Invitation to Tender

CITY OF KENORA

INVITATION TO TENDER / ADVERTISEMENT

Sealed Tenders for: Central Park Greenspace Construction (the "Project")
Tender Number: 711-001-24A

Will be received by:

City of Kenora
(the "City")

at:

1 Main Street South
Kenora, ON P9N 3X2
Attention: City Clerk

Time and date for Tender Closing is:

11:00:00 a.m. CDT on Thursday, January 29, 2026
(the "Tender Closing")

1. The work to be undertaken generally involves but is not limited to the completion of site development at the Central Community Club in Kenora, Ontario including grading, paving, drainage, supply and installation of a shade structure, lighting, plantings, sod and playground surfaces, and installation of owner-supplied playground equipment, as well as storm sewer reconstruction work along First Street South fronting the Central Community Club (the "Work"). The work is more specifically set out on the drawings and specifications included in Appendix B of the tender documents.

2. The CITY's consultant for the Project is Scatliff + Miller + Murray Inc.

3. The Successful Bidder shall achieve final performance of the Work for the Project by October 31, 2026.

4. The drawings and specifications for the Project are included with the tender package or can be obtained from the reception desk on the second floor of the City of Kenora Operations Centre located at 60 Fourteenth Street North, Kenora, Ontario at no cost to the proponent.

5. All written inquiries regarding the technical aspects of the drawings and specifications for the Work shall be emailed to **Andrew Johnson (ajohnson@scatliff.ca)** and cc'd to **Stefan Stiller (sstiller@kenora.ca)**, however the bidder(s) acknowledge and agree that the CITY does not have an obligation to provide a response to any written inquiry and that it is in the sole and unfettered discretion of the CITY to provide any written response to a written inquiry. Telephone inquiries will not be replied to.

6. Submission of a tender by a Bidder gives the CITY the right to require the Bidder to execute the contract to perform the Work as set out within the tender documents. Tenders may not be withdrawn after the Tender Closing and will be irrevocable and open for acceptance by the CITY for a period of sixty (60) days following the end of the day of the Tender Closing. The Successful Bidder will be notified in writing of the award of the Tender when the CITY delivers a letter of intent to the Successful Bidder.

INSTRUCTIONS TO TENDERERS

CITY OF KENORA

INSTRUCTIONS TO TENDERERS

1 BACKGROUND

1.1 The City of Kenora (the "CITY") is seeking tenders for the completion of site development at the Central Community Club in Kenora, Ontario including grading, paving, drainage, supply and installation of a shade structure, lighting, plantings, sod and playground surfaces, and installation of owner-supplied playground equipment, as well as storm sewer reconstruction work along First Street South fronting the Central Community Club (the "Work") as more particularly set out in Appendix B attached to these Instructions to Tenderers.

1.2 The CITY will receive sealed tenders until 11:00:00 a.m. CDT on Thursday, January 29, 2026 ("Tender Closing"). Faxed tenders will not be accepted and will be returned to the Tenderer.

2 SUBMISSION OF TENDERS

2.1 Each Tender shall be addressed to the CITY in a sealed envelope clearly marked with the Tenderer's name, address and tender number. The sealed envelope containing the Tender shall be delivered before the Tender Closing to the CITY in accordance with the Invitation to Tender and the Instructions to Tenderers at:

City of Kenora
1 Main Street South
Kenora, ON P9N 3X2
Attention: Heather Pihulak, City Clerk

2.1.1 Proposals will also be accepted by email. Emailed Proposals shall be submitted to the City Clerk, Heather Pihulak – hpihulak@kenora.ca. The City Clerk will confirm receipt and provide email confirmation back to the sender. If any disputes arise, the time stamp on the email received by the City shall dictate the submission time.

2.1.2 Faxed tenders will not be accepted and will be returned to the Tenderer.

2.2 In the event of a dispute or issue about whether or not a tender complies with the Instructions to Tenderers, the CITY reserves the right to retain and open a copy of the tender in question in order to seek and obtain a legal opinion in relation thereto. The opening of a tender does not in any way constitute an admission by the CITY as to the compliance, or not, of the subject tender.

3 TENDER FORM

3.1 Each Tenderer shall submit a complete tender on the Tender Form which forms part of the Tender Documents with the blank spaces filled in. The tender sum must be written in words as well as figures, and must be for a sum in Canadian Dollars including all tariffs, freight, duties and taxes other than the Harmonized Sales Tax which must be shown as a separate amount unless otherwise specifically stipulated (hereinafter referred to as the "Tender Sum"). In the event of a discrepancy between an amount written in words and an amount written in figures, the amount

written in words shall be deemed the intended amount. Tenders shall be written in English.

3.2 Notwithstanding the foregoing, the CITY shall be entitled to accept a Tender in such form as the CITY in its sole and unfettered discretion deems acceptable irrespective of irregularities whether of a trivial or substantial nature, or whether the Tender is noncompliant in a trivial or substantial manner.

3.3 The CITY shall not be obligated to accept Tenders that are unsigned, incomplete, conditional, illegible, unbalanced, obscure, contain irregularities of any kind, or contain mathematical or calculation errors of any kind. On Unit Price Tenders, if there is a discrepancy found between the unit price and the extended amount, the unit price shall be deemed to represent the intention of the Tenderer. Discrepancies between words and figures will be resolved in favour of the words. Discrepancies between the indicated sum of any figures and the correct sum thereof will be resolved in favour of the correct sum. Any discrepancies between the Tender Form and a post Tender Closing submission required by the Tender Documents will be resolved in favour of the post Tender Closing submission.

3.4 Tenders shall not be withdrawn, modified or clarified after being delivered in accordance with the Tender Documents unless such withdrawal, modification or clarification is made in writing and actually received by Heather Pihulak, City Clerk of the CITY prior to the Tender Closing. Any withdrawal, modification or clarification of the Tender must be followed by a letter of confirmation signed and sealed in the same manner as the Tender and delivered to the address for the CITY in the Invitation to Tender within 48 hours of the Notice of the Withdrawal, Modification or Clarification.

4 THE FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

4.1 All documents submitted to the CITY will be subject to the protection and disclosure provisions of Ontario's *Freedom of Information and Protection of Privacy Act* ("*FOIP*"). *FOIP* allows persons a right of access to records in the CITY's custody or control. It also prohibits the CITY from disclosing the Tenderer's personal or business information where disclosure would be harmful to the Tenderer's business interests or would be an unreasonable invasion of personal privacy as defined in sections 17 and 21 of *FOIP*. Tenderers are encouraged to identify what portions of their submissions are confidential and what harm could reasonably be expected from its disclosure. However, the CITY cannot assure Tenderers that any portion of the Tenderer's documents can be kept confidential under *FOIP*.

5 TENDER DOCUMENTS

5.1 The documents for the Tender are:

- Invitation to Tender
- Instructions to Tenderers
- Appendix A – Tender Form
- Appendix B – Drawings
- Appendix C – Proposed Contract
- Appendix D – Supplementary Conditions
- Appendix E – Geotechnical Report

(hereinafter collectively referred to as the "Tender Documents")

By submitting its Tender, the Tenderer acknowledges and agrees that it has received and reviewed the Tender Documents.

6 VARIATION IN TENDER DOCUMENTS AND NO IMPLIED OBLIGATIONS

6.1 The Tenderer shall carefully examine the Tender Documents. Any errors, omissions, discrepancies or clauses requiring clarification shall be reported in writing to the CITY at least 10 calendar days prior to the Tender Closing. Where necessary the CITY shall respond to reported errors, omissions, discrepancies or clauses requiring clarification by way of Addenda.

6.2 Should a Tenderer fail to report any such errors, omissions, discrepancies or clauses requiring clarification at least 10 calendar days prior to the Tender Closing, the CITY shall be the sole judge as to the intent of the Tender Documents.

6.3 No implied obligation of any kind by or on behalf of the CITY shall arise from anything in the Tender Documents, and the express covenants and agreements contained in the Tender Documents and made by the CITY, are and shall be the only covenants and agreements that apply.

6.4 Without limiting the generality of Article 6.3, the Tender Documents supercede all communications, negotiations, agreements, representations and warranties either written or oral relating to the subject matter of the Tender made prior to the Tender Closing, and no changes shall be made to the Tender Documents except by written Addenda.

7 ADDENDA

7.1 Any changes to the Tender shall be in writing in the form of Addenda. Any Addenda issued to the Tender shall form part of the Tender Documents, whether or not the receipt of same has been acknowledged by a Tenderer, and the cost for doing the work therein shall be included in the Tender Sum. Verbal representations shall not be binding on the CITY nor form part of the Tender Documents. Technical inquiries into the meaning or intent of the Tender Documents must be submitted in writing to the person identified in Article 2.1 of the Instructions to Tenderers.

8 TENDER

8.1 Tenderers submitting Tenders shall be actively engaged in the line of work required by the Tender Documents and shall be able to refer to work of a similar nature performed by them. They shall be fully conversant with the general technical phraseology in the English language of the lines of work covered by the Tender Documents.

8.2 Each Tenderer shall review the Tender Documents provided by the CITY and confirm that it is in possession of a full set of Tender Documents when preparing its Tender.

8.3 Tenders shall be properly executed in full compliance with the following requirements:

8.3.1 The signatures of persons executing the Tender must be in their respective handwriting; and

8.3.2 If the Tender is made by a limited company, the full name of the company shall be accurately printed immediately above the signatures of its duly authorized officers and the corporate seal shall be affixed;

8.3.2.1 Proponents are responsible for ensuring the corporate seal is clearly visible and legible on Proposals submitted by email.

8.3.3 If the Tender is made by a partnership, the firm name or business name shall be accurately printed above the signature of the firm and the Tender shall be signed by a partner or partners who have authority to sign for the partnership;

8.3.4 If the Tender is made by an individual carrying on business under the name other than its own, its business name together with its name shall be printed immediately above its signature or

8.3.5 If the Tender is made by a sole proprietor who carries on business in its own name, the proprietor shall print its name immediately below its signature.

8.4 Tenders received from agents representing principals must be accompanied by a Power of Attorney signed by the said principals showing that the agents are duly authorized to sign and submit the Tender and have full power to execute the Contract on behalf of their principals. The execution of the Contract will bind the principals and have the same effect as if it were duly signed by the principals.

9 TENDER DEPOSIT

9.1 The Tenderer is required to submit with its Tender, a Consent of Surety and a Bid Bond in a form acceptable to the CITY, or in lieu of a Bid Bond, a Tenderer may submit, along with a Consent of Surety, a certified cheque or an irrevocable letter of credit in favour of the CITY equal to 10% of the Tender Sum as a guarantee that, if awarded the contract for the Work, the Tenderer will execute a contract and submit

the Performance Bond and the Labour and Material Payment Bond referred to in Article 10 within the specified time frames.

9.2 The Bid Bonds, certified cheques or irrevocable letters of credit of the unsuccessful Tenderers shall be returned as soon as possible after the Contract has been duly executed by the Successful Tenderer.

9.3 The CITY will not pay any interest on money furnished as security.

9.4 The Bid Bond and Consent of Surety shall be issued by a Surety Company licensed in the Province of Ontario and satisfactory to the CITY.

10 PERFORMANCE AND LABOUR AND MATERIAL PAYMENT BONDS

10.1 The Successful Tenderer shall be required to furnish at its own expense a Performance Bond and Labour and Materials Payment Bond. For the purposes of this Article, both of these bonds shall be referred to as the “Bonds”.

10.2 The Performance Bond shall guarantee the faithful performance of the Contract, and in default thereof, shall protect the CITY against any losses or damage arising by reason of failure of the Successful Tenderer to faithfully perform the Contract.

10.3 The Bonds are to be issued by a Surety Company licensed in the Province of Ontario and satisfactory to the CITY in the amount of 50% of the Contract Price.

10.4 The Performance Bond shall remain in force as a Maintenance Bond for the Warranty Period as defined in the Contract.

10.5 The Bonds shall be in the form set out in the Tender Documents or in such other form as may be acceptable to the CITY.

10.6 The CITY may consider alternate forms of security in lieu of the Bonds. The Tenderer shall make known any alternative form of security it wishes the CITY to consider and obtain the CITY’s approval prior to submitting a Tender.

10.7 The Successful Tenderer shall provide all required Bonds to the CITY no later than 10 working days after receipt of the Letter of Intent from the CITY provided in accordance with Article 16.

10.8 The Successful Tenderer shall supply all required Bonds before any Work is undertaken by the Successful Tenderer.

10.9 No payment shall be made by the CITY to the Successful Tenderer for any of the Work performed by the Successful Tenderer until the required Bonds have been provided.

11 INSURANCE

11.1 The Tender shall be accompanied by a Certificate of Insurance, certifying that the insurance as required by the Contract, is in place or, if the required insurance is not in place, by a Letter of Insurability or Undertaking of Insurance in standard form

from the Tenderer's Insurance Broker certifying that the required insurance will be issued to the Tenderer if the Tenderer is the Successful Tenderer.

11.2 The Successful Tenderer shall be required to secure and maintain at its own expense the insurance provided for in the Contract.

11.3 The Successful Tenderer shall provide all required insurance to the CITY no later than 10 working days after receipt of a Letter of Intent from the CITY provided in accordance with Article 16.

12 COMMENCEMENT AND COMPLETION OF WORK

12.1 The Successful Tenderer shall commence the Work within 10 working days after receipt of the Letter of Intent from the CITY and shall complete the Work by the dates specified in the Contract.

13 SITE CONDITIONS

13.1 The Tenderer is responsible for inspecting the site(s) of the Work and for making whatever inquiries or arrangements necessary for it to become fully informed of the nature of the site(s) of the Work, including the soil structure and topography of the site(s), and of the Work to be performed and all matters which may in any way affect the Work. Without limiting the foregoing, by the submission of its Tender, the Tenderer acknowledges that it has investigated and satisfied itself as to:

a) the nature of the Work;

b) the location and all conditions relating to the location of the Work including, but not limited to, accessibility, general character, surface and sub-surface conditions, soil structure, utilities, road, uncertainties of seasonal weather and all other physical, topographical, geological and geographic conditions;

c) the general character, conditions, laws and restrictions applicable to the Work that might affect the performance of the Work;

d) all environmental risks, conditions, laws and restrictions applicable to the Work that might affect the Work; and

e) the magnitude of the work required to execute and complete the Work.

13.2 The Tenderer is fully responsible for obtaining all information required for the preparation of its Tender and for the execution of the Work. The CITY is not responsible for undertaking any investigations to assist the Tenderer. Any information, plans, drawings, shop drawings or existing equipment or facilities, photos of the original construction, reports or other documents which are not included or referred to in the Tender Documents (the "Non-Tender Information"), form no part of this Tender. The CITY and the CITY's Consultants assume no responsibility of any kind whatsoever arising from or relating to its failure to include or refer to such Non-Tender Information. Tenderers who obtain or rely upon such Non-Tender Information or other documents, do so entirely at their own risk.

13.3 The Tenderer's obligation to become familiar with the information described in Article 13.1 is not lessened or discharged by reason of any technical reports, including soils reports or data, test hole drilling reports or other soils information,

made available or supplied in conjunction with the tendering process. Any technical reports so provided are for information only and neither the CITY nor the CITY's Consultants accept or assume any responsibility for the contents or accuracy of such technical reports and the Tenderer agrees that the CITY, the CITY's Consultants and their representatives shall not be liable in any way to the Tenderer in respect of such technical reports. The Tenderer further agrees that it shall not rely upon any oral information provided to it by the CITY, the CITY's Consultants or their representatives.

14 PRIME COST AND CONTINGENCY SUMS

14.1 The Tenderer shall include in its Tender Sum any prime cost sums or contingency sums. The Harmonized Sales Tax shall be shown as a separate amount.

15 PERMITS AND INSPECTIONS

15.1 The Tenderer shall include in its Tender Sum the cost of permits and inspections required by any governmental or other authority having jurisdiction or as required to fully perform the Work in accordance with the Contract.

16 SUCCESSFUL TENDERER

16.1 Award of Contract by the CITY occurs once the Tenderer receives a Letter of Intent duly executed by a Director of the CITY after they has been duly and legally authorized by the CITY to send such Letter of Intent.

16.2 Following the receipt of the Letter of Intent, the Successful Tenderer shall provide the Performance Bond and Labour and Material Payment Bond within the time required in Article 10.7. The Successful Tenderer shall also provide a Certificate of Insurance unless previously provided.

16.2.1 Upon the Successful Tenderer complying with the requirements of both Articles 16.2 and 16.4, the certified cheque or Bid Bond or irrevocable letter of credit, as the case may be, shall be returned to the Successful Tenderer.

16.2.2 If the Successful Tenderer fails to comply with either or both of the requirements of Articles 16.2 and 16.4, the certified cheque or Bid Bond or irrevocable letter of credit, as the case may be, shall be forfeited to the CITY as compensation for damages the CITY may suffer.

16.3 The forfeiture of a Successful Tenderer's certified cheque or Bid Bond or irrevocable letter of credit shall not be construed as a waiver of any rights or remedies which the CITY may have against such Tenderer for loss or damages incurred or suffered in excess of the amount of such certified cheque or Bid Bond or irrevocable letter of credit.

16.4 Within 10 working days of receipt of the Contract from the CITY, the Successful Tenderer shall duly execute the Contract and return the Contract to the CITY.

16.5 Within ten (10) working days of receipt of a Letter of Intent in accordance with Article 16.1, the Successful Tenderer shall submit a proposed Construction Schedule showing the anticipated time of commencement and completion of each of the various operations to be performed under the Contract.

17. TENDER EVALUATION CRITERIA

17.1 Each Tender will be evaluated on the basis of the criteria listed below and the CITY will have the sole and unfettered discretion to award up to the maximum number of points for each criteria as listed below. By submitting a Tender, the Tenderer acknowledges and agrees that the CITY has, and it is hereby entitled to exercise, the sole and unfettered discretion to award the points for the evaluation of the noted criteria.

17.2 By submitting its Tender, each Tenderer acknowledges and agrees that it waives any right to contest in any legal proceedings, the decision of the CITY to award points in respect of the criteria noted below. The criteria and the maximum number of points for each criteria are as follows:

1. Price	**100 points**
Total Points	**100 points**

18 WORKERS' COMPENSATION

18.1 Each Tenderer is to submit with its Tender, a letter of account from the Workers' Compensation Board – Ontario. This letter is to be current and not dated 14 calendar days prior to the Tender Closing.

18.2 The Tenderers who do not have an account with the Workers' Compensation Board- Ontario shall provide with their Tender evidence of a subcontractor or other company that will carry such coverage on their behalf.

18.3 If the Tenderer is performing work in any exempt industry within the meaning of the Workers Compensation Board Act (the "WCB Act") and does not carry coverage, the Tenderer acknowledges that

18.3.1 the CITY is subject to a deeming order under s. 14(2) of the WCB Act (the "Deeming Order"); and

18.3.2 the Deeming Order states that all of the Tenderer's employees, directors, proprietors, partners or employees are deemed to be CITY employees for the purposes of the WCB Act while performing work for the CITY; and

18.3.3 the effect of the Deeming Order is that the Tenderer's employees, directors, proprietors and partners who are injured while performing work for the CITY under the Contract, have no right to sue anyone and are limited to a claim under the WCB Act.

18.4 The Tenderer shall communicate the existence and effect of the Deeming Order to all of its employees, directors, proprietors, partners or employees.

18.5 The CITY may reject any Tender which fails to comply with the provisions set out in Article 18.

19 REGISTRATION

19.1 Prior to commencing the Work, the Successful Tenderer shall obtain all authorizations required by the laws of the Province of Ontario and of the Country of Canada enabling it to carry on business to complete the Work required under the Contract. Failure to be properly authorized shall entitle the CITY to forthwith terminate the Contract without compensation.

20 TENDERS EXCEEDING BUDGET

20.1 In addition to the rights contained within Article 20 herein, if the Tender Sum of every Tenderer exceeds the amount the CITY has budgeted for the Work, the CITY may reject all Tenders or attempt to negotiate a lower price with the Tenderer who, in the sole and unfettered discretion of the CITY, has submitted the most advantageous Tender.

20.2 Each Tenderer acknowledges and agrees that the CITY has the sole and unfettered discretion to employ any criteria in order to determine the Tender most advantageous to the CITY, that the CITY has no obligation to neither disclose such criteria nor employ the criteria listed outlined in Article 17 Tender Evaluation Criteria.

20.3 By submitting its Tender, each Tenderer waives its right to contest in any action, application, case or legal proceeding in any court, the decision which the CITY may pursue under Article 20.1 and 20.2 herein.

20.4 If the Tender Sum of every Tenderer exceeds the amount budgeted for the Work and the CITY negotiates with the Tenderer who has submitted the Tender considered most advantageous to the CITY:

20.4.1 All statements made by either side in the course of negotiation are without prejudice and confidential;

20.4.2 In particular, the CITY's attempt to negotiate with such Tenderer does not constitute a rejection of its Tender; and

20.4.3 The CITY will not attempt to obtain a lower price for the same work that the Tenderer originally bid on, but may attempt to obtain a lower price for an altered scope of work. In no event will the CITY be obliged to disclose the amount budgeted for the Work.

21 NOT USED

22 CANADIAN FREE TRADE AGREEMENT

22.1 The provisions of the Canadian Free Trade Agreement ("CFTA") apply to this Tender.

23 ACCEPTANCE OR REJECTION OF TENDERS

23.1 As it is the purpose of the CITY to obtain the Tender most suitable and most advantageous to the interests of the CITY, and notwithstanding anything else contained within the Tender Documents, the CITY reserves the right, in its sole and unfettered discretion, to reject or accept any Tender, including the right to reject all Tenders. Without limiting the generality of the foregoing, any Tender which

a) is incomplete, obscure, irregular or unrealistic;

b) is non-compliant in a trivial/immaterial or substantial/material manner, or conditional;

c) has erasures or corrections;

d) omits a price on any one or more items in the Tender;

e) fails to complete the information required in the Tender;

f) is accompanied by an insufficient certified cheque, irrevocable letter of credit or by a Bid Bond in an unsatisfactory form,

may at the CITY's sole and unfettered discretion be rejected or accepted. Further, a Tender may be rejected or accepted on the basis of the CITY's unfettered assessment of its best interest, which includes the CITY's unfettered assessment as to a Tenderer's past work performance for the CITY or for anyone else or as to a Tenderer's financial capabilities, completion schedule, or ability to perform the Work, or the CITY's desire to reduce the number of different contractors on the location of the Work at any given time. The CITY reserves the right to negotiate after Tender Closing time with the Tenderer that the CITY deems has provided the most advantageous Tender; in no event will the CITY be required to offer any modified terms to any other Tenderer prior to entering into a Contract with the successful Tenderer and the CITY shall incur no liability to any other Tenderers as a result of such negotiation or modification.

24 LAW AND FORUM OF TENDER

24.1 The law to be applied in respect of the Tender Documents and the Contract shall be the law of the Province of Ontario and all civil actions commenced in relation to the Tender Documents or Contract shall be adjudicated by the Courts of the Province of Ontario and by submitting Tenders, Tenderers are taken to have agreed to attorn to the jurisdiction of the Courts of the said Province.

25 ACCEPTANCE PERIOD

25.1 The Tender shall be irrevocable and open for acceptance by the CITY for the period of time contained in the Invitation to Tender, namely, sixty (60) days following the end of the day of the Tender Closing. The time and date of the Tender Closing is as defined in the Invitation to Tender.

APPENDIX A

TENDER FORM

CITY OF KENORA

TENDER FORM

Tender Number: 711-001-24A
Tender Title: Central Park Greenspace Construction

We, _____
(Company)

of _____
(Business Address)

having examined the Tender Documents as issued by: the City of Kenora (the "City"), and having visited the site(s) of where the Work is required to be undertaken; hereby offer to enter into a Contract to perform the Work required by the Tender Documents for the Tender Sum as follows:

1. Central Park Greenspace - Base Bid $_____
2. First Street South Storm Reconstruction $_____
3. Ontario Harmonized Sales Tax (HST = 13%) $_____
4. Total (including HST) $_____

in Canadian funds, which price includes any specified cash and contingency allowances and the applicable taxes in force at this date and except as may be otherwise provided in the Tender Documents.

Declarations:

We hereby acknowledge and declare that:

(a) we agree to perform the Work in compliance with the required completion schedule stated in the Contract;

(b) no person, firm or corporation other than the undersigned has any interest in this Tender or in the proposed Contract for which this Tender is made;

(c) the Tender Security is attached to this Tender. We specifically acknowledge and agree that the Tender Security may be forfeited to the City pursuant to the terms set forth in the Instructions to Tenderers;

(d) we hereby acknowledge and confirm that the City has the right to accept any tender or to reject any or all tenders in accordance with the Instructions to Tenderers;

(e) this Tender is open to acceptance for a period of sixty (60) days from the date of Tender Closing.

Signatures:

Signed, sealed and submitted for and on behalf of:

Company: _____
(Name)

_____
(Street Address or Postal Box Number)

_____
(City, Province & Postal Code)

(Apply Corporate SEAL above)

Signature: _____

Name &Title: _____
(Please Print or Type)

Witness: _____

Dated at _____ this _____ day of _____, 20___

CITY OF KENORA
INVITATION TO TENDER

ITT #711-001-24A

Appendix B
Drawings

CITY OF KENORA
CENTRAL PARK

ISSUED FOR TENDER 2025-05-13

DRAWING INDEX

LANDSCAPE ARCHITECTURAL

DWG	TITLE
L000	TITLE PAGE
L001	LAYOUT PLAN
L002	PLANTING PLAN

CIVIL

DWG	TITLE
25-154-C1	EXISTING GRADING AND SERVICING PLAN
25-154-C2	DEMOLITION PLAN
25-154-C3	GRADING PLAN
25-154-C4	SERVICING PLAN
25-154-C5	CIVIL DETAILS
25-154-C6	CIVIL AND STRUCTURAL SPECIFICATIONS

STRUCTURAL

DWG	TITLE
25-154-S1	CANOPY FOUNDATION PLAN

ELECTRICAL

DWG	TITLE
25-154-E1	ELECTRICAL SITE PLAN

3 / L-001 CONTEXT PLAN
SCALE: 1:500

N

1 / L-000 SITE MAP
SCALE: 1:2000

N

SCATLIFF + MILLER + MURRAY
visionary urban design + landscapes

REV	DATE	DESCRIPTION	BY
2	25/05/13	IFT SET	SK
1	25/04/22	ISSUED FOR 90% REVIEW	SK

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

CLIENT

CITY OF KENORA

PROJECT

CITY OF KENORA CENTRAL PARK
KENORA, ONTARIO

TITLE

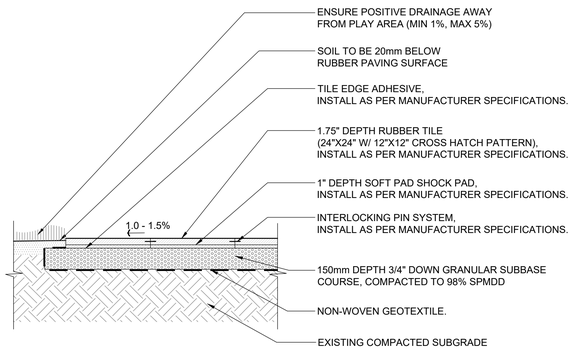
TITLE PAGE

PROJECT NO.	25-0259-001
DRAWN	JH/AJ
APPROVED	JH
PRINT DATE	2025-04-21
SCALE	AS SHOWN

L000

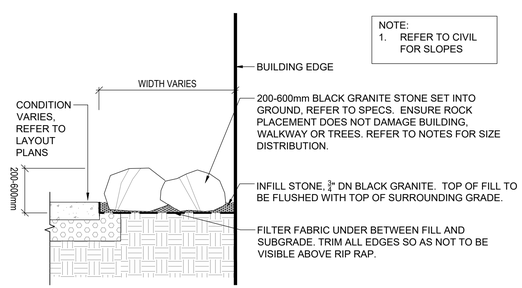
NOTES

1. ALL EXISTING STRUCTURES, TREES, SHRUBS, SIDEWALKS, CURBS, SOD, UTILITIES AND PAVING TO BE PROTECTED (UNLESS OTHERWISE NOTED) DURING CONSTRUCTION TO CITY OF KENORA STANDARDS. CONTRACTOR TO MAKE GOOD ALL DAMAGED AREA DURING CONSTRUCTION BOTH ON AND OFF SITE TO CITY OF KENORA STANDARDS AT THE CONTRACTORS COSTS
2. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSIONS OF CITY OF KENORA SPECIFICATIONS. ALSO REFER TO DRAWINGS FOR ADDITIONAL SPECIFICATIONS
3. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.
4. EXACT LOCATION OF RUBBER SURFACING AND PATHWAY TO BE LOCATED ON SITE. ALL LAYOUT TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY CONSTRUCTION OR REMOVAL
5. GEOTEXTILE FABRIC: NON-WOVEN GEOTEXTILE
6. TOPSOIL AND SOD AS PER DETAIL ON L-002
7. ASPHALT PAVING AS PER CIVIL ENGINEER
8. RUBBER PLAY SURFACE TILES TO BE RYMAR PLAYGROUND TILES 24" x 24" x 1.75" (610 x 610 x 45mm):
   - 8.1. MANUFACTURER: RYMAR RUBBER OR APPROVED EQUAL
   - 8.2. COLOUR: GREEN
   - 8.3. PAVER EDGING: TILE EDGE ADHESIVE, INSTALL AS PER MANUFACTURE'S SPECIFICATIONS
   - 8.4. INTERLOCKING PIN SYSTEM TO ALIGN TILES, INSTALL AS PER MANUFACTURE'S SPECIFICATIONS.
   - 8.5. SHOCK PAD: RYMAR SOFT PAD, 1" THICK, 4' x 6' SHEETS
9. BENCHES: TO BE SUPPLIED BY CITY OF KENORA
   - 9.1. QTY: 6
10. PICNIC TABLES: TO BE SUPPLIED BY CITY OF KENORA
    - 10.1. QTY: 4
11. PLANTING SOIL AND BARK MULCH REFER TO DWG L002 FOR PLANT SPECIES, SIZES AND ADDITIONAL SPECIFICATIONS
    - 11.1. PLANTING SOIL
      - 11.1.1. PLANTING SOIL SHALL CONSIST OF BLACK TOP SOIL, A FERTILE FRIABLE NATURAL LOAM CONTAINING BY VOLUME NOT LESS THAN 4% AND NO MORE THAN 25% OF ORGANIC MATTER FOR CLAY LOAMS, AND NOT LESS THAN 2% AND NO MORE THAN 25% FOR SANDY LOAMS, WITH AN ACIDITY VALUE RANGING FROM PH 6.0 TO 8.0 AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. TOPSOIL IS TO BE FREE OF ANY MIXTURE OF SUBSOIL, CLAY LUMPS AND FREE OF STONES AND OTHER EXTRANEOUS MATTER. IT IS NOT TO CONTAIN COUCH OR CRAB GRASS RHIZOMES
    - 11.2. MULCH
      - 11.2.1. BARK MULCH SHALL BE ECO-MULCH, COLOUR: BROWN
      - 11.2.2. INSTALL BARK MULCH TO A 100mm DEPTH FOR TREE MULCH RINGS
    - 11.3. RIP-RAP
      - 11.3.1. RIP-RAP TO BE BLACK GRANITE SIZE: 300mm - 600mm DIAMETER
        RIP-RAP INFILL: 3/4" DN BLACK GRANITE
    - 11.4 BIKE RACK
      - 11.4.1 PARK-IT BIKE RACK OR APPROVED EQUAL
      - 11.4.2 SUPPLIED BY BARCO PRODUCTS CANADA
      - 11.4.3 BIKE CAPACITY: 5
      - 11.4.4 SURFACE MOUNT
      - 11.4.5 COLOUR: BLACK



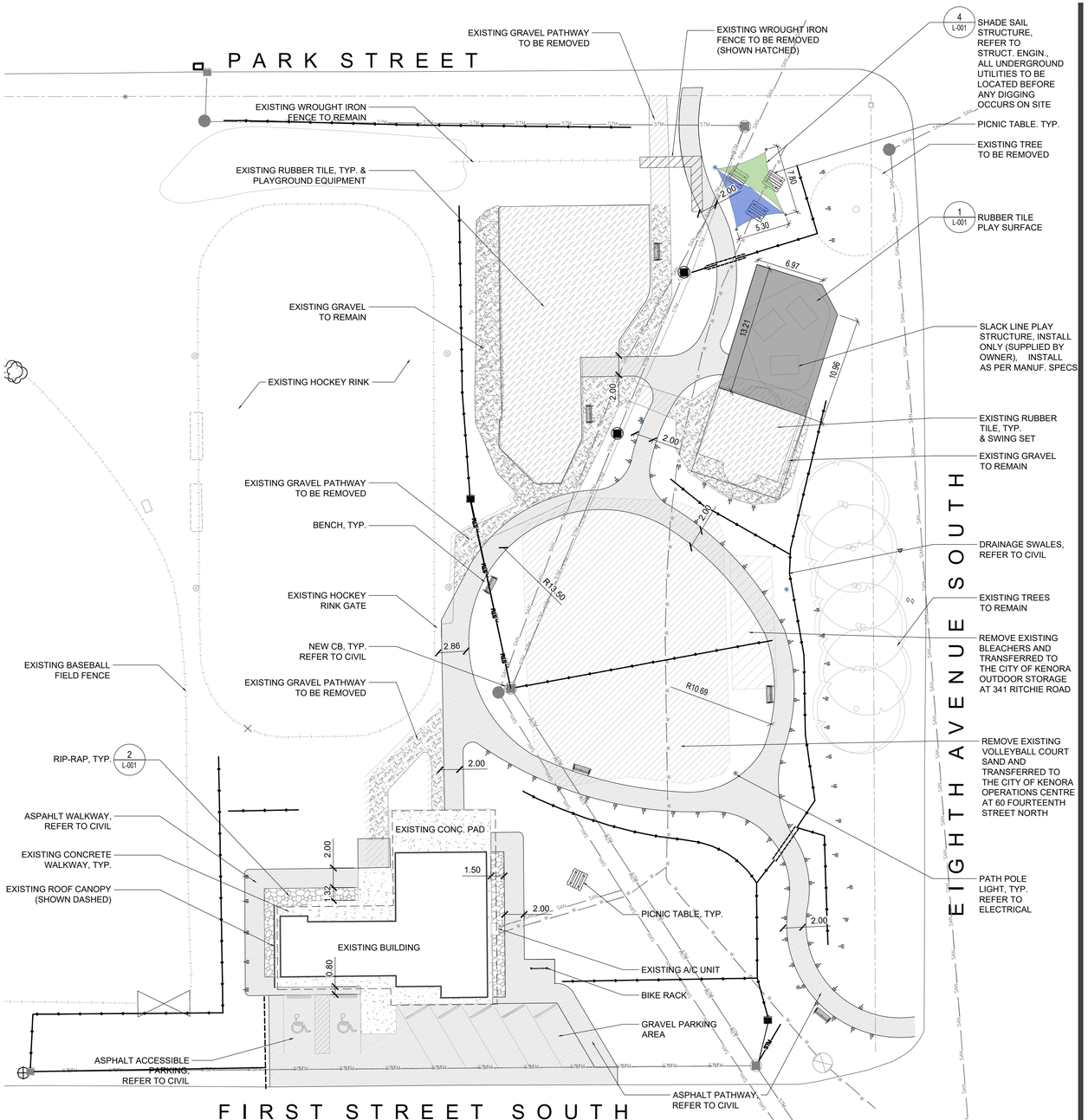
1 L-001 RUBBER TILE PLAY SURFACING

SCALE: 1:20



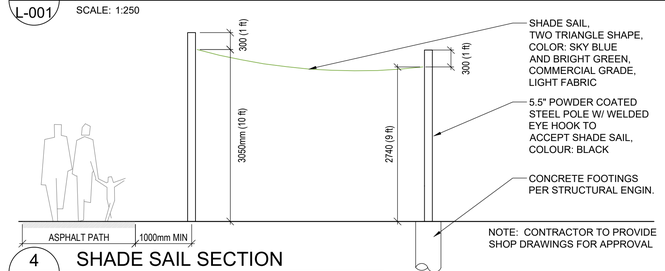
2 L-001 LANDSCAPE STONE RIP RAP AT BUILDING

SCALE: 1:20



3 L-001 LAYOUT PLAN

SCALE: 1:250



4 L-001 SHADE SAIL SECTION

SCALE: 1:50

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REV	DATE	DESCRIPTION	BY
2	25/05/13	IFT SET	SK
1	25/04/22	ISSUED FOR 90% REVIEW	SK

SEAL

PRELIMINARY NOT FOR CONSTRUCTION

CLIENT

CITY OF KENORA

PROJECT

CITY OF KENORA CENTRAL PARK
KENORA, ONTARIO

TITLE

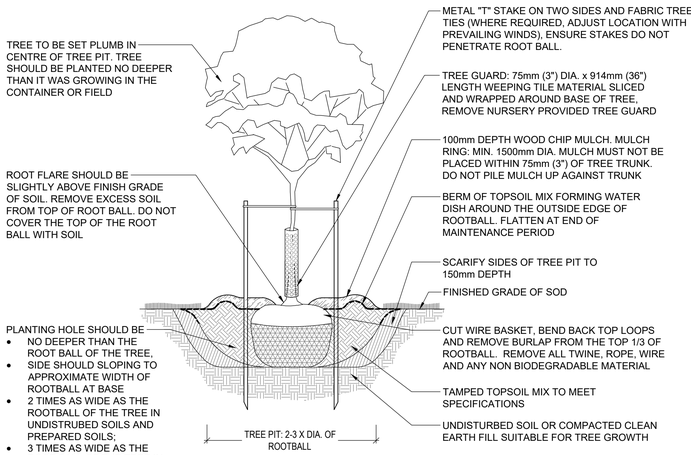
LAYOUT PLAN

PROJECT NO.	25-0259-001
DRAWN	JH/AJ
APPROVED	JH
PRINT DATE	2025-04-21
SCALE	1:250

L001

PLANT SCHEDULE

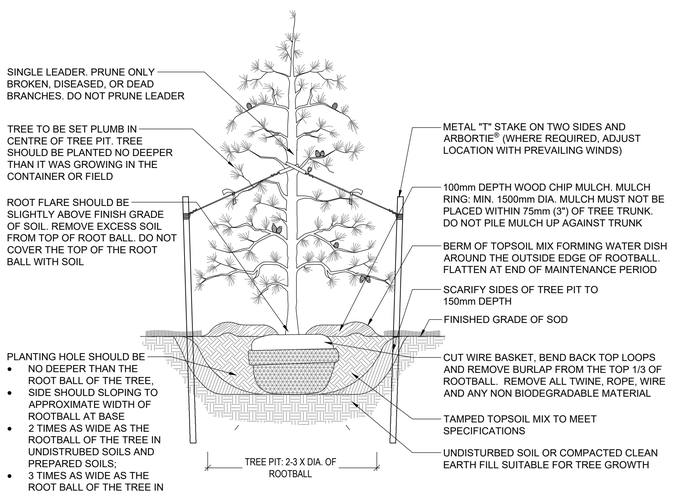
SYMBOL	QTY	COMMON NAME	BOTANICAL NAME	SIZE AND REMARKS (shown are minimum specifications)	SPACING
DECIDUOUS TREES					
	17	Tembling Aspen	*Populus tremuloides*	50mm Caliper, 300-350 cm Height, 10 major branches 2.0m above grade, B & B	As Shown
	3	Inferno Sugar Maple	*Acer saccharum 'Inferno'*	50mm Caliper, min. 10 major branches 2.0m above grade, B&B	As Shown
CONIFEROUS TREES					
	1	Black Hills Spruce	*Picea glauca 'Densata'*	Min 6ft. (1800mm) Height, 35" Base Width, min. 35" wide rootball. Single leader, straight trunk, full growth.	As Shown
	3	White Pine	*Pinus strobus*	#15, 4ft. (1200mm) Height, evenly branched, full bushy trees, no broken leaders, well branched to grade.	As Shown
	1	Eastern Larch / Tamarack	*Larix laricina*	5ft. (1500mm) Height, evenly branched, full bushy trees, no broken leaders, well branched to grade.	As Shown
GROUNDCOVER					
	APPROX. 4,100 SQ. M.	SOD			



1 L-002 **DECIDUOUS TREE DETAIL**

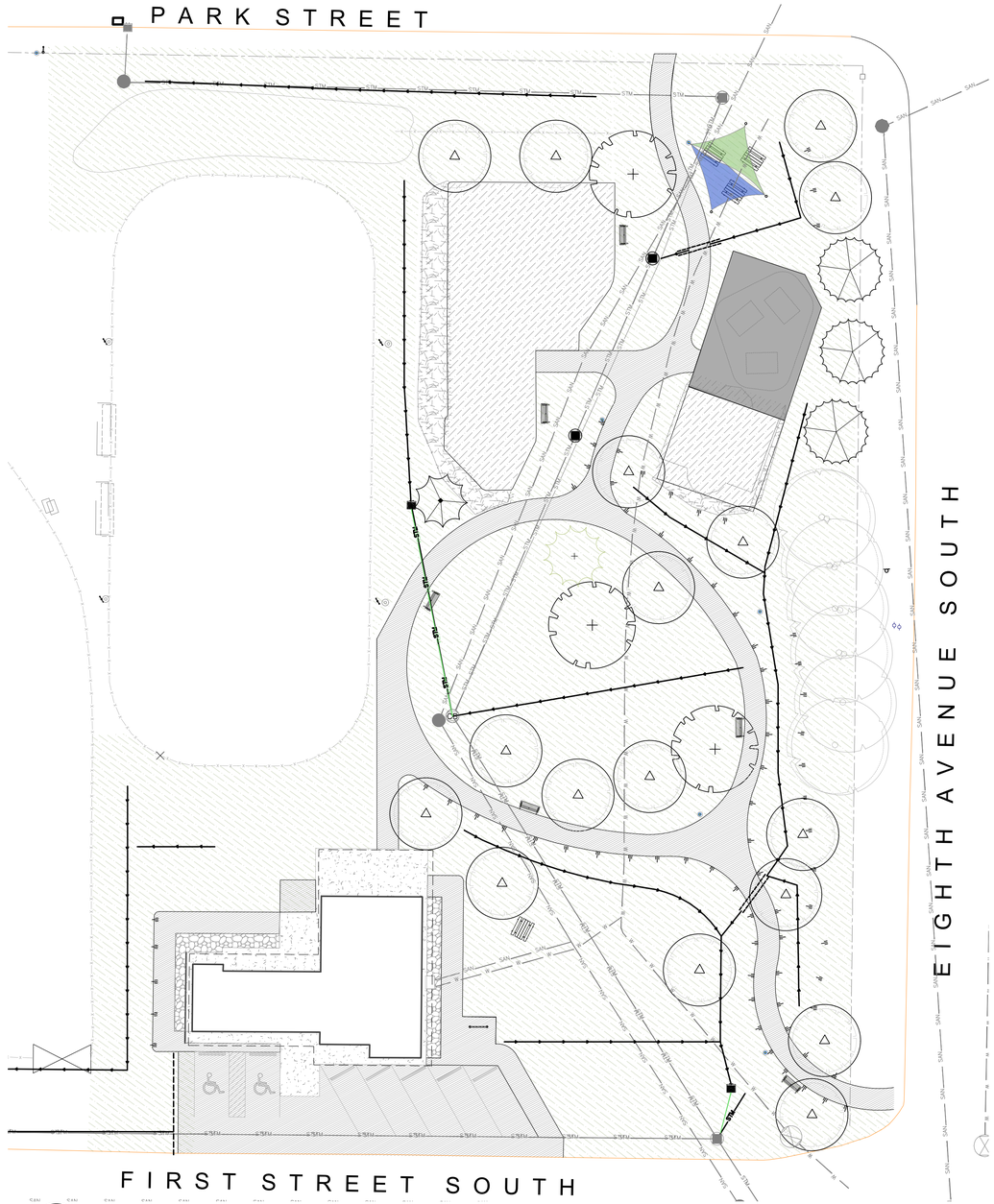
SCALE: 1:25

NOTES:
1. LAYOUT OF PLANT MATERIAL TO BE APPROVED BY L.A. PRIOR TO INSTALLATION.
2. **PIT TO BE DUG WITH BACK HOE NOT TREE SPADE.**
3. CONTRACTOR TO ENSURE 'T'-BARS DO NOT PENETRATE ROOT BALL.
4. SECURE 'T'-BARS TO TREE @ APPROX. 2/3 TOTAL TREE HEIGHT ABOVE FIN. GRADE.
5. TREE SHALL BE PRUNED IMMEDIATELY AFTER PLANTING TO REMOVE DEAD, BROKEN, DISEASED, DYING OR RUBBING BRANCHES. CO-DOMINANT STEMS LESS THAN 100mm (4") DIA. AT THE FORKS SHALL BE PRUNED OFF AND ONE MAIN STEM SHOULD REMAIN. TREE TOPPING OR HEADING IS NOT PERMITTED AT ANY TIME.
6. STAKES & TIES TO BE REMOVED BY CONTRACTOR AT END OF MAINTENANCE PERIOD AND UPON ACCEPTANCE BY L.A.



2 L-002 **CONIFEROUS TREE DETAIL**

SCALE: 1:25

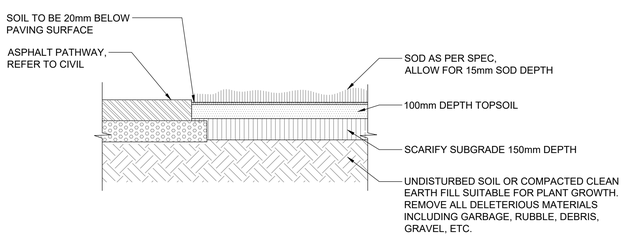


4 L-002 **PLANTING PLAN**

SCALE: 1:250

0 1 5 10 15 25m

N



3 L-002 **SOD DETAIL**

SCALE: 1:20

PLANTING NOTES

1. ALL EXISTING TREES, SHRUBS, SIDEWALKS, CURBS, SOD, UTILITIES AND PAVING TO BE PROTECTED (UNLESS OTHERWISE NOTED) DURING CONSTRUCTION TO CITY OF KENORA STANDARDS. CONTRACTOR TO MAKE GOOD ALL DAMAGED AREA DURING CONSTRUCTION BOTH ON AND OFF SITE TO CITY OF KENORA STANDARDS AT THE CONTRACTORS COSTS.
2. EXISTING GRADE TO BE MAINTAINED AT ALL PROPERTY LINES AND CITY SIDEWALKS AND WITHIN 3m OF TREES. ENSURE POSITIVE DRAINAGE IN ALL AREAS.
3. ALL NOTES IN GREY INDICATE FUTURE WORK OR WORK TO BE COMPLETED BY OTHERS UNDER SEPARATE CONTRACT.
4. ALL TREE LOCATIONS TO BE STAKED FOR APPROVAL BY CONTRACT ADMINISTRATOR PRIOR TO PLANTING.
5. TREES IN SOD AREAS SHOULD BE SPACED WITH MIN. 2.0m CLEAR DISTANCE BETWEEN BEDS TO ALLOW FOR MOWING EQUIPMENT.
6. TREES TO BE MIN. 2.0m AWAY FROM PATHWAYS.
7. TREES TO BE AT LEAST 2.0m AWAY FROM FENCES / PROPERTY LINES.
8. TREES ROOT BALL TO BE MIN. 0.6m AWAY FROM SWALE CENTRE LINE.

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CLIENT

CITY OF KENORA

PROJECT

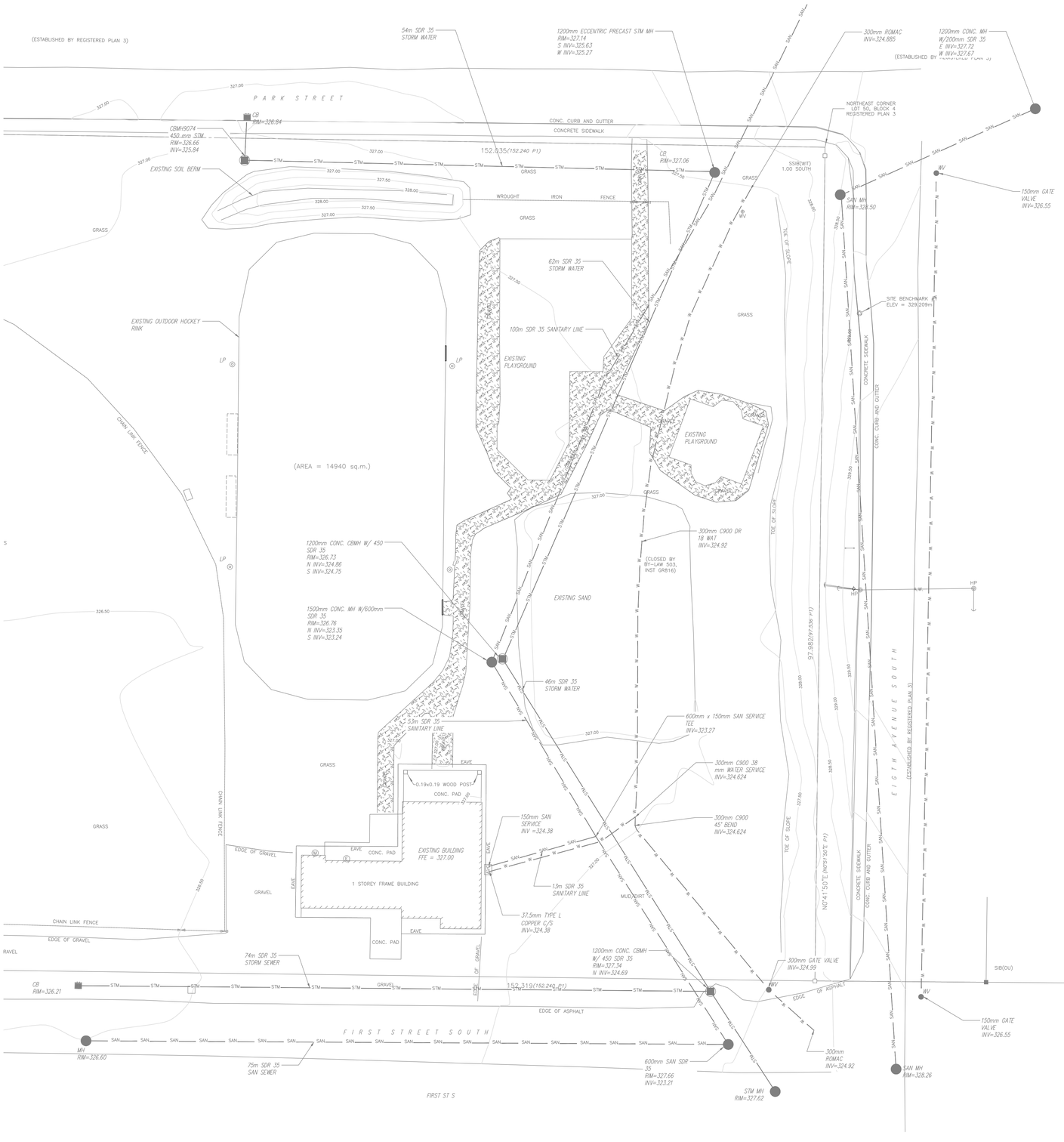
CITY OF KENORA CENTRAL PARK
KENORA, ONTARIO

TITLE

PLANTING PLAN

PROJECT NO.	25-0259-001
DRAWN	AJ/JH
APPROVED	SK
PRINT DATE	2025-04-21
SCALE	1:250

L002



EXISTING - GRADING AND SERVICING PLAN
SCALE: 1:250

LEGEND

- EXISTING CONTOUR ELEVATION
- EXISTING WATER SERVICE
- EXISTING SANITARY SERVICE
- EXISTING STORM SEWER
- EXISTING WATER VALVE
- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING CATCH BASIN MANHOLE
- EXISTING HYDRO POLE
- EXISTING LIGHT POLE
- EXISTING CHAINLINK FENCE
- EXISTING FENCE GATE
- EXISTING GRAVEL PATH

No.	Revision	Date	Initial
3	ISSUED FOR TENDER	DEC 18/25	AB
2	ISSUED FOR COMMENT	DEC 11/25	AB
1	ISSUED FOR TENDER	MAY 13/25	JJ

Notes:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING DIMENSIONS AND EXISTING CONDITIONS AT THE OUTSET OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. DO NOT PROCEED WITHOUT FURTHER WRITTEN DIRECTION FROM THE ENGINEER.
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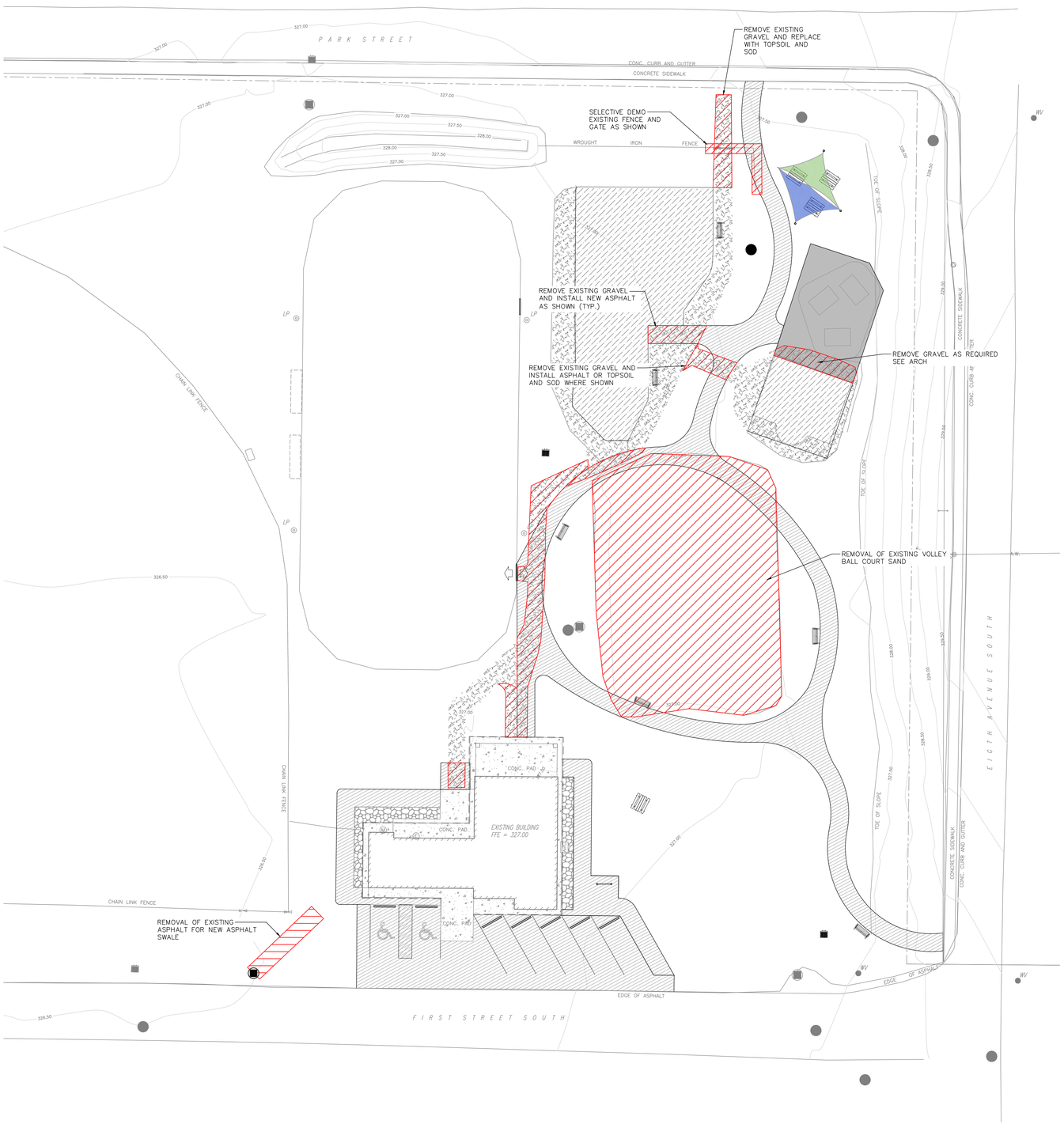
Approved	Approved
PRELIMINARY	

TBT ENGINEERING CONSULTING GROUP
Phone: (866) 624-8378
E-mail: info@tbte.ca

SCATLIFF + MILLER + MURRAY
Kenora Ontario

CIVIL
EXISTING – GRADING AND SERVICING PLAN

Scale:	Drawn By: VE/SI	Date:
1:250	Ckd. By: JJ	DECEMBER, 2025
	Dwg. No.: 25–154–C1	Rev. 3



DEMOLITION - PLAN
SCALE: 1:250

LEGEND

- REMOVE / DEMOLISH
- EXISTING GRAVEL PATHWAY
- NEW ASPHALT PATHWAY
- NEW GRASS

No.	Revision	Date	Initial
3	ISSUED FOR TENDER	DEC 18/25	AB
2	ISSUED FOR COMMENT	DEC 11/25	AB
1	ISSUED FOR TENDER	MAY 13/25	JJ

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CIVIL
DEMOLITION – PLAN

Scale:	Drawn By: VE	Date:
1:250	Ckd. By: JJ	DECEMBER, 2025
	Dwg. No.: 25–154–C2	Rev. 3

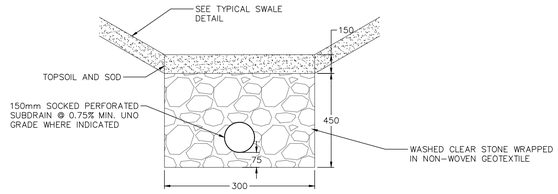
GRADING - PLAN

SCALE: 1:250

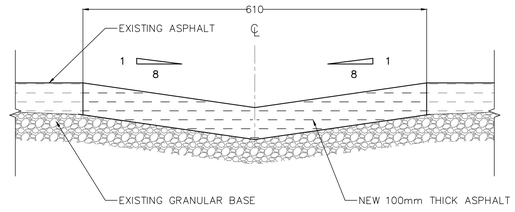
NOTES:

1. PROTECT NEW AND EXISTING CATCH BASINS FROM SEDIMENT DURING CONSTRUCTION.
2. CONNECT SUBDRAINS TO CATCH BASINS WHERE SWALES TERMINATE AT MIN 0.5% SLOPE.
3. INSTALL SUBDRAIN CLEAN–OUT PORTS AT THE MOST UPSTREAM ENDS AND AT EVERY 30m INTERVAL.
4. ENSURE POSITIVE DRAINAGE TO EACH CATCH BASIN MANHOLE.
5. MAX 2% SLOPE IN ACCESSIBLE STALL LOCATIONS.

1 C3 TYPICAL SWALE DETAIL
SCALE: NTS



2 C3 SWALE WITH SUBDRAIN DETAIL
SCALE: NTS



3 C3 TYPICAL ASPHALT SWALE DETAIL
SCALE: NTS

LEGEND

- EXISTING CONTOUR ELEVATION
- PROPOSED SPOT ELEVATION
- PROPOSED ASPHALT ELEVATION
- EXISTING SPOT ELEVATIION
- PROPOSED FLOW DIRECTION
- PROPOSED SWALE
- PROPOSED STORMWATER
- EXISTING STORMWATER
- PROPOSED CULVERT
- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING CATCH BASIN MANHOLE
- EXISTING HYDRO POLE
- EXISTING LIGHT POLE
- NEW MANHOLE
- NEW CATCH BASIN
- NEW CATCH BASIN MANHOLE
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- DEMOLISH
- TOP OF CUT

No.	Revision	Date	Initial
3	ISSUED FOR TENDER	DEC 18/25	AB
2	ISSUED FOR COMMENT	DEC 11/25	AB
1	ISSUED FOR TENDER	MAY 13/25	JJ

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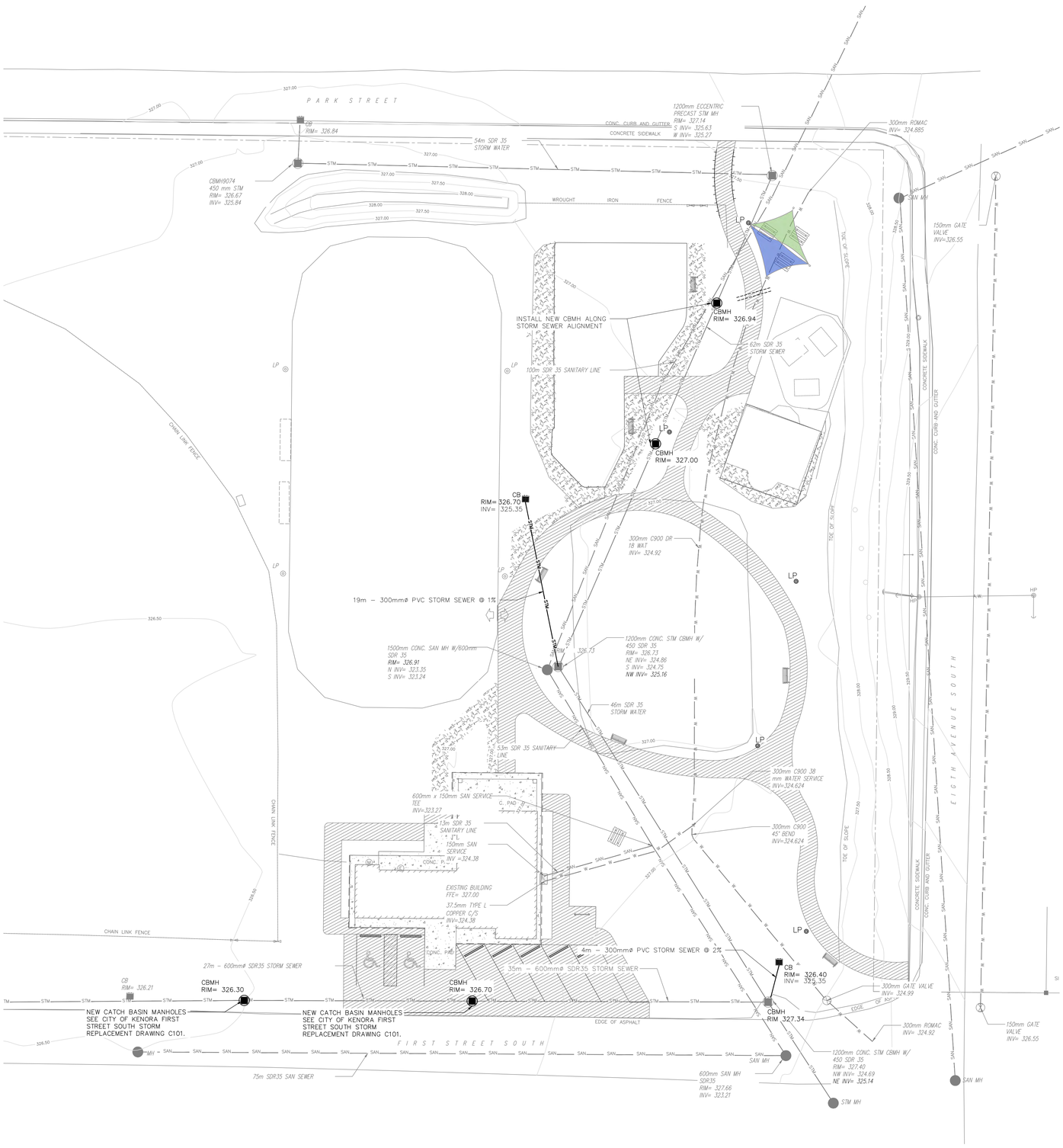
GRADING – PLAN

Scale: 1:250	Drawn By: VE/SI Ckd. By: JJ	Date: DECEMBER, 2025	
	Dwg. No.: 25–154–C3		Rev. 3



SERVICING - PLAN

SCALE: 1:250

LEGEND

- EXISTING CONTOUR ELEVATION
- PROPOSED SPOT ELEVATION
- PROPOSED ASPHALT ELEVATION
- EXISTING SPOT ELEVATIION
- PROPOSED FLOW DIRECTION
- PROPOSED SWALE
- PROPOSED STORMWATER
- EXISTING STORMWATER
- EXISTING SANITARY
- EXISTING WATER MAIN
- PROPOSED CULVERT
- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING CATCH BASIN MANHOLE
- EXISTING HYDRO POLE
- EXISTING LIGHT POLE
- NEW MANHOLE
- NEW CATCH BASIN
- NEW CATCH BASIN MANHOLE
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED CONCRETE
- PROPOSED ASPHALT

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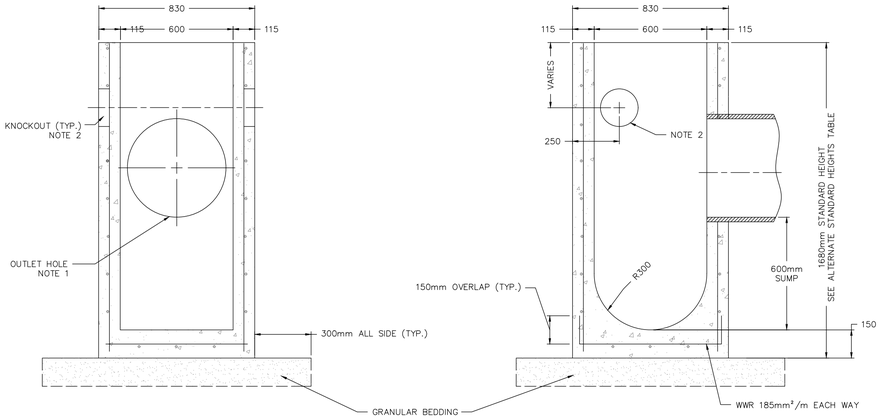
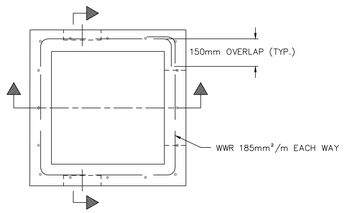
CIVIL
SERVICING – PLAN

Scale:	Drawn By: VE/SI	Date:
1:250	Ckd. By: JJ	DECEMBER, 2025
	Dwg. No.: 25–154–C4	Rev. 3

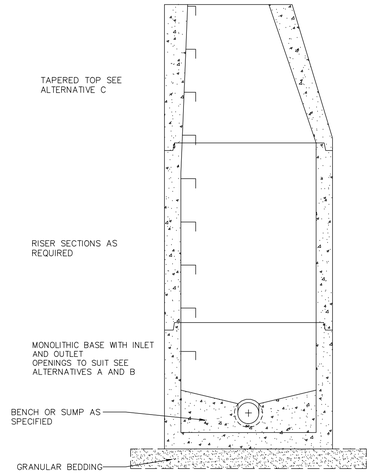
ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380





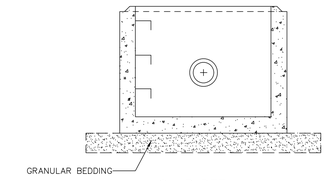
1 G2 CONCRETE CATCH BASIN TYPICAL DETAIL
SCALE: NTS

NOTES
1. OUTLET HOLE SIZE 525mmø MAXIMUM, LOCATION AS REQUIRED.
2. 200mmø KNOCKOUT TO ACCOMMODATE SUBDRAIN. KNOCKOUT SHALL BE 60mm DEEP.
A. CENTRE REINFORCING IN BASE SLAB AND WALLS +/-20mm.
B. GRANULAR BACKFILL SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm ALL AROUND THE CATCH BASIN.
C. FRAME, GRATE, AND ADJUSTMENT UNITS SHALL BE INSTALLED ACCORDING TO OPSD 704.010.
D. PIPE SUPPORT SHALL BE ACCORDING TO OPSD 708.020.
E. ALL DIMENSIONS ARE NOMINAL.
F. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.



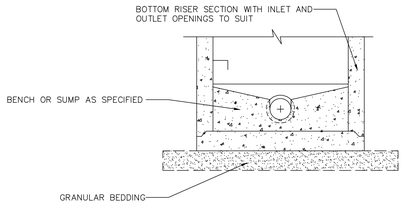
2 G2 MAINTENANCE HOLE TYPICAL DETAIL
SCALE: NTS

NOTES
1. THE SUMP IS MEASURED FROM THE LOWEST INVERT.
A. GRANULAR BACKFILL SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm ALL AROUND THE MAINTENANCE HOLE.
B. PRECAST CONCRETE COMPONENTS SHALL BE ACCORDING TO OPSD 701.030, 701.031, OR 701.032.
C. STRUCTURE EXCEEDING 5.0m IN DEPTH SHALL INCLUDE SAFETY PLATFORM ACCORDING TO OPSD 404.020.
D. PIPE SUPPORT ACCORDING TO OPSD 708.020.
E. FOR BENCHING AND PIPE OPENING DETAILS, SEE OPSD 701.021.
F. FOR ADJUSTMENT UNIT AND FRAME INSTALLATION, SEE OPSD 704.010.
G. ALL DIMENSIONS ARE NOMINAL.
H. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

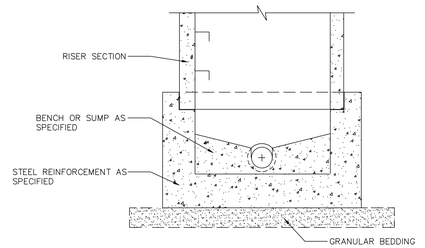


SUMP DETAIL

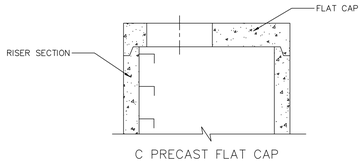
ALTERNATIVES



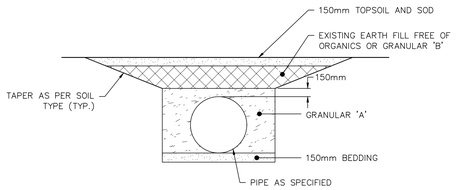
A PRECAST SLAB BASE



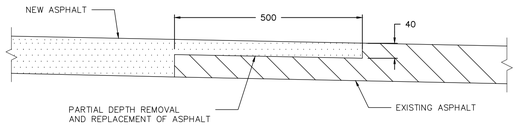
B CAST CAST-IN-PLACE BASE



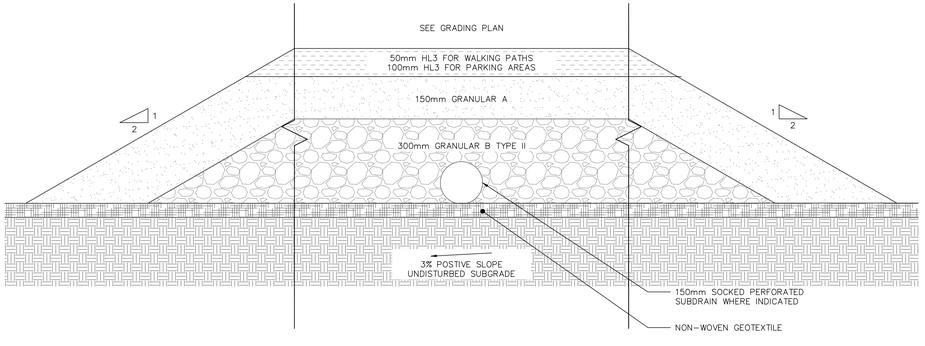
C PRECAST FLAT CAP



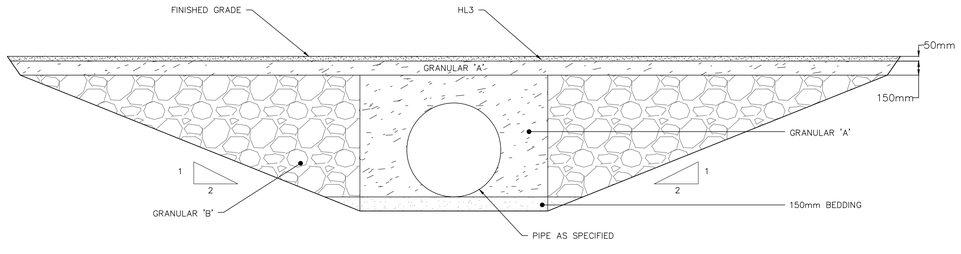
3 G2 STORM CULVERT TRENCH REINSTATEMENT OUTSIDE ASPHALT AND CONCRETE AREAS
SCALE: NTS



4 G2 TYPICAL ASPHALT JOINT DETAIL
SCALE: NTS



5 G2 ASPHALT PATHWAY AND PARKING AREA TYPICAL DETAIL
SCALE: NTS



6 G2 STORM CULVERT TRENCH REINSTATEMENT WITHIN ASPHALT AND CONCRETE AREAS
SCALE: NTS

No.	Revision	Date	Initial
3	ISSUED FOR TENDER	DEC 18/25	AB
2	ISSUED FOR COMMENT	DEC 11/25	AB
1	ISSUED FOR TENDER	MAY 13/25	JJ

Notes:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING DIMENSIONS AND EXISTING CONDITIONS AT THE OUTSET OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. DO NOT PROCEED WITHOUT FURTHER WRITTEN DIRECTION FROM THE ENGINEER.
2. DRAWING SHOWS GENERAL ARRANGEMENT ONLY. DO NOT SCALE.
3. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF TBT ENGINEERING CONSULTING GROUP AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE ENGINEERS WRITTEN PERMISSION.

Approved

PRELIMINARY

Approved

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CIVIL
DETAILS

Scale:	Drawn By: VE/SI	Date:
AS NOTED	Ckd. By: JJ	DECEMBER, 2025
	Dwg. No.: 25-154-C5	Rev. 3

CIVIL SPECIFICATIONS

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO INSTALLATION AND REPORT ANY ERRORS AND/OR OMISSIONS TO THE ENGINEER.
3. CONTRACTOR SHALL MAINTAIN DIGITAL PHOTOGRAPHIC RECORDS OF ALL INSTALLATIONS PRIOR TO CONCEALMENT BY SUPPORTING TRADES.
4. ALL WORK TO BE COMPLETED BY APPROPRIATELY LICENSED PERSONNEL IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE AND ALL APPLICABLE RULES AND REGULATIONS.
5. ALL WORK SHALL COMPLY WITH THE MOST CURRENT VERSION OF ALL APPLICABLE CODES AND STANDARDS. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT REGULATION SHALL PREVAIL.
6. CONTRACTOR TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS TO ALLOW COMPLETION OF THE WORK.
7. CONTRACTOR TO ARRANGE AND PAY FOR ALL NECESSARY INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
8. DOCUMENT THE COMPLETE INSTALLATION WITH PHOTOGRAPHS. SUBMIT PHOTOGRAPHS TO THE OWNER AND ENGINEER AS THE PROJECT PROGRESSES.
9. ANY CHANGES FROM THE DRAWINGS TO BE APPROVED BY ENGINEER BEFORE COMPLETION.
10. KEEP ONE SET OF DRAWINGS ON SITE TO RECORD ALL CHANGES FROM THE DRAWINGS. MARK THE DRAWINGS "AS BUILT" AND SUBMIT TO OWNER OR ENGINEER UPON COMPLETION OF THE PROJECT.
11. CONTRACTOR IS RESPONSIBLE FOR FINAL LAYOUT AND ROUTING.
12. SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT.
13. THE APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF THE FITTING OF EQUIPMENT AND COMPONENTS. ANY DISCREPANCIES IN THE SHOP DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

1. REFER TO SPECIFICATIONS FOR SHOP DRAWINGS WHICH NEED TO BE SUBMITTED FOR REVIEW.
2. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS ON A SAMPLING BASIS, FOR GENERAL CONFORMITY WITH CONTRACT DOCUMENTS. IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF HIS RESPONSIBILITY TO MAKE THE WORK ACCURATE AND IN CONFORMITY WITH ALL THE CONTRACT DOCUMENTS, TO REVIEW SHOP DRAWINGS AND TO COORDINATE WORK OF INTERFACING TRADES AND MANUFACTURE OF INTERFACING PRODUCTS.
3. REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS.
4. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS IN THE TBTE KENORA OFFICE. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED. SUBMIT IN GENERAL CONFORMITY WITH THE SEQUENCE OF CONSTRUCTION INTENDED.
5. AFTER REVIEW, THE DRAWINGS WILL BE STAMPED AND RETURNED. DO NOT COMMENCE FABRICATION UNTIL RETURNED SHOP DRAWINGS HAVE BEEN EXAMINED.
6. SHOP DRAWINGS MARKED "REVIEWED" CAN BE USED FOR FABRICATION. DO NOT MAKE ANY CHANGES OR ADDITIONS TO THESE DRAWINGS WITHOUT NOTIFYING THE CONSULTANT.
7. SHOP DRAWINGS MARKED "REVIEWED AS NOTED" CAN BE USED FOR FABRICATION AFTER THE REVISIONS NOTED ARE IMPLEMENTED. DO NOT MAKE ANY FURTHER CHANGES OR ADDITIONS TO THESE DRAWINGS WITHOUT NOTIFYING THE CONSULTANT.
8. SHOP DRAWINGS MARKED "REVISE AND RESUBMIT" REQUIRE SUBSTANTIAL REVISIONS AND MUST BE RESUBMITTED FOR ADDITIONAL REVIEW PRIOR TO FABRICATION. ALL CHANGES AND ADDITIONS TO THE PREVIOUS SUBMISSION TO BE CLEARLY IDENTIFIED ON THE RESUBMITTED DRAWINGS. ONLY THE IDENTIFIED CHANGES WILL BE REVIEWED ON RE-SUBMISSION.
9. SHOP DRAWINGS MARKED "NOT REVIEWED" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF CONSULTING SERVICES.
10. DO NOT USE SHOP DRAWINGS AS A MEANS TO PROPOSE SUBSTITUTIONS OR ALTERNATIVES TO THE MATERIALS, PRODUCTS OR DETAILS INDICATED IN CONTRACT DOCUMENTS. SUCH SHOP DRAWINGS WILL BE MARKED "REVISE AND RESUBMIT". PROVIDE FINAL RECORD DRAWINGS AFTER ALL CORRECTIONS ARE MADE.

EXCAVATION

1. ALL EXISTING ASPHALT OR CONCRETE SURFACING SHALL BE SAW CUT VERTICALLY IN A STRAIGHT LINE, AND REMOVED FROM THE JOB SITE PRIOR TO STARTING THE TRENCH EXCAVATION. THIS MATERIAL SHALL NOT BE USED IN ANY FILL OR BACKFILL.
2. CLEARANCE:
   - 2.1. THE TRENCH SHALL BE EXCAVATED SO THAT A MINIMUM CLEARANCE OF SIX (6) INCHES IS MAINTAINED ON EACH SIDE OF THE PIPE FOR PROPER PLACEMENT AND DENSIFICATION OF THE BEDDING OR BACKFILL MATERIAL.
   - 2.2. THE MAXIMUM CLEARANCE MEASURED AT THE SPRING LINE OF THE PIPE SHALL BE EIGHTEEN (18) INCHES REGARDLESS OF THE TYPE OF PIPE, TYPE OF SOIL, DEPTH OF EXCAVATION, OR THE METHOD OF DENSIFYING THE BEDDING AND BACKFILL.
3. EXCEPT AS OTHERWISE DICTATED BY CONSTRUCTION CONDITIONS, THE EXCAVATION SHALL BE OF SUCH DIMENSIONS AS TO ALLOW FOR THE PROPER PIPE INSTALLATION AND TO PERMIT THE CONSTRUCTION OF THE NECESSARY PIPE CONNECTIONS.
4. CONTRACTOR SHALL STOCKPILE EXCAVATED MATERIALS IN A SAFE MANNER. STOCKPILES SHALL BE GRADED FOR PROPER DRAINAGE.
5. CONTRACTOR SHALL PLACE AND GRADE THE TRENCH BASE TO THE PROPER GRADE AHEAD OF PIPE LAYING. THE INVERT OF THE TRENCH SHALL BE COMPACTED TO PROVIDE A FIRM UNYIELDING SUPPORT ALONG ENTIRE PIPE LENGTH.
6. SURPLUS EXCAVATION SHALL BE DISPOSED OF BY CONTRACTOR AT CONTRACTOR'S EXPENSE.

PIPING

1. PIPING SHALL BE PAINTED AND MARKED APPROPRIATELY.
2. ALL WORK SHALL BE COMPLETED OR DIRECTLY SUPERVISED BY A LICENSED PIPEFITTER.
3. CONTRACTOR TO ENSURE ALL WORK ON THIS PROJECT MEETS ALL APPLICABLE RULES, REGULATIONS AND LAWS OF ONTARIO.
4. ALL APPLICABLE RULES, REGULATIONS AND LAWS TAKE PRECEDENCE OVER THE SPECIFICATIONS INCLUDED HERE.
5. ALL WORK TO MEET CURRENT VERSION OF CSA B149.1 AND TSSA REQUIREMENTS.
6. NO ROOF PENETRATIONS PERMITTED. PENETRATIONS THROUGH THE WALL SHALL BE SLEEVED AND SEALED APPROPRIATELY.
7. CONTRACTOR TO REPAIR ANY DAMAGE THAT IS CAUSED TO THE BUILDING TO THE SATISFACTION OF THE OWNER.
8. PRESSURE TESTING AS REQUIRED BY CSA B149.1.
9. OWNER OR AUTHORIZED REPRESENTATIVE TO WITNESS AND SIGN OFF ALL PRESSURE TESTS.
10. CONNECTION TO EQUIPMENT SHALL BE MADE TO PERMIT READY DISCONNECTION OF EQUIPMENT WITH MINIMUM DISTURBANCE TO ADJOINING PIPE. THREADED UNIONS SHALL BE USED AT ALL EQUIPMENT CONNECTIONS.
11. UNIONS SHALL BE PROVIDED AT VALVES, TRAPS, STRAINERS, APPARATUS, PUMPS, HEAT EXCHANGERS, TANKS, MACHINES AND EQUIPMENT TO PERMIT EASY DISMANTLING OF PIPING AND APPARATUS.
12. ALL VALVE STEMS SHALL STAND UPRIGHT OR AT AN ANGLE ABOVE THE CENTER LINE OF THE PIPE AND NOT HANDLE DOWN.
13. ALL PIPING, INCLUDING VALVES, TRAPS, VENTS AND ACCESSORIES, SHALL BE INSTALLED SO AS TO BE EASILY ACCESSIBLE FOR MAINTENANCE, REMOVAL, REPLACEMENT AND CLEANING.
14. ALL PIPING, AFTER ERECTION, SHALL BE THOROUGHLY BLOWN AND WASHED OUT. DURING CONSTRUCTION, ALL LINES SHALL BE PROPERLY CAPPED OR PLUGGED TO PREVENT THE ENTRANCE OF DIRT, SAND OR FOREIGN MATTER.

SILTATION CONTROL PLAN NOTES

1. SEDIMENT BARRIERS, CHECK DAMS, AND TEMPORARY CONSTRUCTION ACCESS TO BE INSTALLED PRIOR TO THE BEGINNING OF THE CONSTRUCTION.
2. ALL SEDIMENT CONTROL DEVICES TO BE ROUTINELY INSPECTED AND MAINTAINED IN PROPER WORKING ORDER UNTIL AREAS ARE STABILIZED.
3. IF NECESSARY, TRUCKS WILL BE WASHED DOWN BEFORE LEAVING THE SITE.
4. THE SITE WILL BE WET DOWN IF NECESSARY TO CONTROL DUST.
5. ALL TOPSOIL STOCKPILES TO BE SURROUNDED WITH SEDIMENT CONTROL FENCING.
6. FILTER FABRIC TO BE PLACED UNDER GRATES ON ALL CATCH BASINS TO TRAP SEDIMENT. SILT TRAPS ARE T BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITY IN COMPLETE. FILTER FABRIC FOR SILT CONTROL TO BE TERRA FIX 270R OR APPROVED EQUIVALENT.
7. WHERE CONSTRUCTION ACTIVITY TAKES PLACE WITHIN THE CITY RIGHT OF WAY, SEDIMENT CONTROLS WILL BE PLACED ON THE CATCH BASINS ON PUBLIC STREETS ACROSS THE PROPERTY'S FRONTAGE.
8. STREET SWEEPING, CATCH BASIN CLEANING AND DUST CONTROL ARE THE RESPONSIBILITY OF THE DEVELOPER AND MUST BE KEPT UNDER CONTROL ON ALL ROADWAYS TO THE SATISFACTION OF THE CITY.
9. SURFACE EROSION PROTECTION SHOULD BE APPLIED FOR ALL DISTURBED AREAS, SUBJECT TO EROSION, UNTIL VEGETATION IS ESTABLISHED.

GRADING (SUB EXCAVATION)

1. THE CONTRACTOR SHALL INCLUDE ALL LABOUR, EQUIPMENT AND MATERIAL TO EXCAVATE AND PLACE, AT LOCATIONS INDICATED ON THE DRAWINGS AND AS DIRECTED BY THE OWNER, ALL EARTH, ROCK AND GRANULAR MATERIAL AS REQUIRED TO COMPLETE THIS WORK.
2. REFER TO GEOTECHNICAL REPORT FOR GRADING REQUIREMENTS.

AGGREGATE SOURCES

1. REFER TO GEOTECHNICAL REPORT.

CIVIL SPECIFICATIONS - CONT.

GRANULAR MATERIAL

1. REFER TO GEOTECHNICAL REPORT.

TOPSOIL, SOD, SEED AND COVER

1. ALL LANDSCAPE AREAS TO CONSIST OF 75mm OF SCREENED TOPSOIL AND SOD, UNLESS NOTED OTHERWISE.
2. TOPSOIL SHALL CONFORM TO OPSS 802, SOD SHALL CONFORM TO OPSS 803, SEED AND COVER SHALL CONFORM TO OPSS 804.
3. SEED SHALL BE STANDARD ROAD SIDE MIX AND COVER SHALL BE HYDRAULIC MULCH.

RESTORATION

1. ALL RESTORATION TO BE COMPLETED PER OPSS 492.
2. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITIONS OR BETTER.

PROTECTION AND SUPPORT OF EXISTING UTILITIES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PROTECTION AND SUPPORT OF UTILITIES AS REQUIRED AND AS DIRECTED BY THE UTILITIES REPRESENTATIVE. BACKFILL AND BEDDING SHALL BE PLACED USING PROPER PLACEMENT AND COMPACTION PROCEDURES TO THE SATISFACTION OF THE UTILITY REPRESENTATIVE INVOLVED.

MATERIALS TESTING AND INSPECTIONS

1. REFER TO GEOTECHNICAL REPORT AND MATERIALS TESTING PLAN.

MATERIALS

1. ALL MATERIAL THAT DOES NOT MEET SPECIFICATIONS, AS DETERMINED BY THE ENGINEER, WILL BE REJECTED AND MUST BE REMOVED AND REPLACED. THIS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
2. ALL MATERIALS, PIPES, STRUCTURES, APPURTENANCES TO BE CSA APPROVED.
3. ALL MATERIALS TO BE SUPPLIED BY THE CONTRACTOR.

CATCHBASIN MAINTENANCE HOLES

1. ALL CATCHBASIN MAINTENANCE HOLES TO BE INSTALLED IN ACCORDANCE WITH OPSS 402 & 407.
2. ALL MAINTENANCE HOLES ARE TO BE PRE-CAST CONCRETE AND SHALL CONFORM TO OPSD 701.010 COMPLETE WITH SQUARE OPENING IN THE FLAT CAP.
3. FRAME AND GRATE TO BE IN COMPLIANCE WITH OPSD 400.020 FOR ALL CBMHS.
4. FROST STRAPS SHALL BE INSTALLED AT ALL MAINTENANCE HOLES IN ACCORDANCE WITH OPSD 701.100.
5. MINIMUM 300mm SUMP DEPTH.
6. ALL MANHOLES ARE TO BE PRE-CAST CONCRETE AND SHALL CONFORM TO OPSD 701.010, 701.011, 701.012, AND 1003.020.
7. THE REQUIRED OPENINGS IN PRE-CAST UNITS SHALL BE SET AT THE TIME OF CASTING. SHOULD THE PRE-CAST OPENINGS NOT BE AS SPECIFIED, OPENINGS MADE ON SITE SHALL BE CUT INTO THE PRE-CAST SECTION USING A CORING TOOL OR A DRILL, AS APPROVED BY THE ENGINEER, CAPABLE OF CUTTING A NEAT, ROUND OPENING SUFFICIENT TO ACCOMMODATE THE PIPE TO BE USED. PRE-CAST STRUCTURES SHALL NOT BE SUBJECTED TO IMPACT BY ANY MEANS, MECHANICAL OR MANUAL.

REMOVE ASPHALT:

1. THE CONTRACTOR SHALL PROVIDE ALL LABOUR, EQUIPMENT AND MATERIAL REQUIRED TO REMOVE ASPHALT TO MATCH EXISTING GRADE AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL ALSO INCLUDE THE DISPOSAL AND MANAGEMENT OF THE ASPHALT OFF SITE AS PER OPSS 180 AND 406/19.

GENERAL DEMOLITION NOTES

1. THE OWNER HAS FIRST RIGHT OF ALL MATERIALS TO BE REMOVED AS A RESULT OF THE DEMOLITION OF EXISTING CONDITIONS. ANY/ALL NON-CLAIMED ITEMS BY THE OWNER ARE THE RESPONSIBILITY OF THE CONTRACTOR TO BE REMOVED AND DISCARDED FROM THE SITE.
2. ALL DEMOLITION AND MATERIAL REMOVAL OPERATIONS SHALL BE CAREFULLY AND SAFELY CARRIED OUT DAILY TO ACCOMMODATE FUTURE NEW CONSTRUCTION. THE DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE PROCEDURES, PRACTICES AND OPERATIONS.
   CONTRACTOR SHALL PROPERLY DISPOSE OF ALL DEBRIS.

CLASS I NON-WOVEN GEOTEXTILE:

1. THE CONTRACTOR SHALL INCLUDE A 0.50M OVERLAP AT ALL JOINTS. GEOTEXTILE SHALL BE PLACED AS SHOWN ON CONTRACT DRAWINGS AND SHALL EXTEND UP THE VERTICAL FACE OF THE EXCAVATION TO THE TOP OF THE EXCAVATION. GEOTEXTILE MATERIAL SHALL MEET OR EXCEED THE PHYSICAL REQUIREMENTS OF THE TERRAFIX 270R OR APPROVED EQUAL. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE BRAND, TYPE AND SPECIFICATIONS OF THE GEOTEXTILE PROPOSED FOR USE. GEOTEXTILE MATERIALS SHALL NOT BE PLACED ON SITE UNTIL THE ENGINEER PROVIDES THE CONTRACTOR APPROVAL IN WRITING FOR THE USE OF THE PROPOSED MATERIAL AND ACCEPTANCE OF THE SUBGRADE ELEVATION.
2. GEOTEXTILE SHALL NOT BE EXPOSED TO SUNLIGHT GREATER THAN 72 HOURS.

PIPE BEDDING:

1. ALL TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH OPSS 401.
2. PIPE BEDDING, COVER AND BACKFILLING SHALL CONFORM TO OPSD 802.010 AND ALL MATERIAL SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. BEDDING MATERIAL SHALL BE GRANULAR A IN ACCORDANCE WITH OPSD 802.010 FOR TYPE 2 SOIL APPLICATIONS.
4. COVER MATERIAL SHALL BE GRANULAR B WITH NO PARTICLE LARGER THAN 25mm IN ACCORDANCE WITH OPSD 802.010 FOR TYPE 2 SOIL APPLICATIONS.
5. BACKFILL MATERIAL SHALL BE NATIVE MATERIAL FREE FROM ORGANIC INCLUSIONS OR OTHER CONTAMINATION.

ASPHALT WALKWAYS AND PARKING LOT:

1. WHERE REQUIRED EXCAVATION SHALL PROVIDE SUFFICIENT DEPTH TO PLACE 300mm GRANULAR B TYPE II, 150mm GRANULAR A AND 50mm OR 100mm AS SPECIFIED OF HL3 ASPHALT.
2. PLACE AND COMPACT GRANULAR A TO A DEPTH OF 150mm. GRANULAR A SHALL BE COMPACTED IN ACCORDANCE GEOTECH REPORT AND WITH OPSS 501. GRANULAR B TYPE II SHALL BE FULLY COMPACTED BY VISUAL INSPECTION OF THE ENGINEER.
3. INSTALL ONE (1) LAYER OF NON-WOVEN GEOTEXTILE ABOVE GRADED SUBGRADE.

STRUCTURAL SPECIFICATIONS

CAST-IN-PLACE CONCRETE

1. CONCRETE IS SPECIFIED PER ALTERNATIVE 1 – PERFORMANCE SPECIFICATION, AS OUTLINED IN CSA A23.1. THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS.
2. CONTRACTOR AND CONCRETE SUPPLIER TO ENSURE THAT PLASTIC AND HARDENED MIX PROPERTIES MEET SITE REQUIREMENTS FOR PLACING, FINISHING AND THE SPECIFIED PERFORMANCE REQUIREMENTS.
3. CEMENT TO BE PORTLAND CEMENT TYPE GU UNLESS NOTED OTHERWISE OR REQUIRED BY EXPOSURE CLASS.
4. CONCRETE TO BE NORMAL DENSITY (MIN. 2300KG/M3) UNLESS NOTED OTHERWISE.
5. NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20 (3/4") UNLESS NOTED OTHERWISE.
6. WHERE EXPOSURE CLASS IS NOTED "N/F2" USE "F-2" EXPOSURE CLASS FOR PERIMETER AND EXTERIOR-INSULATED ELEMENTS ABOVE THE FROST LINE, AND FOR ELEMENTS IN INTERIOR UNHEATED SPACES, WHICH ARE SUSCEPTIBLE TO FREEZING. USE "N" EXPOSURE CLASS FOR ELEMENTS PROTECTED FROM FREEZING.
7. LIMIT NOMINAL MAXIMUM AGGREGATE SIZE TO 10 (3/8") FOR COLUMNS WITH SMALLEST DIMENSIONS LESS THAN 300 (12") AND FOR WALLS LESS THAN 200 (8") THICK.
8. WHERE HVSCM (AS DEFINED IN CSA AS23.1) OR ANY CLASS "S" EXPOSURE CONCRETE IS USED, SPECIFIED CONCRETE STRENGTH TO NE ATTAINED AT 56, RATHER THAN AT 28 DAY.
9. MINIMUM DOSAGE OF CORROSION INHIBITOR IS 10L/M3 OF 30% SOLUTION OF CALCIUM NITRITE, AS PER CSA-S413.
10. REFER TO CSA A23.1 FOR THE MAXIMUM WATER/CEMENT RATIO, MINIMUM COMPRESSIVE STRENGTH, AIR CONTENT, CURING REQUIREMENTS, CHLORIDE ION PENETRABILITY AND ALTERNATE CEMENT TYPES TO MEET THE REQUIREMENTS FOR THE NOTED EXPOSURE CLASS.
11. WHERE REQUIRED BY SPECIFICATIONS, PROVIDE MINIMUM AMOUNT OF SUPPLEMENTAL CEMENTING MATERIALS SPECIFIED FOR THE OVERALL PROJECT.
12. DO NOT ADD WATER TO CONCRETE ON SITE.
13. CONVEY CONCRETE FROM TRUCK TO FINAL LOCATION BY METHODS WHICH WILL PREVENT SEPARATION OR LOSS MATERIAL. MAXIMUM FREE FALL NOT TO EXCEED 1.5M (5'-0"). CONSOLIDATE CONCRETE USING MECHANICAL VIBRATORS.
14. PLACE CONCRETE AS CLOSE AS POSSIBLE TO FINAL LOCATION TO AVOID SEGREGATION. VIBRATE ALL CONCRETE.

STRUCTURAL SPECIFICATIONS - CONT.

15. PROTECT CONCRETE FROM FREEZING. DO NOT PLACE CONCRETE AGAINST FROZEN GROUND. USE COLD WEATHER CONCRETING METHODS IN ACCORDANCE WITH CSA A23.1.
16. PROTECT CONCRETE FROM EXCESSIVE HEATING AND DRYING. USE HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CSA A23.1.
17. SURVEY TOP OF FORMWORK / SLAB ELEVATIONS AT SUPPORTS, AND MIDSPAN BETWEEN SUPPORTS, AT CENTERS OF BAYS, AND AT CANTILEVERED ENDS AT THE FOLLOWING TIMES:
    - 17.1. BEFORE CONCRETE PLACEMENT
    - 17.2. AFTER CONCRETE PLACEMENT BUT PRIOR TO REMOVAL OF SUPPORTING FALSEWORK
    - 17.3. AFTER REMOVAL OF SUPPORTING FALSEWORK
    - 17.4. SUBMIT SURVEY DATA FOR ENGINEERS RECORD.
18. DO NOT USE STEEL TROWEL TO FINISH AIR-ENTRAINED CONCRETE.
19. CONSTRUCTION & CONTROL JOINTS:
    - 19.1. PROVIDE JOINTS WHERE SPECIFIED OR SHOWN ON DRAWINGS. LOCATE SO AS NOT TO IMPAIR THE REQUIRED STRENGTH OF THE STRUCTURE. SUBMIT JOINT LAYOUT FOR LBE REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS PRIOR TO POURING CONCRETE. REFER TO TYPICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
    - 19.2. UNLESS OTHERWISE NOTED, PROVIDE STANDARD CONTINUOUS 38X89 (2X4) FORMED KEYS AT ALL CONSTRUCTION JOINTS. CENTER AT JOINTS AND CHAMFER SIDES.
    - 19.3. IF A SPECIFIED CONSTRUCTION JOINT DETAIL IS SHOWN ON DRAWINGS, IT CAN NOT BE SUBSTITUTED BY ANY ALTERNATIVE CONSTRUCTION JOINT DETAIL.
    - 19.4. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE WALLS (OTHER THAN AT UNDERSIDE OF SLABS) ARE NOT PERMITTED, EXCEPT WHERE SHOWN ON THESE DRAWINGS.
20. CAST CONCRETE BEAMS INTEGRALLY WITH SLABS (WITH NO HORIZONTAL CONSTRUCTION JOINTS) ARE NOT PERMITTED, UNLESS OTHERWISE SHOWN ON DRAWINGS.
21. FOUNDATION WALLS AND GRADE BEAMS: PROVIDE VERTICAL CONSTRUCTION JOINTS AT 30M (100FT) MAXIMUM. LOCATE JOINTS IN GRADE BEAMS AND FOUNDATION WALLS ACTING AS BEAMS (SPANNING BETWEEN FOOTINGS OR PILES) WITHIN THE MIDDLE THIRD OF THEIR SPAN.
22. CONCRETE TO BE IN ACCORDANCE WITH CSA A231 AS FOLLOWS:
    - 22.1. GRADE BEAMS, PILE CAPS AND EXTERIOR SLABS:
      - EXPOSURE CLASS F2.
      - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS 35 MPA.
    - 22.1. INTERIOR CONCRETE:
      - EXPOSURE CLASS N.
      - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS 25 MPA.

CONCRETE REINFORCEMENT

1. REINFORCEMENT TO CONFORM TO THE FOLLOWING STANDARDS:
   - 1.1. DEFORMED BARS – CSA G30.18, GRADE 400R OR 400W.
2. ALL REBAR HOOKS TO BE STANDARD LENGTH 90 DEGREE OR 180 DEGREE HOOKS. REBAR LENGTHS LISTED ON DRAWINGS DO NOT INCLUDE THE HOOK LENGTH.
3. UNLESS A SPECIFIC STIRRUP SHAPE IS INDICATED ON PLANS OR SCHEDULES, ALL STIRRUPS, IF ANY, TO BE CLOSED HOOPS. NUMBER OF STIRRUPS DENOTES THE NUMBER OF FULL STIRRUPS, EACH HAVING TWO LEGS.
4. WHERE THE TWO BARS OF DIFFERENT SIZE ARE LAPPED IN TENSION, SPLICE LENGTHS TO BE EQUAL TO THE SMALLER BAR'S TENSION LAP SPLICE, OR TO THE LARGER BAR'S TENSION DEVELOPMENT LENGTH, WHICHEVER IS LONGER.
5. WHERE TWO BARS OF DIFFERENT SIZE ARE LAPPED IN COMPRESSION, SPLICE LENGTHS TO BE EQUAL TO THE SMALLER BAR'S COMPRESSION LAP SPLICE, OR TO THE LARGER BAR'S COMPRESSION DEVELOPMENT LENGTH, WHICHEVER IS LONGER.
6. PROVIDE ADDITIONAL SUPPORT BARS AS REQUIRED TO ADEQUATELY SUPPORT AND SECURE ALL REINFORCEMENT AND PREVENT MOVEMENT WHEN PLACING CONCRETE.
7. PROVIDE SUFFICIENT CHAIRS TO REINFORCING TO MAINTAIN SPECIFIED CONCRETE COVER.
8. LIFTING REINFORCEMENT AFTER CONCRETE IS POURED TO BRING IT IN POSITION IS NOT ACCEPTABLE.
9. ALL REINFORCING TO BE CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN COATING THAT AFFECT BONDING CAPACITY.
10. MINIMUM CLEAR SPACING BETWEEN ADJACENT BARS TO BE AT LEAST 1.4 TIMES THE BAR DIAMETER OR 1.4 TIMES THE NOMINAL MAXIMUM SIZE OF THE COARSE AGGREGATE, WHICHEVER IS MORE.
11. WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, POSITION BARS IN UPPER LAYER DIRECTLY ABOVE THE BARS IN LOWER, MAINTAINING THE MINIMUM CLEAR SPACING BETWEEN LAYERS AS SPECIFIED ABOVE.

MATERIALS TESTING PLAN

	MATERIAL	TEST	TEST LOCATION	FREQUENCY	LIFT THICKNESS	SPECS
AGGREGATE	GRANULAR A	PROCTOR	LAB	1		OPSS.MUNI 1010
		SIEVE	LAB	1		TABLE 2 OPSS.MUNI 1010
		COMPACTION	IN-SITU	4 PER LIFT	150mm	SEE GEOTECH
	GRANULAR B TYPE II	PROCTOR	LAB	1		OPSS.MUNI 1010
		SIEVE	LAB	1		TABLE 2 OPSS.MUNI 1010
		COMPACTION	IN-SITU	4 PER LIFT	150mm	ENGINEER INSPECTION
	NATIVE SUBGRADE	PROCTOR	LAB	1		OPSS.MUNI 1010
		COMPACTION	IN-SITU	4 PER LIFT	150mm	95% SPMDD
	BEDDING SAND	PROCTOR	LAB	1		OPSS.MUNI 1010
		SIEVE	LAB	1		TABLE 2 OPSS.MUNI 1010
		COMPACTION	IN-SITU	4 PER LIFT	150mm	95% SPMDD
CONCRETE		AIR	IN-SITU			5-8%
		SLUMP	IN-SITU	1		80 +- 30mm
		TEMPERATURE	IN-SITU			10-32°C
ASPHALT		MARSHALL VALUES (% AIR VOIDS AND STABILITY)	LAB	1		OPSS.MUNI 1150
		COMPACTION	IN-SITU	4	50mm	92% GMM
		TEMPERATURE	IN-SITU	1		>120°C
		% AC (EXTRACTION AND GRADATION)	LAB	1		OPSS.MUNI 1150

NOTES

1. MATERIAL PLACEMENT, SAMPLING, AND TESTING REQUIREMENTS SHALL CONFORM WITH OPSS.MUNI 310, OPSS.MUNI 1150, OPSS.MUNI 1010, OPSS.PROV 206, OPSS.PROV 351, AND OPSS.PROV 501.
2. IN-FIELD DATA SHEETS MUST BE COMPLETE AND SUBMITTED FOR ALL SAMPLES TAKEN AND FOR ALL TESTING PERFORMED.
3. IF NUCLEAR GAUGE COMPACTION TESTING IS NOT POSSIBLE FOR SUBGRADE COMPACTION REQUIREMENTS, PROOF ROLLING WILL BE REQUIRED.
4. REFER TO GEOTECH FOR PAVEMENT DESIGN REQUIREMENT.

No.	Revision	Date	Initial
3	ISSUED FOR TENDER	DEC 18/25	AB
2	ISSUED FOR COMMENT	DEC 11/25	AB
1	ISSUED FOR TENDER	MAY 13/25	JJ

Notes:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING DIMENSIONS AND EXISTING CONDITIONS AT THE OUTSET OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. DO NOT PROCEED WITHOUT FURTHER WRITTEN DIRECTION FROM THE ENGINEER.
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Approved

PRELIMINARY

Approved

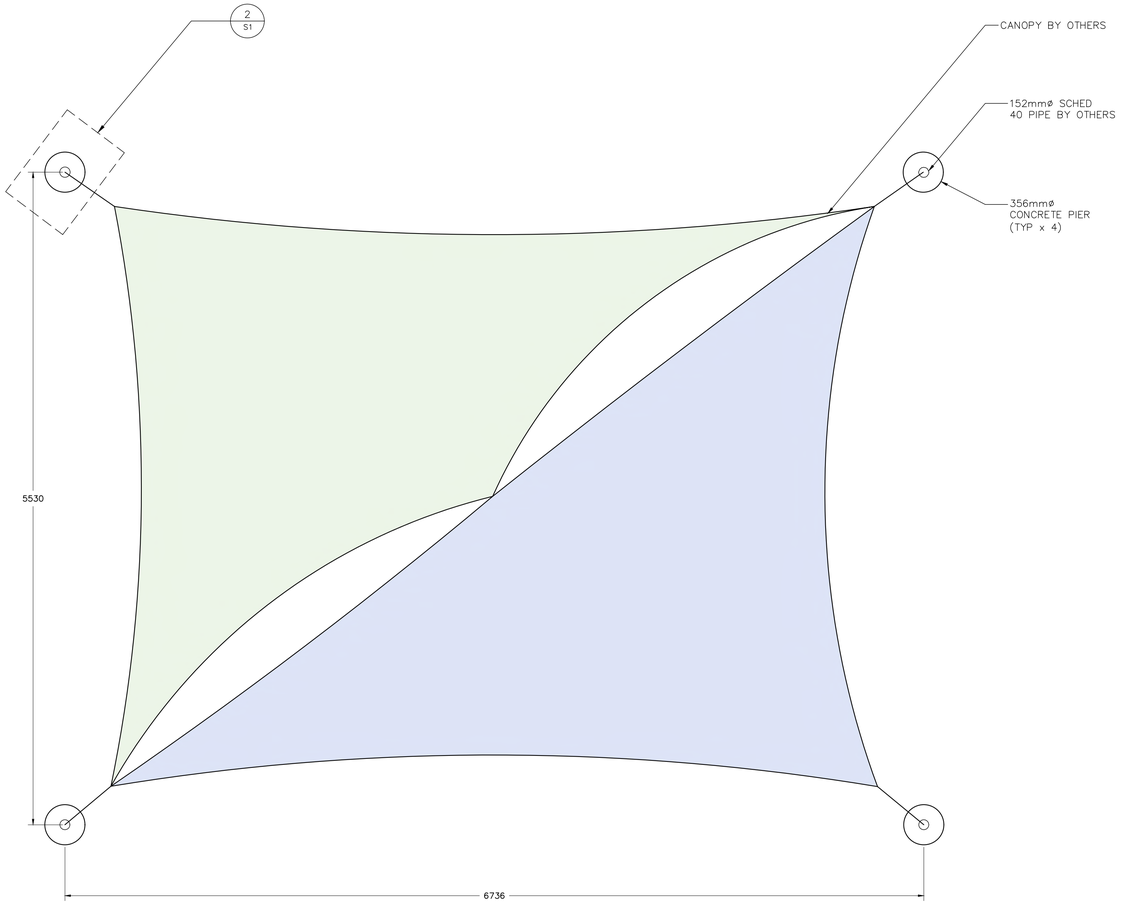
TBT ENGINEERING
CONSULTING GROUP
Phone: (866) 624-8378
E-mail: info@tbte.ca

SCATLIFF + MILLER + MURRAY

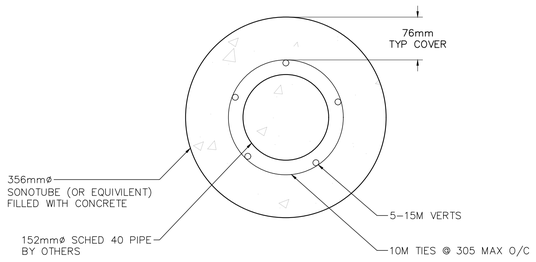
Kenora Ontario

CIVIL
AND STRUCTURAL
SPECIFICATIONS

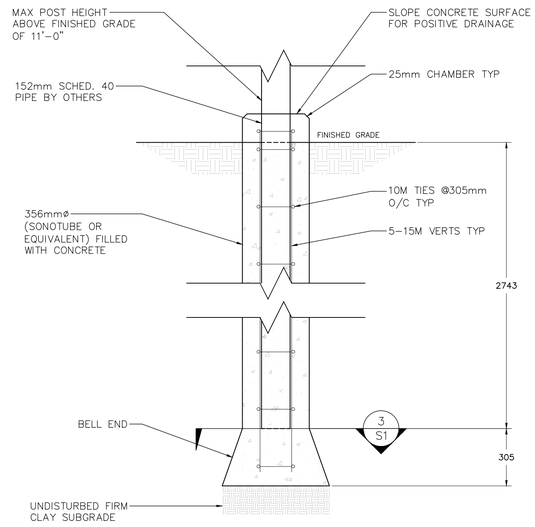
Scale:	Drawn By: VE/SI	Date:
AS NOTED	Ckd. By: JJ	DECEMBER, 2025
	Dwg. No.: 25-154-C6	Rev. 3



1 S1 CANOPY FOUNDATION PLAN
SCALE: NTS



3 S1 FOUNDATION PLAN
SCALE: NTS



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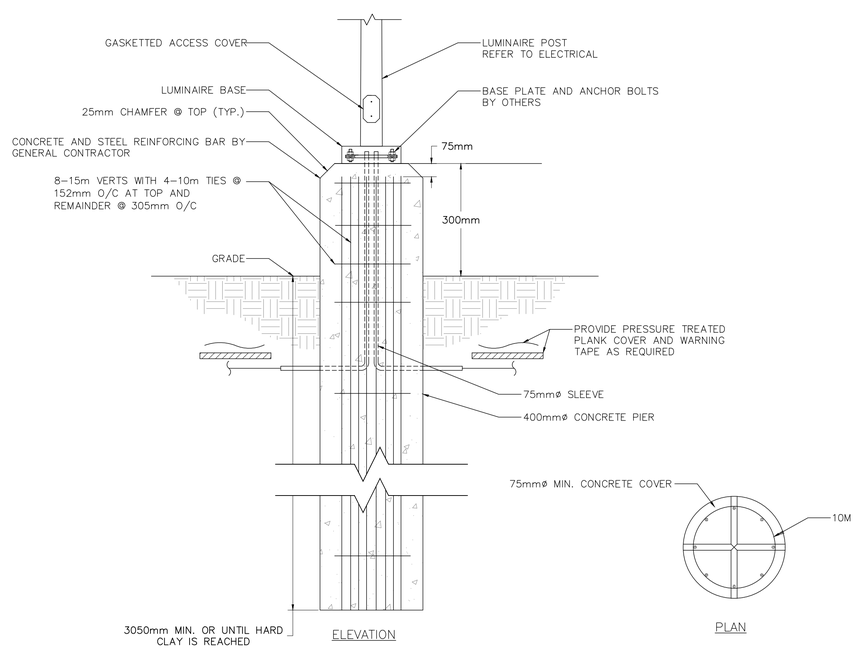
SCALE: NTS



1 S1 LIGHT STANDARD BASE DETAIL
SCALE: NTS

No.	Revision	Date	Initial
2	ISSUED FOR TENDER	DEC 18/25	AB
1	ISSUED FOR TENDER	MAY 13/25	AH

Notes:

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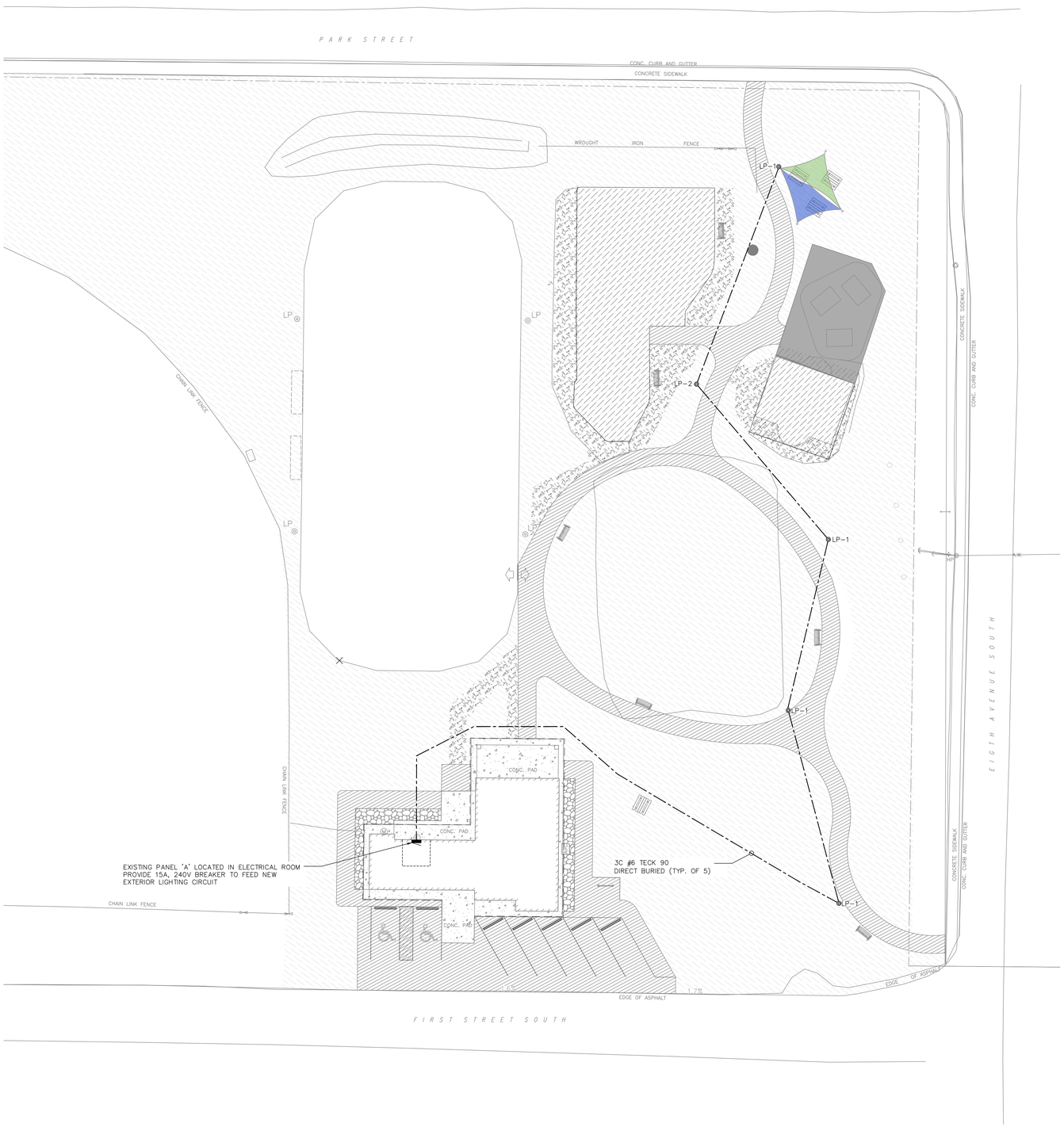
Approved	Approved
PRELIMINARY	

TBT ENGINEERING
CONSULTING GROUP
Phone: (866) 624-8378
E-mail: info@tbte.ca

SCATLIFF + MILLER + MURRAY
Kenora Ontario

STRUCTURAL
CANOPY FOUNDATION PLAN

Scale:	Drawn By: VE/SI	Date:
NTS	Ckd. By: AH	MAY, 2025
	Dwg. No.: 25-154-S1	Rev. 2



ELECTRICAL - SITE PLAN
SCALE: 1:250

LIGHTING SCHEDULE

TYPE	LOCATION	DESCRIPTION	MOUNTING	MAKE/MODEL	VOLTAGE	WATTAGE	LUMENS	COLOUR	REMARKS
LP-1	PATHWAY	LED AREA LIGHT AND POLE	POLE TOP MOUNT	LITHONIA LIGHTING P4 35K PATH MVOLT RADPT20 PE DBLXD	120-277/1ø	85	8,793	3500K	PROVIDE PRAIRIE POLE 4RS-12-HW-04" ROUND POLE BLACK FINISH AND 2-3/8" OD X 4" L TENON MOUNT
LP-2	PATHWAY	LED AREA LIGHT AND POLE	POLE TOP MOUNT	LITHONIA LIGHTING P4 35K ASY MVOLT RADPT20 PE DBLXD	120-277/1ø	85	10,742	3500K	PROVIDE PRAIRIE POLE 4RS-12-HW-04" ROUND POLE BLACK FINISH AND 2-3/8" OD X 4" L TENON MOUNT

ELECTRICAL

1. GENERAL
 1.1. ALL ELECTRICAL WORK TO BE COMPLETED BY A LICENSED ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE ONTARIO ELECTRICAL CODE. OBTAIN ELECTRICAL PERMIT AND INSPECTION.
 1.1. PROVIDE AND INSTALL A MEANS OF ELECTRICAL DISCONNECT AT EACH PIECE OF EQUIPMENT, AS REQUIRED BY CODE.
 1.2. PROVIDE ALL MATERIALS, LABOUR, PLANT AND EQUIPMENT NECESSARY TO MAKE A COMPLETE INSTALLATION AS DESCRIBED AND SHOWN. THIS INSTALLATION SHALL BE LEFT COMPLETE AND READY FOR OPERATION.
 1.3. THE INSTALLATION SHALL CONFORM IN EVERY RESPECT TO THE RULES AND REGULATIONS OF THE LATEST EDITION OF THE ONTARIO ELECTRICAL CODE.
 1.4. ALL WORK SHALL BE UNIFORM AND HIGH QUALITY. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND BUILT IN ACCORDANCE WITH EEMAC STANDARDS, SHALL BE CSA CERTIFIED. COMPONENTS MUST ALSO HAVE A CSA OR EQUIVALENT CERTIFICATION FOR THE ENTIRE ASSEMBLY. PROVIDE INSPECTION CERTIFICATE UPON COMPLETION OF THE WORK.
 1.5. OBTAIN ALL NECESSARY PERMITS, PAY ALL NECESSARY FEES, GIVE ALL NECESSARY NOTICES AND OBTAIN APPROVAL OF THE ELECTRICAL AUTHORITIES HAVING JURISDICTION.

2. WIRING METHOD
 2.1. FOR OUTDOOR BURIED WIRING USE TECK CONDUCTORS, UNLESS OTHERWISE SPECIFIED.
 2.2. ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG EXCEPT AS NOTED.

3. GROUNDING
 3.1. THE ENTIRE INSTALLATION SHALL BE GROUNDED IN CONFORMANCE TO THE LATEST EDITION OF THE ONTARIO ELECTRICAL CODE.
 3.2. ALL CONDUIT TO HAVE A SEPARATE INSULATED GROUND CONDUCTOR.

4. INSTALLATION OF PVC CONDUITS AND TECK CABLES IN TRENCHES
 4.1. CABLE PROTECTION
  4.1.1. 38X140MM PLANKS PRESSURE TREATED WITH COLOURED, NAPTHANATE OR 5% PENTACHLOROPHENOL SOLUTION, WATER REPELLENT REPRESENTATIVE.
 4.2. INSTALLATION OF CONDUITS
  4.2.1. AFTER SAND BED IS IN PLACE, INSTALL CONDUITS OR CABLES MAINTAINING 75MM CLEARANCE FROM EACH SIDE OF TRENCH.
  4.2.2. PROVIDE OFFSET FOR THERMAL ACTION AND MINOR EARTH MOVEMENTS.
  4.2.3. UNDERGROUND CABLE SPLICES NOT ACCEPTABLE.
  4.2.4. MAINTAIN 150MM MINIMUM SEPARATION BETWEEN CABLES OF DIFFERENT CIRCUITS. MAINTAIN 300MM HORIZONTAL SEPARATION BETWEEN LOW AND HIGH VOLTAGE CABLES. WHEN LOW VOLTAGE CABLES CROSS HIGH VOLTAGE CABLES MAINTAIN 300MM VERTICAL SEPARATION WITH LOW VOLTAGE CABLES IN UPPER POSITION. AT CROSSOVER, MAINTAIN 75MM MINIMUM VERTICAL SEPARATION BETWEEN LOW VOLTAGE CABLES AND 150MM BETWEEN HIGH VOLTAGE CABLES.
  4.2.5. AFTER SAND PROTECTIVE COVER IS IN PLACE, INSTALL CONTINUOUS ROW OF OVERLAPPING 38X140MM PRESSURE TREATED PLANKS AS INDICATED TO COVER LENGTH OF RUN.

5. CONDUITS AND CABLE
 5.1. DRAWINGS DO NOT INDICATE ALL CONDUIT AND CABLE RUNS. THOSE INDICATED ARE IN DIAGRAMMATIC FORM ONLY.
 5.2. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS INDICATED OTHERWSE.
 5.3. ALL CONDUITS SHALL HAVE SEPARATE INSULATED GREEN GROUND CONDUCTOR.

6. CONDUITS, FASTENINGS AND FITTINGS
 6.1. ONE HOLE STEEL STRAPS TO SECURE SURFACE CONDUITS 50MM AND SMALLER.
 6.2. FITTINGS FOR RACEWAYS: TO CSA C22.2 NO. 18.
 6.3. FITTINGS: MANUFACTURED FOR USE WITH CONDUIT SPECIFIED COATING SAME AS CONDUIT.
 6.4. FACTORY "ELLS" WHERE 90° BENDS ARE REQUIRED.

7. CONDUIT AND CABLE IDENTIFICATION
 7.1. COLOUR CODE CONDUITS, BOXES AND METALLIC SHEATHED CABLE.
 7.2. COLOUR CODING TO MATCH EXISTING WHERE APPLICABLE.
 7.3. CODE WITH PLASTIC TAPE OR PAINT AT POINTS WHERE CONDUIT OR CABLE ENTERS WALL, CEILING OR FLOOR AND AT 15M INTERVALS.
 7.4. COLOURS: 25MM WIDE PRIME COLOUR AND 200MM WIDE AUXILIARY COLOUR.

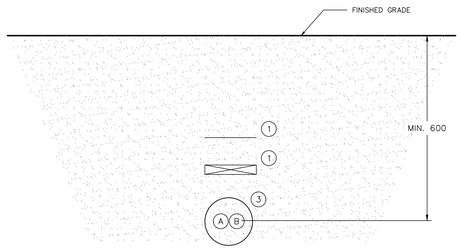
	PRIME
UP TO 250V (NORMAL POWER)	YELLOW

 7.5. OTHER CONDUIT SYSTEMS AS DIRECTED ON SITE; ALL CONDUIT SYSTEMS SHALL BE IDENTIFIED.

8. POWER DISTRIBUTION SYSTEM
 8.1. PROVIDE ALL BREAKERS, DISCONNECTS, CONDUCTORS AND ACCESSORIES REQUIRED FOR THE INSTALLATION OF PANELBOARDS AS INDICATED ON THE DRAWING AND IN THIS SPECIFICATION.
 8.2. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH ELECTRICAL GENERAL PROVISIONS.
 8.3. PANELBOARDS: MAINS, NUMBER OF CIRCUITS, AND NUMBER AND SIZE OF BRANCH CIRCUIT BREAKERS AS INDICATED.
 8.4. COMPLETE CIRCUIT DIRECTORY WITH TYPEWRITTEN LEGEND SHOWING LOCATION OF EACH CIRCUIT.

LEGEND

- LP — POLE MOUNTED LIGHT FIXTURE
- DISTRIBUTION PANEL
- BURIED ELECTRICAL CABLE AS INDICATED



1. MARKING TAPE IN ACCORDANCE WITH THE OESC
2. 38x150mm TREATED WOOD PLANKING IN ACCORDANCE WITH THE OESC
3. TECK 90 CONDUCTOR DIRECT BURIED. SIZE AS INDICATED

1 / E1 BURIED ELECTRICAL CABLE DETAIL
SCALE: NTS

No.	Revision	Date	Initial
2	ISSUED FOR TENDER	DEC 18/25	AB
1	ISSUED FOR TENDER	MAY 13/25	ZM

Notes:
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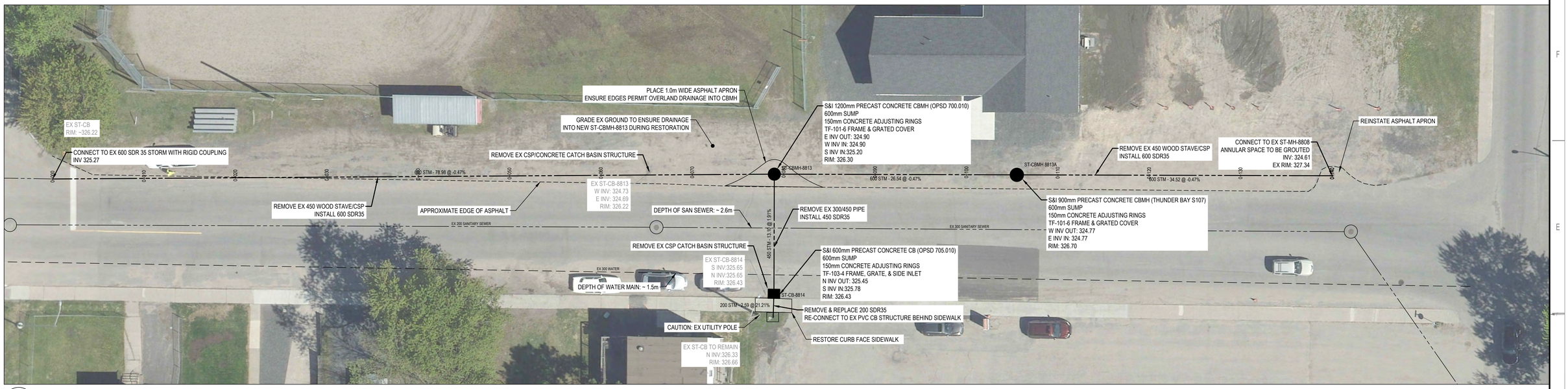
SCATLIFF + MILLER + MURRAY
Kenora Ontario

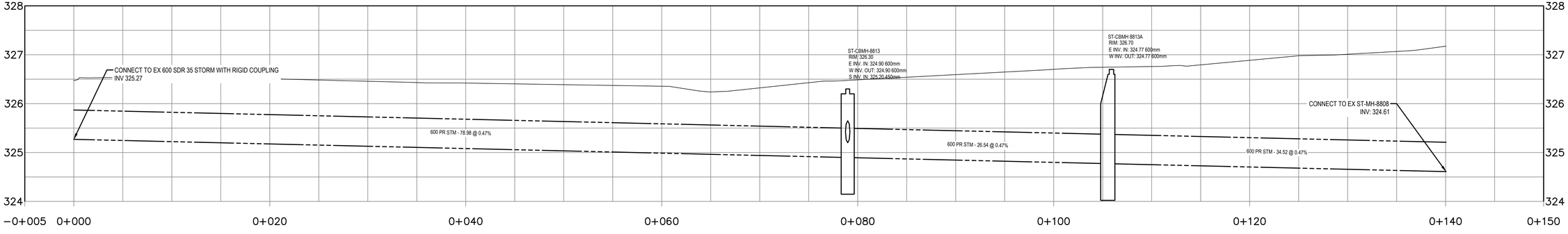
ELECTRICAL
SITE PLAN
AND SPECIFICATIONS

Scale:	Drawn By: VE/SI	Date:
1:250	Ckd. By: ZM	MAY. 2025
	Dwg. No.: 25-154-E1	Rev. 2



1/101 FIRST STREET SOUTH PLAN
1:200

FIRST STREET SOUTH STORM DESIGN PROFILE



2/101 FIRST STREET SOUTH PROFILE
1:200

GENERAL NOTES:

1. ALL WORK TO CONFORM WITH OPSS.MUNI STANDARDS.
2. UTILITIES SHOWN ARE APPROXIMATE ONLY, THE CITY OF KENORA AND ITS REPRESENTATIVES WILL NOT BE HELD ACCOUNTABLE FOR MISREPRESENTATION OF WATER AND SEWER SERVICES ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WORK WITH UTILITY PROVIDERS.
4. LOT LINES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE VERIFIED BY CONTRACTOR.
5. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
6. CONTRACTORS TO BE RESPONSIBLE FOR REINSTATING ANY REGULATORY, WARNING OR STREET SIGNS THAT ARE REMOVED DURING CONSTRUCTION. THE REINSTATMENT OF SIGNAGE SHALL BE DEEMED INCIDENTAL TO THE CONTRACT WORK.
7. EXISTING RESIDENTIAL PATHWAYS, STAIRS, RAMPS, DRIVEWAYS TO BE REINSTATED AND CONSIDERED INCIDENTAL TO THE WORKS.
8. SLOPES AND ELEVATIONS THAT ARE NOT IDENTIFIED ARE TO BE DETERMINED IN THE FIELD BY CITY OFFICIAL AND/OR CONTRACT ADMINISTRATOR.
9. ALL DISTURBED SURFACES TO BE RESTORED TO EQUAL OR BETTER CONDITION.

STORM WORKS:

1. REMOVED & REPLACED EXISTING MANHOLE FRAME AND COVERS TO BE SALVAGED AND TAKEN TO CITY OPERATIONS YARD.
2. ALL NEW STORM PIPES TO BE SDR35.
5. STORM CATCH BASIN LEADS ARE TO BE INSTALLED AT A MINIMUM 1% GRADE.
6. TRENCHING AND BACKFILLING TO BE AS PER OPSS.MUNI 401.
7. PIPE BEDDING MATERIAL TO BE GRANULAR 'A' AS PER OPSD 802.010.
8. PIPE COVER MATERIAL TO BE GRANULAR 'A' OR GRANULAR 'B' TYPE II AS PER OPSD 802.010.
9. CCTV AND MANDREL TESTING REQUIRED FOR ALL NEW STORM PIPE AT LEAST 30 CALENDAR DAYS AFTER BACKFILLING.
10. CONTRACTOR SHALL VERIFY ALL PIPE INVERTS IN THE FIELD.

SURFACE WORKS

1. EXISTING ASPHALT TO BE SAWCUT PRIOR TO REMOVAL.
2. REMOVED ASPHALT TO BE DELIVERED TO CITY OPERATIONS YARD.
3. ASPHALT RESTORATION TO BE 150mm GRANULAR 'A', 50mm HL4.

ISSUED FOR - REVISION:

IS	RE	DATE	DESCRIPTION
IFT	0	JANUARY 6, 2026	ISSUED FOR TENDER

APPROVAL:

PROJECT: FIRST STREET SOUTH STORM REPLACEMENT

DATE: JANUARY 2026

Lake of the Woods KENORA
60 FOURTEENTH STREET NORTH
ONTARIO, CANADA
P9N 4M9
PHONE: 807-467-2035 FAX: 807-467-2246
WWW.KENORA.CA

ORIGINAL SCALE: 1:200

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

TITLE: FIRST STREET SOUTH STORM REPLACEMENT PLAN

SHEET NUMBER: C101

SHEET #: 01 OF 01

DESIGNED BY: SS
DRAWN BY: SS
CHECKED BY: SS
DISCIPLINE: CIVIL

ISSUE: IFT
REV #: 0
DATE OF: 06/01/2026

CITY OF KENORA
INVITATION TO TENDER

ITT #711-001-24A

Appendix C
Proposed Contract

CCDC 2

CCDC 2

Stipulated Price Contract

2020

Central Park Greenspace Construction

Apply a CCDC 2 copyright seal here. The application of the seal demonstrates the intention of the party proposing the use of this document that it be an accurate and unamended form of CCDC 2 – 2020 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE

CCDC 2 STIPULATED PRICE CONTRACT

TABLE OF CONTENTS

CCDC 2 is the product of a consensus-building process aimed at balancing the interests of all parties on the construction project. It reflects recommended industry practices. The CCDC and its constituent member organizations do not accept any responsibility or liability for loss or damage which may be suffered as a result of the use or interpretation of CCDC 2.

AGREEMENT BETWEEN OWNER AND CONTRACTOR
For use when a stipulated price is the basis of payment.

This Agreement made on day of in the year 2026 .
by and between the parties

The Corporation of the City of Kenora

hereinafter called the "*Owner*"

and

hereinafter called the "*Contractor*"

The *Owner* and the *Contractor* agree as follows:

ARTICLE A-1 THE WORK

The *Contractor* shall:

1.1 perform the *Work* required by the *Contract Documents* for *(insert below the description or title of the Work)*

The completion of site development at the Central Community Club in Kenora, Ontario including grading, paving, drainage, supply and installation of a shade structure, lighting, sod and playground surfaces, and installation of owner-supplied playground equipment, as well as storm sewer reconstruction work along First Street South.

located at *(insert below the Place of the Work)*

Central Community Club
700 First Street South
Kenora, Ontario

for which the Agreement has been signed by the parties, and for which *(insert below the name of the Consultant)*

Scatliff + Miller + Murray Inc.

is acting as and is hereinafter called the "*Consultant*" and

1.2 do and fulfill everything indicated by the *Contract Documents*, and

1.3 commence the *Work* by the 1st day of April in the year 2026 and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Ready-for-Takeover*, by the 31st day of October in the year 2026 .

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 The *Contract* supersedes all prior negotiations, representations or agreements, either written or oral, relating in any manner to the *Work*, including the bid documents that are not expressly listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS.

2.2 The *Contract* may be amended only as provided in the *Contract Documents*.

ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the *Contract Documents* referred to in Article A-1 of the Agreement – THE WORK:

- Agreement between *Owner* and *Contractor*
- Definitions
- General Conditions
- *

The Invitation to Tender (ITT) package, ITT #711-001-24A Central Park Greenspace Construction issued January 6, 2026, shall form the basis of this agreement including:

- Appendix A: Tender Form
- Appendix B: Drawings
- Appendix C: Proposed Contract
- Appendix D: Supplementary Conditions
- Appendix E: Geotechnical Report

* *(Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical Specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; Drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date; time schedule)*

ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

/100 dollars $

4.2 *Value Added Taxes* (of 13 %) payable by the *Owner* to the *Contractor* are:

/100 dollars $

4.3 Total amount payable by the *Owner* to the *Contractor* for the *Work* is:

/100 dollars $

4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.

4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, the *Owner* shall:

.1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,

.2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment, and

.3 upon the issuance of the final certificate for payment, pay to the *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 Interest

.1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:

(1) 2% per annum above the prime rate for the first 60 days.

(2) 4% per annum above the prime rate after the first 60 days.

Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by

(Insert name of chartered lending institution whose prime rate is to be used)

Bank of Canada

for prime business loans as it may change from time to time.

.2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.2.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

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

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below.

6.2 The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

6.3 A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it will be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* will be deemed to have been received on the *Working Day* next following such day.

6.4 A *Notice in Writing* sent by any form of electronic communication will be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it will be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission thereof.

6.5 An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.

Owner

The Corporation of the City of Kenora

*name of Owner**

1 Main Street South
Kenora, ON P9N 3X2

address

gbreen@kenora.ca

email address

Contractor

*name of Contractor**

address

email address

Consultant

Scatliff + Miller + Murray Inc.

*name of Consultant**

Suite 1120, 11th Floor, 201 Portage Avenue
Winnipeg, MB R3B 3K6

address

ajohnson@scatliff.ca

email address

** If it is intended that a specific individual must receive the notice, that individual's name shall be indicated.*

ARTICLE A-7 LANGUAGE OF THE CONTRACT

7.1 When the *Contract Documents* are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English / ~~French~~ # language shall prevail.
 # Complete this statement by striking out inapplicable term.

7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

ARTICLE A-8 SUCCESSION

8.1 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and assigns.

In witness whereof the parties hereto have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED
in the presence of:

WITNESS

signature

name of person signing

OWNER

The Corporation of the City of Kenora

name of Owner

signature

name and title of person signing

WITNESS

signature

name of person signing

CONTRACTOR

name of Contractor

signature

name and title of person signing

N.B. *Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:*

(a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or

(b) the affixing of a corporate seal, this Agreement should be properly sealed.

DEFINITIONS

The following Definitions shall apply to all *Contract Documents*.

Change Directive

A *Change Directive* is a written instruction prepared by the *Consultant* and signed by the *Owner* directing the *Contractor* to proceed with a change in the *Work* within the general scope of the *Contract Documents* prior to the *Owner* and the *Contractor* agreeing upon adjustments in the *Contract Price* and the *Contract Time*.

Change Order

A *Change Order* is a written amendment to the *Contract* prepared by the *Consultant* and signed by the *Owner* and the *Contractor* stating their agreement upon:

- a change in the *Work*;
- the method of adjustment or the amount of the adjustment in the *Contract Price*, if any; and
- the extent of the adjustment in the *Contract Time*, if any.

Construction Equipment

Construction Equipment means all machinery and equipment, either operated or not operated, that is required for preparing, fabricating, conveying, erecting, or otherwise performing the *Work* but is not incorporated into the *Work*.

Consultant

The *Consultant* is the person or entity engaged by the *Owner* and identified as such in the Agreement. The *Consultant* is the Architect, the Engineer or entity licensed to practise in the province or territory of the *Place of the Work*.

Contract

The *Contract* is the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the *Contract Documents* and represents the entire agreement between the parties.

Contract Documents

The *Contract Documents* consist of those documents listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS and amendments agreed upon between the parties.

Contract Price

The *Contract Price* is the amount stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

Contract Time

The *Contract Time* is the time from commencement of the *Work* to the date of *Ready-for-Takeover* as stipulated in paragraph 1.3 of Article A-1 of the Agreement – THE WORK .

Contractor

The *Contractor* is the person or entity identified as such in the Agreement.

Drawings

The *Drawings* are the graphic and pictorial portions of the *Contract Documents*, wherever located and whenever issued, showing the design, location and dimensions of the *Work*, generally including plans, elevations, sections, details, and diagrams.

Notice in Writing

A *Notice in Writing*, where identified in the *Contract Documents*, is a written communication between the parties or between them and the *Consultant* that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

Owner

The *Owner* is the person or entity identified as such in the Agreement.

Other Contractor

Other Contractor means a contractor, other than the *Contractor* or a *Subcontractor*, engaged by the *Owner* for the *Project*.

Payment Legislation

Payment Legislation means such legislation in effect at the *Place of the Work* which governs payment under construction contracts.

Place of the Work

The *Place of the Work* is the designated site or location of the *Work* identified in the *Contract Documents*.

Product

Product or Products means material, machinery, equipment, and fixtures forming part of the *Work*, but does not include *Construction Equipment.*

Project

The *Project* means the total construction contemplated of which the *Work* may be the whole or a part.

Ready-for-Takeover

Ready-for-Takeover shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the *Consultant* pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER.

Shop Drawings

Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, *Product* data, and other data which the *Contractor* provides to illustrate details of portions of the *Work*.

Specifications

The *Specifications* are that portion of the *Contract Documents*, wherever located and whenever issued, consisting of the written requirements and standards for *Products*, systems, workmanship, quality, and the services necessary for the performance of the *Work*.

Subcontractor

A *Subcontractor* is a person or entity having a direct contract with the *Contractor* to perform a part or parts of the *Work* at the *Place of the Work*.

Substantial Performance of the Work

Substantial Performance of the Work is as defined in the lien legislation applicable to the *Place of the Work*.

Supplemental Instruction

A *Supplemental Instruction* is an instruction, not involving adjustment in the *Contract Price* or *Contract Time*, in the form of *Specifications*, *Drawings*, schedules, samples, models, or written instructions, consistent with the intent of the *Contract Documents*. It is to be issued by the *Consultant* to supplement the *Contract Documents* as required for the performance of the *Work*.

Supplier

A *Supplier* is a person or entity having a direct contract with the *Contractor* to supply *Products*.

Temporary Work

Temporary Work means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the execution of the *Work* but not incorporated into the *Work*.

Value Added Taxes

Value Added Taxes means such sum as shall be levied upon the *Contract Price* by the Federal or any Provincial or Territorial Government and is computed as a percentage of the *Contract Price* and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the *Contractor* by tax legislation.

Work

The *Work* means the total construction and related services required by the *Contract Documents*.

Working Day

Working Day means a day other than a Saturday, Sunday, statutory holiday, or statutory vacation day that is observed by the construction industry in the area of the *Place of the Work*.

GENERAL CONDITIONS

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS

1.1.1 The intent of the *Contract Documents* is to include the labour, *Products* and services necessary for the performance of the *Work* by the *Contractor* in accordance with these documents. It is not intended, however, that the *Contractor* shall supply products or perform work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.

1.1.2 The *Contract Documents* are complementary, and what is required by one shall be as binding as if required by all. Performance by the *Contractor* shall be required only to the extent consistent with the *Contract Documents*.

1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*.

1.1.4 The *Contractor* is not responsible for errors, omissions or inconsistencies in the *Contract Documents.* If there are perceived errors, omissions or inconsistencies discovered by or made known to the *Contractor*, the *Contractor* shall promptly report to the *Consultant* and shall not proceed with the work affected until the *Contractor* has received corrected or additional information from the *Consultant*.

1.1.5 If there is a conflict within the *Contract Documents*:

.1 the order of priority of documents, from highest to lowest, shall be

- the Agreement between *Owner* and *Contractor*,
- the Definitions,
- Supplementary Conditions,
- the General Conditions,
- Division 01 of the *Specifications*,
- technical *Specifications*,
- material and finishing schedules,
- the *Drawings*.

.2 *Drawings* of larger scale shall govern over those of smaller scale of the same date.

.3 dimensions shown on *Drawings* shall govern over dimensions scaled from *Drawings*.

.4 amended or later dated documents shall govern over earlier documents of the same type.

.5 noted materials and annotations shall govern over graphic indications.

1.1.6 Nothing contained in the *Contract Documents* shall create any contractual relationship between:

.1 the *Owner* and a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.

.2 the *Consultant* and the *Contractor*, a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.

1.1.7 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.

1.1.8 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.

1.1.9 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.

1.1.10 *Specifications*, *Drawings*, models, and copies thereof furnished by the *Consultant* are and shall remain the *Consultant*'s property, with the exception of the signed *Contract* sets, which shall belong to each party to the *Contract*. All *Specifications*, *Drawings* and models furnished by the *Consultant* are to be used only with respect to the *Work* and are not to be used on other work. These *Specifications*, *Drawings* and models are not to be copied or altered in any manner without the written authorization of the *Consultant*.

1.1.11 Physical models furnished by the *Contractor* at the *Owner*'s expense are the property of the *Owner*.

GC 1.2 LAW OF THE CONTRACT

1.2.1 The law of the *Place of the Work* shall govern the interpretation of the *Contract*.

GC 1.3 RIGHTS AND REMEDIES

1.3.1 Except as expressly provided in the *Contract Documents*, the duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

1.3.2 No action or failure to act by the *Owner*, the *Consultant* or the *Contractor* shall constitute a waiver of any right or duty afforded any of them under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

GC 1.4 ASSIGNMENT

1.4.1 Neither party to the *Contract* shall assign the *Contract* or a portion thereof without the written consent of the other, which consent shall not be unreasonably withheld.

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.1 AUTHORITY OF THE CONSULTANT

2.1.1 The *Consultant* will have authority to act on behalf of the *Owner* only to the extent provided in the *Contract Documents*, unless otherwise modified by written agreement as provided in paragraph 2.1.2.

2.1.2 The duties, responsibilities and limitations of authority of the *Consultant* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner*, the *Consultant* and the *Contractor*.

GC 2.2 ROLE OF THE CONSULTANT

2.2.1 The *Consultant* will provide administration of the *Contract* as described in the *Contract Documents*.

2.2.2 The *Consultant* will visit the *Place of the Work* at intervals appropriate to the progress of construction to become familiar with the progress and quality of the work and to determine if the *Work* is proceeding in general conformity with the *Contract Documents*.

2.2.3 If the *Owner* and the *Consultant* agree, the *Consultant* will provide at the *Place of the Work*, one or more project representatives to assist in carrying out the *Consultant*'s responsibilities. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in writing to the *Contractor*.

2.2.4 Based on the *Consultant*'s observations and evaluation of the *Contractor*'s applications for payment, the *Consultant* will determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement – PAYMENT, GC 5.3 – PAYMENT and GC 5.5 – FINAL PAYMENT.

2.2.5 The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor*'s failure to perform the *Work* in accordance with the *Contract Documents*.

2.2.6 Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, the *Consultant* will be, in the first instance, the interpreter of the requirements of the *Contract Documents*.

2.2.7 Matters in question relating to the performance of the *Work* or the interpretation of the *Contract Documents* shall be initially referred in writing to the *Consultant* by the party raising the question for interpretations and findings and copied to the other party.

2.2.8 Interpretations and findings of the *Consultant* shall be consistent with the intent of the *Contract Documents*. In making such interpretations and findings the *Consultant* will not show partiality to either the *Owner* or the *Contractor*.

2.2.9 The *Consultant*'s interpretations and findings will be given in writing to the parties within a reasonable time.

2.2.10 With respect to claims for a change in *Contract Price*, the *Consultant* will make findings as set out in GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

2.2.11 The *Consultant* will have authority to reject work which in the *Consultant*'s opinion does not conform to the requirements of the *Contract Documents*. Whenever the *Consultant* considers it necessary or advisable, the *Consultant* will have authority to require inspection or testing of work, whether or not such work is fabricated, installed or completed. However, neither the authority of the *Consultant* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Consultant* to the *Contractor*, *Subcontractors*, *Suppliers,* or their agents, employees, or other persons performing any of the *Work*.

2.2.12 During the progress of the *Work* the *Consultant* will furnish *Supplemental Instructions* to the *Contractor* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Consultant* and the *Contractor.*

2.2.13 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other submittals by the *Contractor*, in accordance with the *Contract Documents*.

2.2.14 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

2.2.15 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* and verify that *Ready-for-Takeover* has been attained.

2.2.16 All certificates issued by the *Consultant* will be to the best of the *Consultant*'s knowledge, information and belief. By issuing any certificate, the *Consultant* does not guarantee the *Work* is correct or complete.

2.2.17 The *Consultant* will receive and review written warranties and related documents required by the *Contract* and provided by the *Contractor* and will forward such warranties and documents to the *Owner* for the *Owner*'s acceptance.

2..2.18 If the *Consultant*'s engagement is terminated, the *Owner* shall immediately engage a *Consultant* against whom the *Contractor* makes no reasonable objection and whose duties and responsibilities under the *Contract Documents* will be that of the former *Consultant*.

GC 2.3 REVIEW AND INSPECTION OF THE WORK

2.3.1 The *Owner* and the *Consultant* shall have access to the *Work* at all times. The *Contractor* shall provide sufficient, safe and proper facilities at all times for the review of the *Work* by the *Consultant* and the inspection of the *Work* by authorized agencies. If parts of the *Work* are in preparation at locations other than the *Place of the Work*, the *Owner* and the *Consultant* shall be given access to such work whenever it is in progress.

2.3.2 If work is designated for tests, inspections or approvals in the *Contract Documents*, by the *Consultant*'s instructions, or by the laws or ordinances of the *Place of the Work*, the *Contractor* shall give the *Consultant* reasonable notification of when the work will be ready for review and inspection. The *Contractor* shall arrange for and shall give the *Consultant* reasonable notification of the date and time of inspections by other authorities.

2.3.3 The *Contractor* shall furnish promptly to the *Consultant* two copies of certificates and inspection reports relating to the *Work*.

2.3.4 If the *Contractor* covers, or permits to be covered, work that has been designated for special tests, inspections or approvals before such special tests, inspections or approvals are made, given or completed, the *Contractor* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and make good covering work at the *Contractor*'s expense.

2.3.5 The *Consultant* may order any portion or portions of the *Work* to be examined to confirm that such work is in accordance with the requirements of the *Contract Documents*. If the work is not in accordance with the requirements of the *Contract Documents*, the *Contractor* shall correct the work and pay the cost of examination and correction. If the work is in accordance with the requirements of the *Contract Documents*, the *Owner* shall pay the cost of examination and restoration.

2.3.6 The *Contractor* shall pay the cost of making any test or inspection, including the cost of samples required for such test or inspection, if such test or inspection is designated in the *Contract Documents* to be performed by the *Contractor* or is required by the laws or ordinances applicable to the *Place of the Work*.

2.3.7 The *Contractor* shall pay the cost of samples required for any test or inspection to be performed by others if such test or inspection is designated in the *Contract Documents*.

GC 2.4 DEFECTIVE WORK

2.4.1 The *Contractor* shall promptly correct defective work that has been rejected by the *Consultant* as failing to conform to the *Contract Documents* whether or not the defective work was incorporated in the *Work* or the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*.

2.4.2 The *Contractor* shall make good promptly *Other Contractors'* work destroyed or damaged by such corrections at the *Contractor*'s expense.

2.4.3 If in the opinion of the *Consultant* it is not expedient to correct defective work or work not performed as provided in the *Contract Documents*, the *Owner* may deduct from the amount otherwise due to the *Contractor* the difference in value between the work as performed and that called for by the *Contract Documents*. If the *Owner* and the *Contractor* do not agree on the difference in value, they shall refer the matter to the *Consultant* for a finding.

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

3.1.1 The *Contractor* shall have total control of the *Work* and shall effectively direct and supervise the *Work* so as to ensure conformity with the *Contract Documents*.

3.1.2 The *Contractor* shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the *Work* under the *Contract*.

GC 3.2 CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS

3.2.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to *Other Contractors* and to perform work with own forces.

3.2.2 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner*'s own forces, the *Owner* shall:

.1 provide for the co-ordination of the activities and work of *Other Contractors* and the *Owner*'s own forces with the *Work* of the *Contract*;

.2 enter into separate contracts with *Other Contractors* under conditions of contract which are compatible with the conditions of the *Contract*;

.3 ensure that insurance coverage is provided to the same requirements as are called for in GC 11.1 – INSURANCE and co-ordinate such insurance with the insurance coverage of the *Contractor* as it affects the *Work*; and

.4 take all reasonable precautions to avoid labour disputes or other disputes on the *Project* arising from the work of *Other Contractors* or the *Owner*'s own forces.

3.2.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner*'s own forces, the *Contractor* shall:

.1 afford the *Owner* and *Other Contractors* reasonable opportunity to store their products and execute their work;

.2 co-ordinate and schedule the *Work* with the work of *Other Contractors* or the *Owner*'s own forces that are identified in the *Contract Documents*;

.3 participate with *Other Contractors* and the *Owner* in reviewing their construction schedules when directed to do so; and

.4 report promptly to the *Consultant* in writing any apparent deficiencies in the work of *Other Contractors* or of the *Owner*'s own forces, where such work affects the proper execution of any portion of the *Work*, prior to proceeding with that portion of the *Work*.

3.2.4 Where a change in the *Work* is required as a result of the co-ordination and integration of the work of *Other Contractors* or *Owner*'s own forces with the *Work*, the changes shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

3.2.5 Disputes and other matters in question between the *Contractor* and *Other Contractors* shall be dealt with as provided in Part 8 of the General Conditions – DISPUTE RESOLUTION provided the *Other Contractors* have reciprocal obligations. The *Contractor* shall be deemed to have consented to arbitration of any dispute with any *Other Contractor* whose contract with the *Owner* contains a similar agreement to arbitrate. In the absence of *Other Contractors* having reciprocal obligations, disputes and other matters in question initiated by the *Contractor* against *Other Contractors* will be considered disputes and other matters in question between the *Contractor* and the *Owner*.

3.2.6 Should the *Owner*, the *Consultant*, *Other Contractors*, or anyone employed by them directly or indirectly be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 3.3 TEMPORARY WORK

3.3.1 The *Contractor* shall have the sole responsibility for the design, erection, operation, maintenance, and removal of *Temporary Work* unless otherwise specified in the *Contract Documents*.

3.3.2 The *Contractor* shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in paragraph 3.3.1 where required by law or by the *Contract Documents* and in all cases where such *Temporary Work* is of such a nature that professional engineering skill is required to produce safe and satisfactory results.

3.3.3 Notwithstanding the provisions of GC 3.1 – CONTROL OF THE WORK, paragraphs 3.3.1 and 3.3.2 or provisions to the contrary elsewhere in the *Contract Documents* where such *Contract Documents* include designs for *Temporary Work* or specify a method of construction in whole or in part, such designs or methods of construction shall be considered to be part of the design of the *Work* and the *Contractor* shall not be held responsible for that part of the design or the specified method of construction. The *Contractor* shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the *Work*.

GC 3.4 CONSTRUCTION SCHEDULE

3.4.1 The *Contractor* shall:

.1 prepare and submit to the *Owner* and the *Consultant* prior to the first application for payment, a construction schedule that indicates the timing of the major activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time*;

.2 monitor the progress of the *Work* relative to the construction schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and

.3 advise the *Consultant* of any revisions required to the schedule as the result of extensions of the *Contract Time* as provided in Part 6 of the General Conditions – CHANGES IN THE WORK.

GC 3.5 SUPERVISION

3.5.1 The *Contractor* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while the *Work* is being performed. The appointed representative shall not be changed except for valid reason.

3.5.2 The appointed representative shall represent the *Contractor* at the *Place of the Work*. Information and instructions provided by the *Consultant* to the *Contractor*'s appointed representative shall be deemed to have been received by the *Contractor*, except with respect to Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

GC 3.6 SUBCONTRACTORS AND SUPPLIERS

3.6.1 The *Contractor* shall preserve and protect the rights of the parties under the *Contract* with respect to work to be performed under subcontract, and shall:

.1 enter into contracts or written agreements with *Subcontractors* and *Suppliers* to require them to perform their work as provided in the *Contract Documents*;

.2 incorporate the applicable terms and conditions of the *Contract Documents* into all contracts or written agreements with *Subcontractors* and *Suppliers*; and

.3 be as fully responsible to the *Owner* for acts and omissions of *Subcontractors*, *Suppliers* and any persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.6.2 The *Contractor* shall indicate in writing, if requested by the *Owner*, those *Subcontractors* or *Suppliers* whose bids have been received by the *Contractor* which the *Contractor* would be prepared to accept for the performance of a portion of the *Work*. Should the *Owner* not object before signing the *Contract*, the *Contractor* shall employ those *Subcontractors* or *Suppliers* so identified by the *Contractor* in writing for the performance of that portion of the *Work* to which their bid applies.

3.6.3 The *Owner* may, for reasonable cause, at any time before the *Owner* has signed the *Contract*, object to the use of a proposed *Subcontractor* or *Supplier* and require the *Contractor* to employ one of the other subcontract bidders.

3.6.4 If the *Owner* requires the *Contractor* to change a proposed *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the difference occasioned by such required change.

3.6.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.

3.6.6 The *Owner*, through the *Consultant*, may provide to a *Subcontractor* or *Supplier* information as to the percentage of the *Subcontractor*'s or *Supplier*'s work which has been certified for payment.

GC 3.7 LABOUR AND PRODUCTS

3.7.1 The *Contractor* shall maintain good order and discipline among the *Contractor*'s employees engaged on the *Work* and employ only workers that are skilled in the tasks assigned.

3.7.2 The *Contractor* shall provide and pay for labour, *Products*, tools, *Construction Equipment*, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the *Work* in accordance with the *Contract*.

3.7.3 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*.

GC 3.8 SHOP DRAWINGS

3.8.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.

3.8.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in accordance with an agreed schedule, or in the absence of an agreed schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of *Other Contractors* or the *Owner*'s own forces.

3.8.3 The *Contractor* shall review all *Shop Drawings* before providing them to the *Consultant*. The *Contractor* represents by this review that:

.1 the *Contractor* has determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and

.2 the *Contractor* has checked and co-ordinated each *Shop Drawing* with the requirements of the *Work* and of the *Contract Documents*.

3.8.4 The *Consultant*'s review is for conformity to the design concept and for general arrangement only.

3.8.5 At the time of providing *Shop Drawings*, the *Contractor* shall expressly advise the *Consultant* in writing of any deviations in a *Shop Drawing* from the requirements of the *Contract Documents.* The *Consultant* shall indicate the acceptance or rejection of such deviation expressly in writing.

3.8.6 The *Consultant*'s review shall not relieve the *Contractor* of responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents*.

3.8.7 The *Consultant* will review and return *Shop Drawings* in accordance with the schedule agreed upon, or, in the absence of such schedule, with reasonable promptness so as to cause no delay in the performance of the *Work*.

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Contract Documents*. The scope of the *Work* or costs included in such cash allowances shall be as described in the *Contract Documents*.

4.1.2 The *Contract Price*, and not the cash allowances, includes the *Contractor*'s overhead and profit in connection with such cash allowances.

4.1.3 Expenditures under cash allowances shall be authorized by the *Owner* through the *Consultant*.

4.1.4 Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.

4.1.5 The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.

4.1.6 The value of the *Work* performed under a cash allowance is eligible to be included in progress payments.

4.1.7 The *Contractor* and the *Consultant* shall jointly prepare a schedule that shows when the items called for under cash allowances must be ordered to avoid delaying the progress of the *Work*.

GC 4.2 CONTINGENCY ALLOWANCE

4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Contract Documents*.

4.2.2 The contingency allowance includes the *Contractor*'s overhead and profit in connection with such contingency allowance.

4.2.3 Expenditures under the contingency allowance shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

4.2.4 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the expenditures authorized under paragraph 4.2.3 and the contingency allowance.

PART 5 PAYMENT

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

5.1.1 The *Owner* shall, at the request of the *Contractor*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Contractor* reasonable evidence that financial arrangements have been made to fulfill the *Owner*'s obligations under the *Contract*.

5.1.2 The *Owner* shall give the *Contractor Notice in Writing* of any material change in the *Owner*'s financial arrangements to fulfil the *Owner*'s obligations under the *Contract* during the performance of the *Contract*.

GC 5.2 APPLICATIONS FOR PAYMENT

5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT shall be submitted monthly to the *Owner* and the *Consultant* simultaneously as the *Work* progresses.

5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties.

5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.

5.2.4 The *Contractor* shall submit to the *Consultant*, at least 15 calendar days before the first application for payment, a schedule of values for the parts of the *Work*, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of applications for payment.

5.2.5 The schedule of values shall be made out in such form as specified in the *Contract* and supported by such evidence as the *Consultant* may reasonably require.

5.2.6 Applications for payment shall be based on the schedule of values accepted by the *Consultant* and shall comply with the provisions of *Payment Legislation*.

5.2.7 Each application for payment shall include evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.

5.2.8 Applications for payment for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall be supported by such evidence as the *Consultant* may reasonably require to establish the value and delivery of the *Products*.

GC 5.3 PAYMENT

5.3.1 After receipt by the *Consultant* and the *Owner* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 – APPLICATIONS FOR PAYMENT:

.1 The *Consultant* will issue to the *Owner* and copy to the *Contractor*, no later than 10 calendar days after the receipt of the application for payment, a certificate for payment in the amount applied for, or in such other amount as the *Consultant* determines to be properly due. If the *Consultant* certifies a different amount, or rejects the application or part thereof, the *Owner* shall promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.

.2 The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 28 calendar days after the receipt by the *Owner* and the *Consultant* of the application for payment, and in any event, in compliance with *Payment Legislation*.

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

5.4.1 The *Consultant* will review the *Work* to certify or verify the validity of the application for *Substantial Performance of the Work* and will promptly, and in any event, no later than 20 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*.

5.4.2 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*.

5.4.3 Subject to the requirements of any *Payment Legislation*, all holdback amount prescribed by the applicable lien legislation for 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*.

5.4.4 The *Contractor* shall submit an application for payment of the lien holdback amount in accordance with GC 5.3 – PAYMENT.

5.4.5 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, such portion to the *Contractor* in accordance with such legislation.

5.4.6 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 and 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

5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.

5.5.2 The *Consultant* will, no later than 10 calendar days after the receipt of an application from the *Contractor* for final payment, review the *Work* to verify the validity of the application and when the *Consultant* finds the *Contractor*'s application for final payment valid, the *Consultant* will promptly issue a final certificate for payment to the *Owner,* with a copy to the *Contractor*.

5.5.3 If the *Consultant* rejects the application or part thereof, the *Owner* will promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.

5.5.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any legislation applicable to the *Place of the Work*, the *Owner* shall, no later than 5 calendar days after the issuance of a final certificate for payment, pay the *Contractor* as provided in Article A-5 of the Agreement – PAYMENT and in any event, in compliance with *Payment Legislation*.

GC 5.6 DEFERRED WORK

5.6.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, or if the *Owner* and the *Contractor* agree that, there are items of work that must be deferred, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such deferred *Work*.

GC 5.7 NON-CONFORMING WORK

5.7.1 No payment by the *Owner* under the *Contract* nor partial or entire use or occupancy of the *Work* by the *Owner* shall constitute an acceptance of any portion of the *Work* or *Products* which are not in accordance with the requirements of the *Contract Documents*.

PART 6 CHANGES IN THE WORK

GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

6.1.1 The *Owner*, through the *Consultant*, without invalidating the *Contract*, may make:
.1 changes in the *Work* consisting of additions, deletions or other revisions to the *Work* by *Change Order* or *Change Directive*, and
.2 changes to the *Contract Time* for the *Work*, or any part thereof, by *Change Order*.

6.1.2 The *Contractor* shall not perform a change in the *Work* without a *Change Order* or a *Change Directive*.

GC 6.2 CHANGE ORDER

6.2.1 When a change in the *Work* is proposed or required, the *Consultant* will provide the *Contractor* with a written description of the proposed change in the *Work*. The *Contractor* shall promptly present to the *Consultant*, in a form that can be reasonably evaluated, a method of adjustment or an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change in the *Work*.

6.2.2 When the *Owner* and the *Contractor* agree to the adjustments in the *Contract Price* and *Contract Time* or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a *Change Order*. The value of the work performed as the result of a *Change Order* shall be included in the applications for progress payment.

GC 6.3 CHANGE DIRECTIVE

6.3.1 If the *Owner* requires the *Contractor* to proceed with a change in the *Work* prior to the *Owner* and the *Contractor* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner*, through the *Consultant*, shall issue a *Change Directive*.

6.3.2 A *Change Directive* shall only be used to direct a change in the *Work* which is within the general scope of the *Contract Documents*.

6.3.3 A *Change Directive* shall not be used to direct a change in the *Contract Time* only.

6.3.4 Upon receipt of a *Change Directive*, the *Contractor* shall proceed promptly with the change in the *Work*.

6.3.5 For the purpose of valuing *Change Directives*, changes in the *Work* that are not substitutions or otherwise related to each other shall not be grouped together in the same *Change Directive*.

6.3.6 The adjustment in the *Contract Price* for a change carried out by way of a *Change Directive* shall be determined on the basis of the cost of the *Contractor*'s actual expenditures and savings attributable to the *Change Directive*, valued in accordance with paragraph 6.3.7 and as follows:

.1 If the change results in a net increase in the *Contractor*'s cost, the *Contract Price* shall be increased by the amount of the net increase in the *Contractor*'s cost, plus the *Contractor*'s percentage fee on such net increase.

.2 If the change results in a net decrease in the *Contractor*'s cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Contractor*'s cost, without adjustment for the *Contractor*'s percentage fee.

.3 The *Contractor*'s fee shall be as specified in the *Contract Documents* or as otherwise agreed by the parties.

6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the *Change Directive*:

Labour

.1 rates that are listed in the schedule or as agreed by the *Owner* and the *Contractor* including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan for:

(1) trade labour in the direct employ of the *Contractor*;

(2) the *Contractor*'s personnel when stationed at the field office;

(3) the *Contractor*'s personnel engaged at shops or on the road, in expediting the production or transportation of materials or equipment; and

(4) the *Contractor*'s office personnel engaged in a technical capacity, or other personnel identified in Article A-3 of the Agreement – CONTRACT DOCUMENTS for the time spent in the performance of the *Work*;

Products, Construction Equipment and Temporary Work

.2 cost of all *Products* including cost of transportation thereof;

.3 in the absence of agreed rates, cost less salvage value of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under $1,000 owned by the *Contractor*;

.4 rental cost of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under $1,000;

.5 cost of all equipment and services required for the *Contractor*'s field office;

Subcontract

.6 subcontract amounts of Subcontractor with pricing mechanism approved by the *Owner*;

Others

.7 travel and subsistence expenses of the *Contractor*'s personnel described in paragraph 6.3.7.1;

.8 deposits lost provided that they are not caused by negligent acts or omissions of the *Contractor*;

.9 cost of quality assurance such as independent inspection and testing services;

.10 charges levied by authorities having jurisdiction at the *Place of the Work*;

.11 royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor*'s obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES;

.12 premium for all contract securities and insurance for which the *Contractor* is required, by the *Contract Documents*, to provide, maintain and pay in relation to the performance of the *Work*;

.13 losses and expenses sustained by the *Contractor* for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts;

.14 taxes and duties, other than *Value Added Taxes*, income, capital, or property taxes, relating to the *Work* for which the *Contractor* is liable;

.15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;

.16 cost for removal and disposal of waste products and debris;

.17 legal costs, incurred by the *Contractor*, in relation to the performance of the *Work* provided that they are not:

(1) relating to a dispute between the *Owner* and the *Contractor* unless such costs are part of a settlement or awarded by arbitration or court,

(2) the result of the negligent acts or omissions of the *Contractor*, or

(3) the result of a breach of this *Contract* by the *Contractor*;

.18 cost of auditing when requested by the *Owner*; and

.19 cost of *Project* specific information technology in accordance with the method determined by the parties.

6.3.8 Notwithstanding any other provisions contained in the General Conditions of the *Contract*, it is the intention of the parties that the cost of any item under any cost element referred to in paragraph 6.3.7 shall cover and include any and all costs or liabilities attributable to the *Change Directive* other than those which are the result of or occasioned by any failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor*'s attention to the *Work*. Any cost due to failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor*'s performance of the *Work* attributable to the *Change Directive* shall be borne by the *Contractor*.

6.3.9 The *Contractor* shall keep full and detailed accounts and records necessary for the documentation of the cost of performing the *Work* attributable to the *Change Directive* and shall provide the *Consultant* with copies thereof.

6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Contractor*'s pertinent documents related to the cost of performing the *Work* attributable to the *Change Directive*.

6.3.11 Pending determination of the final amount of a *Change Directive*, the undisputed value of the *Work* performed as the result of a *Change Directive* is eligible to be included in progress payments.

6.3.12 If the *Owner* and the *Contractor* do not agree on the proposed adjustment in the *Contract Time* attributable to the change in the *Work*, or the method of determining it, the adjustment shall be referred to the *Consultant* for a finding.

6.3.13 When the *Owner* and the *Contractor* reach agreement on the adjustment to the *Contract Price* and to the *Contract Time*, this agreement shall be recorded in a *Change Order*.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

6.4.1 If the *Owner* or the *Contractor* discover conditions at the *Place of the Work* which are:

.1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Work* and differ materially from those indicated in the *Contract Documents*; or

.2 physical conditions, other than conditions due to weather, that are of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the *Contract Documents*,

then the observing party shall give *Notice in Writing* to the other party of such conditions before they are disturbed and in no event later than 5 *Working Days* after first observance of the conditions.

6.4.2 The *Consultant* will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially and this would cause an increase or decrease in the *Contractor*'s cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

6.4.3 If the *Consultant* finds that the conditions at the *Place of the Work* are not materially different or that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* will promptly inform the *Owner* and the *Contractor* in writing.

6.4.4 If such concealed or unknown conditions relate to toxic and hazardous substances and materials, artifacts and fossils, or mould, the parties will be governed by the provisions of GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES, GC 9.3 – ARTIFACTS AND FOSSILS and GC 9.5 – MOULD.

GC 6.5 DELAYS

6.5.1 If the *Contractor* is delayed in the performance of the *Work* by the *Owner*, the *Consultant*, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.

6.5.2 If the *Contractor* is delayed in the performance of the *Work* by a stop work order issued by a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or any person employed or engaged by the *Contractor* directly or indirectly, resulting in the failure of the *Contractor* to attain *Ready-for-Takeover* by the date stipulated in Article A-1 of the Agreement – THE WORK, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.

6.5.3 If the *Contractor* is delayed in the performance of the *Work* by:

.1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the *Contractor* is a member or to which the *Contractor* is otherwise bound),

.2 fire, unusual delay by common carriers or unavoidable casualties,

.3 abnormally adverse weather conditions, or

.4 any cause beyond the *Contractor*'s control other than one resulting from a default or breach of *Contract* by the *Contractor*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, the *Consultant* or anyone employed or engaged by them directly or indirectly.

6.5.4 No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Consultant* not later than 10 *Working Days* after the commencement of the delay. In the case of a continuing cause of delay only one *Notice in Writing* shall be necessary.

6.5.5 If no schedule is made under paragraph 2.2.12 of GC 2.2 – ROLE OF THE CONSULTANT, then no request for extension shall be made because of failure of the *Consultant* to furnish instructions until 10 *Working Days* after demand for such instructions has been made.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim against the *Contractor* for a credit to the *Contract Price*, the party that intends to make the claim shall give timely *Notice in Writing* of intent to claim to the other party and to the *Consultant*.

6.6.2 Upon commencement of the event or series of events giving rise to a claim, the party intending to make the claim shall:
.1 take all reasonable measures to mitigate any loss or expense which may be incurred as a result of such event or series of events, and
.2 keep such records as may be necessary to support the claim.

6.6.3 The party making the claim shall submit within a reasonable time to the *Consultant* a detailed account of the amount claimed and the grounds upon which the claim is based and the *Consultant* will make a finding upon such claim.

6.6.4 Where the event or series of events giving rise to the claim has a continuing effect, the detailed account submitted under paragraph 6.6.3 shall be considered to be an interim account and the party making the claim shall, at such intervals as the *Consultant* may reasonably require, submit further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.

6.6.5 The *Consultant's* findings, with respect to a claim made by either party, will be given by *Notice in Writing* to both parties within 30 *Working Days* after receipt of the claim by the *Consultant*, or within such other time period as may be agreed by the parties.

6.6.6 If such finding is not acceptable to either party, the claim shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION.

PART 7 DEFAULT NOTICE

GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

7.1.1 If the *Contractor* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Contractor*'s insolvency, or if a receiver is appointed because of the *Contractor*'s insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Contractor*'s right to continue with the *Work*, by giving the *Contractor* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.

7.1.2 If the *Contractor* neglects to perform the *Work* properly or otherwise fails to comply with the requirements of the *Contract* to a substantial degree and if the *Consultant* has given a written statement to the *Owner* and *Contractor* which provides the detail of such neglect to perform the *Work* properly or such failure to comply with the requirements of the *Contract* to a substantial degree, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Contractor Notice in Writing*, containing particulars of the default including references to applicable provisions of the *Contract*, that the *Contractor* is in default of the *Contractor*'s contractual obligations and instruct the *Contractor* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.

7.1.3 If the default cannot be corrected in the 5 *Working Days* specified or in such other time period as may be subsequently agreed in writing by the parties, the *Contractor* shall be in compliance with the *Owner*'s instructions if the *Contractor*:
.1 commences the correction of the default within the specified time,
.2 provides the *Owner* with an acceptable schedule for such correction, and
.3 corrects the default in accordance with the *Contract* terms and with such schedule.

7.1.4 If the *Contractor* fails to correct the default in the time specified or in such other time period as may be subsequently agreed in writing by the parties, without prejudice to any other right or remedy the *Owner* may have, the *Owner* may by giving *Notice in Writing*:

.1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* for the *Work* provided the *Consultant* has certified such cost to the *Owner* and the *Contractor*, or

.2 terminate the *Contractor*'s right to continue with the *Work* in whole or in part or terminate the *Contract*.

7.1.5 If the *Owner* terminates the *Contractor*'s right to continue with the *Work* as provided in paragraphs 7.1.1 and 7.1.4, the *Owner* shall be entitled to:

.1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense,

.2 withhold further payment to the *Contractor* until a final certificate for payment is issued,

.3 charge the *Contractor* the amount by which the full cost of finishing the *Work* as certified by the *Consultant*, including compensation to the *Consultant* for the *Consultant*'s additional services and a reasonable allowance as determined by the *Consultant* to cover the cost of corrections to work performed by the *Contractor* that may be required under GC 12.3 – WARRANTY, exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference, and

.4 on expiry of the warranty period, charge the *Contractor* the amount by which the cost of corrections to the *Contractor*'s work under GC 12.3 – WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Contractor* the difference.

7.1.6 The *Contractor*'s obligation under the *Contract* as to quality, correction and warranty of the work performed by the *Contractor* up to the time of termination shall continue in force after such termination of the *Contract*.

GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

7.2.1 If the *Owner* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Owner*'s insolvency, or if a receiver is appointed because of the *Owner*'s insolvency, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.

7.2.2 If the *Work* is suspended or otherwise delayed for a period of 20 *Working Days* or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or of anyone directly or indirectly employed or engaged by the *Contractor*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner Notice in Writing* to that effect.

7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner*'s contractual obligations if:

.1 the *Owner* fails to furnish, when so requested by the *Contractor*, reasonable evidence that financial arrangements have been made to fulfill the *Owner*'s obligations under the *Contract*,

.2 the *Consultant* fails to issue a certificate as provided in Part 5 of the General Conditions – PAYMENT,

.3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, or

.4 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, gives a written statement to the *Owner* and the *Contractor* that provides detail of such failure to comply with the requirements of the *Contract* to a substantial degree.

7.2.4 The *Contractor*'s *Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* or terminate the *Contract*.

7.2.5 If the *Contractor* terminates the *Contract* by giving a *Notice in Writing* to the *Owner* under the conditions set out above, the *Contractor* shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*.

PART 8 DISPUTE RESOLUTION

GC 8.1 AUTHORITY OF THE CONSULTANT

8.1.1 Differences between the parties to the *Contract* as to the interpretation, application or administration of the *Contract* or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved

in the first instance by findings of the *Consultant* as provided in GC 2.2 – ROLE OF THE CONSULTANT, shall be settled in accordance with the requirements of Part 8 of the General Conditions – DISPUTE RESOLUTION.

8.1.2 If a dispute arises under the *Contract* in respect of a matter in which the *Consultant* has no authority under the *Contract* to make a finding, the procedures set out in paragraph 8.1.3 and paragraphs 8.3.3 to 8.3.8 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.4 – RETENTION OF RIGHTS apply to that dispute with the necessary changes to detail as may be required.

8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instructions as in the *Consultant*'s opinion are necessary for the proper performance of the *Work* and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim the party may have. If it is subsequently determined that such instructions were in error or at variance with the *Contract Documents*, the *Owner* shall pay the *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Work*.

GC 8.2 ADJUDICATION

8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be prescribed by applicable legislation.

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

8.3.1 In accordance with the rules for mediation as provided in CCDC 40 'Rules for Mediation and Arbitration of Construction Industry Disputes' in effect at the time of bid closing, the parties shall appoint a Project Mediator
.1 within 20 *Working Days* after the *Contract* was awarded, or
.2 if the parties neglected to make an appointment within the 20 *Working Days*, within 10 *Working Days* after either party by *Notice in Writing* requests that the Project Mediator be appointed.

8.3.2 A party shall be conclusively deemed to have accepted a finding of the *Consultant* under GC 2.2 – ROLE OF THE CONSULTANT and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*. The responding party shall send a *Notice in Writing* of reply to the dispute within 10 *Working Days* after receipt of such *Notice in Writing* setting out particulars of this response and any relevant provisions of the *Contract Documents*.

8.3.3 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, frank, candid, and timely disclosure of relevant facts, information and documents to facilitate these negotiations.

8.3.4 After a period of 10 *Working Days* following receipt of a responding party's *Notice in Writing* of reply under paragraph 8.3.2, the parties shall request the Project Mediator to assist the parties to reach agreement on any unresolved dispute. The mediated negotiations shall be conducted in accordance with the rules for mediation as provided in CCDC 40 in effect at the time of bid closing.

8.3.5 If the dispute has not been resolved at the mediation or within such further period as is agreed by the parties, the Project Mediator will terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.

8.3.6 By giving a *Notice in Writing* to the other party and the *Consultant*, not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may refer the dispute to be finally resolved by arbitration under the rules of arbitration as provided in CCDC 40 in effect at the time of bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.

8.3.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.3.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.3.6 within the required time, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.

8.3.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.3.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.3.6 shall be:
.1 held in abeyance until:
(1) *Ready-for-Takeover*,
(2) the *Contract* has been terminated, or
(3) the *Contractor* has abandoned the *Work*,
whichever is earlier; and

.2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.3.6.

GC 8.4 RETENTION OF RIGHTS

8.4.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the *Notice in Writing* required under Part 8 of the General Conditions – DISPUTE RESOLUTION and has carried out the instructions as provided in paragraph 8.1.3 of GC 8.1 – AUTHORITY OF THE CONSULTANT.

8.4.2 Nothing in Part 8 of the General Conditions – DISPUTE RESOLUTION shall be construed in any way to limit a party from asserting any statutory right to a lien under applicable lien legislation of the jurisdiction of the *Place of the Work* and the assertion of such right by initiating judicial proceedings is not to be construed as a waiver of any right that party may have under paragraph 8.3.6 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

9.1.1 The *Contractor* shall protect the *Work*, the *Owner*'s property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Contractor*'s operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
.1 errors or omissions in the *Contract Documents*; or
.2 acts or omissions by the *Owner*, the *Consultant*, *Other Contractors*, or their agents and employees.

9.1.2 Before commencing any work, the *Contractor* shall determine the location of all underground utilities and structures indicated in the *Contract Documents* or that are reasonably apparent in an inspection of the *Place of the Work*.

9.1.3 Should the *Contractor* in the performance of the *Contract* damage the *Work*, the *Owner*'s property or property adjacent to the *Place of the Work*, the *Contractor* shall be responsible for making good such damage at the *Contractor*'s expense.

9.1.4 Should damage occur to the *Work* or the *Owner*'s property for which the *Contractor* is not responsible, as provided in paragraph 9.1.1, the *Contractor* shall make good such damage to the *Work* and, if the *Owner* so directs, to the *Owner*'s property. The *Contract Price* and *Contract Time* shall be adjusted as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

9.2.1 For the purposes of applicable legislation related to toxic and hazardous substances, the *Owner* shall be deemed to have control and management of the *Place of the Work* with respect to existing conditions.

9.2.2 Prior to the *Contractor* commencing the *Work*, the *Owner* shall,
.1 take all reasonable steps to determine whether any toxic or hazardous substances are present at the *Place of the Work*, and
.2 provide the *Consultant* and the *Contractor* with a written list of any such substances that are known to exist and their locations.

9.2.3 The *Owner* shall take all reasonable steps to ensure that no person's exposure to any toxic or hazardous substance exceeds the time weighted levels prescribed by applicable legislation at the *Place of the Work* and that no property is damaged or destroyed as a result of exposure to, or the presence of, toxic or hazardous substances which were at the *Place of the Work* prior to the *Contractor* commencing the *Work*.

9.2.4 Unless the *Contract* expressly provides otherwise, the *Owner* shall be responsible for taking all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to dispose of, store or otherwise render harmless any toxic or hazardous substance which was present at the *Place of the Work* prior to the *Contractor* commencing the *Work*.

9.2.5 If the *Contractor*
.1 encounters toxic or hazardous substances at the *Place of the Work*, or
.2 has reasonable grounds to believe that toxic or hazardous substances are present at the *Place of the Work*,
which were not brought to the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible and which were not disclosed by the *Owner* or which were disclosed but have not been dealt with as required under paragraph 9.2.4, the *Contractor* shall
.3 take all reasonable steps, including stopping the *Work*, to ensure that no person's exposure to any toxic or hazardous substance exceeds any applicable time weighted levels prescribed by applicable legislation at the *Place of the Work*, and
.4 immediately report the circumstances to the *Consultant* and the *Owner* in writing.

9.2.6 If the *Owner* and the *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.

9.2.7 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were not brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall promptly at the *Owner's* own expense:

.1 take all steps as required under paragraph 9.2.4;

.2 reimburse the *Contractor* for the costs of all steps taken pursuant to paragraph 9.2.5;

.3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in 9.2.6 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay; and

.4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.

9.2.8 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Contractor* shall promptly at the *Contractor's* own expense:

.1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;

.2 make good any damage to the *Work*, the *Owner*'s property or property adjacent to the place of the *Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY;

.3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and

.4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.

9.2.9 If either party does not accept the expert's findings under paragraph 9.2.6, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraph 9.2.7 or 9.2.8 it being understood that by so doing, neither party will jeopardize any claim that party may have to be reimbursed as provided by GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

GC 9.3 ARTIFACTS AND FOSSILS

9.3.1 Fossils, coins, articles of value or antiquity, structures and other remains or things of scientific or historic interest discovered at the *Place or Work* shall, as between the *Owner* and the *Contractor*, be deemed to be the absolute property of the *Owner*.

9.3.2 The *Contractor* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Consultant* upon discovery of such items.

9.3.3 The *Consultant* will investigate the impact on the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

GC 9.4 CONSTRUCTION SAFETY

9.4.1 The *Contractor* shall be responsible for establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work* in accordance with the applicable health and safety legislation.

9.4.2 The *Owner* and the *Contractor* shall comply with all health and safety precautions and programs established at the *Place of the Work*.

9.4.3 The *Owner* and the *Contractor* shall comply with the rules, regulations and practices required by the applicable health and safety legislation.

9.4.4 The *Owner* shall cause the *Consultant*, *Other Contractors* and the *Owner*'s own forces to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*.

9.4.5 Nothing in this *Contract* shall affect the determination of liability under the applicable health and safety legislation.

GC 9.5 MOULD

9.5.1 If the *Contractor* or the *Owner* observes or reasonably suspects the presence of mould at the *Place of the Work*, the remediation of which is not expressly part of the *Work*,

.1 the observing party shall promptly report the circumstances to the other party in writing,

.2 the *Contractor* shall promptly take all reasonable steps, including stopping the *Work* if necessary, to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould, and

.3 if the *Owner* and the *Contractor* do not agree on the existence, significance or cause of the mould or as to what steps need be taken to deal with it, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.

9.5.2 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was caused by the *Contractor*'s operations under the *Contract*, the *Contractor* shall promptly, at the *Contractor*'s own expense:
.1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
.2 make good any damage to the *Work*, the *Owner*'s property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
.3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.1.3, and
.4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.

9.5.3 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was not caused by the *Contractor*'s operations under the *Contract*, the *Owner* shall promptly, at the *Owner*'s own expense:
.1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
.2 reimburse the *Contractor* for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the *Work* as provided in paragraph 9.1.4 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
.3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in paragraph 9.5.1.3 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay, and
.4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.

9.5.4 If either party does not accept the expert's finding under paragraph 9.5.1.3, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraphs 9.5.2 or 9.5.3, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided by GC 9.5 – MOULD.

PART 10 GOVERNING REGULATIONS

GC 10.1 TAXES AND DUTIES

10.1.1 The *Contract Price* shall include all taxes and customs duties in effect at the time of the bid closing except for *Value Added Taxes* payable by the *Owner* to the *Contractor* as stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

10.1.2 Any increase or decrease in costs to the *Contractor* due to changes in taxes and duties after the time of the bid closing shall increase or decrease the *Contract Price* accordingly.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

10.2.1 The laws of the *Place of the Work* shall govern the *Work*.

10.2.2 The *Owner* shall obtain and pay for development approvals, building permit, permanent easements, rights of servitude, and all other necessary approvals and permits, except for the permits and fees referred to in paragraph 10.2.3 or for which the *Contract Documents* specify as the responsibility of the *Contractor*.

10.2.3 The *Contractor* shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the *Work* and customarily obtained by contractors in the jurisdiction of the *Place of the Work* after the issuance of the building permit. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.

10.2.4 The *Contractor* shall give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the performance of the *Work* and which relate to the *Work*, to the preservation of the public health, and to construction safety.

10.2.5 The *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Work*. If the *Contract Documents* are at variance therewith, or if, subsequent to the time of bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will issue the changes required to the *Contract Documents* as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

10.2.6 If the *Contractor* fails to advise the *Consultant* in writing; fails to obtain direction as required in paragraph 10.2.5; and performs work knowing it to be contrary to any laws, ordinances, rules, regulations, or codes; the *Contractor* shall be responsible for and shall correct the violations thereof; and shall bear the costs, expenses and damages attributable to the failure to comply with the provisions of such laws, ordinances, rules, regulations, or codes.

10.2.7 If, subsequent to the time of bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

GC 10.3 PATENT FEES

10.3.1 The *Contractor* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Contractor* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Contractor* or anyone for whose acts the *Contractor* may be liable.

10.3.2 The *Owner* shall hold the *Contractor* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the *Contract*, the physical model, plan or design of which was supplied to the *Contractor* as part of the *Contract*.

GC 10.4 WORKERS' COMPENSATION

10.4.1 Prior to commencing the *Work*, and again with the *Contractor*'s applications for payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*.

PART 11 INSURANCE

GC 11.1 INSURANCE

11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in CCDC 41 'CCDC Insurance Requirements' in effect at the time of bid closing except as hereinafter provided:

.1 General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover* on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.

.2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

.3 Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.

.4 "Broad form" property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The "Broad form" property insurance shall be provided from the date of commencement of the *Work* until the earliest of:

(1) 10 calendar days after the date of *Ready-for-Takeover*;

(2) on the commencement of use or occupancy of any part or section of the *Work* unless such use or occupancy is for construction purposes, habitational, office, banking, convenience store under 465 square metres in area, or parking purposes, or for the installation, testing and commissioning of equipment forming part of the *Work*; and

(3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.

.5 Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after the date of *Ready-for-Takeover*.

.6 The "Broad form" property and boiler and machinery policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. In the event of loss or damage:

(1) the *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except

that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;

(2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount which the *Owner*'s interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with the progress payment provisions. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor*'s interest in the restoration of the *Work*; and

(3) to the *Work* arising from the work of the *Owner*, the *Owner*'s own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner*'s obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.

.7 Contractors' Equipment Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

.8 Contractors' Pollution Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

11.1.2 Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Work*.

11.1.3 The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.

11.1.4 If the *Contractor* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and give evidence to the *Contractor* and the *Consultant*. The *Contractor* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from the amount which is due or may become due to the *Contractor*.

11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.

11.1.6 If a revised version of CCDC 41 is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Contractor*'s insurance policy becoming due for renewal, and record any agreement in a *Change Order*.

11.1.7 If a revised version of CCDC 41 is published, which specifies increased insurance requirements, the *Owner* may request the increased coverage from the *Contractor* by way of a *Change Order*.

11.1.8 A *Change Directive* shall not be used to direct a change in the insurance requirements in response to the revision of CCDC 41.

PART 12 OWNER TAKEOVER

GC 12.1 READY-FOR-TAKEOVER

12.1.1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are limited to the following:

.1 The *Consultant* has certified or verified the *Substantial Performance of the Work*.

.2 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction.

.3 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.

.4 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.

.5 Make available a copy of the as-built drawings completed to date on site.

.6 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.

.7 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.

.8 Demonstration and training, as required by the *Contract Documents*, is scheduled by the *Contractor* acting reasonably.

12.1.2 If any prerequisites set forth in paragraphs 12.1.1.3 to 12.1.1.6 must be deferred because of conditions reasonably beyond the control of the *Contractor*, or by agreement between the *Owner* and the *Contractor* to do so, *Ready-for-Takeover* shall not be delayed.

12.1.3 When the *Contractor* considers that the *Work* is *Ready-for-Takeover*, the *Contractor* shall deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for *Ready-for-Takeover* for review. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.

12.1.4 The *Consultant* will review the *Work* to verify the validity of the application and will promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor*'s list and application:

.1 advise the *Contractor* in writing that the *Work* is not *Ready-for-Takeover* and give reasons why, or
.2 confirm the date of *Ready-for-Takeover* in writing to each of the *Owner* and the *Contractor*.

12.1.5 Immediately following the confirmation of the date of *Ready-for-Takeover*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

12.1.6 The provision of GC 12.1 – READY-FOR-TAKEOVER shall be subject to GC 12.2 – EARLY OCCUPANCY BY THE OWNER.

GC 12.2 EARLY OCCUPANCY BY THE OWNER

12.2.1 The *Owner* may take occupancy of a part or the entirety of the *Work* before *Ready-for-Takeover* has been attained only as agreed by the *Contractor* which agreement shall not be unreasonably withheld.

12.2.2 The *Owner* shall not occupy a part or the entirety of the *Work* without prior approval by authorities having jurisdiction.

12.2.3 If the *Owner* takes occupancy of a part of the *Work* before *Ready-for-Takeover* has been attained:
.1 The part of the *Work* which is occupied shall be deemed to have been taken over by the *Owner* as from the date on which it is occupied.
.2 The *Contractor* shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the *Owner*.
.3 The warranty period specified in paragraph 12.3.1 of GC 12.3 – WARRANTY for that part of the *Work* shall start from the date on which it is occupied.

12.2.4 If the *Owner* takes occupancy of the entirety of the *Work* before all the prerequisites are met as described in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, the *Work* shall, subject to the requirements of the applicable lien legislation, be deemed to achieve *Ready-for-Takeover*. This shall not relieve the *Contractor*'s responsibility to complete the *Work* in a timely manner.

GC 12.3 WARRANTY

12.3.1 Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date when *Ready-for-Takeover* has been attained.

12.3.2 The *Contractor* shall be responsible for the proper performance of the *Work* to the extent that the design and *Contract Documents* permit such performance.

12.3.3 The *Owner*, through the *Consultant*, shall promptly give the *Contractor Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.

12.3.4 Subject to paragraph 12.3.2, the *Contractor* shall correct promptly, at the *Contractor*'s expense, defects or deficiencies in the *Work* which appear prior to and during the one year warranty period.

12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.3.4.

12.3.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor to the benefit of the *Owner*. The *Contractor*'s responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.

PART 13 INDEMNIFICATION AND WAIVER

GC 13.1 INDEMNIFICATION

13.1.1 Without restricting the parties' obligation to indemnify respecting toxic and hazardous substances, patent fees and defect in title claims all as described in paragraphs 13.1.4 and 13.1.5, the *Owner* and the *Contractor* shall each indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings whether in respect to losses suffered by them or in respect to claims by third parties that arise out of, or are attributable in any respect to their involvement as parties to this *Contract*, provided such claims are:
.1 caused by:
(1) the negligent acts or omissions of the party from whom indemnification is sought or anyone for whose negligent acts or omissions that party is liable, or
(2) a failure of the party to the *Contract* from whom indemnification is sought to fulfill its terms or conditions; and
.2 made by *Notice in Writing* within a period of 6 years from the *Ready-for-Takeover* date or within such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.

The parties expressly waive the right to indemnity for claims other than those provided for in this *Contract*.

13.1.2 The obligation of either party to indemnify as set forth in paragraph 13.1.1 shall be limited as follows:

.1 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the minimum liability insurance limit for one occurrence, of the applicable insurance policy, as referred to in CCDC 41 in effect at the time of bid closing.

.2 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is not required to be provided by either party in accordance with GC 11.1 – INSURANCE, the greater of the *Contract Price* as recorded in Article A-4 – CONTRACT PRICE or $2,000,000, but in no event shall the sum be greater than $20,000,000.

.3 In respect to indemnification by a party against the other with respect to losses suffered by them, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.

.4 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.

13.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 13.1.1 and 13.1.2 shall be inclusive of interest and all legal costs.

13.1.4 The *Owner* and the *Contractor* shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

13.1.5 The *Owner* shall indemnify and hold harmless the *Contractor* from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings:

.1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and

.2 arising out of the *Contractor*'s performance of the *Contract* which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.

13.1.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Contractor*:

.1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based become known; and

.2 should any party be required as a result of its obligation to indemnify another to pay or satisfy a final order, judgment or award made against the party entitled by this contract to be indemnified, then the indemnifying party upon assuming all liability for any costs that might result shall have the right to appeal in the name of the party against whom such final order or judgment has been made until such rights of appeal have been exhausted.

GC 13.2 WAIVER OF CLAIMS

13.2.1 Subject to any lien legislation applicable to the *Place of the Work*, the *Contractor* waives and releases the *Owner* from all claims which the *Contractor* has or reasonably ought to have knowledge of that could be advanced by the *Contractor* against the *Owner* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:

.1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than 5 calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work* or 20 calendar days following the *Ready-for-Takeover* date, whichever is later;

.2 indemnification for claims advanced against the *Contractor* by third parties for which a right of indemnification may be asserted by the *Contractor* against the *Owner* pursuant to the provisions of this *Contract*;

.3 claims respecting toxic and hazardous substances, patent fees and defect in title matters for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 13.1.4 or 13.1.5 of GC 13.1 – INDEMNIFICATION; and

.4 claims resulting from acts or omissions which occur after the *Ready-for-Takeover* date.

13.2.2 The *Contractor* waives and releases the *Owner* from all claims resulting from acts or omissions which occurred after the *Ready-for-Takeover* date except for:

.1 indemnification respecting third party claims, and claims respecting toxic and hazardous substances, patent fees and defect in title matters, all as referred in paragraphs 13.2.1.2 and 13.2.1.3; and

.2 claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the *Ready-for-Takeover* date.

13.2.3 Subject to any lien legislation applicable to the *Place of the Work*, the *Owner* waives and releases the *Contractor* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Contractor* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:

.1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than 20 calendar days following the *Ready-for-Takeover* date;

.2 indemnification for claims advanced against the *Owner* by third parties for which a right of indemnification may be asserted by the *Owner* against the *Contractor* pursuant to the provisions of this *Contract*;
.3 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 13.1.4 of GC 13.1 – INDEMNIFICATION;
.4 damages arising from the *Contractor*'s actions which result in substantial defects or deficiencies in the *Work*. "Substantial defects or deficiencies" mean those defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*;
.5 claims arising pursuant to GC 12.3 – WARRANTY; and
.6 claims arising from acts or omissions which occur after the *Ready-for-Takeover* date.

13.2.4 Respecting claims arising upon substantial defects and deficiencies in the *Work*, as referenced in paragraph 13.2.3.4, and notwithstanding paragraph 13.2.3.5, the *Owner* waives and releases the *Contractor* from all claims except claims for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* within a period of six years from the *Ready-for-Takeover* date, provided that any limitation statute of the Province or Territory of the *Place of the Work* permit such agreement. If the applicable limitation statute does not permit such agreement, the time within which any such claim may be brought shall be such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.

13.2.5 The *Owner* waives and releases the *Contractor* from all claims arising from acts or omissions which occur after the *Ready-for-Takeover* date, except for:
.1 indemnification for claims advanced against the *Owner* by third parties, as referenced in paragraph 13.2.3.2;
.2 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor*, as referenced in paragraph 13.2.3.3;
.3 claims arising under GC 12.3 – WARRANTY; and
.4 claims for which *Notice is Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the *Ready-for-Takeover* date.

13.2.6 "*Notice in Writing* of claim" as provided for in GC 13.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 13.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
.1 a clear and unequivocal statement of an intention to claim;
.2 a statement as to the nature of the claim and the grounds upon which the claim is based; and
.3 a statement of the estimated quantum of the claim.

13.2.7 A claim for lien asserted under the lien legislation prevailing at the *Place of the Work* shall qualify as notice of claim for the purposes of this *Contract*.

13.2.8 The party giving the *Notice in Writing* of claim as provided for in GC 13.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.

13.2.9 Where the event or series of events giving rise to a claim made under paragraphs 13.2.1 or 13.2.3 has a continuing effect, the detailed account submitted under paragraph 13.2.8 shall be considered to be an interim account and the party making the claim shall submit further interim accounts, at reasonable intervals, giving the accumulated amount of the claim and any further grounds upon which such claim is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.

13.2.10 Nothing in GC 13.2 – WAIVER OF CLAIMS shall be deemed to affect the rights of the parties under any lien legislation or limitations legislation prevailing at the *Place of the Work*.

CITY OF KENORA
INVITATION TO TENDER

ITT #711-001-24A

Appendix D
Supplementary Conditions

Part 1 Intent

.1 These Supplementary Conditions amend the Agreement, Definitions, and General Conditions of CCDC 2 – 2020 'Stipulated Price Contract' as indicated below. Provisions not amended remain in full force and effect.

.2 In addition to the above, these Supplementary Conditions amend the terms of CCDC 41 'CCDC Insurance Requirements' as published December 14, 2020, and as indicated below.

Part 2 Amendments to Agreement – CCDC 2 – 2020

.1 Not used.

Part 3 Amendments to Definitions – CCDC 2 - 2020

.1 Not used.

Part 4 Supplementary Conditions – CCDC 2 - 2020

4.1 PART 11 – INSURANCE

.1 GC 11.1 INSURANCE

.1 Add "and as modified by the Supplementary Conditions" immediately following "CCDC 41 'CCDC Insurance Requirements'" in paragraph 11.1.1.

Part 5 Supplementary Conditions – CCDC 41 - 2020

.1 Delete "$10,000,000" from two (2) locations in paragraph 1 and replace with "$5,000,000" in the two (2) locations.

.2 Delete "$10,000,000" from paragraph 2 and replace with "$2,000,000".

END OF SECTION

CITY OF KENORA
INVITATION TO TENDER

ITT #711-001-24A

Appendix E
Geotechnical Report

TREK GEOTECHNICAL Quality Engineering | Valued Relationships

Solid Construction Inc.

Central Community Club, Kenora, ON
Geotechnical Report

Prepared for:
Nigel Grammer
Lead Estimator
Solid Construction Inc.
61 Tailleau Road, Kenora, ON
P9N 3W8

Project Number: 0814-001-00

Date: November 4, 2021

www.trekgeotechnical.ca
1712 St. James Street | Winnipeg, Manitoba R3H 0L3 | Tel 1.204.975.9433 | Fax 1.204.975.9435

TREK GEOTECHNICAL Quality Engineering | Valued Relationships

November 4, 2021 Our File No. 0814-001-00

Nigel Grammer
Lead Estimator
Solid Construction Inc.
61 Tailleau Road, Kenora, ON
P9N 3W8

RE: Central Community Club, Kenora, ON
Geotechnical Report

TREK Geotechnical Inc. is pleased to submit our final report for the geotechnical investigation completed for the above noted project.

Please contact the undersigned should you have any questions.

Sincerely,

TREK Geotechnical Inc.
Per:

Ryan Belbas, M.Sc., P.Eng.
Senior Geotechnical Engineer

Encl.

Revision History

Revision No.	Author	Issue Date	Description
0	Matt Klymochko	November 4, 2021	Final Report

Authorization Signatures

Prepared By:

FOR:

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Ryan Belbas, M.Sc. P.Eng.
Senior Geotechnical Engineer

Reviewed By:

Kent Bannister, M.Sc., P.Eng.
Senior Geotechnical Engineer

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1.0 Introduction

This report provides geotechnical design recommendations for Solid Construction Inc. (Solid) prepared by TREK Geotechnical Inc. (TREK) for the proposed Central Community Centre development, located at 730 1st Street South in Kenora, ON. The terms of reference for this work are included in our contract dated September 10, 2021. The scope of work includes a sub-surface investigation, laboratory testing, and provision of geotechnical design and construction recommendations for the proposed development.

2.0 Background Information

2.1 Project Description

The proposed development consists of a new clubhouse, outdoor ice rink, volleyball court, bocce ball courts, and parking area. The clubhouse is anticipated to be in the order of 190 m^2 (2,050 ft^2) in size. TREK understands that a thickened-edge slab and helical piles are the preferred foundations for the clubhouse. Foundation loads are unknown but are anticipated to be relatively light. TREK also understands that it is preferred to have the outdoor ice rink placed on a concrete slab.

2.2 Existing Information

A site development plan was provided by Solid and used in development of our geotechnical program.

3.0 Key Geotechnical Considerations

Key considerations presented within this report include, but are not limited to, the following:

- A shallow foundation system (footings, thickened-edge slab) is deemed to be unsuitable to support the clubhouse due to the presence of compressible peat and clay soils within the practical depth of construction.
- Decomposition of organics (peat) below the new club house is expected to produce methane gas during degradation. A methane mitigation system may be required to eliminate toxic gases, or methane monitoring may be required following construction.
- Sloping bedrock may be present within the footprint of the proposed clubhouse which will impact the installation of helical piles and possibly pile integrity and capacity. If sloping bedrock is encountered, pipe piles socketed into bedrock may be required to replace helical piles.

This section should not be relied upon for a complete understanding of design considerations, for which a review of the full report is required.

4.0 Field Program

4.1 Sub-Surface Investigation

A sub-surface investigation was completed on September 30, 2021 under the supervision of TREK personnel to determine the soil stratigraphy and groundwater conditions at the site. Seven test holes (TH21-01 to 07) were drilled and sampled to depths ranging between 1.5 and 12.7 m below ground surface as part of the investigation at the locations shown on Figure 01. The test holes were drilled by Paddock Drilling Ltd. using an Acker MP5-T geotechnical drill rig mounted on a Morooka MST 1500 track-mounted carrier equipped with 125 mm diameter solid stem augers and 170 mm diameter hollow stem augers. The test holes were backfilled with auger cuttings and bentonite chips.

Sub-surface soils encountered during drilling were visually classified based on the Unified Soil Classification System (USCS). Disturbed (auger cutting and split spoon) samples were taken at regular intervals and relatively undisturbed (Shelby tube) samples were collected at select depths. Standard Penetration Tests were performed at the depths split spoon samples were obtained. All samples retrieved during drilling were transported to TREK's testing laboratory in Winnipeg, Manitoba. Laboratory testing consisted of moisture content determination on all samples, and bulk unit weight measurements and unconfined compression tests on select Shelby tube samples.

Test hole locations were determined by handheld GPS. Test hole elevations were surveyed using a rod and level relative to a temporary benchmark assigned an arbitrary elevation of 100.0 m. The temporary benchmark selected was the top nut of a fire hydrant (denoted as TBM-1 on Figure 01). The UTM coordinates of each test hole are provided on the test hole logs. The test hole logs also include a description of the soil units encountered and other pertinent information such as groundwater and sloughing conditions and a summary of the laboratory testing results. Laboratory test results are included in Appendix A.

4.2 Stratigraphy

Brief descriptions of the soil units encountered at the test hole locations are provided below. All interpretations of soil stratigraphy for the purposes of design should refer to the detailed information provided on the attached test hole logs.

The sub-surface stratigraphy consists of surficial fill soils overlying organics (peat), silty clay and sand. The fill soils consist of organic clay (topsoil), silt or sand, extending to approximately 0.5 m depth, with the exception of TH21-01, where fill soils extended to 1 m depth. Peat was encountered below the fill in all test holes, extending to a depth ranging between 2.3 m and 3 m. The peat is typically orange to dark brown containing trace to some rootlets and is moist to wet with different degrees of humifaction, ranging from fibrous material (H2-H3), to amorphous material, (H5-H6), based on the von Post classification. The clay underlying the peat is silty, moist, soft to firm and of high plasticity, becoming very soft with depth. Sand was encountered in TH21-01 and TH21-02 at a depth of 5.5 m, extending to 12.7 m, the maximum depth of exploration. The sand contains trace gravel, is wet, compact, poorly graded, and typically coarse grained. Boulders or sloping bedrock were suspected below the clay at depths of 4.6 and 4.9 m below ground surface in TH21-04 and 07, respectively.

However, this could not be verified due to the drilling method used. Additionally, soil samples could not be recovered below these depths.

4.3 Power Auger Refusal

Power auger refusal was not observed during drilling. However, the augers began move significantly out of plumb during drilling of TH21-04 and TH21-07 at depths of 4.6 m and 4.9 m below ground surface, respectively. It is considered likely that the auger tip was sliding along sloping bedrock at each of these locations. Holes were terminated shortly after observing this to prevent damage to the augers.

4.4 Groundwater Conditions

Seepage and sloughing conditions were encountered at depths of 3.0, 2.9 m, 3.0 m, and 3.7 m, in TH21-01, 02, 03, and 04 respectively.

These groundwater measurements should not be considered reflective of (static) long-term groundwater levels, which would require monitoring over an extended period to determine. It is important to recognize that groundwater conditions may change seasonally, annually, or due to construction activities.

5.0 New Clubhouse

5.1 Foundation Recommendations

Helical piles end bearing in compact sand and pipe piles socketed into bedrock are suitable foundations to support the new club house based on the sub-surface and anticipated loading conditions. Recommendations for these pile types in accordance with the National Building Code of Canada (NBCC, 2015) are provided in the following section. A shallow foundation system (footings, thickened-edge slab) was evaluated but deemed to be unsuitable to support the clubhouse due to the presence of compressible peat and clay soils within practical depth of construction.

5.2 Limit States Design (NBCC, 2015)

Limit states design recommendations for deep foundations in accordance with the National Building Code of Canada (2015) are provided below. Limit states design requires consideration of distinct loading scenarios comparing the structural loads to the foundation bearing capacity using resistance and load factors that are based on reliability criteria. Two general design scenarios are evaluated corresponding to the serviceability and ultimate capacity requirements.

The **Ultimate Limit State (ULS)** is concerned with ensuring that the maximum structural loads do not exceed the nominal (ultimate) capacity of the foundation units. The ULS foundation bearing capacity is obtained by multiplying the nominal (ultimate) bearing capacity by a resistance factor (reduction factor), which is then compared to the factored (increased) structural loads. The ULS bearing capacity must be greater or equal to the maximum factored load to provide an adequate margin of safety. Table 1

summarizes the resistance factors that can be used for the design of deep foundations as per the NBCC (2015) depending upon the method of analysis and verification testing completed during construction.

The **Service Limit State (SLS)** is concerned with limiting deformation or settlement of the foundation under service loading conditions such that the integrity of the structure will not be impacted. The Service Limit State should generally be analysed by calculating the settlement resulting from applied service loads and comparing this to the settlement tolerance of the structure. However, the settlement tolerance of the structure is typically not yet defined at the preliminary design stage. As such, SLS bearing capacities are often provided that are developed on the basis of limiting settlement to 25 mm or less. A more detailed settlement analysis should be conducted to refine the estimated settlement and/or adjust the SLS capacity if a more stringent settlement tolerance is required or if large groups of piles are used.

Table 1: ULS Resistance Factors for Foundations (NBCC, 2015)

Resistance to Axial Loads for Deep Foundations (Analysis Methods)	ϕ
Semi-empirical analysis using laboratory and *in-situ* test data	0.4
Analysis using dynamic monitoring results	0.5
Analysis using static loading test results	0.6
Uplift resistance by semi-empirical analysis.	0.3
Uplift resistance using loading test results.	0.4

5.3 Helical Piles

Installation of helical piles may be difficult or not feasible if sloping bedrock or boulders are encountered. Installing helical piles on sloping bedrock or boulders may result in misalignment of piles, pile damage, or low bearing capacity all of which will impact foundation performance. Sloping bedrock may have been encountered within TH21-04, in this regard, the selection of this pile type should be carefully considered based on the associated increased risk. It may be more cost effective to plan for installation of helical piles with the understanding that rock socketed pipe piles may be required at select locations if installation of helical piles is unsuccessful.

5.3.1 Compressive Capacity

Helical piles installed in compact sand will derive their resistance primarily from end bearing with a relatively small contribution from shaft friction. The design and selection of pile and helix dimensions, depth, and capacity should be performed by an experienced supplier/contractor, familiar with installing helical piles in Kenora, and reviewed by TREK. For preliminary design purposes, the factored ULS and SLS axial capacity of helical piles installed in compact sand can be approximated by the formulas provided below. Piles designed based on the SLS resistances are expected to exhibit less than 25 mm of settlement at the pile toe. Elastic shortening of the pile should be added to the tip displacement to calculate the pile head settlement.

1. **Nominal End Bearing Capacity (kN) = $(N_{q^*}\ \gamma' H) \times \pi \times (D_{helix}^2 - D_{shaft}^2)/4$**
2. **SLS End Bearing Capacity (kN) = 1/3 x $(N_{q^*}\ \gamma' H) \times \pi \times (D_{helix}^2 - D_{shaft}^2)/4$**
3. **ULS End Bearing Capacity (kN) = $\Phi_r \times (N_{q^*}\ \gamma' H) \times \pi \times (D_{helix}^2 - D_{shaft}^2)/4$**

Where:

N_{q^*} = Bearing capacity factor (a value of 20 should be used at this site).

γ' = Effective unit weight (a value of 7 kN/m^3 should be used at this site).

H = Helix embedment depth below final grade (m).

D_{helix} = Helix diameter (m)

D_{shaft} = Pile shaft (pipe) outer diameter (m)

Φ_r = ULS resistance factor (a factor of 0.4 should be used unless a static pile load test is performed at the project site).

The above equation assumes that the groundwater level is 2 m below ground surface, a conservative assumption based on the limited data available.

TREK has provided preliminary SLS and factored ULS capacities for commonly available helical piles installed to depths of 9 and 12 m below existing ground surface within compact sand in Table 2.

Table 2: Recommended ULS and SLS Pile Capacities for Common Helical Pile Sizes

Pile Size – Shaft Diameter (m) x Helix Diameter (m)	Factored ULS Capacity (kN) Φ_r = 0.4		SLS Capacity (kN)	
	9 m	12 m	9 m	12 m
0.089 x 0.305	35	45	28	37
0.166 x 0.458	72	96	60	80

5.3.2 *Uplift Capacity*

The uplift capacity of helical piles at both the factored ULS and SLS can be taken as 75% of the factored ULS capacity as outlined above.

5.3.3 *Additional Design and Construction Recommendations*

1. The weight of the embedded portion of the pile may be neglected in the design.
2. The pile must be designed to withstand all design loads and handling stresses during installation.
3. Pile spacing should not be less than 2.5 pile diameters. If a closer spacing is required, TREK should be contacted to provide an efficiency (reduction) factor to account for potential group effects.
4. Piles should be installed under the supervision of TREK Geotechnical personnel to observe static load testing and installation.

5. Torque should be measured and recorded during installation to verify proper installation as established by static load testing; however, torque should not be used as a direct measurement of pile capacity.

5.4 Steel Pipe Piles Socketed into Bedrock

Steel pipe piles socketed into sound, un-weathered, intact bedrock are a suitable foundation system. The depth to bedrock was not verified during the sub-surface investigation and is expected to vary across the site since sloping bedrock was suspected during drilling of TH21-04 and 07. In this regard, it may be warranted to perform an additional sub-surface investigation consisting of bedrock coring to increase certainty of pile lengths and minimize the risk of cost overruns during construction if this alternative is preferred.

The piles can be installed by lowering the pipe into the bottom of a pre-drilled and grout-filled hole or by using rotary and percussion hammer methods and injecting grout through the bottom of the pile. These methods are commonly used to install steel pipes into bedrock. Other methods for installing the pipe piles may be considered but must be reviewed and approved by TREK prior to pile installation. It is important that an experienced contractor be retained as proper installation and grouting methods can affect performance. Bearing resistances (compressive and uplift) are provided for this pile type in the following sections.

5.4.1 *Compressive Capacity*

Steel pipe piles socketed into bedrock will derive a majority of their compressive resistance in end bearing with a relatively small contribution form shaft friction. The factored ULS axial capacity of a steel pipe pile socketed into bedrock is based on the structural strength of the steel section and can be calculated using the following formula, which includes application of a resistance factor of 0.4:

$$0.4f'_yA_p$$

Where,

f'_y = yield stress of the steel

A_p = cross-sectional area of the pipe

Pile settlements under service loads are expected to be less than 5 mm at the pile tip (bottom of pile). The elastic shortening of the pile should be added to the tip displacement to calculate the pile head settlement.

5.4.2 *Uplift Capacity*

The uplift capacity of pipe piles socketed and grouted into bedrock will depend on the bond strength between the grout and steel surface of the pile or the grout and bedrock surface, whichever is lower. The bond strength between the grout and the pile can be calculated based on a factored ULS uplift bond stress 185 kPa. The bond strength between the grout and the bedrock can be calculated based on a

factored ULS bond stress of $0.03f'_c$ (f'_c = compressive strength of the grout). For calculation of uplift capacity, the bond stress is to be applied only to surface area of the pipe embedded within the bedrock.

5.4.3 *Additional Design and Construction Recommendations*

1. The weight of the embedded portion of the pile may be neglected in the design.
2. Piles should be socketed to a minimum depth of 0.5 m or three socket diameters (whichever is greater) into sound, un-weathered, intact bedrock.
3. Temporary steel casings (sleeves) must be installed to the top of competent bedrock to install pipe piles in pre-drilled and grout-filled holes to protect against sloughing of the pile hole and/or to control groundwater seepage. The casing may be removed once the pile has been installed into the rock and grouted, provided it can be removed without disturbing the pile. It may be required to delay casing removal until the grout has achieved sufficient strength to maintain pile alignment and avoid damage during casing withdrawal.
4. Pipe piles installed in a pre-drilled and grout-filled hole must be free of soil or rock cuttings and any other deleterious material prior to grout placement.
5. Pipe piles installed in a pre-drilled and grout-filled hole must be placed in the centre of the hole and securely on the base of the socket.
6. Proper measurements should be taken during grouting to verify that the complete filling of the drill hole has occurred.
7. Grouting should be completed as soon as possible after drilling.
8. Pile verticality (plumbness) should be measured on all piles to check if verticality is within the limits of the structural design. It is common local practice to specify a maximum acceptable percentage that the pile can be out of vertical plumbness (e.g. 2% out of plumb).
9. Piles should be grouted to ground surface to ensure compliance with surrounding soils along the entire pile length, in particular if lateral resistance is required

5.5 Lateral Resistance

The soil response (sub-grade reaction) to lateral loads can be modeled in a simplified manner that assumes the soil around a pile can be simulated by a series of horizontal springs for preliminary design of pile foundations. The soil behaviour can be estimated using an equivalent spring constant referred to as the lateral sub-grade reaction modulus (K_s) as provided in Table 3. The majority of lateral resistance will typically be offered by the upper 5 to 10 m of soil, depending on the relative stiffness of the pile and soil units.

Table 3: Recommended Values for Lateral Sub-grade Reaction Modulus

Depth Below Existing Site Grade (m)	Soil Type	Lateral Subgrade Reaction Modulus Ks [kN/m³]
0 to 3	Fill	$\frac{4400z}{d}$
0.5 to 3.0	Peat	-
3.0 to 5.5	Clay	$\frac{870z}{d}$
5.5 to 12.7	Sand	$\frac{4400z}{d}$

Note 1: d is pile diameter in metres
Note 2: z = depth in metres

It should be understood that using the lateral sub-grade reaction modulus assumes a linear response to lateral loading and therefore is only appropriate under the following conditions:

- maximum pile deflections are small (less than 1% of the pile diameter),
- loading is static (no cycling), and
- pile material behaves linear elastically (does not reach yield conditions).

If one or more of these conditions are not met, a more rigorous analysis that includes non-linear behavior of the piles and surrounding soil is required. In this regard, as part of preliminary design, a lateral pile analysis that incorporates the material and section properties of the piles, final lateral deflection criteria and a more realistic elastic-plastic model of the soil response to loading should be carried out by TREK to confirm the lateral load capacity of the piles.

5.6 Ad-freezing Effects

Piles, pile caps and grade beams subjected to freezing conditions should be designed to resist ad-freeze and uplift forces related to frost action acting along the vertical face of the member within the depth of frost penetration (2.5 m). In this regard, concrete structures may be subject to an ad-freeze bond stress of 65 kPa within the depth of frost penetration and steel structures may be subject to an ad-freeze bond stress of 100 kPa. Ad-freeze forces will be resisted by structural dead loads and uplift resistance provided by the length of the pile below the depth of frost penetration (2.5 m).

The following design recommendations apply to piles subject to ad-freeze forces:

1. An ad-freeze bond stress of 65 kPa for concrete and 100 kPa for steel within the depth of frost penetration (2.5 m).
2. A load factor (α) of 1.2 may be used in the calculation of ad-freezing forces.
3. A reduction factor of 0.8 may be used in calculation of the factored ULS condition based on the following nominal geotechnical resistances:
    a. Helical Piles – 75% of the nominal end bearing capacity (formula 1 in Section 5.3)
    b. Pipe Piles – Ultimate bond strength of 460 kPa between the grout and the pile or the ultimate bond strength 0.1f'c (f'c = compressive strength of the grout) between the grout and the bedrock within the rock-socketed portion of the pile, whichever is less.

4. Resistance to ad-freezing within the depth of frost penetration should be neglected from design
5. Structural dead loads should be added to the resistance.
6. The calculated geotechnical resistance plus the structural dead loads must be greater than the factored ad-freezing forces.
7. Measures such as flat lying rigid polystyrene insulation could be considered to reduce frost penetration depths and thereby ad-freezing and uplift forces.

5.7 Negative Skin Friction

The effects of negative skin friction will need to be assessed if the site is raised or existing fill soils are replaced with new compacted fills. New fill could result in consolidation settlement of the underlying peat and clay soils and development of negative skin friction along pile shafts causing dragload on the piles. Dragload may result in excessive forces within the piles. TREK should be contacted to evaluate the potential of effects of negative skin friction once the site grades are finalized.

5.8 Pile Caps and Grade Beams

A minimum void of 150 mm should be provided underneath all grade beams and pile caps to accommodate volumetric changes in the underlying sub-grade soils (i.e. swelling, shrinkage, and thermal expansion and contraction in unheated areas). Void forms should be selected such that they can deform a minimum of 150 mm without transferring intolerable stresses to the structure. Excavations for pile caps and grade beams should be backfilled with non-frost susceptible granular fill compacted to a minimum of 98% of the Standard Proctor Maximum Dry Density (SPMDD).

5.9 Foundation Concrete

All foundation concrete should be designed by a qualified structural engineer for the anticipated axial (compression and uplift), lateral, and bending loads from the structure and seasonal movements. Further, all concrete should be designed in accordance with CSA A23.1-14 (Concrete Materials and Methods of Construction). Sulphate testing for water soluble sulphate content to assess the degree of exposure for concrete subjected to sulphate attack was not completed, however based on past experience in the area, and previous investigations at this site, sulphate resistant concrete is not required.

5.10 Floor Slabs

5.10.1 Structural Slabs

The peat will result in poor performance of grade supported floor slabs. Structural floor slabs are therefore recommended for the new clubhouse to allow for volumetric changes in the underlying sub-grade soils. The void can consist of a compressible layer (*e.g.* void form) to permit sub-grade soil movements without engaging the floor slab, or alternatively, a crawl space. Void forms should be selected such that they can deform a minimum of 150 mm with minimal transfer of stresses to the structure. A vapour barrier should be placed between the floor slab and the void form (if present).

5.11 Methane Gas Mitigation

Urban development areas within proximity of swamplands are known to contain methane gas from decomposition of organic material (e.g. peat). Methane gas is combustive and asphyxiating at high concentrations and poses a threat to the safety of commercial and residential building occupants. Although it is a relatively low risk scenario for this site compared to developments over landfills, it is something to be considered. In this regard, a methane mitigation system may be required to eliminate toxic gases. The following are options to help mitigate methane gases.

1. Place coarse granular fill over the peat to help dissipate methane vapours around the slab. The granular fill should extend beyond the footprint of the building. The thicker and coarser the granular layer is, the more effective it will be at dissipating the vapours. There is risk however that the granular fill will not be sufficient to effectively dissipate vapours which could lead further mitigation after construction of the clubhouse which would likely be very costly.
2. Install a PVC membrane directly below the floor slab or below new granular fill. An experienced supplier/contractor should be consulted for design of a liner. Care must be taken when placing fill over the membrane to protect against damage to the liner. Utility trenches (e.g. water, sewer, electrical, fibre, etc.) and connections into the slab would need to be properly sealed with the membrane. This approach is probably the most appropriate and cost-effective solution given the relatively low risk site conditions.
3. Install a passive or active ventilation system consisting of perforated pipes installed in the granular fill below the slab to collect and ventilate the methane vapours. Methane monitors should be installed in the building to evaluate the effectiveness of the ventilation system to determine if additional action is required. An environmental engineer should be consulted to develop an appropriate ventilation system for the site.

6.0 New Outdoor Ice Rink

TREK understands that a grade-supported concrete slab is preferred for the proposed outdoor ice rink. A grade-supported slab will be subject to settlement (total and differential) due to consolidation of the underlying peat and clay soils. Although difficult to predict, these settlements could be in the order of 500 mm. Movements of this magnitude will result in poor performance and damage to the slab which we assume is unacceptable. A grade-supported slab will also be subject to seasonal movements associated with freeze/thaw cycles of the frost susceptible soils underlying the slab. In this regard, we recommend the following to mitigate slab movements:

- install a structurally supported slab,
- remove all peat and replace with compacted granular fill, or
- leave the existing fill in place, preload the peat and clay in a staged construction approach. Complete the slab construction once settlement monitoring indicates it is acceptable to do so (could require more than a year of settlement)

More details of each option are provided below.

A more cost-effective approach may consist of eliminating the concrete slab and installing a grade beam supported by helical piles as described in the preceding section of this report. In this case, the rink boards would be supported by the grade beam and piles and the interior portion of the rink would consist of a granular pad. Seasonal maintenance would be required however to maintain a level rink surface. The granular pad should consist of at least 300 mm of addition granular fill and consist of Ontario Provincial Standards Specifications (OPSS) Granular A or B materials.

6.1 Structurally Supported Slabs

Foundations for a structurally supported slab should consist of helical piles bearing on compact sand as described in the preceding section of this report. A minimum void of 150 mm beneath structural floor slabs is recommended to allow for volumetric changes in the underlying sub-grade soils. The void can consist of a compressible layer (*e.g.* void form) to permit sub-grade soil movements without engaging the floor slab. Void forms should be selected such that they can deform a minimum of 150 mm with minimal transfer of stress to the slab. A vapour barrier should be placed between the slab and the void form (if present).

6.2 Peat Removal

Complete removal of peat is expected to require excavation of up to 3 m of soils. Site grades can be restored using compacted granular fill (OPSS Granular A or B) placed in maximum lifts of 150 mm and compacted to 100% of the SPMDD. Even with this level of compaction the granular fill can still be expected to settle 0.5% to 1% of the fill thickness. Long-term consolidation settlement of the very soft clay due to the added weight of the granular fill (compared to existing peat soils) should also be expected and could be in the order of 50 to 100 mm.

6.3 Preloading and Staged Construction

A grade-supported slab over the peat soils is an alternative if preloading with settlement monitoring is completed. The purpose of this approach would be to consolidate the underlying peat and very soft clay soils prior to slab construction to reduce the risk of post-construction settlement of the slab. In this case, settlement monitoring equipment would be installed within the peat and clay and 1 to 2 m of granular fill (OPSS Granular A or B) placed and compacted over the entire footprint of the ice rink. Settlement would be monitored over a period of 1 to 2 years and once the settlement has stopped, the granular fill would be stripped to the design sub-grade and the concrete slab constructed above. A high strength non-woven geotextile or geogrid should be placed on top of existing fill soils prior to placement of new granular fill to help to mitigate impacts from differential settlement. Granular fill should be placed in lifts no greater than 150 mm and compacted to 100% of the SPMDD. Some differential settlement and maintenance of the granular fill should be expected while consolidation of peat and clay occurs. To minimize seasonal movements associated with freeze/thaw of the sub-grade soils, insulation should be installed to provide frost protection to an equivalent depth of 2.5 m below grade.

TREK should be contacted to develop a preloading and monitoring program which is not included in our current scope of work.

7.0 Pavements

This section provides recommendations for asphalt pavements. Recommended pavement sections for parking areas are provided in Table 4. If the granular fill materials provided in Table 4 are not available, alternative materials capable of providing equivalent performance may be proposed for approval by TREK.

Table 4: Recommended Asphalt Pavement Sections

Material	Layer Thickness		Compaction Requirements
	Car Parking Areas	Heavy Vehicular Loads	Compaction Requirements / Comments
Asphalt	100 mm	100 mm	Mix design and compaction requirements by others
OPSS Granular A	75 mm	100 mm	100% of the SPMDD
OPSS Granular B	250 mm	350 mm	98% of the SPMDD
Non-Woven Geotextile (Titan Environmental TE-8 or equivalent)	Required	Required	Install as per manufacturer's recommendations

Additional Pavement Recommendations:

1. For best performance, all organics, fill, silt, and any other deleterious material should be completely removed such that the sub-grade consists of native clay. It is anticipated however that this will require removal of up to 3.0 m of fill and organic materials. Assuming that this will not be practical from a cost or constructability perspective and provided the potential for significant settlement due to compression of peat soils is considered acceptable, the sub-grade may consist of existing granular fill materials. Removal of existing fill is not recommended in this case, however, it should be scarified, moisture conditioned, and recompacted to 98% of the SPMDD.
2. Excavations for pavement sub-grade should be completed by an excavator equipped with a smooth-bladed bucket operating from the edge of the excavation. The contractor should work carefully to minimize disturbance to the sub-grade at all times.
3. After excavation, the sub-grade should be inspected by TREK personnel. Silt and soft areas identified should be repaired as per directions provided by TREK. This will likely consist of excavating an additional 150 to 300 mm and backfilling with a 50 mm down granular fill (OPSS Granular B) placed in lifts no greater than 150 mm and compacted to a minimum of 95% of the SPMDD.
4. The sub-grade should be protected from freezing, drying, inundation with water or disturbance. If any of these conditions occur the sub-grade should be scarified, moisture conditioned as appropriate, and re-compacted to a minimum of 95% of the SPMDD.
5. A non-woven geotextile should be placed in accordance with the manufacturer's recommendations on the prepared subgrade prior to placement of granular fill. Titan Environmental TE-8 or equivalent would be appropriate for use.
6. The granular sub-base and base materials should be placed in lifts not exceeding 150 mm thick and compacted to as per the recommendations in Table 4.

7. The granular base course materials should consist of a well graded, durable, crushed rock, in accordance with Ontario Provincial Standards Specifications.

8.0 Site Drainage

Positive site drainage around the perimeter of the structure should be provided at a gradient of at least 2%. A minimum gradient of about 2% should be used for both landscaped and paved areas and maintained throughout the life of the structures.

9.0 Temporary Excavations

Excavations must be carried out in compliance with the Occupational Health and Safety Act Ontario regulation 213/91 *Construction Projects* and other applicable safety regulations or codes. Any open-cut excavation greater than 3 m deep must be designed and sealed by a professional engineer and reviewed by the geotechnical engineer of record (TREK). If space is limited or the stability of adjacent structures may be endangered by an excavation, a shoring system may be required to prevent damage to, or movement of, any part of adjacent structures, and the creation of a hazard to workers and the public.

Excavation stability is the responsibility of the Contractor for the duration of construction. Excavations should be monitored regularly and flattened as necessary to maintain stability recognizing that excavation stability is time and weather dependent. Excavated slopes should be covered with polyethylene sheets to prevent wetting and drying.

Stockpiles of excavated material and heavy equipment should be kept away from the edge of any excavation by a distance equal to or greater than the depth of excavation. Dewatering measures should be completed as necessary to maintain a dry excavation and permit proper completion of the work. If seepage is encountered, it should be collected and pumped out of the excavation. If saturated silts or sands are encountered, shoring or slope flattening may be required. To prevent wet silts and sands from entering the excavation, gravel buttressing could be used in conjunction with sump pits for dewatering. Surface water should be diverted away from the excavation and the excavation should be backfilled as soon as possible following construction.

10.0 Seismic Site Classification

The site classification for seismic site response was determined based on Section *4.1.8 Earthquake Load and Effects* of the NBCC (2015). Site Class E may be applied to this site.

11.0 Inspection Requirements

In accordance with Section *4.2.2.3 Field Review* of the NBCC (2010), the designer or other suitably qualified person shall carry out a field review on:

a) continuous basis during:

   i. the construction of all deep foundation units with all pertinent information recorded for each *foundation unit*,

   ii. during the installation and removal of retaining structures and related backfilling operations,

   iii. during the placement of engineered fills that are to be used to support the *foundation units*, and

b) as-required, unless otherwise directed by the *authority having jurisdiction*,

   i. in the construction of all *shallow foundation units,* and

   ii. in excavating, dewatering and other related works

In accordance with Engineers and Geoscientists of Manitoba, a Professional Engineer or delegated staff responsible to them must perform site reviews for the work presented in the documents they've sealed.

For conformance with the NBCC and EGM requirements, TREK should be retained on a full-time basis to observe and document the installation of all caisson foundations, shoring or engineered fills supporting the structure, and on an as-required basis for other components such as sub-grade inspections and compaction testing. TREK is familiar with the geotechnical conditions present and the underlying design assumptions of our foundation recommendations. TREK is therefore solely qualified to evaluate any design modifications deemed to be necessary should altered subsurface conditions be encountered.

12.0 Closure

The geotechnical information provided in this report is in accordance with current engineering principles and practices (Standard of Practice). The findings of this report were based on information provided (field investigation and laboratory testing). Soil conditions are natural deposits that can be highly variable across a site. If subsurface conditions are different than the conditions previously encountered on-site or those presented here, we should be notified to adjust our findings if necessary.

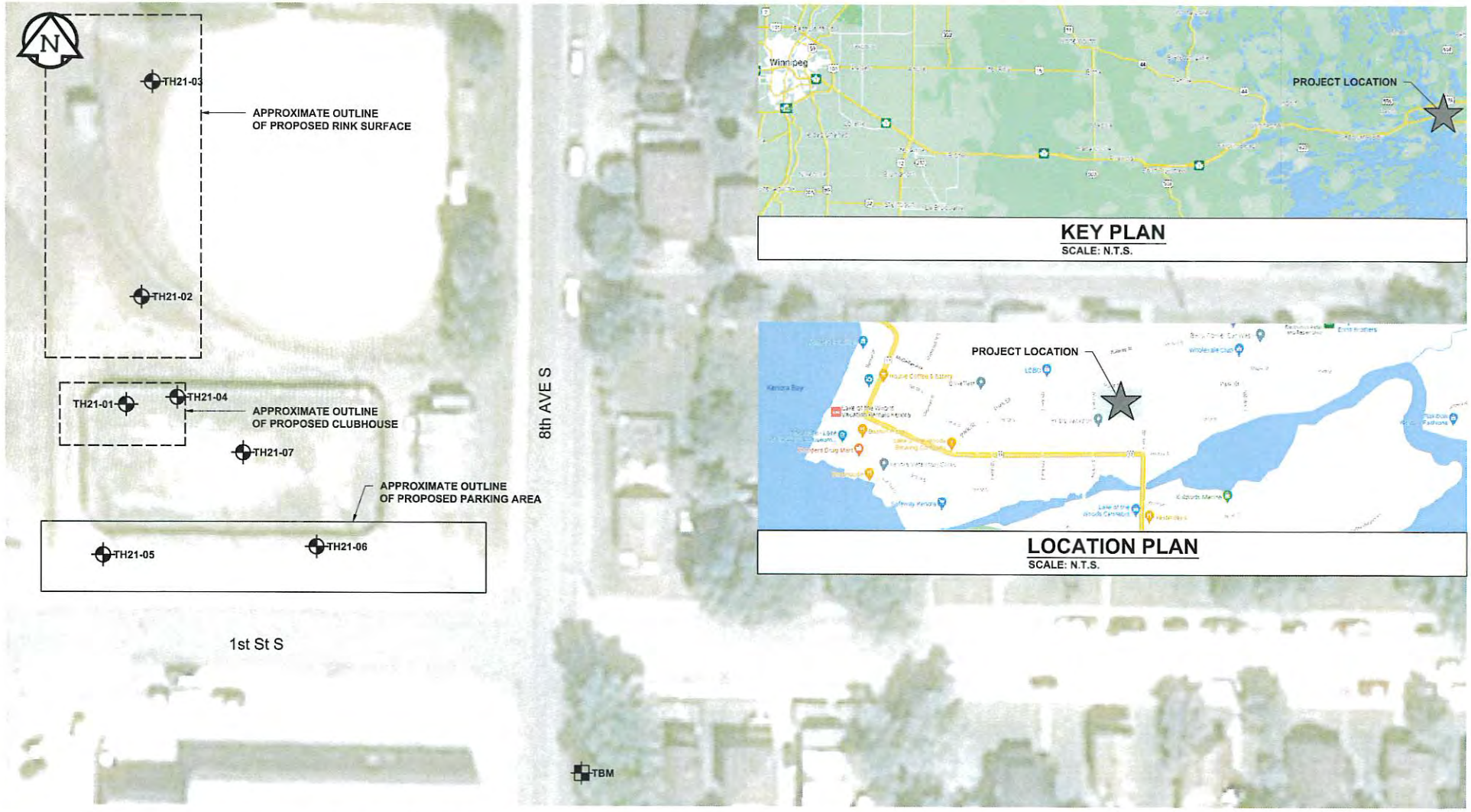
All information provided in this report is subject to our standard terms and conditions for engineering services, a copy of which is provided to each of our clients with the original scope of work or standard engineering services agreement. If these conditions are not attached, and you are not already in possession of such terms and conditions, contact our office and you will be promptly provided with a copy.

This report has been prepared by TREK Geotechnical Inc. (the Consultant) for the exclusive use of Solid Construction Inc. (the Client) and their agents for the work product presented in the report. Any findings or recommendations provided in this report are not to be used or relied upon by any third parties, except as agreed to in writing by the Client and Consultant prior to use

Figure

TREK GEOTECHNICAL

0814 001 00
Solid Construction Inc.
Kenora Central Community Club Sub-surface Investigation



Z:\Projects\0814 Solid Construction\0814 001-00 Central Community Club\3 Survey and Dwg\3.4 CAD\3.4.3 Working Folder\0814-001-00 Kenora Central CC Fig 01 CT.dwg, 2021-11-04 9:37:23 AM

0 5 10 15 20 25 m
SCALE = 1 : 600 (279 mm x 432 mm)

LEGEND:
- TEST HOLE (TREK, 2021)
- TEMPORARY BENCHMARK

NOTES:
1. AERIAL IMAGERY FROM BING MAPS, (2021).
2. TEMPORARY BENCHMARK IS LOCATED AT THE TOP OF EXISTING FIRE HYDRANT AT THE SOUTHEAST CORNER OF 1st STREET SOUTH AND 8th AVENUE SOUTH.

Figure 01
Test Hole Location Plan

Test Hole Logs

EXPLANATION OF FIELD AND LABORATORY TESTING

GENERAL NOTES

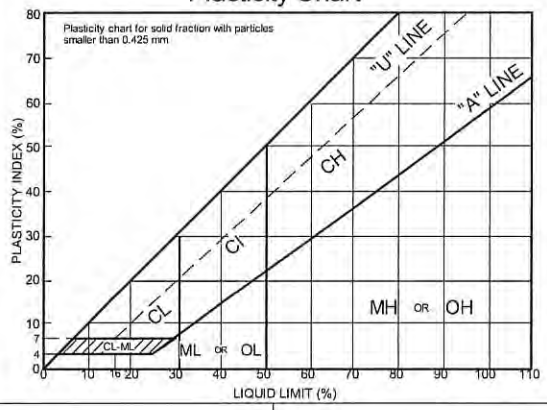
1. Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
2. Descriptions on these test hole logs apply only at the specific test hole locations and at the time the test holes were drilled. Variability of soil and groundwater conditions may exist between test hole locations.
3. When the following classification terms are used in this report or test hole logs, the primary and secondary soil fractions may be visually estimated.

Major Divisions			USCS Classification	Symbols	Typical Names	Laboratory Classification Criteria
Coarse-Grained soils (More than half the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than 4.75 mm)	Clean gravel (Little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain size curve, depending on percentage of fines (fraction smaller than No. 200 sieve) coarse-grained soils are classified as follows: Less than 5 percent..... GW, GP, SW, SP. More than 12 percent..... GM, GC, SM, SC. 6 to 12 percent..... Borderline cases requiring dual symbols*
			GP		Poorly-graded gravels, gravel-sand mixtures, little or no fines	
		Gravel with fines (Appreciable amount of fines)	GM		Silty gravels, gravel-sand-silt mixtures	
			GC		Clayey gravels, gravel-sand-silt mixtures	
	Sands (More than half of coarse fraction is smaller than 4.75 mm)	Clean sands (Little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines	
			SP		Poorly-graded sands, gravelly sands, little or no fines	
		Sands with fines (Appreciable amount of fines)	SM		Silty sands, sand-silt mixtures	
			SC		Clayey sands, sand-clay mixtures	
Fine-Grained soils (More than half the material is smaller than No. 200 sieve size)	Silts and Clays (Liquid limit less than 50)		ML		Inorganic silts and very fine sands, rock floor, silty or clayey fine sands or clayey silts with slight plasticity	
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
			OL		Organic silts and organic silty clays of low plasticity	
	Silts and Clays (Liquid limit greater than 50)		MH		Inorganic silts, micaceous or distomaceous fine sandy or silty soils, organic silts	
			CH		Inorganic clays of high plasticity, fat clays	
			OH		Organic clays of medium to high plasticity, organic silts	
	Highly Organic Soils		Pt		Peat and other highly organic soils	Von Post Classification Limit: Strong colour or odour, and often fibrous texture

Laboratory Classification Criteria:

- $C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
- Not meeting all gradation requirements for GW
- Atterberg limits below "A" line or P.I. less than 4
- Atterberg limits above "A" line or P.I. greater than 7
- Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
- $C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
- Not meeting all gradation requirements for SW
- Atterberg limits below "A" line or P.I. less than 4
- Atterberg limits above "A" line or P.I. greater than 7
- Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols

Plasticity Chart



Material	Particle Size mm	Particle Size ASTM Sieve sizes
Sand		#10 to #4
Coarse	2.00 to 4.75	#40 to #10
Medium	0.425 to 2.00	#200 to #40
Fine	0.075 to 0.425	
Silt or Clay	< 0.075	< #200

Material	Particle Size mm	Particle Size ASTM Sieve Sizes
Boulders	> 300	> 12 in.
Cobbles	75 to 300	3 in. to 12 in.
Gravel	19 to 75	3/4 in. to 3 in.
Coarse	4.75 to 19	#4 to 3/4 in.
Fine		

* Borderline classifications used for soils possessing characteristics of two groups are designated by combinations of groups symbols. For example; GW-GC, well-graded gravel-sand mixture with clay binder.

Other Symbol Types

	Asphalt		Bedrock (undifferentiated)		Cobbles
	Concrete		Limestone Bedrock		Boulders and Cobbles
	Fill		Cemented Shale		Silt Till
			Non-Cemented Shale		Clay Till

TREK GEOTECHNICAL

EXPLANATION OF FIELD AND LABORATORY TESTING

LEGEND OF ABBREVIATIONS AND SYMBOLS

LL - Liquid Limit (%)
PL - Plastic Limit (%)
PI - Plasticity Index (%)
MC - Moisture Content (%)
SPT - Standard Penetration Test
RQD - Rock Quality Designation
Qu - Unconfined Compression
Su - Undrained Shear Strength
VW - Vibrating Wire Piezometer
SI - Slope Inclinometer

▽ Water Level at Time of Drilling

▼ Water Level at End of Drilling

▼ Water Level After Drilling as Indicated on Test Hole Logs

FRACTION OF SECONDARY SOIL CONSTITUENTS ARE BASED ON THE FOLLOWING TERMINOLOGY

TERM	EXAMPLES	PERCENTAGE
and	and CLAY	35 to 50 percent
"y" or "ey"	clayey, silty	20 to 35 percent
some	some silt	10 to 20 percent
trace	trace gravel	1 to 10 percent

TERMS DESCRIBING CONSISTENCY OR COMPACTION CONDITION

The Standard Penetration Test blow count (N) of a non-cohesive soil can be related to compactness condition as follows:

Descriptive Terms	SPT (N) (Blows/300 mm)
Very loose	< 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very dense	> 50

The Standard Penetration Test blow count (N) of a cohesive soil can be related to its consistency as follows:

Descriptive Terms	SPT (N) (Blows/300 mm)
Very soft	< 2
Soft	2 to 4
Firm	4 to 8
Stiff	8 to 15
Very stiff	15 to 30
Hard	> 30

The undrained shear strength (Su) of a cohesive soil can be related to its consistency as follows:

Descriptive Terms	Undrained Shear Strength (kPa)
Very soft	< 12
Soft	12 to 25
Firm	25 to 50
Stiff	50 to 100
Very stiff	100 to 200
Hard	> 200

Sub-Surface Log

Test Hole TH21-01

TREK GEOTECHNICAL

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513737.084 N, 393521.7324 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.42 m
Method:	170 mm Hollow Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)
99.0	0.0		SAND (FILL) - trace silt, trace gravel (<10 mm diam.) - brown, moist, loose - poorly graded, fine grained		G01	
98.5	0.5		SILT (FILL) - trace to some fine sand, trace to some clay - grey, moist, soft - low plasicity		G02	
	1.0		PEAT - amorphous, some rootlets - brown - moist - H5-H6 Von Post classification		G03	
	2.0		- grey to dark brown, moist to wet below 2.1 m		G04	
96.5	2.5					
	3.0		CLAY - silty - grey - moist, soft - high plasicity		G05	
	4.5		- very soft below 4.6 m		T06	
93.9	5.5		SAND - trace fine gravel <25 mm diam.) - brown - wet, compact - angular - poorly graded, coarse grained		S07	21
	7.0					

Bulk Unit Wt (kN/m³): 16 17 18 19 20 21

Particle Size (%): 0 20 40 60 80 100

PL MC LL: 0 20 40 60 80 100

Undrained Shear Strength (kPa): 0 10 20 30 40 50

Test Type: Δ Torvane Δ | Pocket Pen. | ⊠ Qu ⊠ | O Field Vane O

299

210

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

SUB-SURFACE LOG LOGS 2021-10-04 KENORA CENTRAL COMMUNITY MK 0814-001 00.GPJ TREK.GDT 11/4/21

TREK GEOTECHNICAL

Sub-Surface Log

Test Hole TH21-01

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Bulk Unit Wt (kN/m^3) 16 17 18 19 20 21	Particle Size (%) 0 20 40 60 80 100	PL MC LL 0 20 40 60 80 100	Undrained Shear Strength (kPa) Test Type: Torvane, Pocket Pen., Qu, Field Vane 0 10 20 30 40 50
	8.0		- sand blow up encountered below 7.6 m - 200 mm thick seam of fine grained sand at 7.8 m		S08	6				
	8.5									
	9.0				S09	15				
	9.5									
	10.0									
	10.5									
	11.0				S10	6				
	11.5									
	12.0									
86.8	12.5				S11	20				

END OF TEST HOLE AT 12.7 m DEPTH IN SAND

Notes:

1. Seepage and sloughing observed below 3.0 m depth.
2. Test hole drilled with 125 mm diam. solid stem auger to 4.6 m depth.
3. Switched to hollow stem below 4.6 m depth due to seepage and sloughing conditions.
4. Water level not measured after completion of drilling due to drilling method used.
5. Test hole open to 3.0 m depth immediately after completion.
6. Test hole backfilled to surface with cuttings and bentonite chips.
7. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

Sub-Surface Log

Test Hole TH21-02
1 of 1

TREK GEOTECHNICAL

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513754.419 N, 393524.1316 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.39 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)
99.2	0		ORGANIC CLAY (Topsoil) - some organics, dark brown to black, moist, intermediate plasticity			
98.9	0.5		CLAY (FILL) - silty, trace fine sand, trace fine gravel (<15 mm diam.), grey, moist, firm, high plasicity			
			PEAT - amorphous, some rootlets - brown - moist - H5-H6 Von Post classification		G12	
	1.0				G13	300
	1.5					
			- grey to dark brown, moist to wet below 1.8 m		G14	211
97.0	2.0					
	2.5		CLAY - silty - grey - moist, soft - high plasicity		G15	
	3.0		- very soft below 3.0 m			
	3.5				T16	15.5
	4.0					
	4.5				G17	
93.9	5.0					
	5.5		SAND - trace fine gravel <25 mm diam.) - brown - wet, compact - angular, poorly graded, coarse grained		S18	9
93.3	6.0					

Bulk Unit Wt (kN/m³): 16 17 18 19 20 21

Particle Size (%): 0 20 40 60 80 100

PL MC LL: 0 20 40 60 80 100

Undrained Shear Strength (kPa): 0 10 20 30 40 50

Test Type: △ Torvane △ | ✤ Pocket Pen. ✤ | ⊠ Qu ⊠ | O Field Vane O

END OF TEST HOLE AT 6.1 m DEPTH IN SAND

Notes:
1. Seepage and sloughing observed below 2.9 m depth.
2. Water level measured at 2.4 m depth immediately after completion of drilling.
3. Test hole open to 2.9 m depth immediately after completion of drilling.
4. Test hole backfilled to surface with cuttings and bentonite chips.
5. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

SUB-SURFACE LOG LOGS 2021-10-04 KENORA CENTRAL COMMUNITY MK 0814-001 00.GPJ TREK.GDT 11/4/21

Sub-Surface Log

Test Hole TH21-03
1 of 1

TREK GEOTECHNICAL

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513788.953 N, 393525.8167 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.45 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)
99.1	0		SAND (FILL) - trace silt, trace gravel (<10 mm diam.) - brown, moist, loose, poorly graded, fine grained		G19	
99.0	0.5		SILT (FILL) - trace to some fine sand, trace to some clay, grey, moist, soft, low plasicity		G20	
					G21	234
	1.0		PEAT - amorphous, trace rootlets - dark brown - moist - H5-H6 Von Post classification			
	1.5		- fibrous, orange to brown, moist, H2-H3 Von Post classification below 1.5 m		G22	575
	2.0		- amorphous, grey to dark brown, moist to wet, H5-H6 Von Post classification below 1.8 m		G23	308
	2.5					
96.4	3.0		CLAY - silty - grey - moist, firm - high plasicity		S24	15.4
	3.5					
	4.0					
	4.5		- very soft below 4.6 m		G25	
	5.0					
	5.5					
93.4	6.0					

Bulk Unit Wt (kN/m^3): 16 17 18 19 20 21
Particle Size (%): 0 20 40 60 80 100 | PL MC LL | 0 20 40 60 80 100
Undrained Shear Strength (kPa): 0 10 20 30 40 50
Test Type: △ Torvane △ | ✤ Pocket Pen. ✤ | ☒ Qu ☒ | O Field Vane O

END OF TEST HOLE AT 6.1 m DEPTH IN CLAY

Notes:
1. Seepage and sloughing observed below 3.0 m depth.
2. Water level measured at 2.4 m depth immediately after completion of drilling.
3. Test hole open to 3.0 m depth immediately after completion of drilling.
4. Test hole backfilled to surface with cuttings and bentonite chips.
5. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

SUB-SURFACE LOG LOGS 2021-10-04 KENORA CENTRAL COMMUNITY MK 0814-001 00.GPJ TREK.GDT 11/4/21

Sub-Surface Log

Test Hole TH21-04
1 of 1

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513738.258 N, 393529.8225 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.41 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)
99.0	0.0		SAND (FILL) - trace silt, trace gravel (<10 mm diam.) - brown - moist, loose, poorly graded, fine grained		G26	
	0.5		PEAT - amorphous, some rootlets - brown - moist - H5-H6 Von Post classification		G27	
	1.0					
	1.5					
	2.0		- grey to dark brown, moist to wet below 1.8 m		G28	
97.1	2.5		CLAY - silty - grey - moist, soft - high plasicity		G29	
	3.0					
	3.5		- very soft below 3.7 m		G30	
	4.0					
94.8	4.5		- no recovery below 4.6 m			
	5.0				S31	
	5.5					
	6.0				S32	

Bulk Unit Wt (kN/m³): 16 17 18 19 20 21
Particle Size (%): 0 20 40 60 80 100
PL MC LL
Undrained Shear Strength (kPa): 0 10 20 30 40 50
Test Type: △ Torvane △ ✤ Pocket Pen. ✤ ☒ Qu ☒ O Field Vane O

SPT (N): 354 at 1.8 m; 195 at 2.4 m

END OF TEST HOLE AT 6.5 m DEPTH

Notes:
1. Test hole terminated due to augers going out of plumb below 4.6 m depth.
2. Seepage and sloughing observed below 3.7 m depth.
3. Water level measured at 3.7 m depth immediately after completion of drilling.
4. Test hole open to 4.9 m depth immediately after completion of drilling.
5. Test hole backfilled to surface with cuttings and bentonite chips.
6. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

SUB-SURFACE LOG LOGS 2021-10-04 KENORA CENTRAL COMMUNITY MK 0814-001 00.GPJ TREK.GDT 11/4/21

Sub-Surface Log

Test Hole TH21-05

TREK GEOTECHNICAL

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513712.909 N, 393518.086 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.38 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Bulk Unit Wt (kN/m³) 16 17 18 19 20 21 / Particle Size (%) 0 20 40 60 80 100 / PL MC LL	Undrained Shear Strength (kPa) Test Type: Δ Torvane Δ, ✤ Pocket Pen. ✤, ☒ Qu ☒, O Field Vane O
98.9	0.5		SAND (FILL) - trace clay, trace silt, trace gravel (<15 mm diam.) - black, moist, compact - poorly graded, fine grained		G32			
			PEAT - fibrous, some rootlets - orange to brown - moist - H2-H3 Von Post classification		G33			230
97.9	1.5		END OF TEST HOLE AT 1.5 m DEPTH IN PEAT					

Notes:
1. Seepage and sloughing were not observed during drilling.
2. Test hole dry upon completion of drilling.
3. Test hole open to 1.5 m depth immediately after completion of drilling.
4. Test hole backfilled to surface with cuttings and bentonite chips.
5. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

Sub-Surface Log

Test Hole TH21-06

TREK GEOTECHNICAL

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513714.279 N, 393552.2624 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.36 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Bulk Unit Wt (kN/m³) 16 17 18 19 20 21 / Particle Size (%) 0 20 40 60 80 100 / PL MC LL	Undrained Shear Strength (kPa) Test Type: Δ Torvane, ✤ Pocket Pen., ☒ Qu, O Field Vane — 0 10 20 30 40 50
99.1	0		SAND (FILL) - trace clay, trace silt, trace gravel (<15 mm diam.) - black, moist, compact, poorly graded, fine grained		G34			
	0.5		PEAT - fibrous, some rootlets - orange to brown - moist - H2-H3 Von Post classification		G35			302
97.8	1.5							

END OF TEST HOLE AT 1.5 m DEPTH IN PEAT

Notes:
1. Seepage and sloughing were not observed during drilling.
2. Test hole dry upon completion of drilling.
3. Test hole open to 1.5 m depth immediately after completion of drilling.
4. Test hole backfilled to surface with cuttings and bentonite chips.
5. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

Sub-Surface Log

Test Hole TH21-07
1 of 1

Client:	Solid Construction Inc.	**Project Number:**	0814 001 00
Project Name:	Central Community Club, Kenora, ON	**Location:**	UTM 14N: 5513729.369 N, 393540.4555 E
Contractor:	Paddock Drilling Ltd.	**Ground Elevation:**	99.40 m
Method:	125 mm Solid Stem Auger, Acker MP5-T Track Mount	**Date Drilled:**	September 30, 2021

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Elevation (m)	Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Bulk Unit Wt (kN/m³) 16 17 18 19 20 21 / Particle Size (%) 0 20 40 60 80 100 / PL MC LL 0 20 40 60 80 100	Undrained Shear Strength (kPa) Test Type: Δ Torvane Δ, ✤ Pocket Pen. ✤, ☒ Qu ☒, O Field Vane O — 0 10 20 30 40 50
	0.5		Test hole drilled in attempt to verify presence of bedrock or boulders. Augers in test hole began sloping below 4.9 m.					
	1.0							
	1.5							
	2.0							
	2.5							
	3.0							
	3.5							
	4.0							
	4.5							
94.5			END OF TEST HOLE AT 6.5 m DEPTH					

Notes:
1. Test hole terminated due to augers going out of plumb below 4.9 m depth.
2. Seepage and sloughing conditions not measured after completion of drilling.
3. Test hole backfilled to surface with cuttings and bentonite chips.
4. Test hole surveyed relative to TBM located at the top of existing fire hydrant at the southeast corner of 1st St South and 8th Ave South. An elevation of 100.0 m was assigned to the TBM.

Logged By: Matt Klymochko **Reviewed By:** Kent Bannister **Project Engineer:** Ryan Belbas

SUB-SURFACE LOG LOGS 2021-10-04 KENORA CENTRAL COMMUNITY MK 0814-001 00.GPJ TREK.GDT 11/4/21

Appendix A

Laboratory Testing

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Winnipeg, MB R3H 0L3
Tel: 204.975.9433 Fax: 204.975.9435

Moisture Content Report
ASTM D2216-10

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Sample Date 05-Oct-21
Test Date 12-Oct-21
Technician JN

Test Hole	TH21-01	TH21-01	TH21-01	TH21-01	TH21-01	TH21-01
Depth (m)	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	2.1 - 2.3	3.0 - 3.2	6.1 - 6.6
Sample #	G01	G02	G03	G04	G05	S07
Tare ID	AC14	N28	W48	PB28	K18	N85
Mass of tare	6.9	8.3	8.4	8.6	8.5	8.4
Mass wet + tare	252.7	220.2	161.7	251.4	224.7	267.7
Mass dry + tare	230.6	185.8	46.8	86.8	138.2	227.4
Mass water	22.1	34.4	114.9	164.6	86.5	40.3
Mass dry soil	223.7	177.5	38.4	78.2	129.7	219.0
Moisture %	9.9%	19.4%	299.2%	210.5%	66.7%	18.4%

Test Hole	TH21-01	TH21-01	TH21-01	TH21-02	TH21-02	TH21-02
Depth (m)	7.6 - 8.1	10.7 - 11.1	12.2 - 12.6	0.2 - 0.3	0.8 - 0.9	1.8 - 2.0
Sample #	S08	S10	S11	G12	G13	G14
Tare ID	D27	W85	AB75	AC05	W47	W44
Mass of tare	8.4	8.6	6.9	6.8	8.5	8.6
Mass wet + tare	304.7	238.9	253.4	331.9	159.6	189.0
Mass dry + tare	263.4	200.6	234.4	228.6	46.2	66.6
Mass water	41.3	38.3	19.0	103.3	113.4	122.4
Mass dry soil	255.0	192.0	227.5	221.8	37.7	58.0
Moisture %	16.2%	19.9%	8.4%	46.6%	300.8%	211.0%

Test Hole	TH21-02	TH21-02	TH21-02	TH21-03	TH21-03	TH21-03
Depth (m)	2.4 - 2.6	4.6 - 4.7	5.6 - 6.1	0.2 - 0.3	0.3 - 0.5	0.5 - 0.6
Sample #	G15	G17	S18	G19	G20	G21
Tare ID	E47	E16	W01	Z05	Z07	W34
Mass of tare	8.7	8.5	8.4	8.4	8.8	8.7
Mass wet + tare	222.1	380.9	355.0	213.5	246.3	200.1
Mass dry + tare	150.6	274.9	319.2	198.8	196.8	66.0
Mass water	71.5	106.0	35.8	14.7	49.5	134.1
Mass dry soil	141.9	266.4	310.8	190.4	188.0	57.3
Moisture %	50.4%	39.8%	11.5%	7.7%	26.3%	234.0%

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Moisture Content Report
ASTM D2216-10

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Sample Date 05-Oct-21
Test Date 12-Oct-21
Technician JN

Test Hole	TH21-03	TH21-03	TH21-03	TH21-04	TH21-04	TH21-04
Depth (m)	1.5 - 1.7	2.1 - 2.3	4.6 - 4.7	0.2 - 0.3	0.6 - 0.8	1.8 - 2.0
Sample #	G22	G23	G25	G26	G27	G28
Tare ID	H54	F66	H55	W59	D49	W99
Mass of tare	8.5	8.6	8.5	8.7	8.5	8.5
Mass wet + tare	201.0	221.4	398.8	220.5	123.3	246.3
Mass dry + tare	37.0	60.8	241.6	200.8	33.8	89.2
Mass water	164.0	160.6	157.2	19.7	89.5	157.1
Mass dry soil	28.5	52.2	233.1	192.1	25.3	80.7
Moisture %	575.4%	307.7%	67.4%	10.3%	353.8%	194.7%

Test Hole	TH21-04	TH21-04	TH21-05	TH21-05	TH21-06	TH21-06
Depth (m)	2.3 - 2.4	3.7 - 3.8	0.2 - 0.3	0.6 - 0.8	0.2 - 0.3	0.6 - 0.8
Sample #	G29	G30	G32	G33	G34	G35
Tare ID	A103	D56	Z12	E80	A34	W15
Mass of tare	8.6	8.8	8.5	8.6	8.3	8.5
Mass wet + tare	267.8	249.7	225.4	182.9	272.5	148.0
Mass dry + tare	175.8	139.4	183.2	61.4	247.4	43.2
Mass water	92.0	110.3	42.2	121.5	25.1	104.8
Mass dry soil	167.2	130.6	174.7	52.8	239.1	34.7
Moisture %	55.0%	84.5%	24.2%	230.1%	10.5%	302.0%

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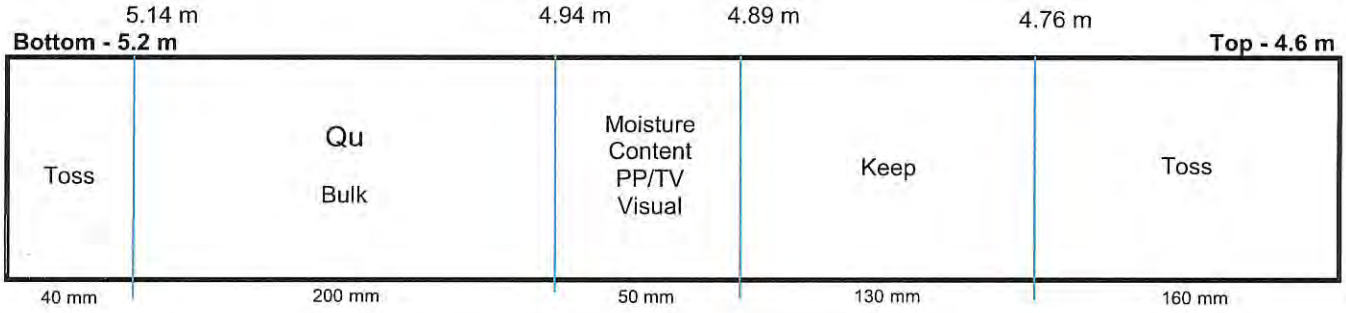
Shelby Tube Visual

Project No.	0814-001-00
Client	Solid Construction Inc.
Project	Central Community Club, Kenora, ON
Test Hole	TH21-01
Sample #	T06
Depth (m)	4.6 - 5.2
Sample Date	05-Oct-21
Test Date	12-Oct-21
Technician	JN

Tube Extraction

Recovery (mm) 580



Visual Classification

Material	CLAY
Composition	silty

trace silt inclusions (<10 mm diam.)

trace gravel (<10 mm diam.)

Color	dark brown
Moisture	moist
Consistency	very soft to soft
Plasticity	high plasticity
Structure	-
Gradation	-

Torvane

Reading	0.20
Vane Size (s,m,l)	m
Undrained Shear Strength (kPa)	19.6

Pocket Penetrometer

Reading	**1**	0.40
	2	0.40
	3	0.50
	Average	0.43
Undrained Shear Strength (kPa)		21.2

Moisture Content

Tare ID	W13
Mass tare (g)	8.4
Mass wet + tare (g)	411.3
Mass dry + tare (g)	291.2
Moisture %	42.5%

Unit Weight

Bulk Weight (g)		1008.4
Length (mm)	**1**	145.87
	2	146.01
	3	145.85
	4	146.20
Average Length (m)		0.146
Diam. (mm)	**1**	68.49
	2	68.72
	3	70.50
	4	70.29
Average Diameter (m)		0.070
Volume (m^3)		5.54E-04
Bulk Unit Weight (kN/m^3)		17.9
Bulk Unit Weight (pcf)		113.7
Dry Unit Weight (kN/m^3)		12.5
Dry Unit Weight (pcf)		79.8

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Unconfined Compressive Strength

ASTM D2166

Project No.	0814-001-00
Client	Solid Construction Inc.
Project	Central Community Club, Kenora, ON

Test Hole	TH21-01
Sample #	T06
Depth (m)	4.6 - 5.2
Sample Date	21-Jun-21
Test Date	28-Jun-21
Technician	JN

Unconfined Strength

	kPa	ksf
Max q_u	18.7	0.4
Max S_u	9.3	0.2

Specimen Data

Description CLAY - silty, trace silt inclusions (<10 mm diam.), trace gravel (<10 mm diam.), dark brown, moist, very soft to soft, high plasticity

Length	146.0	(mm)
Diameter	69.5	(mm)
L/D Ratio	2.1	
Initial Area	0.00379	(m^2)
Load Rate	1.00	(%/min)

Moisture %	42%	
Bulk Unit Wt.	17.9	(kN/m^3)
Dry Unit Wt.	12.5	(kN/m^3)
Liquid Limit	-	
Plastic Limit	-	
Plasticity Index	-	

Undrained Shear Strength Tests

Torvane

Reading	Undrained Shear Strength	
tsf	**kPa**	**ksf**
0.20	19.6	0.41

Vane Size
m

Pocket Penetrometer

	Reading	Undrained Shear Strength	
	tsf	**kPa**	**ksf**
	0.40	19.6	0.41
	0.40	19.6	0.41
	0.50	24.5	0.51
Average	**0.43**	**21.3**	**0.44**

Failure Geometry

Sketch:

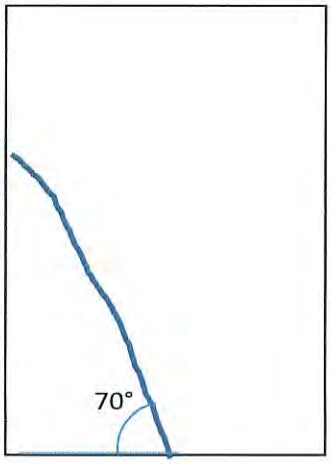

Photo:

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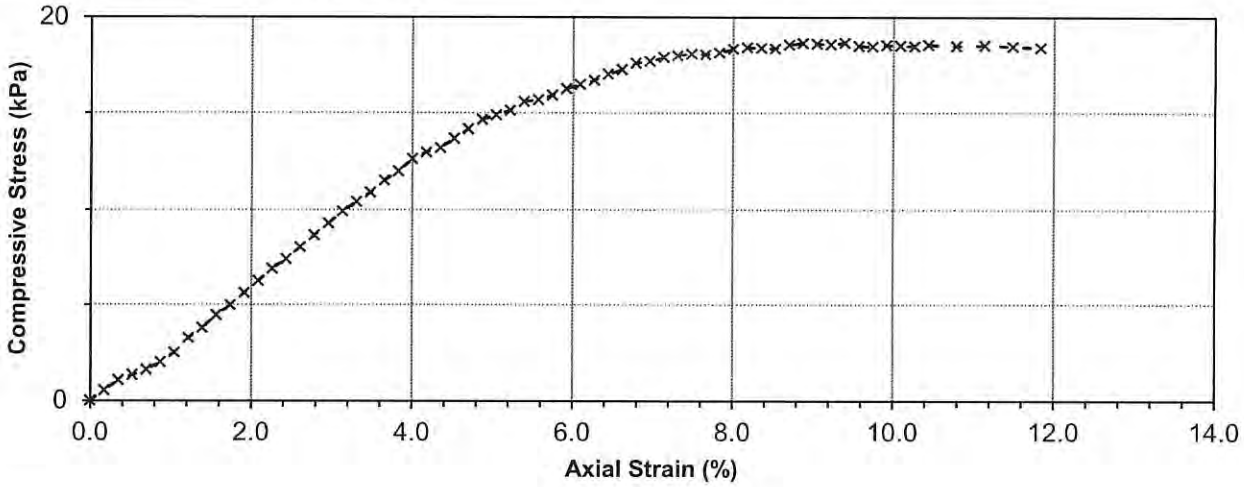
Unconfined Compressive Strength

ASTM D2166

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Unconfined Compression Test Graph



Unconfined Compression Test Data

Deformation Dial Reading	Load Ring Dial Reading	Deflection (mm)	Axial Strain (%)	Corrected Area (m^2)	Axial Load (N)	Compressive Stress, q_u (kPa)	Shear Stress, S_u (kPa)
0	-0.11	0.0000	0.00	0.003794	0.0	0.00	0.00
10	-0.07	0.2540	0.17	0.003800	2.0	0.53	0.27
20	-0.03	0.5080	0.35	0.003807	4.0	1.06	0.53
30	-0.01	0.7620	0.52	0.003814	5.0	1.32	0.66
40	0.01	1.0160	0.70	0.003820	6.0	1.58	0.79
50	0.04	1.2700	0.87	0.003827	7.6	1.98	0.99
60	0.08	1.5240	1.04	0.003834	9.6	2.50	1.25
70	0.14	1.7780	1.22	0.003840	12.6	3.28	1.64
80	0.18	2.0320	1.39	0.003847	14.6	3.80	1.90
90	0.23	2.2860	1.57	0.003854	17.1	4.45	2.22
100	0.27	2.5400	1.74	0.003861	19.2	4.96	2.48
110	0.32	2.7940	1.91	0.003868	21.7	5.60	2.80
120	0.37	3.0480	2.09	0.003875	24.2	6.24	3.12
130	0.42	3.3020	2.26	0.003881	26.7	6.88	3.44
140	0.46	3.5560	2.44	0.003888	28.7	7.39	3.69
150	0.51	3.8100	2.61	0.003895	31.2	8.02	4.01
160	0.56	4.0640	2.78	0.003902	33.8	8.65	4.33
170	0.61	4.3180	2.96	0.003909	36.3	9.28	4.64
180	0.66	4.5720	3.13	0.003916	38.8	9.91	4.95
190	0.70	4.8260	3.31	0.003923	40.8	10.41	5.20
200	0.74	5.0800	3.48	0.003930	42.8	10.90	5.45
210	0.79	5.3340	3.65	0.003938	45.4	11.52	5.76
220	0.83	5.5880	3.83	0.003945	47.4	12.01	6.01
230	0.88	5.8420	4.00	0.003952	49.9	12.63	6.31

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Unconfined Compressive Strength
ASTM D2166

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Unconfined Compression Test Data (cont'd)

Deformation Dial Reading	Load Ring Dial Reading	Deflection (mm)	Axial Strain (%)	Corrected Area (m^2)	Axial Load (N)	Compressive Stress, q_u (kPa)	Shear Stress, S_u (kPa)
240	0.91	6.0960	4.18	0.003959	51.4	12.99	6.49
250	0.93	6.3500	4.35	0.003966	52.4	13.22	6.61
260	0.97	6.6040	4.52	0.003973	54.4	13.70	6.85
270	1.01	6.8580	4.70	0.003981	56.5	14.18	7.09
280	1.05	7.1120	4.87	0.003988	58.5	14.66	7.33
290	1.07	7.3660	5.05	0.003995	59.5	14.89	7.44
300	1.09	7.6200	5.22	0.004003	60.5	15.11	7.56
310	1.13	7.8740	5.39	0.004010	62.5	15.59	7.79
320	1.14	8.1280	5.57	0.004017	63.0	15.68	7.84
330	1.16	8.3820	5.74	0.004025	64.0	15.90	7.95
340	1.19	8.6360	5.92	0.004032	65.5	16.25	8.13
350	1.21	8.8900	6.09	0.004040	66.5	16.47	8.23
360	1.23	9.1440	6.26	0.004047	67.5	16.69	8.34
370	1.26	9.3980	6.44	0.004055	69.1	17.03	8.52
380	1.28	9.6520	6.61	0.004062	70.1	17.25	8.62
390	1.31	9.9060	6.79	0.004070	71.6	17.59	8.79
400	1.32	10.1600	6.96	0.004077	72.1	17.68	8.84
410	1.34	10.4140	7.13	0.004085	73.1	17.89	8.95
420	1.35	10.6680	7.31	0.004093	73.6	17.98	8.99
430	1.36	10.9220	7.48	0.004100	74.1	18.07	9.03
440	1.36	11.1760	7.66	0.004108	74.1	18.04	9.02
450	1.37	11.4300	7.83	0.004116	74.6	18.12	9.06
460	1.39	11.6840	8.00	0.004124	75.6	18.33	9.17
470	1.40	11.9380	8.18	0.004132	76.1	18.42	9.21
480	1.40	12.1920	8.35	0.004139	76.1	18.39	9.19
490	1.40	12.4460	8.53	0.004147	76.1	18.35	9.18
500	1.42	12.7000	8.70	0.004155	77.1	18.56	9.28
510	1.43	12.9540	8.87	0.004163	77.6	18.64	9.32
520	1.43	13.2080	9.05	0.004171	77.6	18.61	9.30
530	1.43	13.4620	9.22	0.004179	77.6	18.57	9.29
540	1.44	13.7160	9.40	0.004187	78.1	18.66	9.33
550	1.43	13.9700	9.57	0.004195	77.6	18.50	9.25
560	1.43	14.2240	9.74	0.004203	77.6	18.47	9.23
570	1.44	14.4780	9.92	0.004211	78.1	18.55	9.28
580	1.44	14.7320	10.09	0.004219	78.1	18.52	9.26
590	1.44	14.9860	10.27	0.004228	78.1	18.48	9.24
600	1.45	15.2400	10.44	0.004236	78.6	18.56	9.28
620	1.45	15.7480	10.79	0.004252	78.6	18.49	9.25
640	1.46	16.2560	11.14	0.004269	79.1	18.54	9.27
660	1.46	16.7640	11.48	0.004286	79.1	18.46	9.23
680	1.46	17.2720	11.83	0.004303	79.1	18.39	9.20

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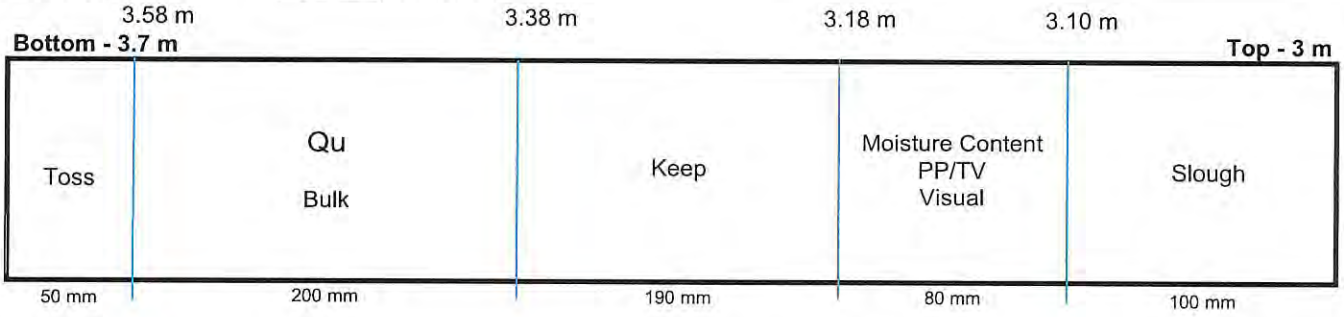
Shelby Tube Visual

Project No.	0814-001-00
Client	Solid Construction Inc.
Project	Central Community Club, Kenora, ON
Test Hole	TH21-02
Sample #	T16
Depth (m)	3.0 - 3.7
Sample Date	05-Oct-21
Test Date	12-Oct-21
Technician	JN

Tube Extraction

Recovery (mm) 620 (overpush)



Visual Classification

Material	CLAY
Composition	silty
Color	dark brown
Moisture	moist
Consistency	very soft
Plasticity	high plasticity
Structure	-
Gradation	-

Torvane

Reading	0.38
Vane Size (s,m,l)	l
Undrained Shear Strength (kPa)	7.5

Pocket Penetrometer (large 24 mm diam.)

Reading	**1**	1.50
	2	1.50
	3	1.50
	Average	1.50
Undrained Shear Strength (kPa)		4.6

Moisture Content

Tare ID	AC25
Mass tare (g)	6.8
Mass wet + tare (g)	326.8
Mass dry + tare (g)	193.0
Moisture %	71.9%

Unit Weight

Bulk Weight (g)		932.4
Length (mm)	**1**	150.36
	2	149.55
	3	151.11
	4	150.97
Average Length (m)		0.150
Diam. (mm)	**1**	69.57
	2	70.77
	3	71.33
	4	70.98
Average Diameter (m)		0.071
Volume (m^3)		5.90E-04
Bulk Unit Weight (kN/m^3)		15.5
Bulk Unit Weight (pcf)		98.6
Dry Unit Weight (kN/m^3)		9.0
Dry Unit Weight (pcf)		57.4

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Unconfined Compressive Strength

ASTM D2166

Project No.	0814-001-00
Client	Solid Construction Inc.
Project	Central Community Club, Kenora, ON
Test Hole	TH21-01
Sample #	T16
Depth (m)	3.0 - 3.7
Sample Date	21-Jun-21
Test Date	28-Jun-21
Technician	JN

Unconfined Strength

	kPa	ksf
Max q_u	15.6	0.3
Max S_u	7.8	0.2

Specimen Data

Description CLAY - silty, dark brown, moist, very soft, high plasticity

Length	150.5	(mm)	**Moisture %**	72%	
Diameter	70.7	(mm)	**Bulk Unit Wt.**	15.5	(kN/m^3)
L/D Ratio	2.1		**Dry Unit Wt.**	9.0	(kN/m^3)
Initial Area	0.00392	(m^2)	**Liquid Limit**	-	
Load Rate	1.00	(%/min)	**Plastic Limit**	-	
			Plasticity Index	-	

Undrained Shear Strength Tests

Torvane

Reading	Undrained Shear Strength	
tsf	**kPa**	**ksf**
0.38	7.5	0.16

Vane Size
I

Pocket Penetrometer

	Reading	Undrained Shear Strength	
	tsf	**kPa**	**ksf**
	1.50	4.6	0.10
	1.50	4.6	0.10
	1.50	4.6	0.10
Average	**1.50**	4.6	**0.10**

Failure Geometry

Sketch:

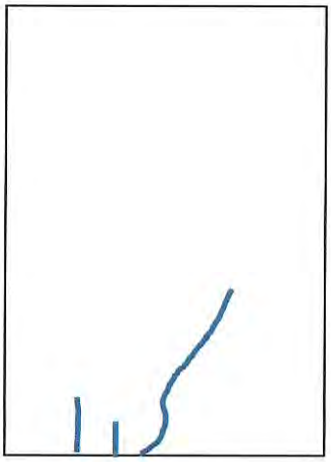

Photo:

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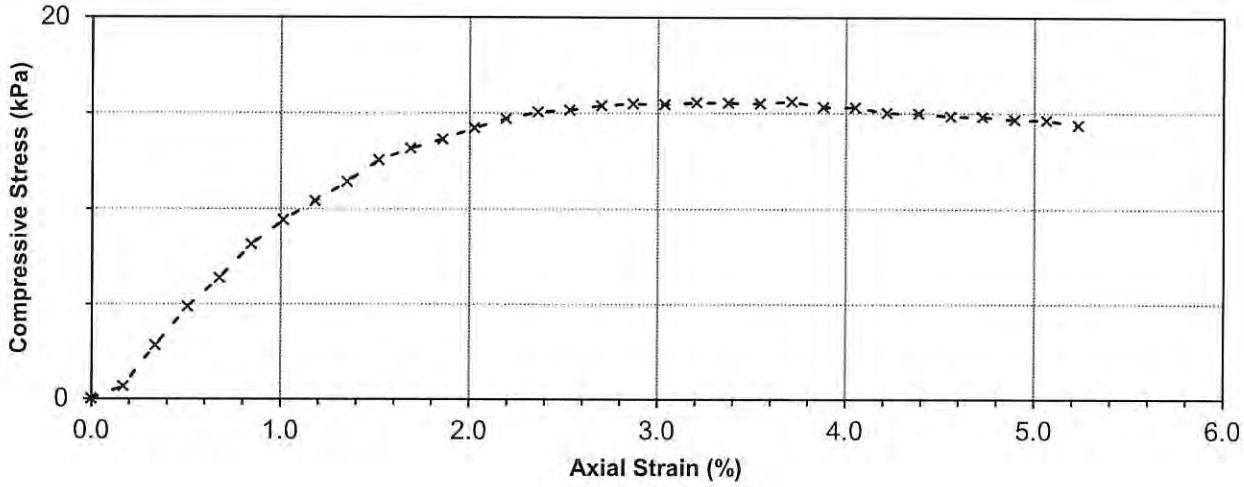
Unconfined Compressive Strength

ASTM D2166

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Unconfined Compression Test Graph



Unconfined Compression Test Data

Deformation Dial Reading	Load Ring Dial Reading	Deflection (mm)	Axial Strain (%)	Corrected Area (m^2)	Axial Load (N)	Compressive Stress, q_u (kPa)	Shear Stress, S_u (kPa)
0	-0.11	0.0000	0.00	0.003922	0.0	0.00	0.00
10	-0.06	0.2540	0.17	0.003928	2.5	0.64	0.32
20	0.11	0.5080	0.34	0.003935	11.1	2.82	1.41
30	0.27	0.7620	0.51	0.003942	19.2	4.86	2.43
40	0.39	1.0160	0.68	0.003948	25.2	6.38	3.19
50	0.53	1.2700	0.84	0.003955	32.3	8.16	4.08
60	0.63	1.5240	1.01	0.003962	37.3	9.41	4.71
70	0.71	1.7780	1.18	0.003969	41.3	10.41	5.21
80	0.79	2.0320	1.35	0.003975	45.4	11.41	5.71
90	0.88	2.2860	1.52	0.003982	49.9	12.53	6.27
100	0.93	2.5400	1.69	0.003989	52.4	13.14	6.57
110	0.97	2.7940	1.86	0.003996	54.4	13.62	6.81
120	1.02	3.0480	2.03	0.004003	57.0	14.23	7.11
130	1.06	3.3020	2.19	0.004010	59.0	14.71	7.35
140	1.09	3.5560	2.36	0.004017	60.5	15.06	7.53
150	1.10	3.8100	2.53	0.004024	61.0	15.16	7.58
160	1.12	4.0640	2.70	0.004030	62.0	15.38	7.69
170	1.13	4.3180	2.87	0.004037	62.5	15.48	7.74
180	1.13	4.5720	3.04	0.004045	62.5	15.45	7.73
190	1.14	4.8260	3.21	0.004052	63.0	15.55	7.78
200	1.14	5.0800	3.38	0.004059	63.0	15.52	7.76
210	1.14	5.3340	3.54	0.004066	63.0	15.50	7.75
220	1.15	5.5880	3.71	0.004073	63.5	15.59	7.80
230	1.13	5.8420	3.88	0.004080	62.5	15.32	7.66

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Unconfined Compressive Strength
ASTM D2166

Project No. 0814-001-00
Client Solid Construction Inc.
Project Central Community Club, Kenora, ON

Unconfined Compression Test Data (cont'd)

Deformation Dial Reading	Load Ring Dial Reading	Deflection (mm)	Axial Strain (%)	Corrected Area (m^2)	Axial Load (N)	Compressive Stress, q_u (kPa)	Shear Stress, S_u (kPa)
240	1.13	6.0960	4.05	0.004087	62.5	15.29	7.65
250	1.11	6.3500	4.22	0.004094	61.5	15.02	7.51
260	1.11	6.6040	4.39	0.004102	61.5	14.99	7.50
270	1.10	6.8580	4.56	0.004109	61.0	14.84	7.42
280	1.10	7.1120	4.73	0.004116	61.0	14.82	7.41
290	1.09	7.3660	4.89	0.004123	60.5	14.67	7.33
300	1.09	7.6200	5.06	0.004131	60.5	14.64	7.32
310	1.07	7.8740	5.23	0.004138	59.5	14.37	7.19

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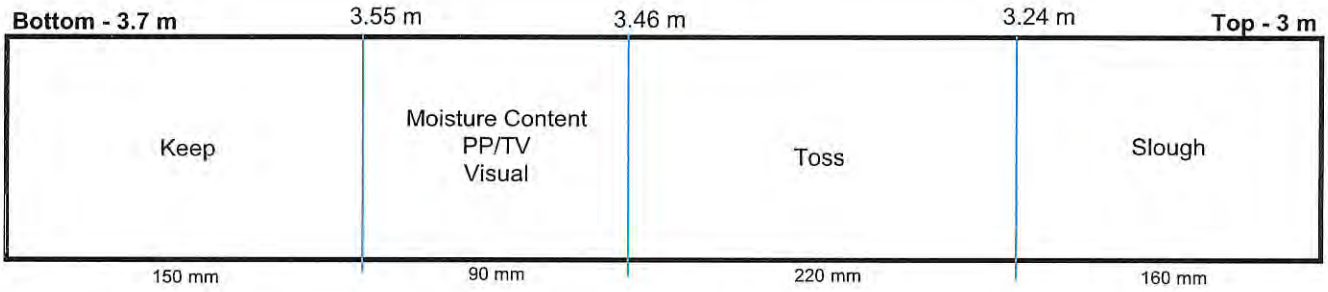
Shelby Tube Visual

Project No.	0814-001-00
Client	Solid Construction Inc.
Project	Central Community Club, Kenora, ON
Test Hole	TH21-03
Sample #	T24
Depth (m)	3.0 - 3.7
Sample Date	05-Oct-21
Test Date	12-Oct-21
Technician	JN

Tube Extraction

Recovery (mm) 630 (overpush)



Visual Classification

Material	CLAY
Composition	silty
Color	dark brown
Moisture	moist
Consistency	soft to firm
Plasticity	intermediate plasticity
Structure	-
Gradation	-

Torvane

Reading	0.30
Vane Size (s,m,l)	m
Undrained Shear Strength (kPa)	29.4

Pocket Penetrometer

Reading	1	0.50
	2	0.50
	3	0.40
	Average	0.47
Undrained Shear Strength (kPa		22.9

Moisture Content

Tare ID	AB35
Mass tare (g)	6.8
Mass wet + tare (g)	262.6
Mass dry + tare (g)	155.2
Moisture %	72.4%

Unit Weight

Bulk Weight (g)		913.8
Length (mm)	1	146.58
	2	145.55
	3	144.59
	4	146.60
Average Length (m)		0.146
Diam. (mm)	1	71.52
	2	71.99
	3	70.71
	4	70.61
Average Diameter (m)		0.071
Volume (m^3)		5.81E-04
Bulk Unit Weight (kN/m^3)		15.4
Bulk Unit Weight (pcf)		98.2
Dry Unit Weight (kN/m^3)		9.0
Dry Unit Weight (pcf)		57.0