AGENDA
TOWN OF TWO HILLS
May 27, 2025
6:00 P.M.

Regular Council Meeting

1) CALL TO ORDER

2) ADOPTION OF AGENDA

3) ADOPTION OF MINUTES
   a) Regular Council Meeting Minutes May 13, 2025

4) DELEGATION – None

5) OPEN FORUM

6) ADMINISTRATIVE REPORTS
   a) CAO Report

7) CORRESPONDENCE

8) OLD BUSINESS
   a) Open House

9) BYLAWS & POLICIES

10) NEW BUSINESS
   a) RCMP Quarterly Report
   b) Geotechnical Report
   c) ACE Water Celebration
   d) Police Model Grant

11) COUNCIL MEMBER REPORTS
   a) A. Romaniuk
   b) E. Sorochan
   c) M. Tarkowski
   d) S. Rajoo
   e) L. Ewanishan

12) NEXT MEETINGS
   a) Regular Council Meeting Tuesday

13) CLOSED SESSION
   FOIPP Act 16(1)(2) & 25; 27

14) ADJOURNMENT

TOWN OF TWO HILLS

Minutes of the Regular Meeting of Council for the Town of Two Hills held on May 13, 2025 at 1:00 PM in Council Chambers

Regular Council Meeting

PRESENT: Mayor L. Ewanishan; Deputy Mayor S. Rajoo; Councillor A. Romaniuk; Councillor M. Tarkowski; Councillor E. Sorochan; CFO S. Lupul; PWS Terry Stefiuk and EDO Bob Ross

Missing: CAO A. Kozakiewicz

CALL TO ORDER: Mayor L. Ewanishan called the Regular Town Council Meeting to order at 1:00 PM.

ADOPTION OF AGENDA:

2025-167 MOVED by Councillor M. Tarkowski to accept the agenda with the addition of: 10 f) Security Letter of Credit from Developers.

CARRIED

ADOPTION OF MEETING MINUTES:

2025-168 MOVED by Councillor E. Sorochan to accept the minutes of the Committee of the Whole Meeting minutes held on April 22, 2025.

CARRIED

2025-169 MOVED by Councillor A. Romaniuk to accept the minutes of the Regular Council Meeting minutes held on April 22, 2025.

CARRIED

2025-170 MOVED by Councillor M. Tarkowski to accept the minutes of the Special Council Meeting minutes held on May 6, 2025.

CARRIED

AT 1:07PM: **Arrived in Chambers:** Deputy Mayor S. Rajoo

DELEGATION: Carol and Larry Homeniuk presented council with pictures and reports of excessive water running through their yard during heavy rains and fast thaws in the spring. Public Works will work with the Homeniuks to try to alleviate this issue.

AT 1:17PM: **Left Chambers:** Carol & Larry Homeniuk

OPEN FORUM: A concerned resident asked council when construction and development in the golf course subdivision was decided and asked if residents were informed. Council replied that the golf course subdivision has been in the development process for over 40 years and more housing is needed. The Mayor has been reporting the council highlights in the monthly newsletter sent in the utility bills.

It was also asked if the ratepayers were funding the construction again. The Town has successfully received grants to continue this development.

AT 1:25PM: **Left Chambers:** Concerned Resident

ADMISITRATIVE REPORTS:

Public Works Report

The public works report was provided to council in advance for their review.

2025-171 MOVED by Councillor A. Romaniuk to approve an additional $22,000 for repairs to the grader.

CARRIED

2025-172 MOVED by Councillor E. Sorochan that the Public Works Report be acknowledged and incorporated into the minutes.

CARRIED

Economic Development Report

The economic development report was provided to council in advance for their review.

2025-173 MOVED by Councillor A. Romaniuk that the Economic Development Report be acknowledged and incorporated into the minutes.

CARRIED

Chief Financial Officer Report

The Chief Financial Officer's Report was provided to Council in advance for their review.

2025-174 MOVED by Councillor M. Tarkowski that the Chief Financial Officer's Report be acknowledged and incorporated into the minutes.

CARRIED

Chief Administrative Officer Report

The Chief Administrative Officer's Report was provided to Council in advance for their review.

2025-175 MOVED by Councillor E. Sorochan that Administration create, purchase and install a sign signifying Walter Chomlak Park with remaining funds from the SCOP grant.

CARRIED

2025-176 MOVED by Deputy Mayor S. Rajoo that the CAO Report be acknowledged and incorporated into the minutes.

CARRIED

AT 2:11PM: **Left Chambers:** PWS Terry Stefiuk

CORRESPONDENCE:

2025-177 MOVED by Mayor L. Ewanishan that Administration draft a letter of support to the City of Cold Lake in their pursuit to form a working group to jointly request the Alberta Government to consider a rural bus service.

CARRIED

2025-178 MOVED by Councillor M. Tarkowski that the Correspondence be acknowledged and incorporated into the minutes.

CARRIED

OLD BUSINESS: Tree Removal

At the November 12, 2024 Regular Council Meeting, it was decided to go ahead and remove the trees on the town acquired lots on 55 Street between 54 Ave and 50 Ave, but there was not a motion of council at the time.

2025-179 MOVED by Councillor A. Romaniuk to pay Invoice #180 for $14,700.00 for tree removal along 55 Street between 54 and 50 Avenues.

CARRIED

Regional Fire Agreement

The County has put forth a draft Regional Fire Agreement but upon review, it has been determined that it is vague and does not contain any definitions or parameters.

2025-180 MOVED by Councillor M. Tarkowski to accept the draft agreement as information and to direct Administration to do more research regarding the parameters and definitions of each municipality and other alternatives.

CARRIED

BYLAWS & POLICIES: None

NEW BUSINESS: Proclamation for Economic Developers Week

Mayor L. Ewanishan proclaimed May 12 to 16, 2025 as deemed Economic Developers Week in the Town of Two Hills.

AT 2:56PM: **Left Chambers:** EDO Bob Ross

Site Plan for Solar Array

The final site plan for the layout of the solar panels has been completed, in part because the County of Two Hills and Gary Buchanan acting swiftly in resolving the land issue.

2025-181 MOVED by Councillor M. Tarkowski to to accept the proposed site plan and drawings as provided by Evlution for the solar array and EV chargers as information to be incorporated into the minutes.

CARRIED

Public Meeting

It was decided in 2024 that Council would host a public Open House for the residents to attend and informally ask questions of Council and senior staff. Refreshments will be served. Everyone is welcome.

2025-182 MOVED by Deputy Mayor S. Rajoo to to host a Council Open House on June 19, 2025, from 3:00 pm to 5:00 pm with Mayor, Councillors, CAO and Sr. Managers in attendance.

CARRIED

AT 3:11PM: **Left Chambers:** Deputy Mayor S. Rajoo

Alberta Day

The Government of Alberta recently established September 1 as Alberta Day in perpetuity. Alberta Day is a chance to celebrate who we are as Albertans and what we can achieve together.

2025-183 MOVED by Councillor A. Romaniuk to accept the 2025 Alberta Day communication as information and incorporate it into the minutes.

CARRIED

AT 3:17 PM: **Returned to Chambers:** Deputy Mayor S. Rajoo

Summer 2025 Municipal Leader's Caucus

Registration is open for the 2025 Alberta Municipalities Summer Municipal Leaders' Caucuses, taking place between June 11 and June 26.

2025-184 MOVED by Councillor E. Sorochan that Deputy Mayor S. Rajoo, Councillor A. Romaniuk, Councillor M. Tarkowski, and Councillor E. Sorochan attend the 2025 Summer Leader's Caucus on June 26 in Devon, Alberta.

CARRIED

Security Letter of Credit

Being that municipalities are tasked with ensuring that development projects are completed in accordance with approved building agreements and standards, there is a need to safeguard the community's interests and mitigate risk.

2025-185 MOVED by Councillor M. Tarkowski to direct Administration to prepare a report to present to Council for consideration at a future meeting outlining the following:

- research relevant municipal practises regarding the requirement of a non-refundable Security Letter of Credit from developers;
- to prepare and present a draft bylaw or bylaw amendment to reflect a security deposit;
- include similar policies/bylaws as well as legal considerations from other municipalities.

CARRIED

COUNCIL REPORTS: To be presented at the May 27, 2025 Regular Council Meeting.

NEXT MEETINGS: Regular Council Meeting May 27, 2025, at 6:00pm in Council Chambers.

CLOSED SESSION: FOIPP Act 16(1)(2) & 25; 27

2025-186 MOVED by Councillor E. Sorochan that Council move the meeting to closed session at 3:28 pm.

CARRIED

2025-187 MOVED by Councillor E. Sorochan that Council move the meeting out of session at 3:47 pm.

CARRIED

ADJOURNMENT: With all items on the agenda having been addressed, Mayor L. Ewanishan adjourned the Regular Council Meeting at 3:47 PM.

_____

Leonard Ewanishan, Mayor

_____

Sheila Lupul, CFO

Open Forum

Preamble: Welcome. Town Council is providing an opportunity for the general public to individually address Council on any topic relevant to municipal government for a period not to exceed 2 minutes per person to a maximum of 20 minutes combined. Information presented to Council may or may not be acted on and will not be debated unless there is a majority vote to do so. The Open Forum is not a means of expressing insults, accusations or making any personal attacks on any member of Council or Staff. Any person who starts insulting or making accusations or attacks on any member of Council, Council as a Whole, or any Staff member will be kindly asked to remove themselves from Council Chambers. Once again, welcome.

Division 3 – Open Forums

11.1 Individual members of the public who constitute the audience are to be provided an opportunity as part of the meeting to address the Council on any topic relevant to municipal government for a period of time not to exceed two (2) minutes per person. The intent of which is to provide residents an opportunity to address Council.

11.2 The information or comments heard may or may not be actioned by the Council. After a person has spoken, any Councillor may, through the Mayor or other presiding officer, ask that person or the Chief Administrative Officer relevant questions but may not debate the matter or the answers.

11.3 Actions by Council may only be 1) receiving the information without debate; 2) referred without debate to a Standing Committee or the Chief Administrative Officer for a report; or 3) debated if by a 2/3 majority vote a resolution is passed to allow a motion to be made without notice.

Notes:

CAO REPORT

May 27, 2025

1. SLGM -Society of Local Government Managers of Alberta -23rd Annual Municipal Leadership Workshop in Kananaskis

2. **Pre Workshop Forum and Mountain Refresher**

    a. ENVIRONMENTAL STEWARDSHIP Legislated Responsibilities – process delays Local Leadership – pilot and cosmetic projects Action Needed – carrot or stick?

    b. SOCIAL AGENDA Offloading & Gaps – service agenda creep Affordable Housing – social and market role 'Wicked' Challenges – community effort required

    c. ECONOMIC READINESS Open for Business! – red tape and essentials Growing Locally – supporting entrepreneurs Differentiating Brand – messaging and quality of life

    d. CRISIS RESPONSE Vulnerability of System – paid on call and fire vs. rescue Emergency Response – readiness and public confidence Preventive Efforts – who pays?

    e. INFRASTRUCTURE DEFICIT System Assessment – asset inventory and maintenance Fiscal Gap – reserve dilemma and wish lists (AKA capital plan) The Money Chase – alternate revenue and grants

    f. SERVICE CAPACITY Value for Money – public awareness (AKA support) Partnerships Opportunities – giving up control Service Reviews – progressive or forensic

    g. BUSINESS-LIKE Fees for Service – private vs. public good Enterprise Opportunities – private sector motives The Conundrum – efficiency vs. effectiveness

    h. NEW DEAL Enhanced Powers and $ – fair share of taxes Collaborative Imperative – ALL governments Respect – meaningful consultation =

    i. DECLINE IN CIVILITY Politics vs. Governance – decline in effectiveness Council/Staff Relations – misalignment consumes resources Staff Roadkill – CAO vulnerability and workplace toxicity

    j. PUBLIC CONFIDENCE Incoming Missiles – misinformation and societal discontent The 'Black Hole' – tell them more so they support us Engagement Dilemma – interpreting the public interest?

3. AI 101 and Emerging Trends
    a. Privacy of using ChatGPT, MS Co-pilot or Grok with confidential information.
    b. Alberta Health are using AI internally to manage patient Data
    c. Faults of AI reasoning Myths About AI
        i. AI can solve any problem vs Some problems are better for alternative solutions
        ii. AI will steal my job vs AI will complement roles and create new ones
        iii. AI is a "black box" and cannot be trusted vs Using special techniques we can build trust in AI models
4. Councillor Orientation – Charting the Course for Success – a strong recommendation to have a pre election pre nomination session on what is the role of a councillor
5. Speak Up! Public Participation and the Municipal Government Act
    a. Requirement for Public Hearing
    b. Advertising and Notice of Public Hearings
    c. Statutory Requirements
    d. Duty of Procedural Fairness
    e. Challenges to Public Hearing Procedures
    f. Overview: Petitions
    g. Sufficiency of Petitions
    h. Bylaws Modifying Petition Requirements
    i. Protection of Personal Information
    j. Types of Petitions
    k. Council's Duties on Receiving Certain Petition

6. Managing Disputes with Contractors and Consultants
    a. Delays
    b. Claims for Additional Costs
    c. Liens
    d. Bankruptcy/Insolvency Issues
    e. Defaults/Termination
    f. Liabilities to Third Parties
7. Meeting with Contractors for Police model grant – hope to have a proposal for next meeting.
8. CAO/EDO meeting Alberta HUB in Bonnyville
9. Meeting with design for Power Campgrounds with Terry Zayak
10. Meeting with new investor regarding Lots and Development by the Hospital and his residential lot in process of development

Correspondence Listing

May 27, 2025

A. Honourable Ric McIver, Minister of Municipal Affairs – Letter to confirm the 2025 Local Government Fiscal Framework (LGFF) allocations.

ALBERTA
MUNICIPAL AFFAIRS
Office of the Minister
MLA, Calgary-Hays

AR118837

May 12, 2025

His Worship Leonard L. Ewanishan
Mayor
Town of Two Hills
PO Box 630
Two Hills AB T0B 4K0

Dear Mayor Ewanishan:

I am pleased to provide correspondence for your record confirming the 2025 Local Government Fiscal Framework (LGFF) allocations for your community.

For the Town of Two Hills:

- The 2025 LGFF Capital allocation is $594,293.
  - This includes $242,775 in needs-based funding allocated to local governments with a population less than 10,000 and a limited local assessment base.
- The 2025 LGFF Operating allocation is $322,988.

LGFF Capital is a legislated program aimed at providing local governments with substantial notice of their future infrastructure funding. As indicated on the program website, in 2026, your community will be eligible for $596,736. Information on 2027 LGFF Capital allocations will be shared with local governments this fall, after growth in provincial revenues between 2023/24 and 2024/25 has been confirmed and used to calculate 2027 program funding.

Information on LGFF funding for all local governments is available on the LGFF website at www.alberta.ca/LGFF.

We look forward to our continued partnership through the LGFF program to build strong and prosperous communities across our province.

Sincerely,

Ric McIver

Ric McIver
Minister

cc: Adam Kozakiewicz, Chief Administrative Officer, Town of Two Hills

320 Legislature Building, 10800 - 97 Avenue, Edmonton, Alberta T5K 2B6 Canada Telephone 780-427-3744 Fax 780-422-9550

AGENDA ITEM NO.: 8 (a)

TOWN OF TWO HILLS
COUNCIL MEETING
AGENDA ITEM

Meeting Date: May 27, 2025	Confidential:	Yes		No	X
Topic: Open House					
Originated By: Sheila Lupul	Title:	CFO			

BACKGROUND:

It was decided at the last meeting to host an open house for the public. Attached is a copy of the advertisement.

DOCUMENTATION ATTACHED:

DISCUSSION:

COMMUNICATION PLAN/COMMUNITY INVOLVEMENT:

RECOMMENDED ACTION(S):

For information.

DISTRIBUTION:	Council: X

Two Hills

COUNCIL OPEN HOUSE

June 19, 2025
3:00-5:00PM

The Town of Two Hills will be having a Council Open House in the Council Chambers located at the Town of Two Hills. The Auditor will be available for questions as well as all of Council. Refreshments will be served.

Town Office, Council Chambers
4712 50st, Two Hills Alberta

AGENDA ITEM NO.: 10 (a)

TOWN OF TWO HILLS COUNCIL MEETING AGENDA ITEM					
Meeting Date: May 27, 2025	Confidential:	Yes		No	X
Topic: RCMP Quarterly Report					
Originated By: Sheila Lupul	Title:	CFO			
BACKGROUND:					
Sgt Henry provided the quarterly report for the Town of Two Hills.					
DOCUMENTATION ATTACHED:					
DISCUSSION:					
COMMUNICATION PLAN/COMMUNITY INVOLVEMENT:					
RECOMMENDED ACTION(S):					
_____ moves to accept the RCMP Report dated January 1, 2025 to March 31, 2025 as information and to be incorporated into the minutes.					
DISTRIBUTION:	Council: X				

2025/05/09

Leonard Ewanishan
Mayor
Two Hills, AB

Dear Mayor Ewanishan,

Please find attached the quarterly Community Policing Report covering the period from January 1st to March 31th, 2025. This report provides a snapshot of human resources, financial data, and crime statistics for the Two Hills Detachment.

As we approach summer, I would like to highlight the preparations that the Alberta RCMP have made to address what may be another busy wildfire season. The wildfire seasons of 2023 and 2024 have provided our organization with many lessons on the best ways to handle the unpredictability of wildfires. In March, we began planning for the 2025 wildfire season and this included the early staffing of our Division Emergency Operations Center (DEOC). In the past two years, DEOC has been the cornerstone of the police response to the wildfires in Alberta. The members and staff in DEOC are able to process information from various sources to determine the most optimal way to deploy police resources in areas under threat of wildfires.

Depending on the severity of the fire season, it may be necessary to draw resources from your police service to ensure the safety of people and property in affected communities. I want to assure you that the Alberta RCMP will keep the needs of your community in mind and will work to deploy only the resources which will not adversely impact the security of our own community. The Alberta RCMP remains ready to respond to wildfires in coordination with other provincial resources to protect our citizens and communities.

Thank you for your ongoing support and engagement. As your Chief of Police for your community, please do not hesitate to contact me with any questions or concerns.

Best regards,

Sgt David Henry
Detachment Commander
Two Hills Detachment

Alberta RCMP - Provincial Policing Report

Detachment Information

Detachment Name
Two Hills

Detachment Commander
Sgt. David Henry

Report Date	Fiscal Year	Quarter
Click or tap to enter a date.	2024-25	Q4 (January - March)

Community Priorities

Priority #1: Property Crime Reduction - Theft

Updates and Comments:
The Detachment observed a rash of break in's last quarter, but their numbers reduced in this quarter. The Detachment did not meet their expectations, but did have more charges for the Break & Enters than in previous years. The Two Hills Detachment will continue to educate people regarding security, as well as patrolling hot spots, arresting prolific offenders and communicating with the general public.

Priority #2: Police / Community Relations - Police Visibility

Updates and Comments:
The Two Hills Detachment beat expectations this year. Even with resource shortages, the Detachment members stepped up and had a great year attending events and serving the public. Detachment leadership is pleased with the work and look forward to improving staffing issues and having a productive year ahead.

Priority #3: Traffic - Impaired driving

Updates and Comments:
Detachment leadership is pleased with the work done this year, for both objectives. Three Detachment Members saw great results this year in addressing the number of impaired drivers.

Community Consultations

Consultation #1

Date	Meeting Type
Topics Discussed	
Notes/Comments:	
No community consultations identified.	

Provincial Service Composition

Staffing Category	Established Positions	Working	Soft Vacancies	Hard Vacancies
Regular Members	6	4	2	0
Detachment Support	2	2	0	0

Notes:

1. Data extracted on March 31, 2025 and is subject to change.
2. Soft Vacancies are positions that are filled but vacant due to maternity/paternity leave, medical leave, etc. and are still included in the overall FTE count.
3. Hard Vacancies reflect positions that do not have an employee attached and need to be filled.

Comments:
Police Officers: Of the six established positions, there are 4 full time working, 1 new member that is riding with another but cannot be used as backup and 1 ODS.

Detachment Support: Of the two established positions, 1 working and 1 starting May 12. We still have one 90 day contract supplementing until the new person is up and running.

ROYAL CANADIAN MOUNTED POLICE

Two Hills Provincial Detachment
Crime Statistics (Actual)
January to March: 2021 - 2025

All categories contain "Attempted" and/or "Completed"

April 3, 2025

CATEGORY	Trend	2021	2022	2023	2024	2025	% Change 2021 - 2025	% Change 2024 - 2025	Avg File +/- per Year
Offences Related to Death		0	0	0	0	1	N/A	N/A	0.2
Robbery		4	0	3	1	0	-100%	-100%	-0.7
Sexual Assaults		2	3	0	0	0	-100%	N/A	-0.7
Other Sexual Offences		0	0	1	1	0	N/A	-100%	0.1
Assault		6	6	5	12	11	83%	-8%	1.6
Kidnapping/Hostage/Abduction		2	0	0	0	0	-100%	N/A	-0.4
Extortion		1	0	2	0	0	-100%	N/A	-0.2
Criminal Harassment		2	2	2	1	2	0%	100%	-0.1
Uttering Threats		2	3	2	7	3	50%	-57%	0.6
TOTAL PERSONS		**19**	**14**	**15**	**22**	**17**	**-11%**	**-23%**	**0.4**
Break & Enter		14	18	23	20	19	36%	-5%	1.2
Theft of Motor Vehicle		7	6	17	8	3	-57%	-63%	-0.6
Theft Over $5,000		5	2	1	3	1	-80%	-67%	-0.7
Theft Under $5,000		17	15	16	14	10	-41%	-29%	-1.5
Possn Stn Goods		3	5	11	4	5	67%	25%	0.3
Fraud		10	9	3	18	5	-50%	-72%	-0.1
Arson		0	2	1	0	0	N/A	N/A	-0.2
Mischief - Damage To Property		12	7	10	16	9	-25%	-44%	0.3
Mischief - Other		2	1	1	4	1	-50%	-75%	0.1
TOTAL PROPERTY		**70**	**65**	**83**	**87**	**53**	**-24%**	**-39%**	**-1.2**
Offensive Weapons		3	2	2	3	1	-67%	-67%	-0.3
Disturbing the peace		2	3	1	1	0	-100%	-100%	-0.6
Fail to Comply & Breaches		13	5	6	4	4	-69%	0%	-1.9
OTHER CRIMINAL CODE		2	8	5	10	4	100%	-60%	0.6
TOTAL OTHER CRIMINAL CODE		**20**	**18**	**14**	**18**	**9**	**-55%**	**-50%**	**-2.2**
TOTAL CRIMINAL CODE		109	97	112	127	79	-28%	-38%	-3.0

ROYAL CANADIAN MOUNTED POLICE

Two Hills Provincial Detachment
Crime Statistics (Actual)
January to March: 2021 - 2025

All categories contain "Attempted" and/or "Completed"

April 3, 2025

CATEGORY	Trend	2021	2022	2023	2024	2025	% Change 2021 - 2025	% Change 2024 - 2025	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Possession		5	0	2	0	1	-80%	N/A	-0.8
Drug Enforcement - Trafficking		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Other		0	0	0	0	0	N/A	N/A	0.0
Total Drugs		**5**	**0**	**2**	**0**	**1**	**-80%**	**N/A**	**-0.8**
Cannabis Enforcement		0	0	0	0	1	N/A	N/A	0.2
Federal - General		1	0	0	1	1	0%	0%	0.1
TOTAL FEDERAL		**6**	**0**	**2**	**1**	**3**	**-50%**	**200%**	**-0.5**
Liquor Act		3	1	1	0	0	-100%	N/A	-0.7
Cannabis Act		0	0	0	0	0	N/A	N/A	0.0
Mental Health Act		8	17	33	26	30	275%	15%	5.3
Other Provincial Stats		21	15	20	23	12	-43%	-48%	-1.0
Total Provincial Stats		**32**	**33**	**54**	**49**	**42**	**31%**	**-14%**	**3.6**
Municipal By-laws Traffic		0	0	0	0	0	N/A	N/A	0.0
Municipal By-laws		3	1	0	0	2	-33%	N/A	-0.3
Total Municipal		**3**	**1**	**0**	**0**	**2**	**-33%**	**N/A**	**-0.3**
Fatals		0	0	1	0	0	N/A	N/A	0.0
Injury MVC		1	3	3	2	2	100%	0%	0.1
Property Damage MVC (Reportable)		40	42	28	27	35	-13%	30%	-2.5
Property Damage MVC (Non Reportable)		1	7	5	2	12	1100%	500%	1.7
TOTAL MVC		**42**	**52**	**37**	**31**	**49**	**17%**	**58%**	**-0.7**
Roadside Suspension - Alcohol (Prov)		8	5	2	3	1	-88%	-67%	-1.6
Roadside Suspension - Drugs (Prov)		0	0	0	0	0	N/A	N/A	0.0
Total Provincial Traffic		**245**	**169**	**158**	**129**	**101**	**-59%**	**-22%**	**-32.8**
Other Traffic		**3**	**1**	**0**	**1**	**0**	**-100%**	**-100%**	**-0.6**
Criminal Code Traffic		**10**	**8**	**7**	**12**	**4**	**-60%**	**-67%**	**-0.8**
Common Police Activities									
False Alarms		**3**	**5**	**2**	**4**	**13**	**333%**	**225%**	**1.9**
False/Abandoned 911 Call and 911 Act		**0**	**2**	**3**	**9**	**15**	**N/A**	**67%**	**3.7**
Suspicious Person/Vehicle/Property		**41**	**18**	**32**	**24**	**30**	**-27%**	**25%**	**-1.6**
Persons Reported Missing		**0**	**2**	**1**	**2**	**1**	**N/A**	**-50%**	**0.2**
Search Warrants		**1**	**0**	**0**	**0**	**0**	**-100%**	**N/A**	**-0.2**
Spousal Abuse - Survey Code (Reported)		**8**	**5**	**3**	**22**	**17**	**113%**	**-23%**	**3.5**
Form 10 (MHA) (Reported)		**1**	**6**	**4**	**5**	**3**	**200%**	**-40%**	**0.3**

AGENDA ITEM NO.: 10 (b)

TOWN OF TWO HILLS
COUNCIL MEETING
AGENDA ITEM

Meeting Date: May 27, 2025	Confidential:	Yes		No	X
Topic: Geotechnical Report					
Originated By: Sheila Lupul	Title:	CFO			

BACKGROUND:

Please see the attached final report for a geotechnical investigation on the golf couse subdivision lots.

DOCUMENTATION ATTACHED:

DISCUSSION:

COMMUNICATION PLAN/COMMUNITY INVOLVEMENT:

RECOMMENDED ACTION(S):

_____ moves to accept the Englobe Geotechnical Report dated May 13, 2025 as information and to be incorporated into the minutes.

DISTRIBUTION:	Council: X

Geotechnical Investigation Report

Planning and Design of Civil Works for Multiple Residential Lots, Two Hills, Alberta

Town of Two Hills
Final Report | Version 00
Reference no. 02500469.000

May 13, 2025

ENGLOBE

Town of Two Hills
Reference no. 02500469.000

Prepared by:

Lavpreet Singh
Geotechnical Technician

Reviewed by:

Sana Bastan, P.Eng.
Geotechnical Engineer | Project Manager

Approved by:

Philippe Gingras, P.Eng.
Service Director, GME - Edmonton Office

Production team

Town of Two Hills

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PDF file	Mr. Adam Kozakiewicz, CAO
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APPENDICES

1 Introduction

Englobe Corp. (Englobe) was retained by the Town of Two Hills to conduct a geotechnical investigation in support of planning and design of civil works for multiple residential lots in Two Hills, Alberta (hereinafter referred to as the "Site"). Written authorization to proceed was received on January 29, 2025.

The purpose of the geotechnical investigation was to determine the existing surface and subsoil conditions and provide recommendations for various aspects of the civil works.

2 Scope of Work

The scope of work for the geotechnical assessment is described in detail in Englobe's proposal No.: P2500469.000 dated January 20, 2025. The scope of work included:

— Completion of underground utility locates through Utility Safety Partners®;

— Completion of six (6) geotechnical boreholes across the Site, all of which were to be completed as standpipe piezometers;

— Laboratory testing on selected soil samples obtained during the geotechnical investigation; and,

— Preparation of a geotechnical report summarizing the results of the geotechnical field and laboratory testing program and providing geotechnical comments and recommendations.

3 Site Description and Methodology

3.1 Site Description

The Site comprises of predominantly vacant lands within the west portion of the Town of Two Hills. The lands for which planning and civil works are underway are currently designated as follows:

— Plan 9323640, Block 23, Lots 17A to 20A;

— Plan 9323640, Block 24, Lots 20 to 38;

— Plan 8021287, Block 26, Lots 4 to 16, along with 17MR;

— Plan 8021287, Block 23, Lot 16; and,

— Plan 8021571, Block 26, Lot 3.

Figures 1 and 2, included in Appendix A, show the Site location and configuration, respectively.

3.2 Field Investigation

A visual site reconnaissance was conducted by an Englobe representative, Mr. Lavpreet Singh, on January 24, 2025.

Six (6) boreholes were advanced on January 24, 2025, as indicated on Figure 2, which is included in Appendix A. All boreholes were advanced to their proposed depth of 9.5 metres below ground surface (mbgs). The boreholes were advanced using a truck-mounted drill rig equipped with solid stem augers. Standpipe piezometers were installed all boreholes. The piezometers were backfilled with drill cuttings and sealed with bentonite at the surface. The work was carried out under the continuous supervision of an Englobe representative

Standard Penetration Tests (SPTs) using a 50 mm outside diameter split barrel sampler driven into the subsurface soil were performed at selected depth intervals in the deeper test holes. In addition, disturbed subsoil samples were collected from the auger cuttings at regular depth intervals of approximately 0.6 m. The recovered soil samples were visually examined in the field and then preserved and transported to Englobe's material testing laboratory in Edmonton, Alberta for further examination and testing. The borehole logs are provided in Appendix B.

3.3 Laboratory Testing

In the laboratory, each sample was examined as to its visual and textural characteristics. The number and type of tests conducted are summarized in Table 1.

In addition to geotechnical laboratory testing, four (4) soil samples were submitted to AGAT Laboratories Ltd. (AGAT) and analyzed for soluble sulphate content.

The geotechnical laboratory results are provided in Appendix C and the soluble sulfate analytical results are provided in Appendix D.

Table 1: Summary of Laboratory Tests Completed

Name of Test	Number of Tests Completed	Sample Type	Laboratory	Test Methods
Moisture Content	71	Soil	Englobe	ASTM D2216
Atterberg Limits	4	Soil	Englobe	ASTM D4318
Soluble Sulphate	4	Soil	AGAT	-

A summary of Atterberg Limits testing results is provided in Table 2.

Table 2: Summary of Atterberg Limits Results

Borehole No.	Depth (mbgs)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Unified Soil Classification System (USCS)
BH25-01	0.6	36	12	24	CI
	7.6	46	16	30	CI
BH25-02	2.1	29	11	18	CL-CI
BH25-03	2.7	28	11	17	CL-CI

3.4 Borehole Summary

The borehole coordinates were surveyed by Englobe using a RTK GPS device. Table 3 provides the coordinates and depths of the boreholes.

Table 3: Summary of Borehole Coordinates and Depths

Borehole	Coordinates[1]			Depth (mbgs)
	Northing	Easting	Elevation[2]	
BH25-01	5951994.50	450279.37	617.19	9.5
BH25-02	5951909.48	450289.93	616.19	9.5
BH25-03	5951771.53	450305.99	611.29	9.5
BH25-04	5951598.54	450256.38	606.80	9.5
BH25-05	5951632.54	450150.61	606.67	9.5
BH25-06	5951539.01	450378.74	606.29	9.5

[1] NAD83 (CSRS) / UTM Zone 12N

[2] Geodetic elevations (metres above mean sea level).

4 Soil Conditions

4.1 Local Geology

4.1.1 Surficial Geology

Englobe reviewed bedrock and surficial geology mapping published by the Alberta Geological Survey (AGS). According to Map 601, the surficial geology consists of Stagnant Ice Moraine and Fluvial Deposits.

The AGS defines Stagnant Ice moraine as:

> *"Sediments resulting from the collapse and slumping of englacial and supraglacial debris due to the melting of buried stagnant ice at the glacier margin; sediment is mainly till but locally includes stratified glaciolacustrine or glaciofluvial sediments; characterized by low- to high-relief hummocky topography."*

The AGS defines Fluvial Deposits as:

> *"Sediments deposited by streams and rivers; synonymous with alluvium; includes poorly to well sorted, stratified to massive sand, gravel, silt, clay, and organic sediments occurring in channel and overbank deposits; in places, includes a significant component of colluvial deposits as these two units are inseparable at this map scale."*

Of note: the geology mapping is done at a scale of 1,000,000:1 and does not capture variations that can occur at the Site level.

4.1.2 Bedrock Geology

According to Map 600, the Site overlies the Belly River Group.

The AGS defines Lower Belly River group as:

> *"Very fine to medium-grained, buff weathering sandstone; thin coal layers; brownish-grey, carbonaceous silty mudstone; sandstone-dominated, coarsening-upwards members intertongue with mudstone of the Lea Park Formation in east-central Alberta; sandstone members in ascending stratigraphic order: Brosseau, Victoria, Ribstone Creek, and Birch Lake; nonmarine to shallow marine."*

4.1.3 Glacial Landforms

According to Map 604, the Site is located within 1.0 km of a Major Meltwater Channel.

The AGS defines Major Meltwater Channels as follows:

> *"Channels that have primarily been eroded by subglacial, supraglacial, or proglacial meltwater; exhibit steep and well-defined channel margins, and often show incised meanders, bifurcations or complex stream patterns; may have long straight reaches or are deeply incised relative to their widths and lengths"; and*
>
> *"Channels consist of large channels that show evidence that their drainage pattern was influenced at a regional scale by location of an ice-margin or subglacial drainage conduit."*

The above information is helpful in gaining a general understanding of the Site but is not intended to be a comprehensive description of the soil conditions. Variations in geology should be expected. The geotechnical drilling program was undertaken with the intent of confirming the geology and classifying the soil conditions according to their engineering properties. The geology mapping is done at a scale that does not capture variations that can occur at the Site level.

4.2 Soil Stratigraphy

Classification and identification of soils have been based on commonly accepted methods employed in the practice of geotechnical engineering. The stratigraphic boundaries shown on the borehole log sheets represent transitions between soil types rather than distinct lithological boundaries. The subsurface conditions often vary both with depth and laterally between individual borehole locations. The general soil conditions are outlined briefly hereafter.

4.2.1 Topsoil

Topsoil was encountered on the surface at all borehole locations except BH25-01. The topsoil extended to approximately 0.1 mbgs. Differing thicknesses of topsoil may be present in areas of the Site between and apart from the borehole locations. As such, actual stripping volumes may differ from those calculated using the thicknesses encountered at the borehole locations.

4.2.2 Clay fill

Clay fill was encountered in Borehole BH25-01 extending from surface to 0.6 mbgs. The clay fill was described as silty, some sand, trace gravel, of medium plasticity, brown, and frozen. Atterberg Limit testing completed on a clay fill sample indicated that it is of medium plasticity, with a liquid limit of 36% and a plastic limit of 12%.

4.2.3 Sand

Sand was encountered below the topsoil layer in boreholes BH25-02, BH25-03, BH25-04, BH25-05 and BH25-06. The sand extended to depths ranging between 2.0 mbgs and 9.5 mbgs. The sand was described as trace gravel, well graded, fine to medium grain, moist, loose to compact, brown and trace coal. The moisture contents measured on sand samples ranged between 3% and 22%. Uncorrected SPT results within the sand yielded 'N' values ranging between 5 and 22 blows per 300 mm of penetration, indicative of loose to compact material.

4.2.4 Clay Till

Clay till was encountered underneath the clay fill in borehole BH25-01, and beneath the sand in boreholes BH25-02, BH25-03, BH25-05, and BH25-06, and extended to the full drilled depths of 9.5 mbgs. The clay till was generally described as 'and silt', some sand, trace gravel, moist, stiff, and of medium to high plasticity. The moisture contents measured on clay till ranged between 11% and 31%. The uncorrected SPT results within the clay till yielded 'N' values ranging between 7 and 53 blows per 300 mm of penetration. Atterberg limits testing completed on samples of clay till indicated that it is of low to medium plasticity, with liquid limit values ranging between 28% and 46% and plastic limit values ranging between 11% and 16%.

4.3 Groundwater Conditions

Groundwater level measurements were taken on March 4, 2025. The groundwater monitoring results are summarized in Table 4 and are also recorded on the borehole logs included in Appendix B.

Table 4: Groundwater Observations

Borehole No.	Instrumentation	Groundwater Depth on March 4, 2025 (mbgs)	Seepage Depth (mbgs)
BH25-01	Standpipe Piezometer	4.7	-
BH25-02	Standpipe Piezometer	4.9	-
BH25-03	Standpipe Piezometer	3.2	-
BH25-04	Standpipe Piezometer	4.7	4.6
BH25-05	Standpipe Piezometer	5.2	4.3
BH25-06	Standpipe Piezometer	4.3	4.4

Variation in water levels in the order of 1 m or more is possible, depending on the season, and as such, groundwater conditions during construction may differ.

It is recommended that the standpipe piezometers be left in place to allow further groundwater level measurements as the groundwater table is expected to fluctuate seasonally depending on rainfall events and run-off conditions. The water levels in the monitoring wells should be recorded prior to the start of construction.

4.4 Frost Susceptibility and Frost Penetration Depth

Frost depth depends on several factors, such as soil type, moisture content, depth to groundwater, presence of snow cover, heat loss from heated structures, and winter severity. The primary soil near the ground surface encountered at the Site consist of clay of medium plasticity, or sand. The qualitative frost susceptibility of soil is typically assessed using guidelines developed by Casagrande (1932) based on the percentage by weight of the soil finer than 0.02 mm and its plasticity index. This classification system has been adapted by the Canadian Foundation Engineering manual (CFEM). Soils are classed as F1 through F4 in order of increasing frost susceptibility. The clays encountered at the Site are classified as a frost susceptible soil, F3, based on a plasticity index greater than 12, and the shallow sands are classified as F2, based on the observed relatively low fines content. Accordingly, the clays have the potential to heave during freezing and lose strength while thawing, whereas for the sands these risks are significantly lower.

The estimated frost penetration depth assumes a uniform soil type with bare ground and without snow cover. For clays, the estimated depth of frost penetration is 2.3 mbgs, and for sands the estimated depth is 3.0 mbgs.

5 Recommendations

The recommendations provided in this section assume that soil conditions at the six (6) discrete borehole locations are representative of the Site-wide stratigraphy. Adequate field reviews must be completed during construction to confirm this assumption.

Construction supervision should include inspection of the groundwork, as well as full-time monitoring and compaction testing for earthworks. Where comments are made regarding construction, they are provided to highlight aspects of construction that could affect the design of the project. It must be noted that information regarding construction must be interpreted to accommodate any change for designs, construction methods, costs, and scheduling.

Site development is expected to consist of residential building lots and roads with two lane low volume traffic with typical urban cross-sections, rolled face curb and gutter, with underground utilities installed within the roadway. The dwellings are assumed to incorporate full depth basement established approximately 1.5 m to 2.0 m below grade, complete with attached garages.

5.1 Earthworks

5.1.1 Site Preparation

All organic topsoil, loose fill, and other deleterious materials must be stripped and disposed of. Staining and root intrusion from the overlying organic material and roots may be encountered during excavation within the competent subsurface mineral soils. A representative of the geotechnical consultant must inspect the Site during stripping/excavation to verify the depth of organic soils which need to be removed.

5.1.2 Fill Materials and Compaction

Imported clay used for engineered fill should be of low to medium plasticity, and free of deleterious materials. Imported fill should be tested for suitability prior to arriving at the Site. In all cases,

engineered clay fill should be moisture conditioned to within its Optimum Moisture Content (OMC) to 2% above OMC and compacted to 98% of its Standard Proctor Maximum Dry Density (SPMDD). Where crushed granular material is to be used as engineered fill, it should be moisture conditioned and compacted to 100% of its SPMDD. Loose fill should be placed in uniform lifts no thicker than 200 mm and 150 mm for engineered clay fill and crushed granular material, respectively. Moisture conditioning should be expected; however, the contractor must make their own estimation of moisture conditioning requirements. Removal of oversized material (cobbles, boulders and/or oversize bedrock samples), organics, debris, frozen soils, or any other deleterious material, if encountered, must be completed prior to placement.

5.1.3 Subgrade Preparation

Subgrade preparation is recommended for all roadway and grade supported structures. Following stripping of deleterious material and excavation to design elevation, the subgrade should be scarified, moisture conditioned to within ±2% of the OMC, and the materials recompacted. The minimum depth of subgrade preparation is 300 mm. Any fill placed to fill the Site or replace unsuitable materials must adhere to the requirements provided in Table 5.

Table 5: Compaction Requirements for Site Preparation

Area	Recommended Materials	Compaction Requirement		
		SPMDD[1] (%)	OMC[2] (%)	Maximum Lift Thickness (mm)
Building Areas	Low to medium-plastic clays or granular materials	98	±2	150
Building Areas (Upper 300 mm under slab on grade)	20 or 25 mm crushed gravel or equivalent	100	±2	150
Building Areas (under structural slab)	Low to medium-plastic clays or granular materials	95	±2	150
Pavement Areas (Subgrade)	Low to medium-plastic clays or granular materials	98	±2	150
Pavement Areas (Base Course)	20 or 25 mm crushed gravel	100	±2	150
Landscape Areas	Low to medium-plastic clays or granular materials	95	±2	300

Construction should not be carried out during winter conditions. Fill should not be placed on frozen subgrade or fill. In addition, the subgrade must be protected from wetting or drying, both before and after the placement of granular base material or concrete. Subgrade surfaces that are allowed to dry or become wet must be scarified, moisture conditioned, and re compacted.

Full time monitoring and compaction testing must be provided during any fill placement or proof-rolling to confirm that the required specifications are being achieved.

5.1.4 Excavations and Backfill

Excavations are anticipated to encounter sand overlying clay till. Excavation side slopes may be prone to instability and should be cut back to no steeper than 1.5H:1.0V from the base of the excavation. Flatter side slopes may be required if significant perched groundwater seepage is encountered. All excavations should be monitored regularly for seepage and sloughing, especially after periods of precipitation.

Conventional shoring should be considered where spatial restrictions do not allow for the required safe excavation side slope. Where adjacent structures fall within 45° from the base of the excavations, the weight of the structure must be considered in the calculation of lateral earth pressures. Where shoring is used, adjacent structures should be inspected prior to and following construction to ensure that there was no damage to the foundations.

Temporary spoil piles should be kept at least 3.0 m away from excavations, as well as mobile equipment. Uniform excavation side slopes are important to avoid an abrupt transition from backfill to native soil, which may cause differential settlement at the ground surface. Vehicle traffic should not be allowed within 1.0 m of the top edge of the trench. Every effort should be made to ensure trenches are excavated and backfilled on the same day (at least to a height sufficient to resist buoyant uplift).

Regardless of the above noted general recommendations for excavations, any excavation should be carried out in accordance with Alberta Occupational Health and Safety Code. Recommendations within this report do not constitute and exemption under Section 449 of the Code. Excavation safety is the responsibility of the contractor. All excavations should be inspected by the contractor prior to personnel entering the excavation.

5.1.5 Site Drainage

Recommended work to facilitate site drainage includes:

- A minimum grade of 1% for concrete and asphalt surfaces in parking lots.
- A minimum grade of 2% for graveled surfaces.
- Providing roads with a 2% crown or crossfall and sidewalks with a 2% crossfall.
- Minimum grades from foundation walls: a positive sloped surface is required to effectively drain water away from the foundation walls. Minimum grade requirements are:
  - 10% for 1 m (foundation with basement) – minimum 0.2 m drop for final grade on soft landscaping;
  - 5% for the first 2 m (slab-on-grade elements or structural slab) – minimum 0.1 m drop for final grade on soft landscaping; and,
  - 1% for concrete, asphalt or other impervious surface treatment.
- Minimum drainage swale slope requirements:
  - 1.5% for a grass drainage swale; and,
  - 1% for a concrete drainage swale.
- Englobe recommends that a maintenance program be put in place to ensure site drainage is maintained during the lifespan of the facilities.

5.2 Underground Services

5.2.1 Excavation, Backfilling and Dewatering

It is assumed that water and sewer will be installed by open cutting the necessary trenches using conventional earthmoving equipment. All excavations required during future construction must be carried out in accordance with the Alberta Occupational Health and Safety Code. Excavation safety is the responsibility of the contractor. All excavations should be inspected by the contractor prior to personnel entering the excavation.

If some ravelling and shallow localized caving can be tolerated, then the side slopes for trench excavations should be excavated no steeper than 1.0H:1.0V in clay till and 1.5H:1V in sand. If potential ravelling and shallow localized caving cannot be tolerated, then the side slopes would have to be flattened. If excessive seepage is encountered, dewatering sumps should be installed at regular intervals along trenches.

Water and sewer lines are expected to be founded primarily on sand or clay till. Any soft soils encountered at the invert elevations should be over-excavated to a minimum depth of 400 mm and replaced with clean, free-draining, non-frost susceptible, compacted granular material. All pipeline bedding should be specified in accordance with the manufacturer's recommendations for the pipe material utilized.

All backfill above the water and sewer mains should be placed in thin lifts not exceeding 150 mm in thickness and compacted to a minimum of 98 percent of the SPMDD. For backfill compacted in accordance with the above, it is recommended that the pipelines be designed based on a soil overburden weight of 19 kN/m^3.

Uniform trench side slopes are important to avoid an abrupt transition from backfill to naturally deposited, undisturbed soil, which may cause differential settlement at ground surface.

Backfilling is not recommended in below freezing temperatures. If backfilling does occur in freezing temperatures, the contractor should ensure that backfill is not compacted on frozen subgrade and that no frozen material is incorporated into the fill.

5.2.2 Frost Considerations

Frost cover for the below grade water lines and sanitary lines should adhere to the specifications of the local Municipal Standards. Based on our project understanding; the following guidelines are provided:

— All non-insulated below grade water lines, sanitary lines containing water or fire water lines must have a minimum frost cover of 2.3 m below final grade in areas where cohesive fill is used to backfill the trench.

— All non-insulated below grade water lines, sewer lines containing water or fire water lines must have a minimum frost cover of 3.0 m below final grade in areas where non-cohesive fill is used to backfill the trench.

— All non-insulated below grade water lines, sewer lines containing water or fire water lines buried with less than the recommended soil cover must be protected with insulation to prevent frost effects. High strength extruded polystyrene (e.g., Dow Highload 40® or equivalent) could be considered as an insulation option. For trenches underlying roadways, the insulation should have a minimum depth of cover of 600 mm. In the absence of local specifications, the insulation manufacturer's recommendations for placement and thickness of insulating material for protection of shallow utilities should be followed.

— As an alternative to extruded polystyrene, cellular concrete may be considered for frost protection. In a trench application, the final design of the cellular concrete should be carried out by the supplier as it is a function of surface cover and other factors.

5.2.3 Thrust Blocks

Should thrust blocks be required against vertical or horizontal elbows, a check of the bearing capacity of the surrounding soil should be performed by a geotechnical engineer. This bearing capacity will depend on the depth of the thrust block and its dimensions. On a preliminary basis, the native soils are anticipated to have a minimum bearing capacity of 72 kPa suitable for typical thrust block applications.

5.3 Foundation Design

Assuming that the proposed building developments will be limited to “Housing and Small Buildings”, as defined in Part 9 of the National Building Code, 2023 Alberta Edition (NBC-AE, 2023), foundations can be designed based on an allowable bearing pressure of 150 kPa, which corresponds to “stiff clay” and “dense or compact sand and gravel”, as outlined in Table 9.4.4.1 of the NBC-AE, 2023.

5.4 Grade Supported Concrete Slabs

Soil conditions are considered suitable for slab-on-grade construction, assuming that settlements of 20 to 25 mm may be tolerated, and that there are no unusual heavy floor loads.

Any slab-on-grade must be supported on a leveling course of at least 150 mm of compacted, well graded, 25 mm-minus crushed gravel placed over properly prepared, competent subgrade soils. See Table 5 for compaction requirements for the crushed gravel leveling course material. The design of the leveling course may be governed by drainage requirements

5.5 Lateral Earth Pressures

Lateral earth pressures for below grade structures may be calculated on the assumption of a triangular pressure distribution. For design of below grade walls where the top of the wall will be braced, the at-rest pressure may be assumed. For unbraced walls, the active condition should be considered. Drainage should be installed behind the wall to prevent buildup of hydrostatic pressure. The following formula may be used (assuming zero hydrostatic pressure):

$$Po = K(\gamma H+q)$$

Where: K = Appropriate coefficient of earth pressure

γ = Bulk unit weight of backfill soil (kN/m^3)

H = Height of the soil acting on the wall, in metres

q = Surcharge pressure at ground level in kPa

The coefficients for lateral earth pressure for the soils encountered on the Site are provided in Table 6.

Table 6: Coefficients for Lateral Earth Pressure for Various Soil Types

Coefficient of Lateral Earth Pressure	Sand	Clay
Active Earth Pressure Coefficient (K_a)	0.31	0.41
Passive Earth Pressure Coefficient (K_p)	3.25	2.46
At-rest Earth Pressure Coefficients (K_o)	0.47	0.58

5.6 Sidewalks and Exterior Flatwork

Concrete flatwork must be designed with the anticipation of some frost heave occurring. Concrete sidewalks should be dowelled into grade beams or foundation walls in doorway areas where heave of the concrete panels would obstruct the proper opening of the door and present a tripping hazard. As the outside edge of these panels will still heave, the panel must either be properly joined to control

crack locations or reinforced by the placement of reinforcing steel bars. The depth of the reinforcement must be controlled so that the reinforcement is properly located within the concrete panels. Alternatively, rigid insulation can be placed below flatwork to prevent frost formation in the underlying subgrade. If settlement of flatwork is observed, mud jacking techniques can be used for flatwork structurally separated from the building provided that the ability for movement does not negatively affect the building. If settlement above 25 mm cannot be accepted, structurally supported exterior flatwork should be considered.

5.7 Seismic Considerations

The site classification D (stiff soil) for seismic site response is recommended for a foundation supported on soil for earthquake load and effects in accordance with Table 4.1.8.4.-A of the NBC-AE, 2023.

5.8 Pavement Design

Pavements should be designed in accordance with the City of Edmonton 2023 Street Design and Construction Standard guidelines. The recommended pavement structure for the road construction is presented in Table 7. These recommendations are based on a subgrade modulus of 40 MPa, an ESAL value of 1.8 x 10^5, which corresponds to residential minor collector roadways, and a reliability of 85%, and a design period of 20 years. If these assumptions are not correct, Englobe should be notified and a revised pavement structure should be provided.

Table 7: Recommended Flexible Pavement Section

Layer	Thickness (mm)
Asphalt Concrete surface	100
Granular Base Course	250

The following recommendations apply:

- The gravel base course must be placed in lifts not greater than 150 mm in thickness and compacted to 100% of its SPMDD with compaction moisture ± 2% of the OMC.
- The subgrade must mirror the slope of the overlying pavement at a minimum slope of 2% away from structures and be directed towards catch basins or perimeter drainage ditches. Water cannot be permitted to pond or pool on the surface of the subgrade or pavements and must have a form of egress to limit subgrade softening.
- The granular base course material for asphalt concrete paved sections must be hard, clean, well-graded, Designation 3 - 20 mm or 25 mm crushed aggregate, free of organics, coal, clay lumps, and other deleterious material, conforming to the City of Edmonton 2023 Streets Design and Construction Standards.
- All hot-mix asphalt must comply with the City of Edmonton 2023 Streets Design and Construction Standards.

5.9 Cement Type

Four (4) soil samples were collected and submitted to AGAT laboratory Ltd. in Edmonton, Alberta for soluble sulfate content analyses. The complete test results are presented in Appendix D, while the results are summarized in Table 8.

Table 8: Soluble Sulfate Analysis Results

Borehole	Depth Below Ground Surface (mbgs)	Sulfate Content (%)	Degree of Exposure[1]	Cement Type[2]
BH25-01	1.2	0.08	Minimal	GU
	3.7	0.02	Minimal	GU
BH25-02	2.1	<0.01	Minimal	GU
BH25-04	2.7	<0.01	Minimal	GU

1 Based on Englobe's review of Table CSA A23.1-19 -Table 3 (Canadian Standards Association, Concrete Materials, and Methods of Concrete Construction)

2 Cement Type GU: General Use

The results from the chemical analyses revealed a "Minimal" potential for sulfate attack on concrete. Therefore, concrete in contact with the native soil can be made from GU cement, possessing a minimum 28-day compressive strength of 30 MPa.

Imported soils should be tested for compatibility with the recommended cement types listed in Table 8 above. These recommendations are based on limited laboratory testing and limited review of available literature. A detailed analysis of concrete durability, performance properties, or concrete material evaluation was beyond the scope of work of this report.

6 Closing Remarks

The soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling and must not be interpreted as exact planes of geological change. These boundaries are intended to reflect approximate transition zones for the purpose of geotechnical design. In addition, the subsoil and groundwater conditions have been determined at the borehole locations only.

Any depths expressed as metres below ground surface (mbgs) should consider the original ground elevation at the time of the investigation. If fill material is added to the Site, or if soil is removed, care should be taken during the subsequent design phases to ensure that parameters from the correct elevations are used.

7 References

Alberta Occupational Health and Safety Code, 2023. Province of Alberta.

Canadian Geotechnical Society. 2023. Canadian Foundation Engineering Manual, Fifth Edition, Canadian Geotechnical Society, Surrey, BC.

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City of Edmonton. October 22, 2021. Complete Streets Design and Construction Standards, Version 04.

Alberta Geological Survey. 2013. AGS Map 600 (Bedrock Geology of Alberta)

Alberta Geological Survey. 2013. AGS Map 601 (Surficial Geology of Alberta)

Alberta Geological Survey. 2014. Glacial Landforms of Alberta. Map 604.

8 Statement of Limitations

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The work performed by the Company was carried out in accordance with the terms and conditions specified in the Professional Services Agreement between the Company and the Client, in accordance with currently accepted engineering standards and practices and in a manner consistent with the level of skill, care and competence ordinarily exercised by members of the same profession currently practicing under similar conditions and like circumstances in the same jurisdiction in which the services were provided. Standards, guidelines and practices may change over time; those which were applied to produce this Report may be obsolete or unacceptable at a later date.

The findings, recommendations, suggestions, or opinions expressed in this Report reflect the Company’s best professional judgment based on observations and/or information reasonably available at the time the work was performed, as appropriate for the scope, work schedule and budgetary constraints established by the Client. No other warranty or representation, expressed or implied, is included in this Report including, but not limited to, that the Report deals with all issues potentially applicable to the site and/or that the Report deals with any and all of the important features of the site, except as expressly provided in the scope of work.

This Report has been prepared for the specific site, development, building, design or building assessment objectives and/or purposes that were described to the Company by the Client. The applicability and reliability of the content of this Report, subject to the limitations provided herein, are only valid to the extent that there has been no material alteration or variation thereto, and the Company expressly disclaims any obligation to update the Report. However, the Company reserves the right to amend or supplement this Report based on additional information, documentation or evidence made available to it.

The Company makes no representation concerning the legal significance of its findings, nor as to the present or future value of the property, or its fitness for a particular purpose and hereby disclaims any responsibility or liability for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions and recommendations (if any) provided in this Report, it is intended for immediate use.

The assessment should not be considered a comprehensive audit that covers and eliminates all present, past and future risks. The information presented in this Report is based on data collected during the completion of the monitoring conducted. The overall site conditions were extrapolated based on information collected at specific sampling locations. Professional judgement was exercised in gathering and analyzing data; however, no monitoring method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an

acceptable level. Consequently, the actual site conditions between the sampling points may vary. In addition, analysis has been carried out only for the chemical and physical parameters identified, and it should not be inferred that other chemical species or physical conditions are not present.

It is recommended practice that the Company be retained during subsequent phases of the project, to confirm that the conditions throughout the site do not deviate materially from those encountered throughout the sampling program.

Any description of the site and its physical setting documented in this Report is presented for informational purposes only, to provide the reader a better understanding of the site and scope of work. Any topographic benchmarks and elevations are primarily to establish relative elevation differences between sampling locations and should not be used for other purposes such as grading, excavation, planning, development, or similar purposes.

Any results from laboratory or other subcontractors reported herein have been carried out by others, and the Company cannot warrant their accuracy.

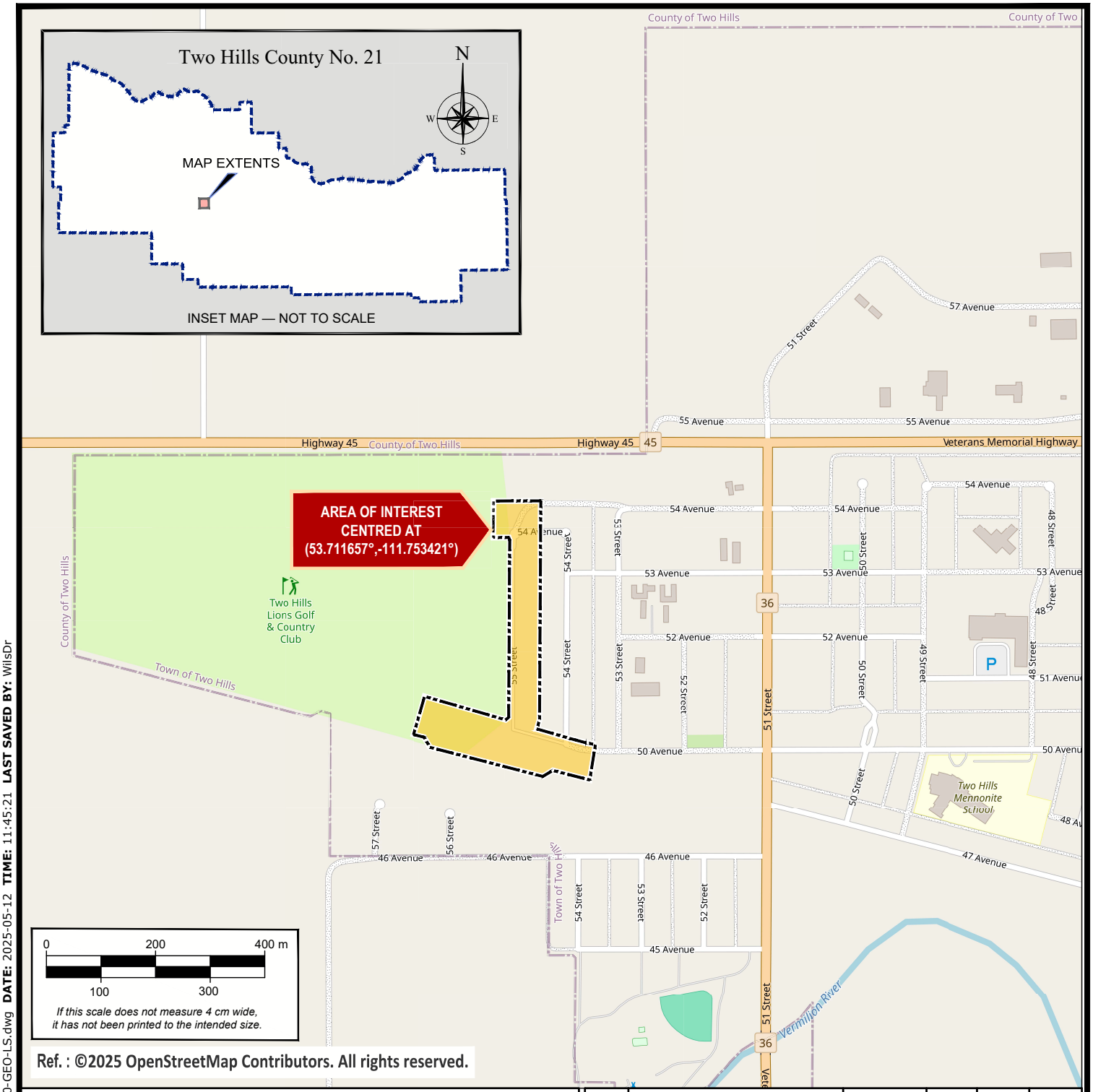
This Report is based on the assumption that the design features relevant to our work will be in accordance with applicable codes, standards and guidelines of practice and constructed substantially in accordance with the Report. If there are any changes to the site development features, or there is any additional information that was not otherwise available at the time the work was performed, the Company should be retained to review the implications thereof to the contents of this Report. The design recommendations expressed in this Report are applicable only to the project described therein.

This Statement of Limitations forms an integral part of the Report.

Appendix A
Figures

Figure 1: Site Location

Figure 2: Aerial Photograph showing Borehole Locations



No.	Version	Date	By	Check.	Appr.
A	FINAL	2025-05-12	D.W.	S.B.	P.G.

Two Hills

GEOTECHNICAL INVESTIGATION
PLANNING AND DESIGN OF CIVIL WORKS FOR MULTIPLE RESIDENTIAL LOTS
Two Hills, Alberta

SITE LOCATION

ENGLOBE
202 - 13167 146 Street NW
Edmonton, Alberta
T5L 4S8
780-481-1416

Discipline :	Geotechnical	Prepared by : L. SINGH	Checked by : S. BASTAN
Scale :	1:10,000	Drawn by : D. WILSON	Approved by : P. GINGRAS
Date :	May 2025	Figure no. :	FIGURE 1
Layout : LS	Paper size : LETTER (8.5" x 11")	Registration no. :	---

Resp.	Project	Otp	Project/ Disc	Phase/ Type	Electronic ref./ Drawing no.	Rev.
140	02500469.000	---	---	---	02500469.000-GEO-LS.dwg	A

FILE: G:\141\CAD\Projects\02500469.000\02500469.000-GEO-LS.dwg DATE: 2025-05-12 TIME: 11:45:21 LAST SAVED BY: WilsDr

LEGEND

- Planned Subdivision Area
- Plan Number 932 3640
- Plan Number 802 1287
- Plan Number 802 1571
- Utility RIght-of-Way
- Borehole / Piezometer

Location	Northing	Easting	Elevation (masl)	Depth (mbgs)
BH25-01	5951994.50	450279.37	617.19	9.5
BH25-02	5951909.48	450289.93	616.19	9.5
BH25-03	5951771.53	450305.99	611.29	9.5
BH25-04	5951598.54	450256.38	606.80	9.5
BH25-05	5951632.54	450150.61	606.67	9.5
BH25-06	5951539.01	450378.74	606.29	9.5
Datum is NAD83(CSRS) / UTM zone 12N				

No.	Version	Date	By	Check.	Appr.
A	FINAL	2025-05-12	D.W.	S.B.	P.G.

Two Hills

0 50 100 m
25 75

If this scale does not measure 4 cm wide, it has not been printed to the intended size.

Englobe Corp.
202 - 13167 146 Street NW
Edmonton, Alberta
T5L 4S8
780-481-1416

GEOTECHNICAL INVESTIGATION
PLANNING AND DESIGN OF CIVIL WORKS
FOR MULTIPLE RESIDENTIAL LOTS
Two Hills, Alberta

Aerial Photograph showing Borehole Locations

Discipline : Geotechnical		Prepared by : L. SINGH	Checked by : S. BASTAN
Scale : 1:2,500		Drawn by : D. WILSON	Approved by : P. GINGRAS
Date : May 2025		Figure no. : FIGURE 2	
Layout : PL	Paper size : Tabloid (11" x 17")	Registration no. : ---	

Resp.	Project	Otp	Project/ Disc	Phase/ Type	Electronic ref./ Drawing no.	Rev.
140	02500469.000	---	---	---	02500469.000-GEO-LS.dwg	A

FILE: G:\141\CAD\Projects\02500469.000\02500469.000-GEO-PL.dwg DATE: 2025-05-12 TIME: 11:48:09 LAST SAVED BY: WilsDr

Appendix B
Borehole Logs

ENGLOBE

Two Hills Subdivision Planning and Design

N 5951994.50 E 450279.37

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

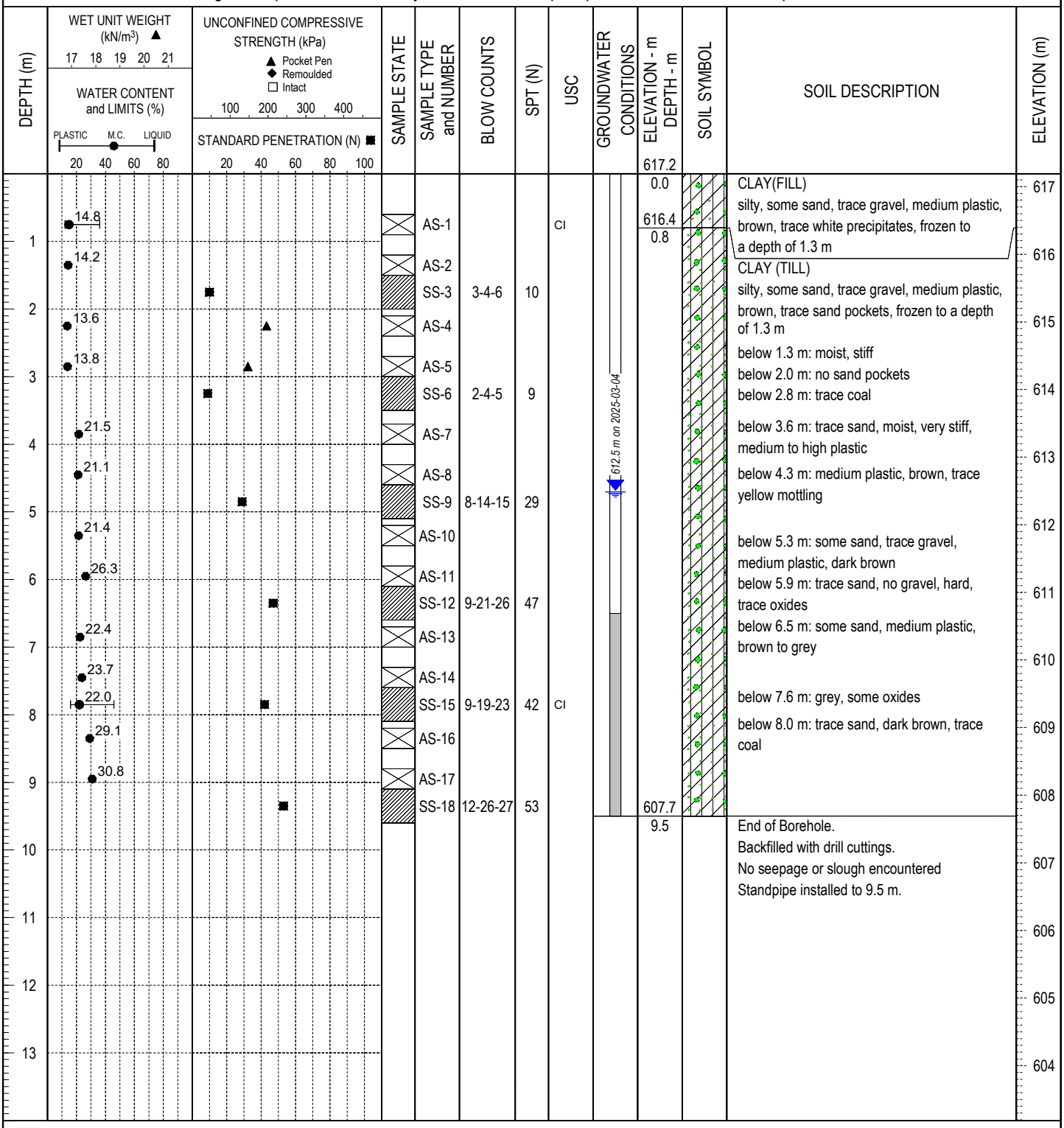
BOREHOLE NO: **BH25-01**

PROJECT NO: 02500469.000

ELEVATION: 617.19 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core



DEPTH (m)	SAMPLE STATE	SAMPLE TYPE and NUMBER	BLOW COUNTS	SPT (N)	USC	GROUNDWATER CONDITIONS	ELEVATION - m / DEPTH - m	SOIL SYMBOL	SOIL DESCRIPTION	ELEVATION (m)
							617.2			
							0.0		CLAY(FILL)	617
		AS-1			CI		616.4		silty, some sand, trace gravel, medium plastic, brown, trace white precipitates, frozen to a depth of 1.3 m	
1							0.8			616
		AS-2							CLAY (TILL)	
		SS-3	3-4-6	10					silty, some sand, trace gravel, medium plastic, brown, trace sand pockets, frozen to a depth of 1.3 m	
2		AS-4							below 1.3 m: moist, stiff	615
		AS-5							below 2.0 m: no sand pockets	
3		SS-6	2-4-5	9					below 2.8 m: trace coal	614
		AS-7							below 3.6 m: trace sand, moist, very stiff, medium to high plastic	
4		AS-8							below 4.3 m: medium plastic, brown, trace yellow mottling	613
		SS-9	8-14-15	29		612.5 m on 2025-03-04				
5		AS-10							below 5.3 m: some sand, trace gravel, medium plastic, dark brown	612
		AS-11							below 5.9 m: trace sand, no gravel, hard, trace oxides	
6		SS-12	9-21-26	47					below 6.5 m: some sand, medium plastic, brown to grey	611
		AS-13								
7		AS-14								610
		SS-15	9-19-23	42	CI				below 7.6 m: grey, some oxides	
8		AS-16							below 8.0 m: trace sand, dark brown, trace coal	609
		AS-17								
9		SS-18	12-26-27	53			607.7			608
							9.5		End of Borehole. Backfilled with drill cuttings. No seepage or slough encountered Standpipe installed to 9.5 m.	
10										607
11										606
12										605
13										604

REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

Z:\Style_WesternCanada\Log_Geotech_SC.sty

Two Hills Subdivision Planning and Design

N 5951909.48 E 450289.93

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

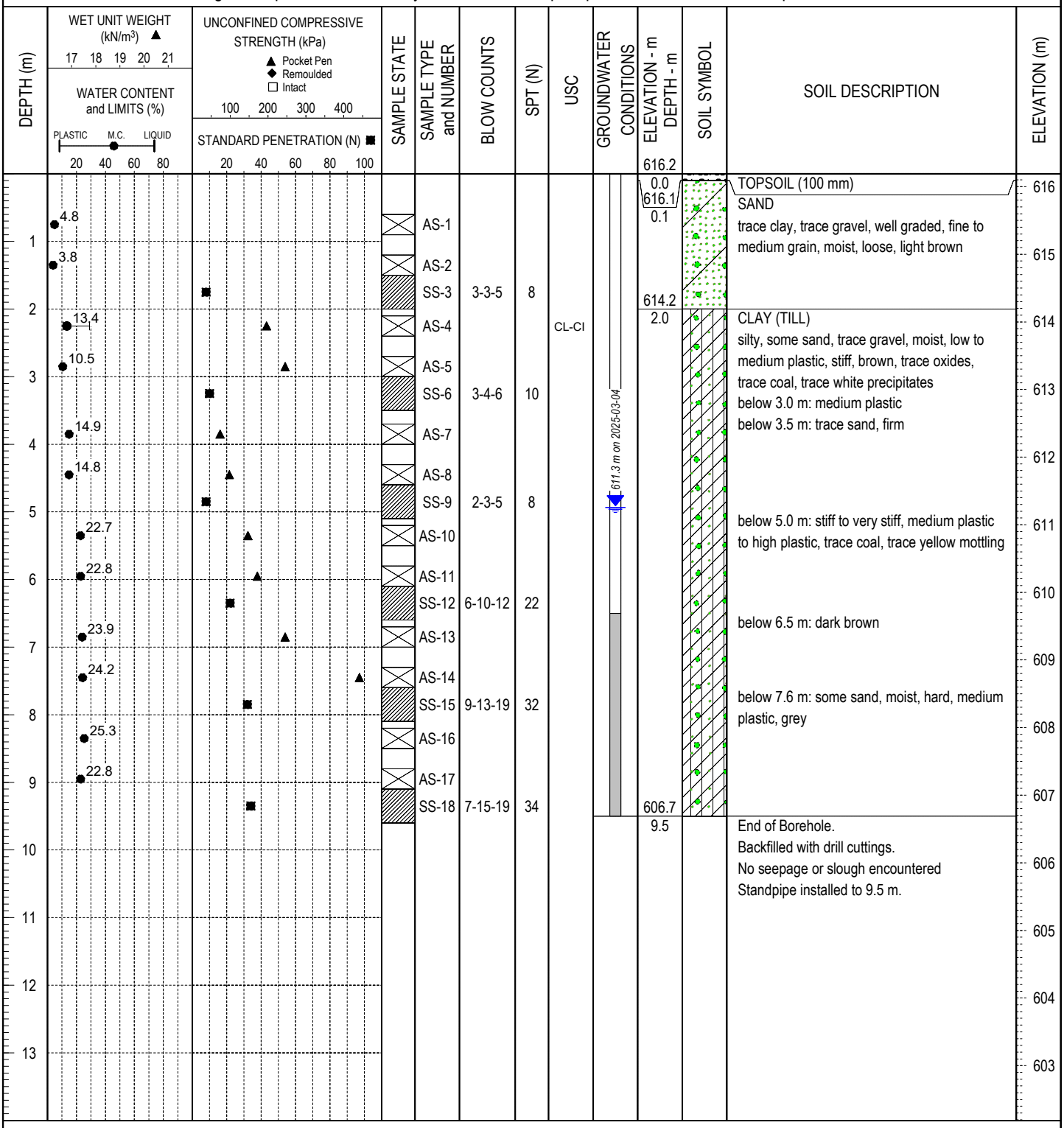
BOREHOLE NO: **BH25-02**

PROJECT NO: 02500469.000

ELEVATION: 616.19 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core



REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

Z:\Style_WesternCanada\Log_Geotech_SC.sty

Two Hills Subdivision Planning and Design

N 5951771.53 E 450305.99

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

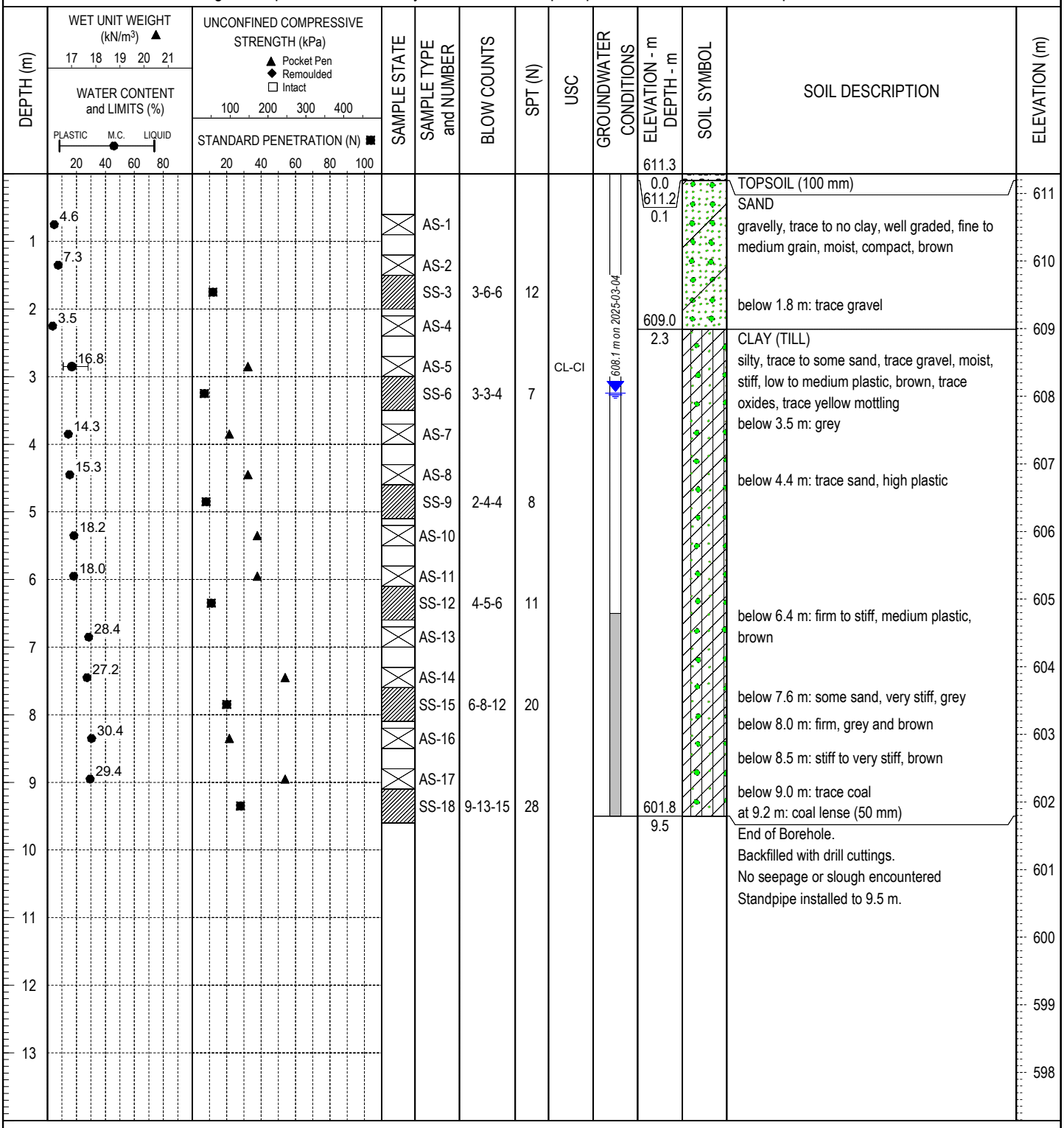
BOREHOLE NO: **BH25-03**

PROJECT NO: 02500469.000

ELEVATION: 611.29 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core



REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

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Two Hills Subdivision Planning and Design

N 5951598.54 E 450256.38

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

BOREHOLE NO: **BH25-04**

PROJECT NO: 02500469.000

ELEVATION: 606.80 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core

WET UNIT WEIGHT (kN/m³): 17 18 19 20 21

WATER CONTENT and LIMITS (%): PLASTIC M.C. LIQUID; 20 40 60 80

UNCONFINED COMPRESSIVE STRENGTH (kPa): Pocket Pen, Remoulded, Intact; 100 200 300 400

STANDARD PENETRATION (N): 20 40 60 80 100

DEPTH (m)	SAMPLE STATE	SAMPLE TYPE and NUMBER	BLOW COUNTS	SPT (N)	USC	GROUNDWATER CONDITIONS	ELEVATION - m / DEPTH - m	SOIL SYMBOL	SOIL DESCRIPTION	ELEVATION (m)
							606.8			
0							0.0 / 606.7		TOPSOIL (100 mm)	
							0.1		SAND	
1		AS-1							trace gravel, trace to no clay, well graded, fine to medium grain, moist, loose to compact, brown	606
		AS-2								
		SS-3	4-4-6	10						
2		AS-4							below 1.8 m: trace to no gravel, loose	605
		AS-5								
3		SS-6	2-2-3	5					at 2.7 m: coal layer (250 mm), trace sand, trace clay	604
		AS-7								
4		AS-8								603
		SS-9	2-2-3	5		602.1 m on 2025-03-04			below 4.6 m: trace gravel, wet, seepage	
5		AS-10								602
		AS-11								
6		SS-12	2-2-4	6						601
		AS-13								
7		AS-14								600
		SS-15	3-13-13	26					below 7.6 m: compact, trace coal	
8		AS-16								599
		AS-17								
9		SS-18	3-11-13	24			597.3			598
							9.5		End of Borehole.	
10									Backfilled with drill cuttings.	597
									Seepage encountered at 4.6 m.	
11									No slough encountered.	596
									Standpipe installed to 9.5 m.	
12										595
13										594
										593

REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

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Two Hills Subdivision Planning and Design

N 5951632.54 E 450150.61

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

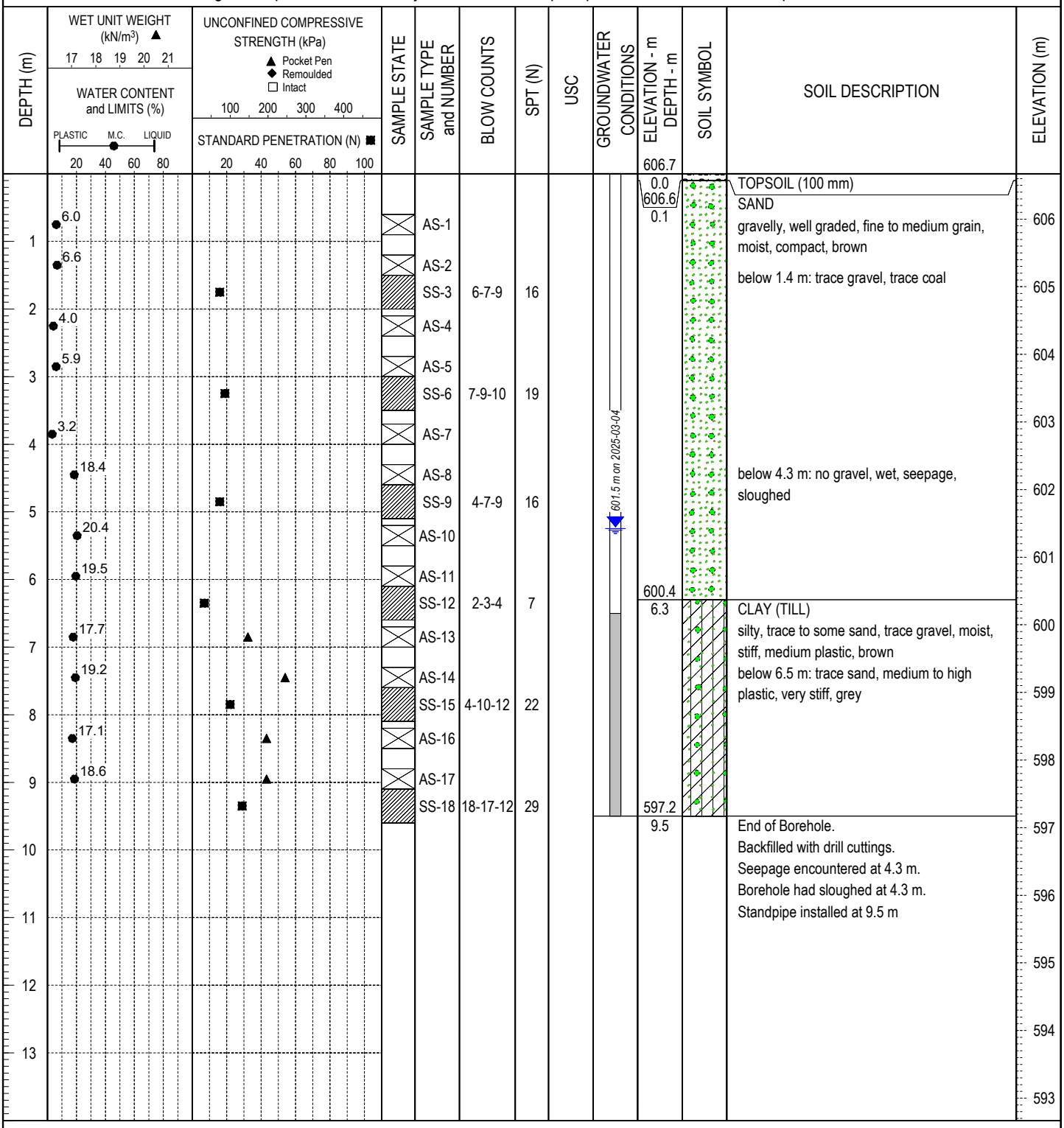
BOREHOLE NO: **BH25-05**

PROJECT NO: 02500469.000

ELEVATION: 606.67 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core



REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

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Two Hills Subdivision Planning and Design

BOREHOLE NO: **BH25-06**

N 5951539.01 E 450378.74

PROJECT NO: 02500469.000

DATES: 02/18/2025 - 02/18/2025

ZONE: 12 N

ELEVATION: 606.29 m

SAMPLE STATE: Remoulded | Intact | Core | Lost (no recovery)

SAMPLE TYPE: AS: Auger Sample | ST: Shelby Tube | SS: Split Spoon | GS: Grab Sample | DC: Diamond Rock Core

DEPTH (m)	WET UNIT WEIGHT (kN/m³) / WATER CONTENT and LIMITS (%)	UNCONFINED COMPRESSIVE STRENGTH (kPa) / STANDARD PENETRATION (N)	SAMPLE STATE	SAMPLE TYPE and NUMBER	BLOW COUNTS	SPT (N)	USC	GROUNDWATER CONDITIONS	ELEVATION - m / DEPTH - m	SOIL SYMBOL	SOIL DESCRIPTION	ELEVATION (m)
									606.3			
0	4.3			AS-1					0.0 606.2		TOPSOIL (100 mm)	606
									0.1		SAND trace clay, some gravel (up to 80 mm), well graded, fine to medium grain, dry, compact, brown	
1	12.6			AS-2								605
		■		SS-3	2-7-9	16					at 1.2 m: clay, sandy at 1.5 m: SS3 had no recovery	
2	5.8			AS-4							below 1.5 m: trace gravel, moist	604
	8.3			AS-5								
3		■		SS-6	5-7-7	14						603
	5.0			AS-7								
4								602.0 m on 2025-03-04				
	15.0			AS-8								602
		■		SS-9	2-3-4	7					below 4.4 m: wet, seepage, sloughed at 4.6 m: SS9 had no recovery	
5	17.4	▲		AS-10					601.3 5.0		CLAY (TILL) silty, trace sand, trace gravel, moist, stiff, high plastic, brown, trace oxides, trace coal, trace yellow mottling	601
	17.5	▲		AS-11								
6		■		SS-12	5-5-6	11						600
	17.8	▲		AS-13							below 6.5 m: no oxides, no coal, no trace yellow mottling	
7	18.9	▲		AS-14								599
		■		SS-15	6-6-5	11						
8	18.4	▲		AS-16							below 8.5 m: very stiff	598
	17.9	▲		AS-17								
9		■		SS-18	9-12-14	26			596.8 9.5		End of Borehole. Backfilled with drill cuttings. Seepage encountered at 4.4 m. Borehole had sloughed in at 4.4 m. Standpipe installed to 9.5 m.	597
10												596
11												595
12												594
13												593

REMARK: Solid Stem Auger Drilling

LOGGED BY: LS

COMPILED BY: LS

REVIEWED BY: SB

REPORT DATE: 03/07/2025

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Appendix C
Geotechnical Laboratory Results

ENGLOBE

16114 114 Ave NW
Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	21-Feb-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Daniel Estrada
Contact:	Sana Bastan		Mark Vasbein

Moisture Content As Per ASTM D2216

Test Hole No.:	25-01	25-01	25-01	25-01	25-01	25-01	25-01	25-01	25-01	25-01
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:	85	898		41	365		553	539		117
Wet Sample + Tare (g):	259.8	345.1		337.9	327.0		266.2	247.8		267.6
Dry Sample + Tare (g):	227.0	302.8		298.1	287.9		220.1	205.6		221.4
Weight of Tare (g):	5.5	5.5		5.6	5.5		5.5	5.5		5.5
Weight of Water (g):	32.8	42.3		39.8	39.1		46.1	42.2		46.2
Weight of Dry Soil (g):	221.5	297.3		292.5	282.4		214.6	200.1		215.9
Moisture Content (%):	**14.8%**	**14.2%**		**13.6%**	**13.8%**		**21.5%**	**21.1%**		**21.4%**
Oven Temp (±5.0°C)	110.0	110.0		110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-01	25-01	25-01	25-01	25-01	25-01	25-01	25-01		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	366		423	45	M34	26	915			
Wet Sample + Tare (g):	222.3		194.3	233.8	283.1	271.1	184.3			
Dry Sample + Tare (g):	177.2		159.8	190.0	233.0	211.2	142.2			
Weight of Tare (g):	5.5		5.5	5.5	5.7	5.6	5.5			
Weight of Water (g):	45.1		34.5	43.8	50.1	59.9	42.1			
Weight of Dry Soil (g):	171.7		154.3	184.5	227.3	205.6	136.7			
Moisture Content (%):	**26.3%**		**22.4%**	**23.7%**	**22.0%**	**29.1%**	**30.8%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0	110.0	110.0	110.0			

Test Hole No.:	25-02	25-02	25-02	25-02	25-02	25-02	25-02	25-02	25-02	25-02
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:	360	422		34	363		37	39		415
Wet Sample + Tare (g):	263.8	259.9		231.2	249.9		257.7	258.6		245.5
Dry Sample + Tare (g):	252.0	250.7		204.5	226.7		225.0	226.0		201.1
Weight of Tare (g):	5.6	5.5		5.5	5.5		5.6	5.6		5.5
Weight of Water (g):	11.8	9.2		26.7	23.2		32.7	32.6		44.4
Weight of Dry Soil (g):	246.4	245.2		199.0	221.2		219.4	220.4		195.6
Moisture Content (%):	**4.8%**	**3.8%**		**13.4%**	**10.5%**		**14.9%**	**14.8%**		**22.7%**
Oven Temp (±5.0°C)	110.0	110.0		110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-02	25-02	25-02	25-02	25-02	25-02	25-02	25-02		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	375		43	33		26	886			
Wet Sample + Tare (g):	254.4		241.2	245.6		236.5	264.2			
Dry Sample + Tare (g):	208.2		195.8	198.8		189.9	216.2			
Weight of Tare (g):	5.5		5.6	5.6		5.6	5.6			
Weight of Water (g):	46.2		45.4	46.8		46.6	48.0			
Weight of Dry Soil (g):	202.7		190.2	193.2		184.3	210.6			
Moisture Content (%):	**22.8%**		**23.9%**	**24.2%**		**25.3%**	**22.8%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0		110.0	110.0			

Comments: _____

Reviewed By: Connor Carlson

16114 114 Ave NW
Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	21-Feb-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Daniel Estrada
Contact:	Sana Bastan		Mark Vasbein

Moisture Content As Per ASTM D2216

Test Hole No.:	25-03	25-03	25-03	25-03	25-03	25-03	25-03	25-03	25-03	25-03
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:	40	67		10	120		526	63		869
Wet Sample + Tare (g):	358.1	350.6		259.5	325.3		337.8	242.8		326.1
Dry Sample + Tare (g):	342.6	327.1		250.8	279.4		296.3	211.3		276.8
Weight of Tare (g):	5.5	5.5		5.5	5.5		5.6	5.5		5.5
Weight of Water (g):	15.5	23.5		8.7	45.9		41.5	31.5		49.3
Weight of Dry Soil (g):	337.1	321.6		245.3	273.9		290.7	205.8		271.3
Moisture Content (%):	**4.6%**	**7.3%**		**3.5%**	**16.8%**		**14.3%**	**15.3%**		**18.2%**
Oven Temp (±5.0°C)	110.0	110.0		110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-03	25-03	25-03	25-03	25-03	25-03	25-03	25-03		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	30		354	66		867	1			
Wet Sample + Tare (g):	233.9		268.1	262.6		243.1	224.5			
Dry Sample + Tare (g):	199.1		210.0	207.7		187.7	174.8			
Weight of Tare (g):	5.5		5.5	5.5		5.5	5.5			
Weight of Water (g):	34.8		58.1	54.9		55.4	49.7			
Weight of Dry Soil (g):	193.6		204.5	202.2		182.2	169.3			
Moisture Content (%):	**18.0%**		**28.4%**	**27.2%**		**30.4%**	**29.4%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0		110.0	110.0			

Test Hole No.:	25-04	25-04	25-04	25-04	25-04	25-04	25-04	25-04	25-04	25-04
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:				35	355		99	28		79
Wet Sample + Tare (g):				267.0	283.3		238.8	245.8		407.0
Dry Sample + Tare (g):				255.3	262.9		222.3	222.2		342.7
Weight of Tare (g):				5.5	5.5		5.5	5.5		5.6
Weight of Water (g):				11.7	20.4		16.5	23.6		64.3
Weight of Dry Soil (g):				249.8	257.4		216.8	216.7		337.1
Moisture Content (%):				**4.7%**	**7.9%**		**7.6%**	**10.9%**		**19.1%**
Oven Temp (±5.0°C)				110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-04	25-04	25-04	25-04	25-04	25-04	25-04	25-04		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	4		392	111		73	418			
Wet Sample + Tare (g):	351.9		422.3	341.1		318.1	351.6			
Dry Sample + Tare (g):	289.5		350.5	296.7		278.3	301.1			
Weight of Tare (g):	5.6		5.5	5.5		5.8	5.5			
Weight of Water (g):	62.4		71.8	44.4		39.8	50.5			
Weight of Dry Soil (g):	283.9		345.0	291.2		272.5	295.6			
Moisture Content (%):	**22.0%**		**20.8%**	**15.2%**		**14.6%**	**17.1%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0		110.0	110.0			

Comments: _____

Reviewed By: Connor Carlson

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Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	21-Feb-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Daniel Estrada
Contact:	Sana Bastan		Mark Vasbein

Moisture Content As Per ASTM D2216

Test Hole No.:	25-05	25-05	25-05	25-05	25-05	25-05	25-05	25-05	25-05	25-05
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:	824	36		435	95		920	382		52
Wet Sample + Tare (g):	211.4	266.4		302.4	323.5		254.5	332.3		468.8
Dry Sample + Tare (g):	199.8	250.3		291.1	305.7		246.7	281.4		390.4
Weight of Tare (g):	5.5	5.5		5.5	5.5		5.5	5.5		5.6
Weight of Water (g):	11.6	16.1		11.3	17.8		7.8	50.9		78.4
Weight of Dry Soil (g):	194.3	244.8		285.6	300.2		241.2	275.9		384.8
Moisture Content (%):	**6.0%**	**6.6%**		**4.0%**	**5.9%**		**3.2%**	**18.4%**		**20.4%**
Oven Temp (±5.0°C)	110.0	110.0		110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-05	25-05	25-05	25-05	25-05	25-05	25-05	25-05		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	58		8	27		77	93			
Wet Sample + Tare (g):	354.6		258.8	358.8		214.6	308.6			
Dry Sample + Tare (g):	297.6		220.7	302.0		184.1	261.1			
Weight of Tare (g):	5.6		5.5	5.5		5.5	5.5			
Weight of Water (g):	57.0		38.1	56.8		30.5	47.5			
Weight of Dry Soil (g):	292.0		215.2	296.5		178.6	255.6			
Moisture Content (%):	**19.5%**		**17.7%**	**19.2%**		**17.1%**	**18.6%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0		110.0	110.0			

Test Hole No.:	25-06	25-06	25-06	25-06	25-06	25-06	25-06	25-06	25-06	25-06
Sample No.:	AS-1	AS-2	SS-3	AS-4	AS-5	SS-6	AS-7	AS-8	SS-9	AS-10
Depth (m):										
Tare No.:	105	823		356	101		27	1		253
Wet Sample + Tare (g):	284.0	248.3		227.8	266.8		296.4	269.1		301.4
Dry Sample + Tare (g):	272.6	221.2		215.7	246.8		282.5	234.7		257.5
Weight of Tare (g):	5.5	5.5		5.6	5.5		5.5	5.5		5.5
Weight of Water (g):	11.4	27.1		12.1	20.0		13.9	34.4		43.9
Weight of Dry Soil (g):	267.1	215.7		210.1	241.3		277.0	229.2		252.0
Moisture Content (%):	**4.3%**	**12.6%**		**5.8%**	**8.3%**		**5.0%**	**15.0%**		**17.4%**
Oven Temp (±5.0°C)	110.0	110.0		110.0	110.0		110.0	110.0		110.0

Test Hole No.:	25-06	25-06	25-06	25-06	25-06	25-06	25-06	25-06		
Sample No.:	AS-11	SS-12	AS-13	AS-14	SS-15	AS-16	AS-17	SS-18		
Depth (m):										
Tare No.:	51		381	368		45	118			
Wet Sample + Tare (g):	307.6		372.8	299.4		317.6	304.1			
Dry Sample + Tare (g):	262.7		317.2	252.6		269.2	258.8			
Weight of Tare (g):	5.5		5.5	5.5		5.5	5.5			
Weight of Water (g):	44.9		55.6	46.8		48.4	45.3			
Weight of Dry Soil (g):	257.2		311.7	247.1		263.7	253.3			
Moisture Content (%):	**17.5%**		**17.8%**	**18.9%**		**18.4%**	**17.9%**			
Oven Temp (±5.0°C)	110.0		110.0	110.0		110.0	110.0			

Comments: _____

Reviewed By: Connor Carlson

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Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	5-Mar-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Connor Carlson
Contact:	Sana Bastan		

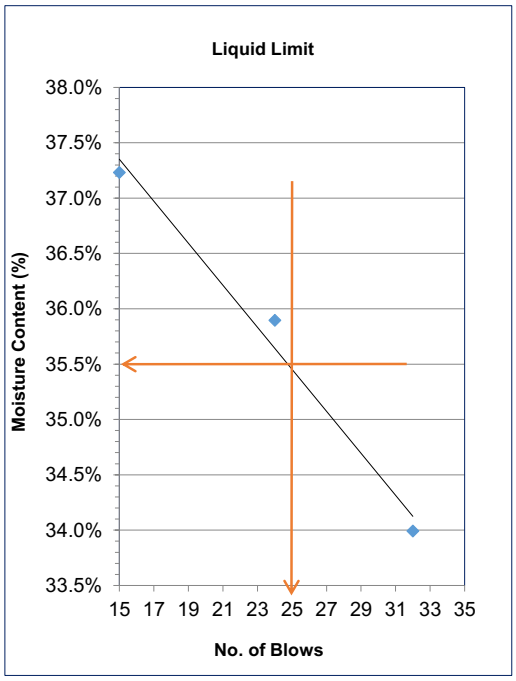
Atterberg Limits As Per ASTM D4318

Liquid Limit - Hand Operated Method

Borehole No.:	25-01	Sample No.:	AS-1	Depth:	0.6m
Tare No.:		B22	B13	B34	
Weight of Tare (g):		20.57	20.62	20.72	
Weight of Wet Soil + Tare (g):		38.25	42.34	42.54	
Weight of Dry Soil + Tare (g):		33.58	36.83	36.62	
Weight of Water (g):		4.67	5.51	5.92	
Weight of Dry Soil (g):		13.01	16.21	15.90	
Moisture (%):		35.9%	34.0%	37.2%	
No. of Blows:		24	32	15	
Liquid Limit from Flow Curve		**35.5**			

Prep Method: Moist [X] Dry [ ] **Liquid Limit Test Method**

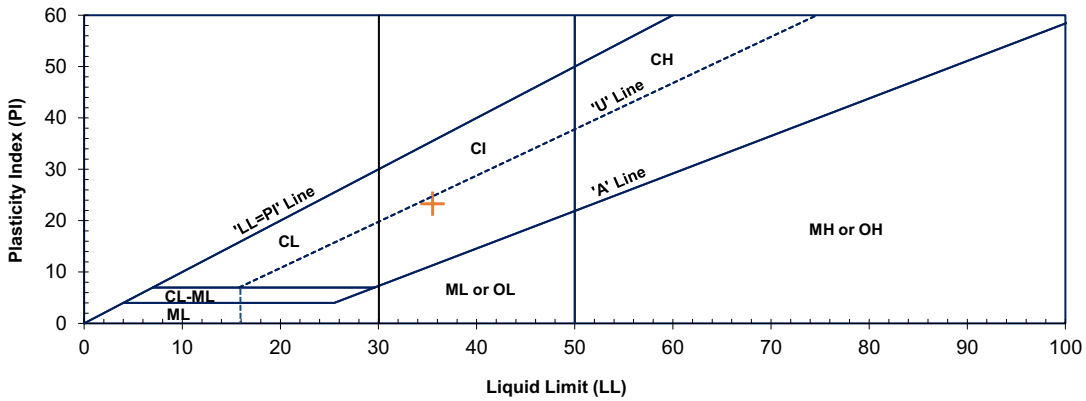
Oversize: Pestle [X] Grinder [ ] Method A [X] Method B [ ]



Plastic Limit - Manual Rolling Method

Tare No.:	77-A	22
Weight of Tare (g):	29.72	29.46
Weight of Wet Soil + Tare (g):	42.89	40.68
Weight of Dry Soil + Tare (g):	41.41	39.50
Weight of Water (g):	1.48	1.18
Weight of Dry Soil (g):	11.69	10.04
Moisture (%):	12.7%	11.8%
Plastic Limit	**12.2**	

Groving Tool: Plastic [X] Metal [ ]



Summary

Liquid Limit:	36
Plastic Limit:	12
Plasticity Index:	23
Modified USCS (Fines):	**CI**

Material Retained on 425um Sieve (%):	10.9%
As Received Moisture (%):	14.8%

Comments: _____

Reviewed By: Connor Carlson

16114 114 Ave NW
Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	5-Mar-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Connor Carlson
Contact:	Sana Bastan		

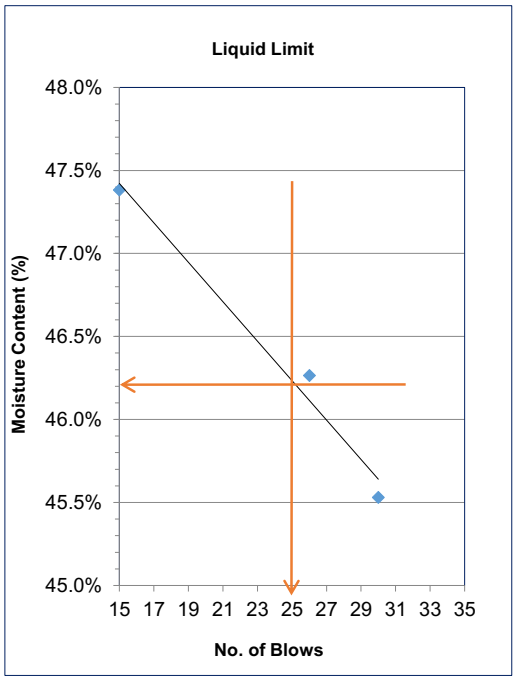
Atterberg Limits As Per ASTM D4318

Liquid Limit - Hand Operated Method

Borehole No.:	25-01	Sample No.:	SS-15	Depth:	7.6m
Tare No.:		A32	A20		A14
Weight of Tare (g):		20.63	20.69		20.58
Weight of Wet Soil + Tare (g):		37.80	36.94		41.42
Weight of Dry Soil + Tare (g):		32.28	31.80		34.90
Weight of Water (g):		5.52	5.14		6.52
Weight of Dry Soil (g):		11.65	11.11		14.32
Moisture (%):		47.4%	46.3%		45.5%
No. of Blows:		15	26		30
Liquid Limit from Flow Curve		**46.2**			

Prep Method: Moist [X] Dry [ ] **Liquid Limit Test Method**

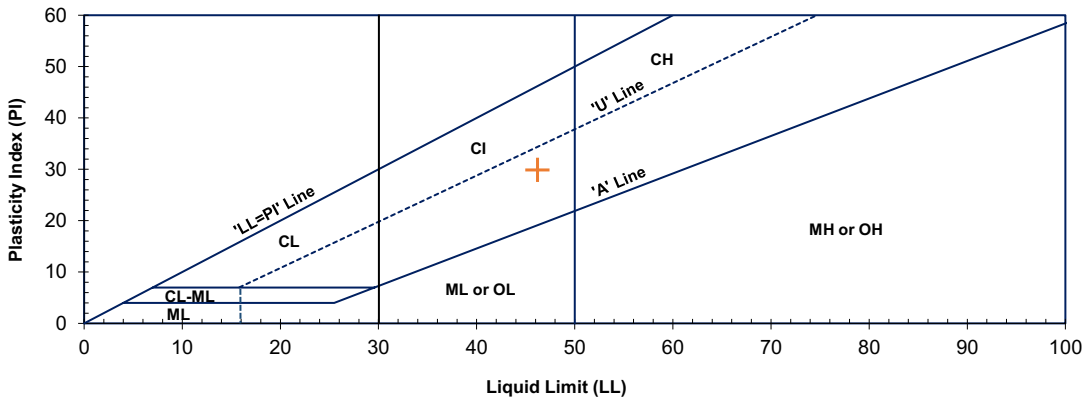
Oversize: Pestle [X] Grinder [ ] Method A [X] Method B [ ]



Plastic Limit - Manual Rolling Method

Tare No.:	88	58
Weight of Tare (g):	29.70	28.90
Weight of Wet Soil + Tare (g):	38.98	38.97
Weight of Dry Soil + Tare (g):	37.69	37.55
Weight of Water (g):	1.29	1.42
Weight of Dry Soil (g):	7.99	8.65
Moisture (%):	16.1%	16.4%
Plastic Limit	**16.3**	

Groving Tool: Plastic [X] Metal [ ]



Summary

Liquid Limit:	46
Plastic Limit:	16
Plasticity Index:	30
Modified USCS (Fines):	**CI**

Material Retained on 425um Sieve (%):	8.2%
As Received Moisture (%):	22.0%

Comments: _____

Reviewed By: Connor Carlson

16114 114 Ave NW
Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	5-Mar-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Connor Carlson
Contact:	Sana Bastan		

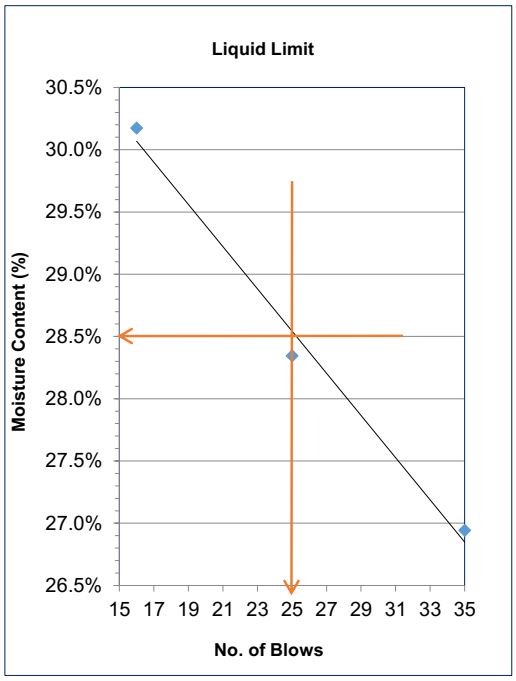
Atterberg Limits As Per ASTM D4318

Liquid Limit - Hand Operated Method

Borehole No.:	25-02	Sample No.:	AS-4	Depth:	2.1m
Tare No.:		A5	A8		A6
Weight of Tare (g):		33.81	33.70		33.67
Weight of Wet Soil + Tare (g):		51.11	53.08		55.72
Weight of Dry Soil + Tare (g):		47.10	48.80		51.04
Weight of Water (g):		4.01	4.28		4.68
Weight of Dry Soil (g):		13.29	15.10		17.37
Moisture (%):		30.2%	28.3%		26.9%
No. of Blows:		16	25		35
Liquid Limit from Flow Curve		**28.5**			

Prep Method: Moist [X] Dry [ ] **Liquid Limit Test Method**

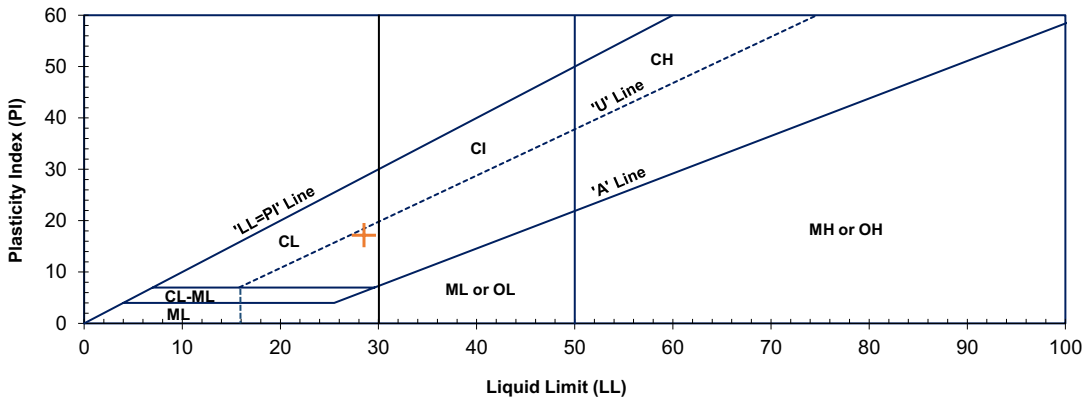
Oversize: Pestle [X] Grinder [ ] Method A [X] Method B [ ]



Plastic Limit - Manual Rolling Method

Tare No.:	63	54
Weight of Tare (g):	28.97	29.49
Weight of Wet Soil + Tare (g):	40.92	39.99
Weight of Dry Soil + Tare (g):	39.71	38.92
Weight of Water (g):	1.21	1.07
Weight of Dry Soil (g):	10.74	9.43
Moisture (%):	11.3%	11.3%
Plastic Limit	**11.3**	

Groving Tool: Plastic [X] Metal [ ]



Summary

Liquid Limit:	29
Plastic Limit:	11
Plasticity Index:	17
Modified USCS (Fines):	**CL-CI**

Material Retained on 425um Sieve (%):	14.3%
As Received Moisture (%):	13.4%

Comments: _____

Reviewed By: Connor Carlson

16114 114 Ave NW
Edmonton, Alberta
Canada, T5M 2Z5
Ph: 780-481-1416

Client:	Town of Two Hills	Date:	5-Mar-2025
Project:	Subdivision Planning & Design	Project #:	02500469.000
Project Location:	Two Hills, AB	Lab #:	3125
Sample Source:	Boreholes (Geo)	Tech(s):	Connor Carlson
Contact:	Sana Bastan		

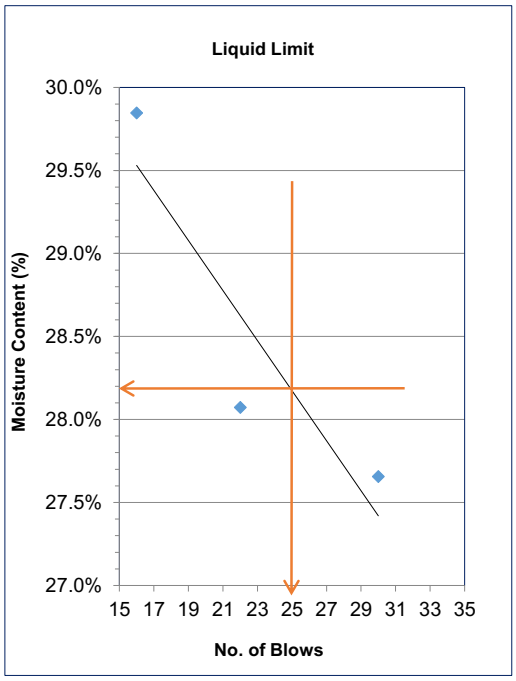
Atterberg Limits As Per ASTM D4318

Liquid Limit - Hand Operated Method

Borehole No.:	25-03	Sample No.:	AS-5	Depth:	2.7m
Tare No.:		A17	B19		B33
Weight of Tare (g):		20.54	20.64		20.45
Weight of Wet Soil + Tare (g):		40.03	42.63		40.39
Weight of Dry Soil + Tare (g):		35.55	37.81		36.07
Weight of Water (g):		4.48	4.82		4.32
Weight of Dry Soil (g):		15.01	17.17		15.62
Moisture (%):		29.8%	28.1%		27.7%
No. of Blows:		16	22		30
Liquid Limit from Flow Curve		**28.2**			

Prep Method: Moist [X] Dry [ ] **Liquid Limit Test Method**

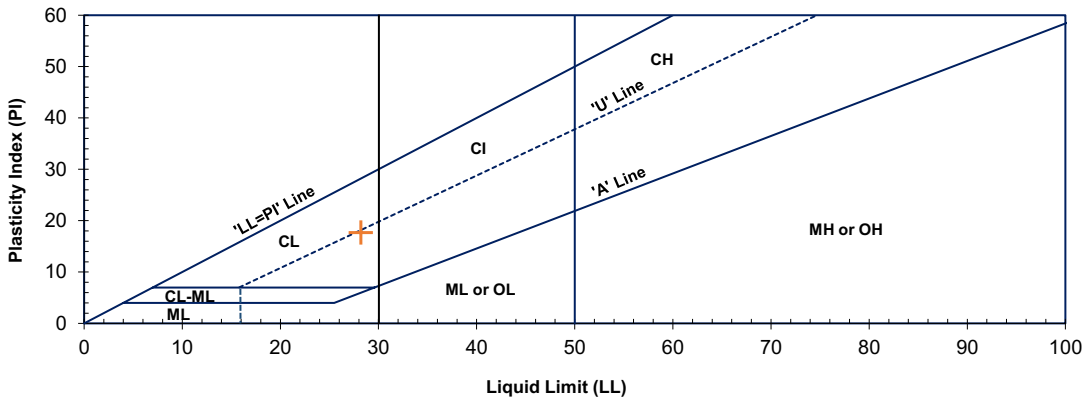
Oversize: Pestle [X] Grinder [ ] Method A [X] Method B [ ]



Plastic Limit - Manual Rolling Method

Tare No.:	551	46
Weight of Tare (g):	29.08	29.26
Weight of Wet Soil + Tare (g):	41.06	41.87
Weight of Dry Soil + Tare (g):	39.92	40.67
Weight of Water (g):	1.14	1.20
Weight of Dry Soil (g):	10.84	11.41
Moisture (%):	10.5%	10.5%
Plastic Limit	**10.5**	

Groving Tool: Plastic [X] Metal [ ]



Summary

Liquid Limit:	28
Plastic Limit:	11
Plasticity Index:	18
Modified USCS (Fines):	**CL-CI**

Material Retained on 425um Sieve (%):	8.2%
As Received Moisture (%):	16.8%

Comments: _____

Reviewed By: Connor Carlson

Appendix D
Soluble Sulfate Analytical Results

ENGLOBE

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
CANADA T6B 3P9
TEL (780)395-2525
FAX (780)462-2490
http://www.agatlabs.com

CLIENT NAME: **ENGLOBE CORP**
16114, 114 AVENUE NW
EDMONTON, AB T5M 2Z5
780-481-1416

ATTENTION TO: **Darryl Flaig**

PROJECT: **02500469.000-Two Hills-Subdivision**

AGAT WORK ORDER: **25E254461**

SOIL ANALYSIS REVIEWED BY: **Melinda Guay, Technical Reviewer**

DATE REPORTED: **Mar 06, 2025**

PAGES (INCLUDING COVER): **6**

VERSION*: **1**

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
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- *The test results reported herewith relate only to the samples as received by the laboratory.*
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- *All reportable information is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.*
- *This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

AGAT Laboratories

6310 ROPER ROAD
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 25E254461

PROJECT: 02500469.000-Two Hills-Subdivision

CLIENT NAME: ENGLOBE CORP

ATTENTION TO: Darryl Flaig

SAMPLING SITE:

SAMPLED BY:

Soil Analysis - Sulfate %

DATE RECEIVED: 2025-02-27

DATE REPORTED: 2025-03-06

Parameter	Unit	G / S	RDL	BH25-01, AS-2, 1.2m Soil 6557619	BH25-01, AS-7, 3.7m Soil 6557620	BH25-02,AS-4, 2.1m Soil 6557621	BH25-04, AS-5, 2.7m Soil 6557622
Saturation Percentage	%		1	42	67	42	27
Sulfate, Soluble	mg/L		2	2020	265	33	36
Sulfate, Soluble %	%		0.01	0.08	0.02	<0.01	<0.01
Sulfur (as Sulfate), Soluble (mg/kg)	mg/kg		2	848	178	14	10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Edmonton (unless marked by *)

Certified By:

AGAT Laboratories

6310 ROPER ROAD
EDMONTON, ALBERTA
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FAX (780)462-2490
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Quality Assurance

CLIENT NAME: ENGLOBE CORP

AGAT WORK ORDER: 25E254461

PROJECT: 02500469.000-Two Hills-Subdivision

ATTENTION TO: Darryl Flaig

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Soil Analysis - Sulfate %															
Electrical Conductivity (Sat. Paste)	65	6556633	1.05	1.08	3.3%	< 0.05	105%	80%	120%	NA			NA		
Saturation Percentage	65	6556633	69	61	12.3%	< 1	118%	80%	120%	NA			NA		
Sulfate, Soluble	65	6556633	102	95	6.5%	3	103%	70%	130%	83%	80%	120%	70%	70%	130%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: ENGLOBE CORP

AGAT WORK ORDER: 25E254461

PROJECT: 02500469.000-Two Hills-Subdivision

ATTENTION TO: Darryl Flaig

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Saturation Percentage	INOR-171-6002	CARTER & GREGORICH 2007	GRAVIMETRIC
Sulfate, Soluble	SOIL 0110; SOIL 0120; INST 0140	SHEPPARD 2007; EATON 2005	ICP/OES
Sulfate, Soluble %			ICP/OES

AGAT Laboratories

6310 Roper Road NW
Edmonton, Alberta
T6B 3P9
webearth.agatlabs.com

P: 780.395.2525 · F: 780.462.2490

Chain of Custody Record

Laboratory Use Only
Arrival Temperature: N/A
AGAT Job Number: 25E254461

Notes: '25FEB27 250PM

Report Information

Company: Englobe Corp
Contact: Darryl Flaig
Address: 16114 114 Ave, Edmonton, AB
Phone: 1-780-481-1416 Fax: 1-780-481-9008
LSD:
Client Project #: 02500469.000-Two Hills-Subdivision

Report Information

1. Name: Lavpreet Singh
   Email: lavpreet.singh@englobecorp.com
2. Name: Sana Bastan
   Email: sana.bastan@englobecorp.com

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☐ Excel Format Included

Turnaround Time Required (TAT)

Regular TAT ☑ 5 to 7 working days

Rush TAT
- ☐ Less than 24 hours
- ☐ 24 to 48 hours
- ☐ 48 to 72 hours

RUSH TAT REQUESTS UPON FILLING OUT THIS SECTION, CLIENT ACCEPTS THAT SURCHARGES WILL BE ATTACHED TO THIS ANALYSIS. IF NOT COMPLETED, REGULAR TAT WILL BE DEFAULT.

Date Required:

Invoice To

Same Yes ☑ / No ☐

Company: Englobe Corp
Contact:
Address:
Phone: Fax:
PO/AFE#:

Requirements (Check one)

- ☐ CCME
- ☐ AB Tier 1
- ☐ BC CSR

CCME	AB Tier 1	BC CSR
☐ Agricultural	☐ Agricultural	☐ AW
☐ Industrial	☐ Industrial	☐ IW
☐ Residential/Park	☐ Residential/Park	☐ LW
☐ Commercial	☐ Commercial	☐ DW
☐ Drinking Water	☐ Natural Area	
☐ FWAL		

☐ Other
☐ D50 (Drilling) ☐ SPIGEC

LABORATORY USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	# OF CONTAINERS	Microtox	CCME PHC BTEX/F1-F4	Metals	AB Class II Landfill	Detailed Salinity	Routine Potability	Sulphates	Resistivity	PRESERVED (Y/N)	CONTAMINATED/HAZARDOUS (Y/N)
	BH25-01, AS-2, 1.2 m	SOIL	FEB 2025		1							☑			
	BH25-01, AS-7, 3.7 m	SOIL	FEB 2025		1							☑			
	BH25-02, AS-4, 2.1 m	SOIL	FEB 2025		1							☑			
	BH25-04, AS-5, 2.7 m	SOIL	FEB 2025		1							☑			

Samples Relinquished By (Print Name and Sign)	Date/Time	Samples Received By (Print Name and Sign)	Date/Time
Joban Sandhu	Feb 27, 2025		2/27/2025
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy- AGAT

E 32058

Document #: DIV-175 1504 001

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Englobe Corp

Courier: Drop off Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: Yes No

Custody Seal Intact: Yes No NA

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity:

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes ~~No~~

Tape Sealed: Yes No

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A in only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar)___+___+___=____°C 2(Bottle/Jar)___+___+___=____°C

3 (Bottle/Jar)___+___+___=____°C 4 (Bottle/Jar)___+___+___=____°C

5 (Bottle/Jar)___+___+___=____°C 6 (Bottle/Jar)___+___+___=____°C

7 (Bottle/Jar)___+___+___=____°C 8 (Bottle/Jar)___+___+___=____°C

9 (Bottle/Jar)___+___+___=____°C 10 (Bottle/Jar)___+___+___=____°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 25E254461

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments: sample date not listed on COC or bags

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

AGENDA ITEM NO.: 10 (c)

TOWN OF TWO HILLS
COUNCIL MEETING
AGENDA ITEM

Meeting Date: May 27, 2025	Confidential:	Yes		No	X
Topic: ACE Water Celebration					
Originated By: Sheila Lupul	Title:	CFO			

BACKGROUND:

ACE Water is celebrating 20 years of work and progress and is celebrating this with a dinner on June 18, 2025 in Vermillion.

DOCUMENTATION ATTACHED:

Copy of the invitation

DISCUSSION:

COMMUNICATION PLAN/COMMUNITY INVOLVEMENT:

RECOMMENDED ACTION(S):

_____ moves that all of council attend the ACE Celebration of Connecting Communities in Vermilion on June 18, 2025 at 2:30 pm.

DISTRIBUTION:	Council: X

ACE
Alberta Central East
WATER CORP.

Celebration of Connecting Communities: 20 years from concept to full operations

Vermilion Regional Centre
June 18, 2025
2:30 pm

Social & Supper to follow

RSVP - ace.regional.assistant@gmail.com
by June 4

Town of Two Hills Councillor Report **Date: May 20, 2025**

Vermillion River Watershed Alliance

Meeting Virtual – May 09, 2025 @ 8:00am
Round table updates from VRWA Members
Everything dry out, needs moisture, very windy would be nice if the windy stopped.
Run off below Normav
Initiate operation plan at the Morecambe structure
Activity book updated information finalized
Local Artist – Roger Garcia hired.
Hutterites are draining their lands have more farming area, getting changes for habitat for birds and wildlife. Trying to change their attitude to leave wetland and tree lines.
Next meeting will be sometime in September

Two Hills Regional Waste Management Commission

Meeting (In-person) – April 29, 2025 @ 5:00pm – Two Hills County Council Chambers
Reviewed the audited statement
Cameras up at the Derwent transfer site, Quiet.
Ram rebuilt on Mack Truck
Peterbilt motor has to be rebuilt and front suspension
Next meeting to be called by Troy.

Extra Notes

Councillor Elaine Sorochan

Town of Two Hills Councillor Report

Date: **May 20/25**

NLLS

May 2/25- Budget- 1.5% levy increase as committed to last year.
- Smoke Free Workplace New Policy as per requirement of legislation was approved
- Microsoft 10 has been discontinued so some computers need to be replaced as some of them cannot move to Microsoft 11.

THIC - Two Hills Improvement Committee

April 23/25 – Since the Economic Development Committee decided not to fund the costs involved with the Xmas Light- Up Event, it was decided to write letters to the County and Town proposing they split the light up cost.
- Light bulbs and rope light orders will be looked into once the cost of the flowers are finalized.
- Donations for the flower pots will be included in the Town Newsletter
- Members were encouraged to brainstorm fundraising ideas for our next meeting – May 20/25

Two Hills Adult Learning Committee

May 3/25- – English classes will continue through to the end of May – 13 students enrolled in the evening and 9 in the daytime.
- Arctic Response out of Vegreville ran the Skid Steer course. It was in Myrnam on April 24th and 25th . It was run in conjunction with the Village of Myrnam as part of their Small Community Grant Program.
- Bookkeeping Fundamentals- This course has been rescheduled to June 3- June 19th at the CTEC building in Myrnam due to rescheduling conflicts with students. There are currently 5 people registered.
- Food Safe Handling Course- Currently working with AHS to deliver an in-person food safe course that is geared to individuals where English is not their primary language.
- 3 Resumes received for the Program Coordinator position.

May 29- May 1/25- CLN Symposium- Attended sessions- Navigating Change – English Language in Family Literacy Programs for Newcomer Families, Essential Math for Newcomers, Canadian Legislation on Temporary Foreign worker Rights, PR and Refugee Process Help

Sports Activity Council

N/A

Kutryk Commemorative Committee

April 28/25- In order to qualify for Federal Funding, the project is renamed **Two Hills Space Education Center.** - Discussion on scope of project- statue with information boards, picnic tables, asphalt base, contact local sign shop and local paving companies for information. - Emails sent to Telus World of Science in Edmonton and Chloe will be contacted from the Canada Space Agency. - Discussed STEM activities in the center or QR codes linked to on site activities.

Eagle Hill Foundation - Alternate

N/A

Extra Notes

April 24/25- Alberta Central East Water Corporation General Meeting – Audited 2024 Financial Statement presented. Discussed Strategic Plan
May 5-6/25- CAO Evaluations

Councillor Michael Tarkowski

Town of Two Hills Councillor Report **May 2025**_____

Eagle Hill Foundation

Dec 19	Eagle Hill	Number of Residents 23 Number of Vacant 11 (5 are move in ready) Number of move in's 1
	Hillside	Number of Residents 23 Number of Vacant 13 Travel Nurses 0 Number of move in's 2
	Eagle View	Number of Residents 20 Number of Vacant 19 (12 of which are in the villa) Number of move in's 1 Number of DSL3 beds 6 out of 9 filled
Next meeting date July 15		

Economic Development Committee (EDC)

Next meeting May 28
Regional EDC May 13
Review of the time lines set out by the contractor.

HUB - Regional Economic Development

Next meeting June 4 of the board

Town of Two Hills Councillor Report **Date:_May 23, 2025____**

FCSS

Busy week at FCSS
Income tax filings 65
General information request 440
Community information highlighting events 100
Other general information request kept FCSS very busy
Attended Northeast Alberta Regional Conference – Full 2-day agenda held at Metis Crossing
Got update on FCSAA
Very informative and detailed description of program

Two Hills Improvement Committee (THIC)

Regional Landfill Committee

Veterans Memorial Highway Committee

Economic Development Committee (EDC) - Alternate

Attended Local to Global Forum in Medicine Hat April 23-25
Made contacts with several MLA's and parliamentary secretaries.
Good speakers on variety of topics
Eastern Alberta Trade Corridor was adequately promoted
Minister speeches very informative
Thank council for allowing to attend.

HUB - Alternate

Extra Notes

May 9, 2025 Northeast Alberta Alliance for Growth & Opportunity

Highway 28

1. No new announcement for upgrades
2. Will try get industry in the area to help advocate for upgrades
3. Letter to be sent again looking for committed dollars to project

Health

1. Northeast area will be together in provincial redistribution
2. No regional hospital for Northeast area
3. Two Hills will still be in the Central zone
4. Four pillars to health care does not appear to be achieving expected results
5. For service concerns people should be phoning Patient Relations Dept. 1-855-550-2555

Alberta Hub

1. Funding is being scaled back
2. New councils will have to decide if being a part of Hub is important
3. With funding being scaled back, membership fees would have to increase
4. AGM Hub, June 25, Lakeland College

Next meeting

1. In 2026 with venue to be decided
2. St. Paul and Two Hills expressed interest

Two Hills Library Board Meeting, May 14, 2025

1) Treasurer's report showed that the library is on budget for the first quarter.

2) Downspout and back door are damaged by people that gather at the back corner of the library in the back alley to use the Wifi.

3) Two donations of $1000 each were received from Walmart and the Lion's Club.

4) These donations were used to upgrade computers.

5) The Northern Lights executive meeting will be held in Two Hills at the library on August 15.

6) Next meeting July 9, 2025 at 6:30 p.m.