between posts and provide continuous weld. All joints shall be mitred or “fish mouthed”. Crimped pipe joints will not be accepted. Secure waterproof caps and overhang tops.

.8 Lay out fence fabric an the side of play in the locations as defined on the drawings. Stretch tightly to tension recommended by manufacturer and fasten to end, corner gate and straining posts with tension bar secured to post with tension bar bands spaced at 250 mm intervals. No exposed wire barbs are to exist on the bottom and top edges of fence fabric.

.9 Secure fabric to top rails, line posts and bottom rail with tie wires at 250 mm intervals. Give tie wires minimum two twists. Wire ends to be twisted so not to create hazard.

.10 All welding shall be Canadian Welding Bureau approved to CSA- W59-03 and W59.2. Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

.11 Space line posts and uprights as stated by the Certified Structural Engineered stamped and sealed drawings.

.12 Concrete footings to be installed as per the approved Certified Structural Engineered stamped and sealed drawings.

3.5 TOUCH-UP

.1 All field to be cleaned with a steel brush removing all shavings, filings, dirt, dust, splatters and other debris prior to field touch-up.

.2 Repair damaged galvanized surfaces. Clean damaged surfaces with wire brush removing loose and cracking coatings. Pre-treat damaged surfaces according to manufacturer’s instructions for zinc- rich paint. Apply two (2) coats or organic zinc-rich paint to damaged areas.

3.6 CLEANING

.1 Review the place or work, rake, remove and dispose of all cut pieces of wire, ties or discarded materials.

.2 Promptly as the work proceeds and upon completion. Clean up and remove from the sire rubbish and surplus material resulting from the work.

.3 Clean and reinstate all areas disturbed by operations of the Contractor, sub-trades, or supplier related to the work in this section, replacing damaged subgrade, surfacing, topsoil, sod, to the original finished condition to the approval of the Consultant.

End of Section

Proposed Field Lighting
Goulard Park, Sturgeon Falls, ON

Geotechnical Investigation

Municipality of West Nipissing
Final Report

December 19, 2025
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Goulard Park Lighting
Municipality of West Nipissing

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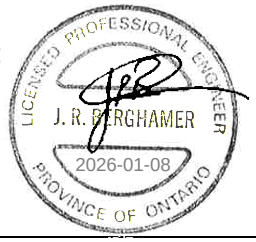

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APPENDICES

1 Introduction

As requested by the Municipality of West Nipissing (the Client), Englobe Corp. (Englobe), has carried out the geotechnical investigation for the proposed new light posts at a baseball field in Goulard Park in Sturgeon Falls, Ontario. The site is situated in the southeast section of the park located at 216 John Street, Sturgeon Falls, ON, at approximate coordinates 46°22'4.00"N, 79°54'55.53"W (see Drawing No. 1a and 1b, Appendix A).

The purpose of the geotechnical investigation was to ascertain the subsurface and groundwater conditions at the location of the proposed light poles, and to provide geotechnical recommendations for the design of the concrete foundations.

We have completed the field and laboratory testing programs and submit the factual results in this report along with our comments and recommendations.

1.1 Site Conditions

The site is an existing baseball field that is generally flat, cleared of trees, and is situated in a residential/commercial section of Sturgeon Falls.

Underground utility service clearances were undertaken in advance of the investigation. Existing underground utilities were identified on the property, as confirmed by Ontario One-Call, including bell cable lines connected to the property along the east side of the property. All boreholes were advanced clear of this cable.

See Photo Essay Appendix D for existing site conditions.

2 Fieldwork

The fieldwork for this geotechnical investigation was carried out on December 8th, 2025. The fieldwork consisted of four (4) sampled boreholes (Borehole (BH) 1 to 4). The location of the boreholes is shown on the Borehole Location Plan, Drawing No. 2 in Appendix A.

The boreholes were advanced with a truck mounted drill rig operated by Landcore Drilling, equipped with continuous flight hollow stem and standard augers. The fieldwork was under the full-time direction of an experienced member of our engineering field staff who was responsible for logging individual borings, retrieving samples, field sample classification, plus overall field/drill supervision. Samples were obtained at frequent intervals of depth from the auger flights and by using the Standard Penetration Test (SPT) method. The SPT method of sampling involves advancing a 50 mm outside diameter split spoon sampler with the force of a 63.5 kg hammer, freely dropping 760 mm, mounted in a trip (automatic) hammer. The number of blows per 300 mm penetration is recorded as the “N” value. Where encountered and if possible, the in-situ shear strength of fine-grained deposits was measured using a calibrated torque meter and vane.

All samples taken during this investigation were stored in labeled airtight containers for transport to our Englobe laboratory for visual examination and select laboratory testing. The routine laboratory testing consisted of natural moisture content determination and particle size analysis on select soil samples. Samples remaining after testing will be stored for a period of three months following the date of this report and then discarded unless otherwise instructed.

To comply with the intent of Ontario Water Resources Act Regulation 903 amended to O. Reg. 128/03, the boreholes were sealed with reverse augering techniques for the full depth and, where appropriate, the surface was sealed with a bentonite plug.

The borehole locations were surveyed using a handheld GPS with an accuracy of ±3.0m horizontally. Borehole elevations were interpolated from the site plan “WN Goulard Park Baseball Field

Redevelopment" dated July 31, 2025. Measurements have not been confirmed by an Ontario Land Surveyor (OLS) and are provided for reference only.

All measurements in this report are in Metric units (unless otherwise noted).

Table 2-1: Summary of Borehole Coordinates and Ground Surface Elevation

Borehole ID	Northing (m)[1]	Easting (m)[1]	Elevation (m)[2]	Borehole Depth (m)
BH No. 1	5135528	583449	210.7	6.7
BH No. 2	5135494	583473	210.6	6.7
BH No. 3	5135482	583380	210.3	6.8
BH No. 4	5135442	583416	210.4	7.6

1 UTM Zone 17T,

2 Ground elevation interpolated from "WN Goulard Park Baseball Field Redevelopment "plan provided by the Client.

3 Subsurface Conditions

Soil conditions are confirmed at the boring locations only and may vary between borings. The boundaries between stratums indicated on the borehole logs are inferred from non-continuous sampling, results of in-situ tests (i.e., SPT, etc.), observations during the drilling/excavating operations, and/or the response of the drilling/excavating equipment. These boundaries are approximations only and should not be regarded as exact planes of geological change as the actual transition may be gradual from one soil type to another. The description of relative density of the granular subsoils, in part, was based on the results of the SPT and/or the response of the drilling equipment. Refusal, if encountered, is defined as the point at which the augers can no longer be practically advanced with the equipment used in this investigation. Refusal to further advance of the augers, and/or SPT may have been due to the presence of very dense soils, cobbles/boulders in the underlying soils, or possibly bedrock.

Detailed descriptions of the subsurface conditions revealed at the boreholes are shown on the enclosed Record of Borehole Log in Appendix B. The following is a brief description of revealed subsurface conditions at this site.

3.1 Subsurface Summary Description

BH Nos. 1 to 4 were advanced in the area of the proposed new light poles, the locations of which are shown on Drawing No. 2 in Appendix A. The following table summarizes the general overburden conditions encountered at the borehole locations.

Table 3-1: Summary of Observed Stratigraphy at the Borehole Location

Borehole ID	Approximate Depth (m)			
	Sand	Silt	Silty Clay	Silty Sand
BH No. 1	0.0 - 2.3	2.3 - 6.7	--	--
BH No. 2	0.0 - 4.6	6.1 - 6.7	4.6 - 6.1	--
BH No. 3	0.0 - 0.8	3.1 - 6.7	--	0.8 - 3.1
BH No. 4	0.0 - 0.8	0.8 - 6.1	6.1 - 7.6	--

3.1.1 Sand

At the surface of BH Nos. 1 to 4, a deposit of sand, trace to some silt, trace gravel, was encountered. The investigated thickness of this layer was 0.8 m to 4.6 m. The natural moisture content measured on samples retrieved from this layer ranged from 14 to 27%. Based on SPT 'N' values of 4 to 15 blows per 300 mm penetration, the relative density of this layer was described as "very loose" to "compact", generally "loose". Gradation analyses (sieve) were carried out on two (2) samples obtained from this deposit. The laboratory testing results for this layer are summarized in Section 3.1.5 below and provided in Appendix C – Laboratory Test Results.

3.1.2 Silty Sand

Underlying the sand at BH No. 3, a deposit of silty sand, trace to with sand was encountered. The investigated thickness of this stratum was 2.3 m. The natural moisture content measured on samples retrieved from this deposit ranged from 27 to 28%. Based on SPT 'N' values of 4 to 6 blows per 300 mm penetration, the relative density of this deposit was described as "very loose" to "loose", generally "very loose". Gradation analysis (sieve) was carried out on one (1) sample obtained from this deposit. The laboratory testing results for this deposit are summarized in Section 3.1.5 below and provided in Appendix C – Laboratory Test Results.

3.1.3 Silt

Underlying the sand at BH Nos. 1 and 4 and underlying the silty clay and silty sand at BH Nos. 2 and 3, respectively, a deposit of silt, trace to with sand, trace clay was encountered. The investigated thickness of this stratum was 0.6 m to 5.3 m. The natural moisture content measured on samples retrieved from this deposit ranged from 22 to 31%. Based on SPT 'N' values of 4 to 18 blows per 300 mm penetration, the relative density of this deposit was described as "very loose" to "compact", generally "compact". Gradation analysis (hydrometer) were carried out on four (4) samples obtained from this deposit. The laboratory testing results for this deposit are summarized in Section 3.1.5 below and provided in Appendix C – Laboratory Test Results.

BH Nos. 1 to 3 were terminated in this deposit at the planned depth of investigation of 6.7 m below grade.

3.1.4 Silty Clay

Underlying the sand deposit in BH No. 2 and the silt deposit in BH No. 4, a layer of silty clay was observed. The investigated thickness of this stratum was in the order of 1.5 m. The natural moisture content measured on samples of this material ranged from 36 to 38%. Based on shear vane values of 16 to 19 kPa, the consistency of this deposit was described as “soft”. Atterberg Limits testing was carried out on one (1) sample obtained from within this deposit, the results of which can be found in Section 3.1.5 below and are also provided in Appendix C – Laboratory Test Results.

BH No. 4was terminated in this deposit at the planned depth of investigation of 6.7 m below grade.

3.1.5 Laboratory Test Results

The following section summarizes the laboratory data results obtained from relevant samples collected during the geotechnical investigation. Samples were obtained from the investigation at frequent intervals of depth by using the Standard Penetration Test (SPT) method.

The following laboratory tests were considered to determine relevant geotechnical information at select borehole locations:

- Natural Moisture Content (all samples)
- Gradation (sieve) – three (3) tests
- Gradation (hydrometer) – four (4) tests
- Atterberg Limits – one (1) test

The following Table 3-2 summarizes the gradation results (sieve and hydrometer) obtained from conducting laboratory testing on the following samples:

Table 3-2: Gradation Results – Sieve and Hydrometer

Borehole & Sample ID	Material Type	Gradation				USCS	OPSS 1010
		Gravel (%)	Sand (%)	Silt (%)	Clay (%)		
BH No. 1, SS 2	Sand	0	97	3		SP	N/A
BH No. 1, SS 4	Silt	0	15	85	0	ML	N/A
BH No. 2, SS 3	Sand	1	85	14		SP-SM	N/A
BH No. 2, SS 7	Silt	0	1	92	7	ML	N/A
BH No. 3, SS 3	Silty Sand	0	65	35		SM	N/A
BH No. 3, SS 6	Silt	0	2	92	6	ML	N/A
BH No. 4, SS 4	Silt	0	29	70	1	ML	N/A

The following Table 3-2 summarizes the Atterberg Limits results obtained from conducting laboratory testing on the following sample:

Table 3-3: Atterberg Limit Results

Borehole & Sample ID	Depth (m)	Atterberg Limits			USCS
		Plasticity Index	Plastic Limit (%)	Liquid Limit (%)	
BH No. 2, SS 6	4.6 - 5.2	8.3	19.3	27.6	CL

3.2 Groundwater Data

Groundwater levels and cave-in depths in the open boreholes were measured, where possible, during the field investigation. It is noted that there may have been insufficient time for the groundwater levels to stabilize in the boreholes prior to measuring. These groundwater levels and cave-in depths are recorded on the individual Record of Borehole Log Sheets (Appendix B) and in Table 3-4 below:

Table 3-4: Groundwater Level Measurements

Borehole ID	Ground Surface Elevation (m)	Groundwater Depth (m)	Groundwater Elevation (m)
BH No. 1	210.7	1.1	209.6
BH No. 2	210.6	1.0	209.6
BH No. 3	210.3	1.2	209.1
BH No. 4	210.4	1.2	209.2

Groundwater levels will fluctuate seasonally and/or yearly. As such, a groundwater level should be established in advance of the construction operations (i.e., at time of tender or following award, prior to starting site work) such that adequate groundwater control plans can be developed.

4 Discussion and Recommendations

It is understood that high mast lighting is proposed for the southern baseball filed at Goulard Park.

In general, the soil conditions at this site consist of sand deposits at surface underlain by finer grained soils, ranging from silty sand to silt to silty clay. Overall, the relative density of these coarser grained deposits is considered loose and for the finer grained soils, the consistency is generally soft.

The groundwater level encountered during this investigation was shallow at approximately 1 m below grade.

This section presents an interpretation of the geotechnical data presented above, provides general geotechnical and foundation design recommendations, and general discussion for design and construction of the proposed foundations for the new light poles.

4.1 Frost Protection

The estimated frost depth penetration for the area (OPSD 3090.100 Rev#1 Nov 2010) of the subject site is:

- ± 1.9 m below exposed ground surfaces or for isolated, unheated foundations,

It is noted that soil types that have a low to high susceptibility to frost heaving were encountered within the depth of frost penetration at this site. Soils that are sensitive to frost heave may experience heave during the winter/spring months, only to settle back once thawed. Where silt content is less than 40%, the susceptibility to frost heave is low; however, in areas where silt is identified as the predominant soil type, the potential for frost heave should be considered high.

All exterior isolated footings supported on soil and subject to frost penetration must have frost protection (permanent and during construction) to the depths noted above.

Soils that are sensitive to frost heave may experience heave during the winter/spring months, only to settle back once thawed. As such, the founding subgrades for footings, slab on grade, services, etc. must be protected from frost penetration at all times during foundation excavation and construction operations. Should freezing temperatures occur during construction, the Contractor must undertake to prevent frost penetration into the natural soils (straw, insulated traps, etc.) until such a time that footings, slab on grade, services, etc. are adequately protected (soil cover, insulation, heat is supplied to the building, etc.).

Concrete cannot be placed against materials with subzero temperatures.

All granular backfill must be free of frost, ice, and snow, and at an appropriate moisture content and temperature to allow compaction. Once a lift of engineered fill is placed, compacted, and accepted, it is considered acceptable to backfill overtop of this lift if the lift is unfrozen or if there is minimal frost within the surface of the lift. If the surface of a granular fill lift is frozen, the Contractor shall, in conjunction with an Englobe representative, confirm depth of frost prior to backfilling. It is noted that frost penetration can be reduced through the use of insulated tarps, with or without heat source (depending upon ambient temperatures), and by ensuring backfilling operations are continuous.

In addition, active monitoring of the subgrade temperatures may be warranted depending upon the time of year that construction is undertaken.

If winter construction is anticipated, a detailed winter construction plan shall be provided by the Contractor prior to the commencement of the project.

4.2 Foundation Recommendations

Foundation design parameters are provided in this report for static, vertically, and concentrically loaded foundations in compression, unless specifically noted otherwise. Dynamic and eccentric design parameters can be provided during detailed design when more design parameters are available, if applicable and requested by the structural engineer. In addition, all recommendations are based on the assumption that an adequate level of construction monitoring during foundation excavation and installation will be provided. An adequate level of construction monitoring is considered to include:

a) For shallow foundations, examination of all excavation surfaces before engineered fill placement to ensure the suitability of the subgrade; and

b) For earthwork, full-time monitoring and compaction testing or engineered fill below footings.

4.2.1 Conventional Shallow Foundation Supported on Engineered Fill

Based upon the geotechnical data, the proposed light poles base can be founded on conventional reinforced concrete spread footings supported on engineered fill overtop the natural soils.

Groundwater control will be critical to allow for ground improvement and construction of the foundations. Dewatering will be required and shall be planned for, to be implemented in advance of excavating.

Granular subgrades are typically straightforward to dewater as the process tends to affect the subgrade fairly quickly, and improvement of the subgrade by proof rolling allows the preparation of a

suitable subgrade with a consistent in-situ density. This is the anticipated condition in the area of BH No. 2.

Silt subgrades however, including silty sand to sandy silt, anticipated at BH Nos. 1, 3 and 4, are significantly more challenging to prepare. Dewatering of the silt subgrades must be undertaken well in advance of the excavation reaching the founding subgrade. Silt is dilatant in nature and when wet tends to disturb easily from vibrations as small as foot traffic. The disturbance of a silt subgrade is visually apparent by a “liverish” or rolling condition. Once disturbed, the silt subgrade loses much of its natural bearing capacity and must be corrected, either through aggressive dewatering and/or removal and replacement with either engineered fill or low strength concrete. However, further excavation into silt that is wet may simply exacerbate the disturbed condition. It is critical that silt subgrades be adequately dewatered prior to excavating, and continuously through the foundation construction process. Once exposed and approved, it is prudent to protect silt subgrades quickly with either a mud slab or an engineered fill working mat.

It is emphasized to the Contractor that adequate dewatering will be critical to protect the natural subgrade from disturbance and to maintain the available natural bearing.

It is recommended that the footings be founded at a minimum depth of 1.9 m (frost depth) below grade in consideration of anticipated frost penetration, on a pad of engineered fill a minimum of 600 mm thick placed within the area of influence of the foundations.

Any fill and deleterious materials must be removed from the area of influence of the foundations down to approved native subgrade. All founding subgrades must be inspected and approved by a qualified geotechnical representative prior to forming footings. The contractor should minimize worker traffic within the foundation formwork, and the excavation must be maintained in an unwatered condition during foundation construction.

Where specified or required to raise the founding subgrade elevation, engineered fill below the footings shall be placed within the area of influence and should consist of an imported material meeting OPSS for Granular A or Granular B Type II, compacted to 100% SPMDD. It should be noted that Granular B Type II is a manufactured material consisting of 100% crushed quarry stone. Granular B Type II can only be used where the depth of fill is greater than 3 times the maximum size of aggregate. Any granular material to be used as engineered fill on this site must be tested and approved by Englobe prior to delivery to the site.

It is noted that, in consideration of the wet conditions, the engineered fill pad can be replaced with lean concrete (10 MPa minimum) at a thickness of 250 mm.

The area of influence below the individual foundation units, in cross section, is described as a trapezoid that extends outwards, horizontally from the edges of the foundation, a minimum of 300 mm and then downwards on a 45° (1H:1V) outward angle to undisturbed native competent soil.

The Contractor must minimize worker traffic within the foundation formwork over soil, and the excavation must be maintained in an unwatered condition during foundation construction. If the founding subgrade is excessively disturbed during excavation and foundation construction operations, it may have to be subexcavated and replaced with engineered fill or non-shrink fill (OPSS.PROV 1350). Footings should be a minimum of 450 mm wide. The design is based upon the assumption that the footings will be properly formed (i.e., earth forms are not acceptable) and any required rebar is

placed in accordance with standard accepted practices. Backfill around the foundations should consist of a well graded free draining Granular B Type I.

A geotextile separator (i.e. Terrafix 270R or equivalent) shall be placed between fine-graded subgrades and granular fill, in accordance with the manufacturer's specifications. If concrete is used, the geotextile separate will not be required.

For footings supported on approved natural soils, the bearing capacity was estimated for the ultimate limit state (ULS) and serviceability limit state (SLS) for a maximum settlement of 25 mm (Table 4-1). The resistance at ULS was calculated by applying load resistance factor of 0.5 according to the Canadian Foundation Engineering Manual.

Table 4-1: Bearing Capacity on Engineered Fill over Approved Native Soils

Bearing Material	Width of the Footing, B (m)	Depth of the Footing, D (m)	Factored Resistance at ULS (kPa)	Reaction at SLS (kPa)
Engineered fill overtop of Approved Native Subgrade	Up to 2.5	1.9 (At Frost Depth)	180	75

Based on the above-noted design bearing pressures and assuming proper subgrade preparation and dewatering, settlements of the foundation units on soil for the structure will be within 25 mm total and 19 mm differential.

4.2.2 Lateral Earth Pressures

It is understood that the lateral load and overturning moments will be the major design factors. The resistance to the overturning will be from the backfill material above the footing and the bearing of the soils below the footing.

Backfill above the foundation should consist of a well graded Granular B Type I and must be compacted to a minimum of 98% Standard Proctor Maximum Dry Density. The existing native soils do not meet OPSS specifications for Granular B Type I, as such can only be reused for landscaped areas.

The following parameters may be used for design. The parameters are based on general representative values for the various soil types, obtained through laboratory testing and tactile analysis.

Table 4-2: Lateral Pressure Coefficients

Material	Unit Weight (kN/m^3)	Angle of Internal Friction [1,2]	Coefficient of Active Earth Pressure (K_a)	Coefficient of Passive Earth Pressure (K_p)	Coefficient of Earth Pressure at Rest (K_o)	Interface Friction Angle, δ [3]
Granular A	23	35°	0.27	3.69	0.43	22°
Granular B Type I	21	31°	0.32	3.12	0.48	17°
Granular B Type II	22	34°	0.28	3.57	0.44	22°
Native Silt	18	28°	0.36	2.77	0.53	16°

1 Recommended parameters have been estimated based on visual observation of the soil conditions, results of measured field testing, laboratory test results, correlation with published information (Terzaghi, Peck, and Mesri, Third Edition; Kenney, 1959; Ohsaki et al. 1959; CFEM, 5th Edition) and our previous experience with similar materials.

2 Provided that all organic inclusions can be removed.

3 Interface between soil and formed/precast concrete.

4.2.3 Sliding Resistance

The sliding resistance can be calculated using the following formula:

$F_r = \Sigma W(\tan\delta)$

Where,

F_r = base resistance to sliding (ultimate)

δ = Interface friction angle (use Table 4-2)

ΣW = Total weight of the of vertical forces acting on footing.

A resistance factor of 0.8 should be applied to the ultimate sliding resistance in accordance with Canadian Foundation Engineering Manual (5th Edition).

The long-term performance of the structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures should be maintained to ensure that uniform subgrade moisture and density conditions are achieved. In building, the need for adequate drainage cannot be overemphasized. The underlying subgrade should be free of depressions, and the ground surface should be sloped (2% or more) to provide effective drainage. Surface water should not be allowed to pond adjacent to the structure.

4.2.4 Earthquake Parameters

The 2024 Ontario Building Code (OBC), harmonized with 2020 National Building Code (NBC) of Canada, provides seismic hazard values based on Site Designation (X_S). The 2024 OBC provides a method to determine the Site Designation, if in-situ shear wave measurements are not available. In this case, the Site Designation is determined using energy-corrected average Standard Penetration Resistance (N_{60}) or the average Undrained Shear Strength (S_u) in accordance with Table 4.1.8.4.-B (and associated notes). Note that providing a Site Designation based on a Site Class approach (i.e.,

without direct measurement of shear wave velocities) will generally result in higher seismic demand for the site.

In-situ shear wave velocities were not measures at this site, therefore the Site Designation was determined based on the Site Class approach using the average N_{60} or S_u, as applicable. Based on this approach, the Site Designation for seismic analysis may be taken as X_E, as per 2024 Ontario Building Code.

The design peak ground acceleration (PGA) and Peak Ground Velocity (PGV) for the Site were calculated as 0.230 g and 0.248 m/s, respectively. The PGAs and PGVs were calculated with a 2% probability of exceedance in 50 years based on the interpolation of the 2020 National Building Code Seismic Hazard calculation (see Appendix E).

A site-specific wave velocity measurement should be considered to determine the Site Designation for this site, as the Site Designation based on V_{S30} will likely result in a lower seismic demand than Site Designation X_E determined using the Site Class approach.

4.3 Excavation and Backfilling

Based on the Occupational Health and Safety Act Regulations for Construction Projects (O.Reg. 213/91, s. 226(4)), the existing native soils are classified as Type 3.

All excavations greater than 1.2 m in depth must be sloped or shored in accordance with the Occupational Health and Safety Act Regulations for Construction Projects. Short-term (i.e., day) open excavations will be stable above the groundwater table at a temporary angle of 1H:1V, however excavations established at this slope must not be left unattended at any time. Below the prevailing groundwater table, the slopes of open excavations will have to be flattened to 3H:1V or possibly shallower depending upon the method of dewatering employed or possibly sheeted.

When approaching the founding soil subgrade surface, the excavating Contractor should use equipment that will not leave deep gouges in the bearing surface. If there are tooth gouges in the subgrade, these are indicative of disturbance and can collect water, further affecting the subgrade. It is strongly recommended that a ditching bucket or a bucket with a blade across the teeth be used to prepare a smooth subgrade surface.

A geotextile separator (i.e., Terrafix 270R or equivalent) shall be placed between the engineered granular backfill material and any areas of finer grained soil.

Any soil to be removed from the Site will be considered excess soil and is subject to O. Reg. 406/19: On-Site and Excess Soil Management.

Any granular material to be used as engineered fill on this site must be tested and approved by Englobe prior to delivery to the site. It should be noted that engineered fill(s) should be placed in lifts of thickness less than the effective compaction depth of the equipment used to carry out the compaction operations (i.e., if using a heavy diesel Wacker, lifts should be a maximum of 300 mm thick, etc.).

4.3.1 Suitability of Materials Reuse on-site

Based on the gradation analysis, none of the samples tested met any of the OPSS.MUNI 1010 gradation requirements. As such, all excavated materials can only be used for landscaping or areas where ground surface movement is not a concern.

4.4 Dewatering

Dewatering is expected and required for construction of foundations at this site. The necessity of adequately undertaking dewatering operations in advance of any excavation operation cannot be stressed enough. This means that the contractor will establish the groundwater table in advance of excavating such that they can draw the groundwater down below the base of the excavation before they begin digging.

Groundwater levels and borehole cave-in depths generally ranged from 1.0 m to 1.2 m below grade. Groundwater levels will fluctuate seasonally and/or yearly and as such, the groundwater level should be established in advance of the construction operations (i.e. at time of tender or following award, prior to starting site work) such that adequate groundwater control plans can be developed.

Where groundwater seepage and/or sloughing occurs, the excavation side slopes will need to be flattened or adequately braced to ensure stability. Every excavation that a worker may be required to enter shall be kept reasonably free of water (O.Reg. 213/91, s. 230). Care should be taken to direct surface runoff away from open excavations.

Localised groundwater control will be required to maintain a stable and undisturbed subgrade during excavating, construction, and backfilling operations on this site. An unwatered subgrade condition must be maintained at all times during the in-ground operations until backfilling has reached a sufficient height above the prevailing water table (i.e. at a minimum 1 m). The groundwater table should be temporarily drawn down to a sufficient depth (depends upon soil type, depth of excavation, location of water table, etc.) below the ultimate subgrade elevation (i.e. base of excavation) to maintain subgrade stability and to allow for the placement of bedding, engineered fill, and/or construction of structures.

Ultimately, the method of dewatering will be the choice of the contractor. The importance and benefits of maintaining a dry stable subgrade during excavation and construction cannot be stressed enough. Failure by the contractor to adequately control the groundwater can result in disturbance to the founding/supporting subgrades, which can result in having to carry out corrective measures (i.e. additional excavation, time delays, etc.) to improve the subgrade. Corrective measures required to improve subgrades where groundwater is not adequately controlled will be at the Contractor cost.

The EPA requires a person who is engaging in the prescribed water taking activities set out in O. Reg. 63/16, that meet the criteria set out in that regulation, must register those activities in the Environmental Activity and Sector Registry (EASR) and obtain a Permit to Take Water (PTTW). As of July 1, 2025, proponents may self-register dewatering activities under EASR regardless of the volume of water taken.

Extensive dewatering techniques such as well points may be required where open-cut excavations are made through and into relatively permeable sand and/or silt soils below ground water table. The

proposed dewatering system should be designed by the Contractor and should be effective considering the stability of the sides and bases of the excavation and allow the construction activities to proceed in dry conditions.

A precondition survey of property and structures that may be affected by the work shall be carried out prior to dewatering. A preconstruction survey distance/radius of 100 m is recommended. The precondition survey shall include the location and condition of adjacent properties, buildings, underground structures, water wells, utilities, and structures within the preconstruction survey distance specified.

The Contractor must undertake to control surface water that develops from precipitation or snow melt that may become perched in the excavations during excavating operations. The groundwater control program designed by the Contractor should account for this during construction operations.

It must be emphasized that if wet, soils can be easily disturbed through excavation operations, foot traffic, etc. and such disturbed soils can lose a significant amount of the native bearing. To minimize the potential for disturbance, the groundwater must be drawn down a sufficient depth below the base of the excavation (i.e. 500 mm to 1 m).

As part of the Contractor proposed methodology of construction, the Contractor should be requested to submit a dewatering plan prior to commencement of the project that details how they will control groundwater. The plan should include all aspects from methodology (i.e. sump holes and pumps, drainage ditches, vacuum well points), to construction of system (sump hole details, placement, etc.), to operation of system, etc.

4.5 Monitoring During Construction

All foundation design recommendations presented in this report assume that an adequate level of construction monitoring by qualified geotechnical personnel during construction will be provided. An adequate level of construction monitoring is considered to be:

a) For shallow foundations: design review and full-time monitoring during construction; and

b) For earthworks: full-time quality control and compaction testing.

An important purpose of providing an adequate level of monitoring is to check that recommendations, based on data obtained at the borehole location, are relevant to other areas of the site.

To provide an adequate level of construction monitoring, qualified geotechnical personnel should manage and supervise the following tasks during construction:

Shallow foundations:

- Confirm that materials and methods meet specifications;
- Inspect foundation subgrades for bearing review;
- Inspect excavations;
- Review foundation installation/testing methods;
- Review compaction testing records; and

- Provide review comments, including any discrepancies found with respect to specifications as well as this report, and the need for any modifications to the design or methods.

Earthworks:

- Confirm that materials and methods meet specifications.;
- Obtain additional samples to confirm materials and SPMDD for compaction requirements;
- Inspect subgrade prior to any fill placement;
- Monitor excavation side slopes;
- Quality control/assurance of granular and select fill material; and
- Review compaction testing records.

5 Limitations

The design recommendations given in this geotechnical report are applicable only to the project described in the text and only if constructed substantially in accordance with details of alignment and elevations stated in the report. Since all details of the design may not be known, in our analysis certain assumptions had to be made. The actual conditions may however, vary from those assumed, in which case changes and modifications may be required to our geotechnical recommendations. We recommend, therefore, that we be retained and provided the opportunity during the design stage to review the design drawings, site survey information, proposed elevations, etc. to verify that they are consistent with our recommendations or the assumptions made in our analysis. It is further recommended that we be retained to review the final design drawings and specifications relative to the geotechnical recommendations. If, during construction, conditions in the field vary from those assumed at the design stage, an engineer from this office must be notified immediately.

Proper subgrade preparation, groundwater control, compaction, etc. are all critical aspects of the bearing capacity of native soils. It must be noted that different aspects of the geotechnical design are based on the assumption that Englobe will be retained during site preparation and construction of the proposed works to ensure that both the geotechnical site characteristics and the construction operations/techniques are consistent with our recommendations. Should Englobe not be involved during the full construction phase, our liability is strictly limited to the factual information contained herein only.

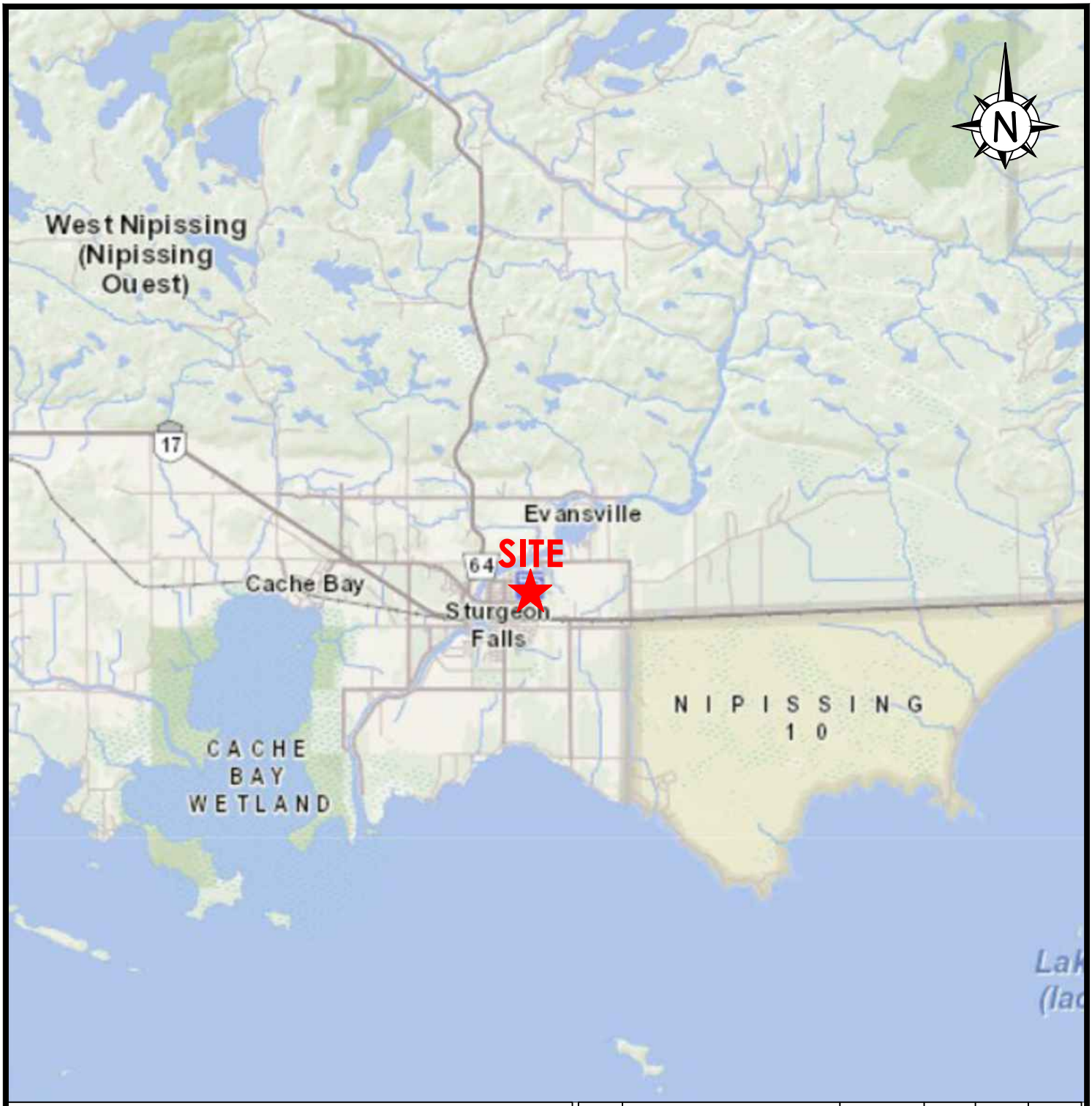
The comments in this report are intended solely for the guidance of the design team and address the geotechnical conditions only. The number of boreholes required to determine the localized conditions between boreholes directly affecting construction costs, equipment, scheduling, etc. would in fact be greater than what has been carried out for design purposes. Inclusion of the factual information (Sections 1 to 3 inclusive) in the tender documents is furnished merely for the general information of bidders and is not in any way warranted or guaranteed by or on behalf of the owner or the owner's consultants and its subconsultants or the consultants' or subconsultants' employees, and neither the

owner nor its consultants or its employees shall be liable for any representations negligent or otherwise contained in the documents. Therefore, contractors bidding on this project or undertaking this work should make their own interpretations of the factual borehole results and carry out further work as they deem necessary to assess the scope of the project.

Section 4 of this report is intended solely for the use of the client and the design team. If this section is provided to the Contractor, it is solely to provide an understanding of the geotechnical aspects of the site, and alternatives presented are not to be considered potential substitutes of the final design. If there is a discrepancy between this report and the tender documents and/or construction drawings, the latter shall govern, and the discrepancy must be immediately brought to the attention of the design team.

Appendix A
Drawings

Drawing No. 1a & 1b	Key Plans
Drawing No. 2	Borehole Location Plan



No.	Version	Date	By	Verif	Appr.
00		2025/12/17	DMc	JS	JRB

Municipality of West Nipissing

Geotechnical Investigation
Proposed Field Lighting
Goulard Park, Sturgeon Falls, Ontario

Key Plan (Macro)

eNGLOBe
2–120 Progress Court
North Bay, Ontario, P1A 0C2
705-476-2550

Discipline:	Geotechnical	Prepare by: DMc	Verify by: JS
Scale:	Not To Scale	Draw by: DMc	Approval by: JRB
Date:	2025/12/17	Drawing no:	1a
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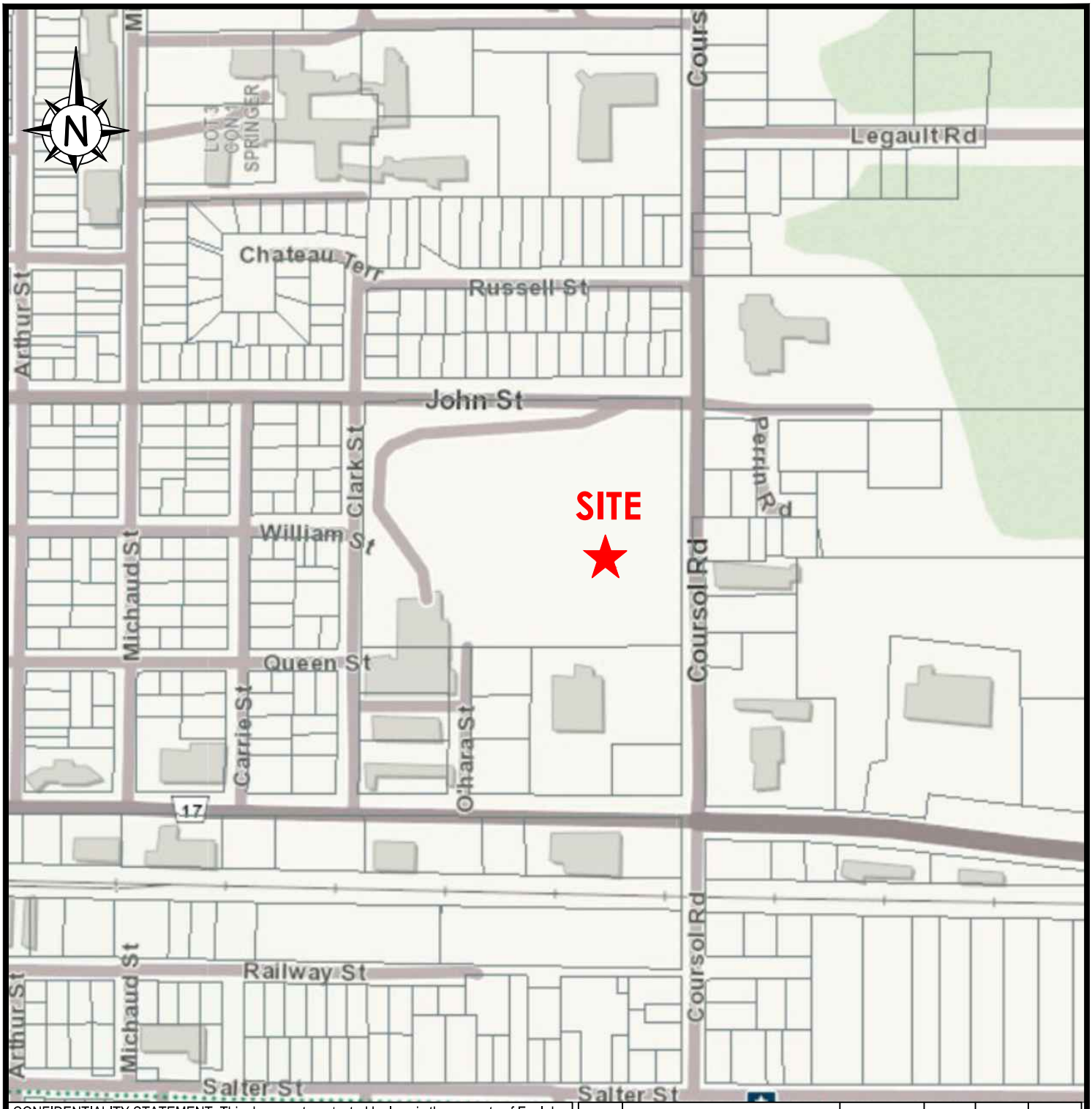

No.	Version	Date	By	Verif	Appr.
00		2025/12/17	DMc	JS	JRB

Municipality of West Nipissing

Geotechnical Investigation
Proposed Field Lighting
Goulard Park, Sturgeon Falls, Ontario

Key Plan (Micro)

eNGLOBE
2–120 Progress Court
North Bay, Ontario, P1A 0C2
705-476-2550

Discipline:	Geotechnical	Prepare by: DMc	Verify by: JS
Scale:	Not To Scale	Draw by: DMc	Approval by: JRB
Date:	2025/12/17	Drawing no:	1b
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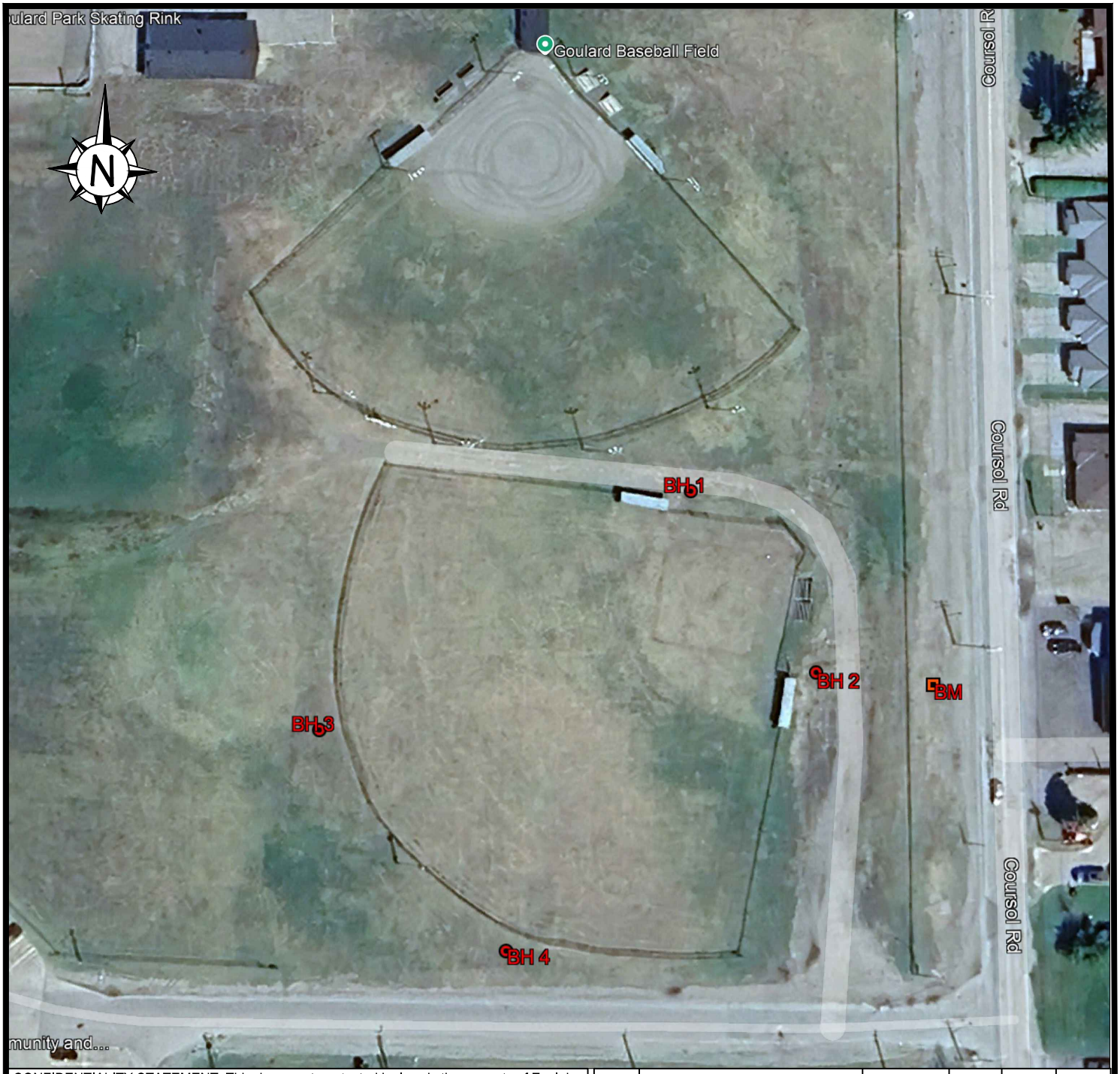

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00		2025/12/17	DMc	JS	JRB

Municipality of West Nipissing

Geotechnical Investigation
Proposed Field Lighting
Goulard Park, Sturgeon Falls, Ontario

Borehole Location Plan

eNGLOBe
2–120 Progress Court
North Bay, Ontario, P1A 0C2
705-476-2550

Discipline:	Geotechnical	Prepare by: DMc	Verify by: JS
Scale:	Not To Scale	Draw by: DMc	Approval by: JRB
Date:	2025/12/17	Drawing no:	2
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Man.	Project	Otp	Project	Phase	Electronic ref.	Rev.
JRB	02511914	---	GE	-	-- -- ----	00

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Appendix B
Borehole Logs

Enclosure No. 1	List of Abbreviations and Symbols
Enclosure No. 2 - 5	Record of Borehole Logs

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LIST OF ABBREVIATIONS & DESCRIPTION OF TERMS

The abbreviations and terms, used to describe retrieved samples and commonly employed on the borehole logs, on the figures and in the report are as follows:

1. ABBREVIATIONS

AS Auger Sample
CS Chunk Sample
DS Denison type sample
FS Foil Sample
NFP No Further Progress
PH Sampler advanced by hydraulic pressure
PM Sampler advanced by manual pressure
RC Rock core with size & percentage of recovery
SS Split Spoon
ST Slotted Tube
TO Thin-walled, open
TP Thin-walled, piston
WS Wash Sample

2. PENETRATION RESISTANCE/"N"

Dynamic Cone Penetration Test (DCPT):

A continuous profile showing the number of blows for each 300 mm of penetration of a 50 mm diameter 60° cone attached to AW rod driven by a 63 kg hammer falling 760 mm.

Plotted as —•—•—•—•—

Standard Penetration Test (SPT) or "N" Values

The number of blows of a 63 kg hammer falling 760 mm required to advance a 50 mm O.D. drive open sampler 300 mm.

3. SOIL DESCRIPTION

a) *Cohesionless Soils:*

"N" (blows/0.3 m)	*Compactness Condition*
0 to 4	very loose
4 to 10	loose
10 to 30	compact
30 to 50	dense
over 50	very dense

3. SOIL DESCRIPTION (Cont'd)

b) *Cohesive Soils:*

Undrained Shear Strength (kPa)	*Consistency*
Less than 12	very soft
12 to 25	soft
25 to 50	firm
50 to 100	stiff
100 to 200	very stiff
over 200	hard

c) *Method of Determination of Undrained Shear Strength of Cohesive Soils:*

+ 3.2 - Field Vane test in borehole. The number denotes the sensitivity to remoulding.

D - Laboratory Vane Test

¨ - Compression test in laboratory

For a saturated cohesive soil the undrained shear strength is taken as one-half of the undrained compressive strength.

4. TERMINOLOGY

Terminology used for describing soil strata is based on the proportion of individual particle sizes present in the samples (please note that, with the exception of those samples subject to a grain-size analysis, all samples were classified visually and the accuracy of visual examination is not sufficient to determine exact grain sizing):

Trace, or occasional	Less than 10%
Some	10 to 20%
With	20 to 30%
Adjective (i.e. silty or sandy)	30 to 40%
And (i.e. sand and gravel)	40 to 60%

5. LABORATORY TESTS

P Standard Proctor Test
A Atterberg Limit Test
GS Grain Size Analysis
H Hydrometer Analysis
C Consolidation

SAMPLE DESCRIPTION NOTES:

1. **FILL:** The term fill is used to designate all man-made deposits of natural soil and/or waste materials. The reader is cautioned that fill materials can be very heterogeneous in nature and variable in depth, density and degree of compaction. Fill materials can be expected to contain organics, waste materials, construction materials, shot rock, rip-rap, and/or larger obstructions such as boulders, concrete foundations, slabs, abandoned tanks, etc.; none of which may have been encountered in the borehole. The description of the material penetrated in the borehole therefore may not be applicable as a general description of the fill material on the site as boreholes cannot accurately define the nature of fill material. During the boring and sampling process, retrieved samples may have certain characteristics that identify them as 'fill'. Fill materials (or possible fill materials) will be designated on the Borehole Logs. If fill material is identified on the site, it is highly recommended that testpits be put down to delineate the nature of the fill material. However, even through the use of testpits defining the true nature and composition of the fill material cannot be guaranteed. Fill deposits often contain pockets or seams of organics, organically contaminated soils or other deleterious material that can cause settlement or result in the production of methane gas. It should be noted that the origins and history of fill material is frequently very vague or non-existent. Often fill material may be contaminated beyond environmental guidelines and the material will have to be disposed of at a designated site (i.e. registered landfill). Unless requested or stated otherwise in this report, fill material on this site has not been tested for contaminants however, environmental testing of the fill material can be carried out at your request. Detection of underground storage tanks cannot be determined with conventional geotechnical procedures.

2. **TILL:** The term till indicates a material that is an unstratified, glacial deposit, heterogeneous in nature and, as such, may consist of mixtures and pockets of clay, silt, sand, gravel, cobbles and/or boulders. These heterogeneous deposits originate from a geological process associated with glaciation. It must be noted that due to the highly heterogeneous nature of till deposits, the description of the deposit on the borehole log may only be applicable to a very limited area and therefore, caution must be exercised when dealing with a till deposit. When excavating in till, contractors may encounter cobbles/boulders or possibly bedrock even if they are not indicated on the borehole logs. It must be appreciated that conventional geotechnical sampling equipment does not identify the nature or size of any obstruction.

3. **BEDROCK:** Auger refusal may be due to the presence of bedrock, but possibly could also be due to the presence of very dense underlying deposits, boulders or other large obstructions. Auger refusal is defined as the point at which an auger can no longer be practically advanced. It must be appreciated that conventional geotechnical sampling equipment does not differentiate between nature and size of obstructions that prevent further penetration of the boring below grade. Bedrock indicated on the borehole logs will be labeled 'possibly' or 'probable' etc. based on the response of the boring and sampling equipment, surrounding topography, etc. Bedrock can be proven at individual borehole locations, at your request, by diamond core drilling operations or, possibly, by testpits. It must also be appreciated that bedrock surfaces can be, and most times are, very erratic in nature (i.e. sheer drops, isolated rock knobs, etc.) and caution must be used when interpreting subsurface conditions between boreholes. A bedrock profile can be more accurately estimated, at the clients' request, through a series of closely positioned unsampled auger probes combined with core drilling.

4. **GROUNDWATER:** Although the groundwater table may have been encountered during this investigation and the elevation noted in the report and/or on the record of boreholes, it must be appreciated that the elevation of the groundwater table will fluctuate based upon seasonal conditions, localized changes, erratic changes in the underlying soil profile between boreholes, underlying soil layers with highly variable permeabilities, etc. These conditions may affect the design and type and nature of dewatering procedures. Cave-in levels recorded in borings give a general indication of the groundwater level in cohesionless soils however, it must be noted that cave-in levels may also be due to the relative density of the deposit, drilling operations etc.

ENCLOSURE NO.:2 (Pg. 1 of 1)

METRIC

RECORD OF BOREHOLE NO. 1

ENGLOBE

REFERENCE 02511914.000 DATUM Geodetic LOCATION See Borehole Location Plan, Appendix A, Dwg. No. 2 ORIGINATED BY JS

PROJECT Proposed Field Lighting BOREHOLE TYPE CME 55 Truck Mounted Drill Rig, Hollow Stem Auger COMPILED BY DMc

CLIENT Municipality of West Nipissing DATE (Started) 2025 December 8 TIME (Completed) 1:30:00 PM CHECKED BY JRB

DATE (Completed) 2025 December 8

ELEV DEPTH (metres)	DESCRIPTION (see Enclosure No. 1)	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE ★ POCKET PEN 20 40 60 80 100	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 20 40 60	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA (SI CL)
210.7	Ground Surface										
0.0	SAND - trace silt, brown, moist, compact to loose		1	SS	13				○		
	- wet		2	SS	9	▽	210		○		0 97 (3)
	- grey		3	SS	6		209		○		
208.4											
2.3	SILT - some sand, grey, wet, loose to compact		4	SS	5		208		○		0 15 85 0
			5	SS	9		207		○		
			6	SS	15		206		○		
			7	SS	13		205		○		
204.0							204				
6.7	End of Borehole at 6.7 m bgs										

COMMENTS

The stratification lines represent approximate boundaries. The transition may be gradual.

+ 3, × 3 : Numbers on right refer to Sensitivity
Numbers on left refer to values greater than 100 kPa

○ 3% STRAIN AT FAILURE

WATER LEVEL RECORDS

Date (mm/dd/yy)/Time	Water Depth (m)	Cave In (m)
1) 25-12-8 1:30:00 PM	1.14 ▽	-
2)	- ▽	-
3)	- ▽	-

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ENCLOSURE NO.:3 (Pg. 1 of 1)

METRIC

RECORD OF BOREHOLE NO. 2

ENGLOBE

REFERENCE 02511914.000 DATUM Geodetic LOCATION See Borehole Location Plan, Appendix A, Dwg. No. 2 ORIGINATED BY JS

PROJECT Proposed Field Lighting BOREHOLE TYPE CME 55 Truck Mounted Drill Rig, Hollow Stem Auger COMPILED BY DMc

CLIENT Municipality of West Nipissing DATE (Started) 2025 December 8 TIME (Completed) 11:50:00 AM CHECKED BY JRB

DATE (Completed) 2025 December 8

ELEV DEPTH (metres)	DESCRIPTION (see Enclosure No. 1)	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE ★ POCKET PEN 20 40 60 80 100	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 20 40 60	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA (SI CL)
210.6	Ground Surface										
0.0	SAND - some silt, trace gravel, brown, moist, compact to very loose		1	SS	12		210				
	- wet		2	SS	15	▽					
			3	SS	5		209				1 85 (14)
			4	SS	4		208				
			5	SS	7		207				
206.0											
4.6	SILTY CLAY - grey, soft		6	SS	5		206				
							205	4			
204.5											
6.1	SILT - trace sand, clay, grey, compact		7	SS	18		204				0 1 92 7
203.9											
6.7	End of Borehole at 6.7 m bgs										

COMMENTS

The stratification lines represent approximate boundaries. The transition may be gradual.

+ 3, × 3 : Numbers on right refer to Sensitivity
Numbers on left refer to values greater than 100 kPa

○ 3% STRAIN AT FAILURE

WATER LEVEL RECORDS

Date (mm/dd/yy)/Time	Water Depth (m)	Cave In (m)
1) 25-12-8 1:50:00 PM	1.04 ▽	-
2)	- ▽	-
3)	- ▽	-

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ENCLOSURE NO.:4 (Pg. 1 of 1)

METRIC

RECORD OF BOREHOLE NO. 3

ENGLOBE

REFERENCE 02511914.000 DATUM Geodetic LOCATION See Borehole Location Plan, Appendix A, Dwg. No. 2 ORIGINATED BY JS

PROJECT Proposed Field Lighting BOREHOLE TYPE CME 55 Truck Mounted Drill Rig, Hollow Stem Auger COMPILED BY DMc

CLIENT Municipality of West Nipissing DATE (Started) 2025 December 8 TIME (Completed) 3:10:00 PM CHECKED BY JRB

DATE (Completed) 2025 December 8

ELEV DEPTH (metres)	DESCRIPTION (see Enclosure No. 1)	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	UNIT WEIGHT γ kN/m^3	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA (SI CL)
210.3	Ground Surface								
0.0	SAND - trace silt, gravel, brown, moist, loose		1	SS	7		210		
209.6									
0.8	SILTY SAND - brown, wet, loose to very loose		2	SS	6	▽	209		
			3	SS	4				0 65 (35)
	- grey		4	SS	4		208		
207.3									
3.1	SILT - trace sand, clay, grey, wet, loose to compact		5	SS	6		207		
			6	SS	12		206		0 2 92 6
			7	SS	16		205		
203.6							204		
6.7	End of Borehole at 6.7 m bgs								

DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100

SHEAR STRENGTH kPa
○ UNCONFINED + FIELD VANE
● QUICK TRIAXIAL × LAB VANE
★ POCKET PEN
20 40 60 80 100

PLASTIC LIMIT w_P NATURAL MOISTURE CONTENT w LIQUID LIMIT w_L

WATER CONTENT (%) 20 40 60

COMMENTS

The stratification lines represent approximate boundaries. The transition may be gradual.

+^{3}, ×^{3} : Numbers on right refer to Sensitivity
Numbers on left refer to values greater than 100 kPa

○ $^{3\%}$ STRAIN AT FAILURE

WATER LEVEL RECORDS

Date (mm/dd/yy)/Time	Water Depth (m)	Cave In (m)
1) 25-12-8 3:10:00 PM	1.24 ▽	-
2)	- ▽	-
3)	- ▽	-

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ENCLOSURE NO.:5 (Pg. 1 of 1)

METRIC

RECORD OF BOREHOLE NO. 4

ENGLOBE

REFERENCE 02511914.000 DATUM Geodetic LOCATION See Borehole Location Plan, Appendix A, Dwg. No. 2 ORIGINATED BY JS

PROJECT Proposed Field Lighting BOREHOLE TYPE CME 55 Truck Mounted Drill Rig, Hollow Stem Auger COMPILED BY DMc

CLIENT Municipality of West Nipissing DATE (Started) 2025 December 8 TIME (Completed) 4:45:00 PM CHECKED BY JRB

DATE (Completed) 2025 December 8

ELEV DEPTH (metres)	DESCRIPTION (see Enclosure No. 1)	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE ★ POCKET PEN)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA (SI CL)
210.4	Ground Surface										
0.0	SAND - trace silt, gravel, brown, moist, loose		1	SS	9		210				
209.7											
0.8	SILT - with sand, trace clay, grey, wet, very loose to compact		2	SS	12	▽	209				
			3	SS	4						
			4	SS	5		208				0 29 70 1
			5	SS	10		207				
			6	SS	14		206				
							205				
204.3											
6.1	SILTY CLAY - grey, soft		7	SS	2		204				
							203	8			
202.8											
7.6	End of Borehole at 7.6 m bgs										

COMMENTS

The stratification lines represent approximate boundaries. The transition may be gradual.

+ 3, × 3 : Numbers on right refer to Sensitivity
Numbers on left refer to values greater than 100 kPa

○ 3% STRAIN AT FAILURE

WATER LEVEL RECORDS

Date (mm/dd/yy)/Time	Water Depth (m)	Cave In (m)
1) 25-12-8 4:45:00 PM	1.19 ▽	-
2)	- ▽	-
3)	- ▽	-

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Appendix C
Laboratory Test Results

Laboratory Data

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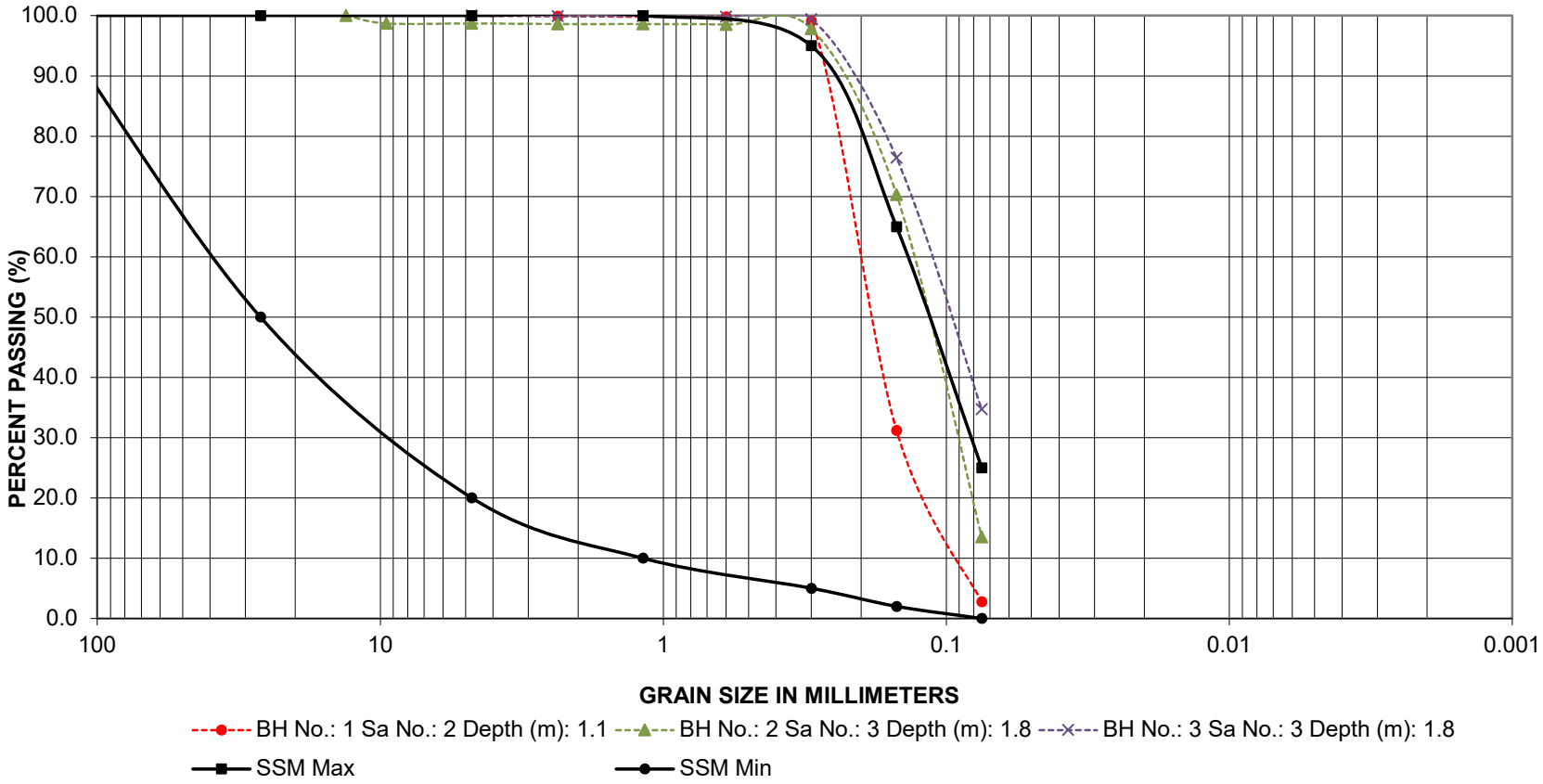
Reference No.: 02511914
Date: December 2025

GRAIN SIZE ANALYSIS

GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	



SAND to SILTY SAND

PROJECT: Proposed Field Lighting
LOCATION: Goulard Baseball Field, Sturgeon Falls, Ontario

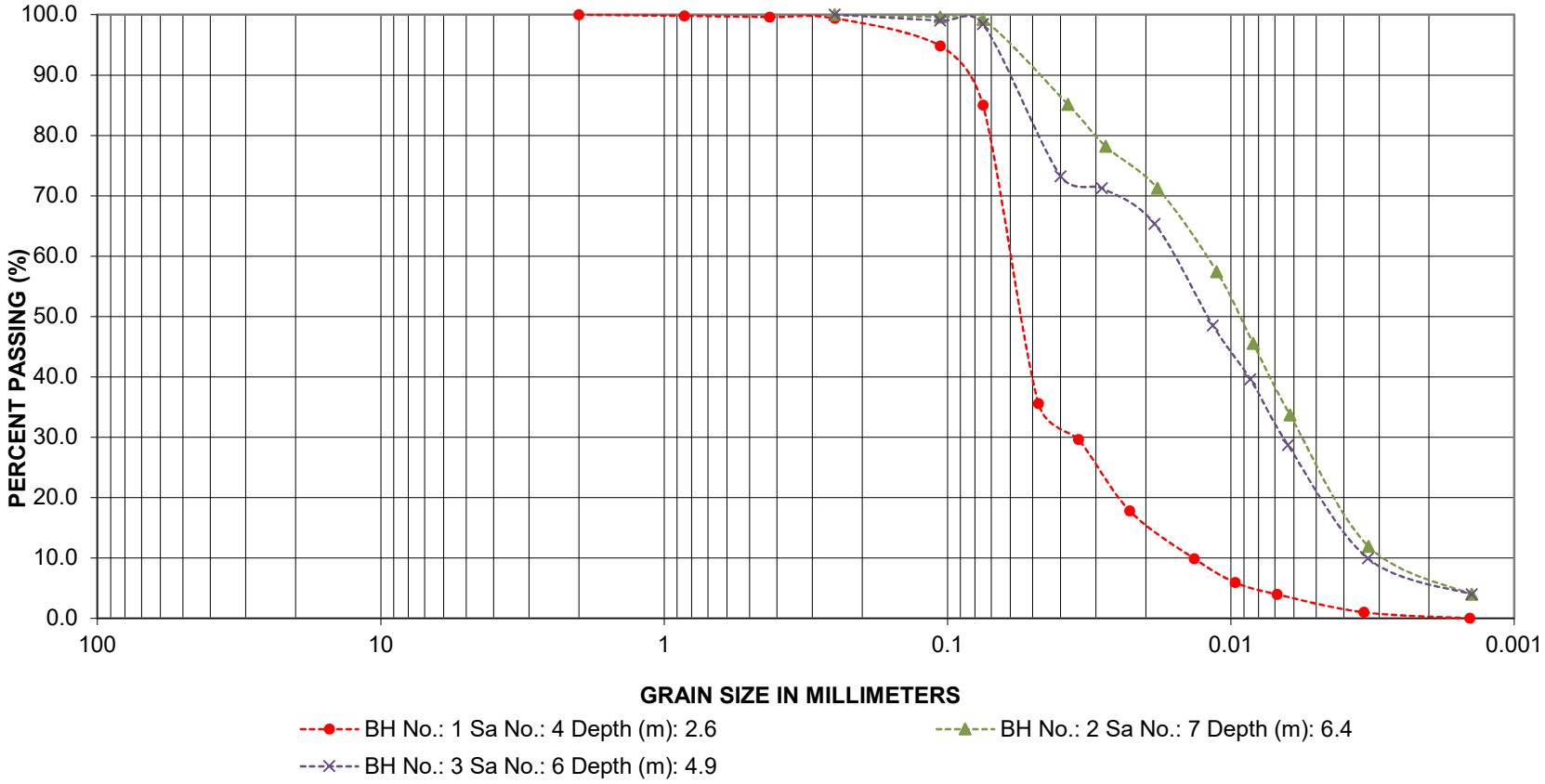
Englobe Corp.

FIGURE L-1

Reference No.: 02511914
Date: December 2025

GRAIN SIZE ANALYSIS

GRAVEL		SAND			SILT & CLAY
Coarse	Fine	Coarse	Medium	Fine	



SILT

PROJECT: Proposed Field Lighting
LOCATION: Goulard Baseball Field, Sturgeon Falls, Ontario

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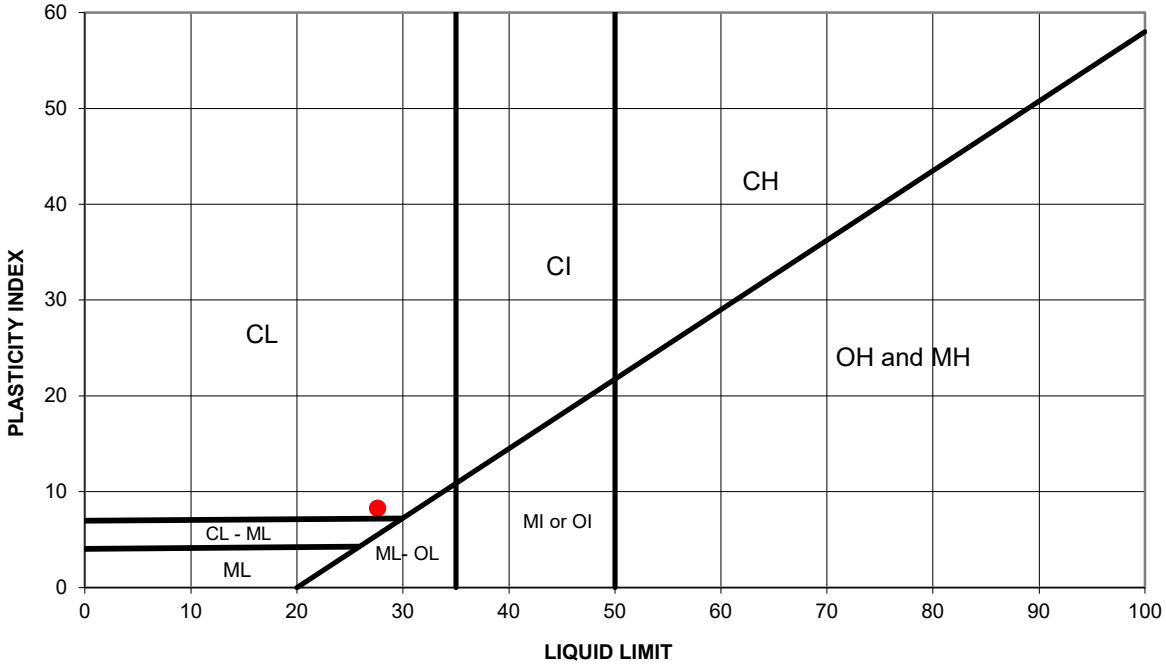
FIGURE L-2

ATTERBERG LIMITS TEST RESULTS	FIGURE L-3

ATTERBERG INDICES



SYMBOL	BH No.	Sa No.	Depth (m)	Plasticity Index	Plastic Limit	Liquid Limit	NMC %
●	2	6	4.60	8.3	19.3	27.6	36.0

Date: 2025-12-18 Prepared By: DMc

Project: Proposed Field Lighting, Goulard Baseball Field, Sturgeon Falls, Ontario

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Appendix D
Photo Essay

Photo Essay

Site Overview Looking Northwest	Photo: 1

Looking Southwest	Photo: 2

Project: Proposed Field Lighting, Goulard Baseball Field, Sturgeon Falls, Ontario	Photos By: Englobe Date: December, 2025

Looking West	Photo: 3

Looking East	No. Photo: 4

Project: Proposed Field Lighting, Goulard Baseball Field, Sturgeon Falls, Ontario	Photos By: Englobe Date: December, 2025

Appendix E
Seismic Hazard Calculations

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2025 - 2020 National Building Code of Canada Seismic Hazard Tool

The NBC 2025 values are subject to change up until the official release of NBC 2025.

This application provides seismic values for the design of buildings in Canada under Part 4 of the National Building Code of Canada (NBC) 2020 and 2025, as prescribed in Article 1.1.3.1. of Division B of the respective NBC editions.

Seismic Hazard Values

User requested values

Code edition	NBC 2025
Site designation X_S	X_E
Latitude (°)	46.369
Longitude (°)	-79.917

Please select one of the tabs below.

NBC 2025 | Additional Values | Plots | API | Background Information

The 5%-damped spectral acceleration ($S_a(T,X)$, where T is the period, in s, and X is the site designation) and peak ground acceleration (PGA(X)) values are given in units of acceleration due to gravity (g, 9.81 m/s^2). Peak ground velocity (PGV(X)) values are given in m/s. Probability is expressed in terms of percent exceedance in 50 years. Further information on the calculation of seismic hazard is provided under the *Background Information* tab.

The 2%-in-50-year seismic hazard values are provided in accordance with Article 4.1.8.4. of the NBC 2025. The 5%- and 10%-in-50-year values are provided for additional performance checks in accordance with Article 4.1.8.23. of the NBC 2025.

See the *Additional Values* tab for additional seismic hazard values, including values for other site designations, periods, and probabilities not defined in the NBC 2025.

NBC 2025 - 2%/50 years (0.000404 per annum) probability

$S_a(0.2, X_E)$	$S_a(0.5, X_E)$	$S_a(1.0, X_E)$	$S_a(2.0, X_E)$	$S_a(5.0, X_E)$	$S_a(10.0, X_E)$	$PGA(X_E)$	$PGV(X_E)$
0.384	0.381	0.23	0.11	0.0294	0.00895	0.23	0.248

The log-log interpolated 2%/50 year $S_a(4.0, X_E)$ value is : **0.0405**

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